

Grand Canyon Caverns Weekend

Not your average GCC trip

February 26-28, 2016

Ray Keeler NSS 23245

Photos by Larry Zimmer

Participants: **CAG:** Ray Keeler, Paul Jorgenson, Erin Schmal, Cameron Kopas, Sasha Poujlivaia, Brooke Kubby, Mark Williamson, **AOC:** Isabella Russian, Brad Lusk, Alec Harrell, Zak Vilan, Jenna Lehman, Peng Leng, Wesley Hoyland, Eric (Zhiyuan) Xue, **NAG:** Larry Zimmer, Zane Zimmer

We had a substantial list of items to accomplish for the weekend.

These included:

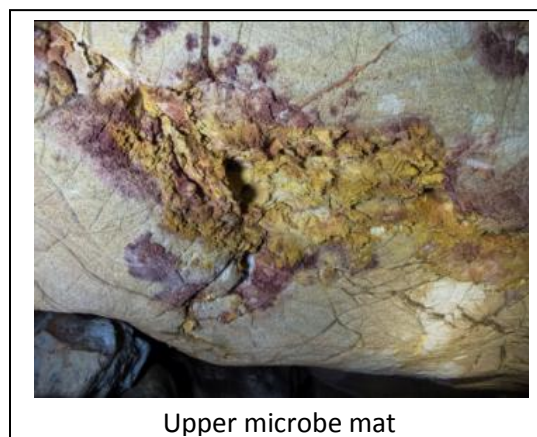
- Setting up two science areas and taking microbe samples from both for SEM (scanning electron microscope) photos (Ray)
- Photo the sampling (Larry)
- Introducing an ASU microbe post doc, Brad Lusk, to caving
- Training two GCC guides (Paul). GCC would be selling wild cave tours to the area at \$90 per person.
- Orienting two Mohave County SAR people on the new area in case rescue is needed.
- Digging in two new areas. Both have air movement and both will be continued.
- Use a blue laser and an ultraviolet light to see additional features of the cave (Paul)
- Collect some microbe samples for Tom Kaye SEM analysis (Paul)



It was a solid weekend. After meeting at ASU the caravan arrived at GCC and filled the ranch house provided by GCC at no cost. We filled the house.

John McEnulty (GCC owner) wanted his guides trained for the new wild tours starting in March. The new, wild cave tours will be \$90 per person. Paul took this training on. Unlocking and locking the gate, safety, conservation, history of the discovery and progression (i.e. the back story), and how we are still following the air. The two Mohave SAR members followed along and by the end of the trip, had a better understanding of the obstacles involved.

Ray and the rest went in next which was a bit of slow going. Two "SCIENCE AREA" locations were flagged off for microbe sampling; the Upper Science Area is just below the ropes on passage right. This area has several microbe mats have two distinct colors rust or purple, and yellow.



The lower science area is part way up Sugar Hill on passage right. The two mat colors in this area are yellow and brown. Both are in areas where air movement has been noted. Diana Northup (University of New Mexico) had sent some SEM stub vials for the collections. As of this writing, the SEM results are not yet back.

There was good air movement during most of the trip. It continued for most of the day. Meanwhile Alec Harrell and Zak Vilan were directed to start digging near the lower sampling area. After a short while they were able to remove a short, tight spot and get a few feet down into the passage. The passage gets too tight to continue at this point using just hand digging methods. They lit some incense and noted the air coming out from the direction we want to go. This area will be a focus on the next trip.



In the afternoon, we went above the ropes. Air movement was noted coming out of the ceiling channel beyond the last station. Five dug and made some good progress (about seven feet) until the end of the day when the air stopped moving and came out. As this group was leaving, Ray noted substantial air coming out of the lower dig passage. The air was coming from two places. The first was a strong air flow out coming of the ceiling about 15 feet beyond the lower gate. The second air flow was further in. After moving some rocks Jenna Lehman was able to squeeze part way into an area that had previously been abandoned. There is some speculation that this more pronounced air flow may be in part due to the dig above the ropes and somehow changing that air flow. Time will tell.

At the end of the day Paul, Erin, and Brooke went back in to do some blue light laser and ultraviolet photography. Some exceptional pictures were created that show spectrums that are not seen using the normal visual lighting.

John McEnulty treated us to an excellent dinner at the cavern restaurant Saturday evening which was very much appreciated.

Sunday morning Paul, Brooke and Erin (I think) went back in to lock up the gates and we returned after a wonderful weekend.

