

BY DEBORAH JOHNSTON

Participants: Rod Obrien, Deborah Johnston, Kelly Vaughan-Taylor, John Bowden, Phil Maynard, Anjali Sawh, Rowena Larkins

On Saturday, Rod and I had big plans of being out the door of the cavers hut and into our dive well before lunch; but with some new cavers to gear up, tanks to top up, and multiple cups of tea beckoning it just wasn't meant to be. We finally got ourselves more or less organized, then set about getting some people to help us with gear. . . but it was too late! While we puffed they had all gotten ready to head off on their own various adventures on the northern and southern limestone. It was going to be just the two of us.

We grabbed a tourist cave key, loaded ourselves up with three bags of gear each, and plodded down the stairs of the tourist cave, cursing the wicked 'just too low' hunched-over stoop sections on the way. We passed the gear from the tourist path down the ladder to the dry gravel bed between upstream and downstream Lethe, geared up, and took the plunge.

Rod got in the water first (at 11:40, not bad!) and went ahead to check multiple side leads he had marked on his survey but not yet fully explored. They were all fairly tight and horrible, with most of them petering out or looping back into one another.

I entered the water 25 minutes later which was just enough time to catch up to him as he sketched the last side passage on his map. We swam ahead to continue our survey of the main passage, first locating the broken end of the survey tape which had inexplicably snapped on the previous trip (bastard!). Over the next three long, cold hours we made great progress and completed this survey. Despite being in a 7mm wetsuit with hood and gloves, I was absolutely frozen solid and couldn't wait to get out. Rod was also freezing having been in the water an extra half-hour but luckily with a two piece wetsuit for extra protection. I zoomed ahead rushing to get out, but in my rush I launched up into the restriction without lining myself up properly, and wedged myself in the tightest part seemingly unable to move up, down, or sideways. I tried reaching around under the tanks to dislodge them from whatever little nodule of rock was holding me in place, but my arms weren't long enough. I tried a few other elegant movements with no success, then realized the best approach was the old SUSS 'thrash and dangle' technique (or as the poet Red-Foo would say, wiggle, wiggle, wiggle, wiggle, wiggle, wiggle). By then Rod had caught up and had to wait with equal parts frustration and amusement until I wiggled myself free and got out of the way.



Anjali in the mud tunnel area.

If we were sensible we would have left the gear there to sort out the next day with people to assist, but the cold had numbed the smart parts of our brain and with just macho-ness left we grabbed all the packs again and made our way back out huffing and puffing up the stairs feeling super tough, only stopping to have a tour group make fun of us for being out of breath.

Back at the hut I was so stuffed I went to bed at 4pm to nap for a couple of hours. When the other divers returned from their trip, we plugged the new survey data into Phil's computer to make a stick map of the dive, then overlaid that on the dry cave map showing the passage above. The purpose of this was to locate the top of the dry climb which has been verified to reach dry cave passage by Alex Boulton who we'd shoved up there on our previous trip. This location was still in mud tunnels and close to the tourist track, and the target of the next days exploration. Rod and I were both a lot more stuffed than normal and crashed out by around 7pm.

On Sunday; me, Rod, Phil, Rowena, Kelly, John and Anjali went back to the mud tunnels, where we climbed down the pit near the stairs to Orient, and explored the dry cave in this area looking for leads that went to water. We spread this search out over a wide area as dive surveys accumulate much more error than dry surveys due to the increased difficulty taking and recoding the measurements. In the very spot we had the aven marked, Rowena found a very tight side passage that I was only just able to wiggle up. This ended with a small dogleg passage and formation choke that matched the description given by Alex who had climbed up the other side. I threw a rock over the choke and verified the connection by hearing the rock fall down the aven then splash into the pool below. Ho ho! If you could strut while caving then that is what Rod and I did for the rest of the day, extremely pleased with closing this loop and how incredibly accurate Rod's mapping had been.

The group then spent several hours systematically exploring all other possibly side leads in the area looking for those which may possibly re-enter the dive passage. Three possible leads were identified, and one was determined to have water in the bottom. We also found a tight vertical hole leading to a promising looking tube that the new guys thought was impossible until we threw a tape down and deployed Phil. The way down was, as always, easier than the return back up through the vertical squeeze and after a couple of minutes watching him dangling, we deployed The Rod to pull him back out by the arms. We marked all the promising leads on the map to be revisited on future trips when we have the time to explore them properly, and after using our spare water to clean some formations, we headed back out via Orient cave which is always breathtaking.



Deb, after finding the tie-in to the river.

JENOLAN DEC WEEKLONG, 2013

BY DEBORAH JOHNSTON

(with non diving trips summarised by the editor)

Saturday November 30th

Diving Upstream and Downstream Lower River, Mammoth Cave

Participants: Rod Obrien (diving), Rick Grundy, Al Warild, Steven Kennedy, and Deborah Johnston

Rod, Rick and I head to Mammoth at 11am (spotting three feral pigs at Mammoth Flat on the way) and did a fast trip down to lower river to see if the water levels were low enough to attempt the dives Rod had planned for the weekend. We found the water levels to be very low, so exited the cave to get the dive gear and bring it back in, running into Steve and Al who had come to give us a much appreciated hand with the gear.



Rod Obrien starting dive, Upstream Lower River, Mammoth.

Photo by Deborah Johnston

With a group of five we got the gear from the entrance gate to the river in just half an hour without cracking a sweat, except for Rick who was wearing a new plastic cave suit that would have had him roasting in Antarctica.

Rod geared up and hit his first target for the day – downstream lower river. We knew that a few people had given this dive a cursory look over the years, but that no-one had made any real progress. With the regular heavy water flow in the river this would have been a one-way trip anyway as the passage is so small that it is most likely impossible to claw your way upstream against it. Luckily the water levels were only around a third. Rod came prepared with some extra thick heavy-duty dive-line on a large reel, and spent half an hour locating the very small hole at the bottom of a slope that appeared to be taking all the water and trying to make it large enough to fit in. After a bit of work he was able to get his legs through the hole up to his waist with both tanks detached and held ahead of him. He felt around with his feet and could tell that the rest of the tube was just as tight, for at least that metre. He

abandoned the trip for the day, planning to instead return with a thinner wetsuit and 3l cylinders.

During the dive he noticed several brown bugs that looked a bit like crickets living in the water at around 2m depth, crawling on the walls. I think this is the first sighting of bugs living underwater in the caves so could turn out to be a significant find. Rod came out of the downstream dive with plenty of air left so began to dive upstream.

There had been two floods since this was last dived, which sent the river through with enough force to slice off the 8mm climbing rope they had put through one squeeze to help the divers pull themselves upstream against the force of the flow. Luckily, with the flow so low, Rod was able to brace himself on the side walls to dig out the river gravel, then push himself through with his feet on the roof and pushing tanks ahead of him. Once through, he pulled out the broken diveline, relay line, and began surveying. He got six legs of survey done before reaching a section of passage with a vertical shaft. Looking down the shaft he noticed that the line looked a bit loose. He went down a short distance and gave the line a little tug which brought a spiderweb of line downstream to tangle all around him. He tidied up the mess and shoved the line in his pocket before checking his air to see that it was time to head back out for the day. We exited with enough time to get ready for ever rowdy SUSS XMAS BBQ party at the fireshed, with cavers and guides celebrating the 65th year of SUSS!

Summary of other trips - Ed

During the day, several people headed down south to do some surveying and assess the likelihood of the newly tagged caves doing something interesting. While surveying down Camp Creek a swallet was tagged, J347. Due to the pile of chicken wire sitting next to it the name "Chicken Wire cave" was bestowed.

A group went off to Hennings to progress the re-survey; and another group headed to Frenchmans for a tourist trip.

Sunday December 1st

Diving Upstream Lower River, Mammoth Cave

Participants: Rod Obrien (diving), and Deborah Johnston

Rod and I surprised everyone by rising at 8am without hangovers and keen for another day lugging tanks in and out of the caves. We went back down to lower river where Rod continued his survey of the cave, completing around another third of the map in a 90 minute dive. There was a group of dry cavers heading to Ice Pick Lake in Mammoth before Lower River, so we concocted an elegant plan where one or two of these cavers would assist us bringing the bags out at the end of the day. Unfortunately, by the time the group got to Ice Pick and back they were too tired to continue and went back to the hut! Rod and I reminded ourselves that people pay lots of money to attend boot-camps as we pulled all the gear out between the two of us, getting the bags out of the cave in a respectable but sweaty 75minutes. On the way out I photographed a mean looking spider that was later identified as a male funnelweb. The afternoon sun was shooting dramatic shafts of light down into the large entrance chamber which Rod posed in for me. At the gate we saw no sign that the other group had exited so we decided to err of the side of caution and leave the cave unlocked, which was lucky for the others who were about half an hour behind us straggling out of the caves.



***Funnelweb, Mammoth, Jenolan.
Photo by Deborah Johnston***

Diving Upstream Lethe, Southern Tourist Caves

Participants: Rick Grundy and Al Warild (diving), Ian Lewis and Stephen Kennedy

This morning we pointed out to Rick that he was on the 'living legends' trip with Al Warild diving with him, and Ian Lewis helping them to sherpa gear to the mud tunnels! Al, Rick, Steve and Ian went to the sump for Upstream Lethe via the Baal steps at around 11am. Rick and Al dived upstream with the purpose of looking for leads that Rod and I may have missed, and seeing if they could find an alternative way through the current end of the dive. No new leads presented themselves unfortunately but this was still an enjoyable dive for the guys as the water visibility was great after being cleared by the multiple recent survey dives. The group exited via Orient Cave at around 1pm and made their way back to the hut for a late lunch.

Diving Pool of Cerberus, Southern Tourist Caves

Participants: Keir Vaughan-Taylor and Phil Maynard (diving), William Slee, Isy Nguyen and Ian Cooper

The group entered the cave with the Upstream Lethe group (Rick, Al, Ian and Steve), then continued on to Pool of Cerberus. Keir and Phil dived in Pool of Cerberus and explored underwater sections through large but stable rockpile before surveyed some side legs. Phil Maynard and Ian Cooper also surveyed dry passage and rockpile in the area which they tied into the dive survey.



Black Snake, Jenolan.

Southern Jenolan Survey - Ed

This was the day that Split Rock was surveyed in the morning, and after lunch a crawl through the Doline above Bottomless, J295, was surveyed. Interestingly the crawl had a nice formation at the start with the eastern termination being a nice flowstone wall.

On the way back to the hut, down the north side of the hill, on the west side of the breach, a Red Belly was spied. A quick pause to grab the camera and a couple of decent photos of this snake was taken. Red Bellies are venomous, but prefer to flee rather than fight. No sooner had the photos been taken, than it fled!

Monday December 2nd

Diving Upstream Lower River, Mammoth Cave

Participants: Al Warild (diving), Tom Begic and Deborah Johnston

Rod Obrien had to remove his gear the day before and go down to Sydney for work. Al Warild volunteered to continue Rod's dive in upstream lower river and replace the broken line so that it was ready for Rod to continue surveying the next weekend when he got back to Jenolan. Tom and I helped Al with his gear and with the three of us we arrived at the river in around 30 minutes. Al geared up with minimal gear, forgoing a helmet and attaching a torch to his wrist instead. He struggled through the first restriction and realised that the wrist torch would make fixing the line a chore, but also that the little bumps on the roof were constantly pulling his hood off in the freezing cold water! He returned to borrow a helmet mounted scurion dive light instead and set back off into the dive. Al returned from his 35 minute dive shivering from the cold (14° water which cools the body even more rapidly by the constant flow past the body). He triumphantly presented the empty reel and I expressed surprise that he had to replace so much extra broken line. The news was even better as he had used about 10m to repair broken line, with the other 20-35m being laid into new passage! This was an amazing achievement as the total length of the previously laid line was only around 50m. Al described the passage as an initial squeeze which he was able to negotiate with effort by pushing one tank ahead of him and the other on his side (only just fitting his slender, streamlined frame through while wearing a thin wetsuit meaning most divers would need both tanks removed). The dive then becomes very, very small passage with walls covered in tiny little hooklike protrusions that grab onto everything you have as you pass, including hoses, wetsuits, mask straps, and lights.



Rod Obrien resting, while exiting Mammoth, Jenolan.

Photo by Deborah Johnston

He had sensibly chosen not to wear fins, which allowed him to more easily push his way up the passage against the current by moving his feet along the walls for purchase. The passage then turned into a very tall but narrow rift, with one larger (but still tight) section the diver is able to slowly wiggle along with effort. Al moved through this section by standing up horizontal, pressing a belly against one wall, and shuffling upstream along the rift with a tank by either side. There is then a couple of short vertical drops before a length of more passage. The new section he found has currently ended in a tight vertical shaft which descends at least 12m straight down. Al had noticed he was at around 30m and had planned to return given his air supply (which is consumed faster the deeper you are) and had spotted a good tie off at the bottom of the shaft only a couple of metres away. He was almost there when his arms was jerked upwards.

He had reached the end of the line on the reel so instead tied a small weight to the end. He contemplated leaving the line to drop the extra meter or so to the very bottom of the shaft to peek ahead into the unknown, but wisely stayed on the guideline and exited the cave. Exiting is made easier by the current moving in the same direction, but is still fairly slow and awkward as the diver needs to twist and contort through various tight and unusually shaped sections of passage. Probably a much newer direction of the river.

Al's dive computer read a maximum depth of 32.5m which raises many questions about where this passage is going, and adding to the logistics of future dives. We hope it starts to go back up again, preferably into dry cave, although it could be going far deeper down this series of vertical drops. We wonder what is happening in the rocks above and/or below to force the water down to these depths instead of continuing at a fairly straight gradient. The very small size of the passage relative to the high flow and mostly downstream passage, indicated that this is. We imagine that the water flowed through bigger passage in the past which was then blocked for whatever reason, forcing it to take this alternative current route. When Al finished his dive he was so cold that his numb fingers and toes, and violent shivering, made it hard for him to shed the dive gear and get back into his caving gear for the way out. With just the three of us he still had to do more than his fair share of gear lugging on the way back out which helped warm him a little, but nothing compared to Tom and I who were puffing and sweating our way through the various crawls, climbs and passes. We made good time and reached the entrance in around 45-50minutes (a guess as we didn't have a watch), where I detoured to try and relocate the funnelweb from yesterday to squash him. Lucky for him he was hidden elsewhere so did not meet the bottom of my shiny white gumboot. A large white worm had been spotted on the mud banks near the river on the way in, but no other cave life was seen during the trip.

Diving Pool of Cerberus, Southern Tourist Caves

Participants: Keir Vaughan-Taylor and Phil Maynard (diving)

Phil and Keir went back to the tourist caves to investigate some additional side sections and continue their survey. In one side passage they found piles of rubbish which had been left over from some path building in the past, with some that had worked its way down in the water upstream of Pool of Cerberus as well. After their dive they spoke to Dan Cove the cave manager and suggested some clean-up trips, an idea which was enthusiastically supported. That evening as it was starting to get dark; Phil and Keir went back to that polluted section with Tom Begic with empty packs lined with garbage bags to begin shovelling and hauling rubbish to bring out. Luckily there was a guided tour on at 8:30pm so they didn't have to do any special arrangements to delay the alarming of the caves, so long as they were out by 10pm.

Paradox survey - Ed

Today we started the Paradox survey. Rowena took a waterproof portable smart camera (Raspberry Pi) to sit outside the cave and monitor any wildlife passing in and out. An iPad was taken to setup the Raspberry Pi. Survey through the first few chambers encountered no flying wildlife. Bats were encountered in the large chamber about half way through the cave. Signatures of several early visitors, including J. Wilson, were noted before leaving.

Tuesday December 3rd

Diving Pool of Cerberus, Southern Tourist Caves

Participants: Keir Vaughan-Taylor and Phil Maynard (diving), Tom Begic and Thomas Wilson

Keir and Phil went to River Styx where Keir had intended to measure some depths with a plum line. In Keir's words; "I intended to put a sinker down a rift at what we thought was the 20m lowest point but I never found the rift. Instead I encountered a squeeze through into horizontal passage with alcoves, each alcove separated by sheet of limestone with holes. Each hole easily big enough to pass through to more passage. This descended mostly to



***Santa hat selfie.
Photo by Deborah Johnston***

passage 2-3m wide but with a silty floor, easily disturbed. The descending 20m passage was down at about 25m-30m depth. (I'm unsure because my depth gauge needs replacement.) The passage just ends as a snub wall. There is perhaps more there but after a few seconds all splendor is lost in silt out."

Thomas Wilson did a climb into a high lead near Pool of Cerberus to assist Phil with surveying these dry sections which had not been included in the main tourist cave survey due to the difficulty of access.

Surface Exploration above Mammoth Cave

Participants: Deborah Johnston and Al Warild

The night before, Al and I had planned a return trip to Lower River. On the Tuesday morning it was decided to wait a few days instead to nurse various niggling injuries and to sort out some more appropriate gear for the specific demands of the dive. Instead, we delayed Phil from his own trip and obtained details of various chambers within Mammoth relative to surface features above. We then located these surface features and began searching the hillside around each one for any possible alternative entrances to Mammoth cave, with the dream goal being a way to enter the dry chamber located above Gargle Chamber, off Slug Lake. Various remnant cave passages (both tagged and untagged) were located but no Mammoth entrance prospects were found. I don't know if it was the "super punchy" nettles, sunburn, aching muscles from the three previous days of tank hauling, blazing sun scorching us on the way back up the hill the hut, or the annoyance of me saying "it's hot!" over and over again; but we both agreed we were uninspired to return to that area anytime in the near future. This was a disappointing end to the trip so far as we had to drive back to Sydney for work.

Southern Jenolan Survey - Ed

The surface survey of Lucas Rock survey commenced today, starting from J273 (as yet unnamed), proceeding to J272, now named "Crystal Skull cave" after a ball shaped crystal with formation looking like eye sockets and nose, found near the entrance, and now located on the top of the entrance chamber. A micro-bod is needed to get through the small continuation of this cave sometime. The survey continued on up the hill to Winch cave (J290) and then terminated on a relocatable rock, soon to be tagged, in the saddle.

Later that afternoon a brisk walk to Paradox to collect the Raspberry Pi was undertaken. Sadly, due to a programming oversight, the camera program stopped taking photos just after we had walked off.

Wednesday December 4th - Ed

The small mid week group split into two parties: the fit and the infirm.

The fit group progressed the cleanup of the rubble from Jubilee under the direction of Sasa Kennedy.

The others (those recovering from hospitalisation or injuries) took the opportunity to complete the survey of Midden cave, and take some photos of the bones it contains.



Alex Boulton diving, Bluetongue.

Photo by Felix Ossig-Bonanno

Thursday December 5th - Ed

Ian and Rowena headed up to Lucas Rocks to run the survey from the newly tagged saddle location, down the east side of the Lucas Rocks outcrop. In doing this we tagged the scrot hole J348 and surveyed this 2m residual cave, from the long gone upper level of the tourist caves. While doing this a 19th century spike was spied wedged into a boulder. This was retrieved and the cave appropriately named "Spike Cave". The survey continued on to Knitting Needle cave, named by Ron Neubold in the 1960's.

Back to the saddle we continued on the west side. Dark clouds gathered, the sky darkened and a cool change blew in. 'Cool', or should I say, 'Cold'. Icy Cold! On the 4th day of Summer we were being sleeted on. A quick dash was made to shelter under an overhang, tagged J150. This led to this hitherto unnamed cave remnant being named "Sleet Cave". After half an hour the weather moved on and we left the protection to continue the survey, only to be sleeted on again shortly after. It was back to the hut. Later we heard that snowfalls had occurred on the top of the range out towards Kangangra Walls.

Friday December 6th

Diving Upstream Lower River, Mammoth Cave

Participants: Rod Obrien (diving), Deborah Johnston, Felix Ossig-Bonanno, Thomas Wilson, Steve Kennedy

Rod and I managed to get Friday off work so drove up to Jenolan in the morning braving the school zones and road work. We ran into Rowena driving down the hill to continue her Southern Limestone documentation, but we had just missed the rest of the group so got Rod's gear ready in a leisurely manner and drove down to Mammoth Flat. We parked next to a ranger who was setting sand bars to look for fox prints and had a long chat about the pigs and snakes in the area (with him spotting a tigersnake only moments earlier). . . at least until he mentioned hearing a group of SUSSLings at the Mammoth entrance about 10minutes earlier and we immediately grabbed the dive gear and rushed down to see if we could catch them to wrangle some assistance with the bags. The rushing wasn't required it turned out as the whole gang was pfaing around the daylight hole taking photos of Tabitha Blair on the abseil. Luckily this was so boring three of them instantly volunteered to carry bags for us. . . far more than required but there were no complaints from us and we made it down to the water in around half an hour or less, the only interruption being a bat flying into Rod before making a u-turn then flying straight into him again!

Rod geared up at lower river while me and the boys lazed around talking shit. We passed the time by watching Felix bridge across lower river (not falling in to amuse us all as expected), then the guys did a quick detour to oolite chamber which Felix hadn't seen before, then returned just in time for Rod to return after around an hour of surveying. Rod had spent a fair bit of the dive at around 20m depth so had clocked up some deco. Rod had already had a big week of deco dives for work (as a commercial diver) and was feeling far colder and more tired than normal after exiting the water. Lucky the guys had hung around to help with bags like heroes and they disappeared out the cave ahead of us, reaching daylight at 3:30pm, 3 hours earlier than expected. On the drive back up the hill we passed a healthy looking echidna, which was nice, then filled 10 tanks, which was not so nice.

Southern Limestone - Ed

It was off to Cooke's cave to rig a 7m pitch and complete the survey of this cave. At the base of the pitch were a spider, an active leech, and two dormant leeches. The survey was completed, the solitary stalactite was photographed and then the prussic out was performed.

Saturday December 7th

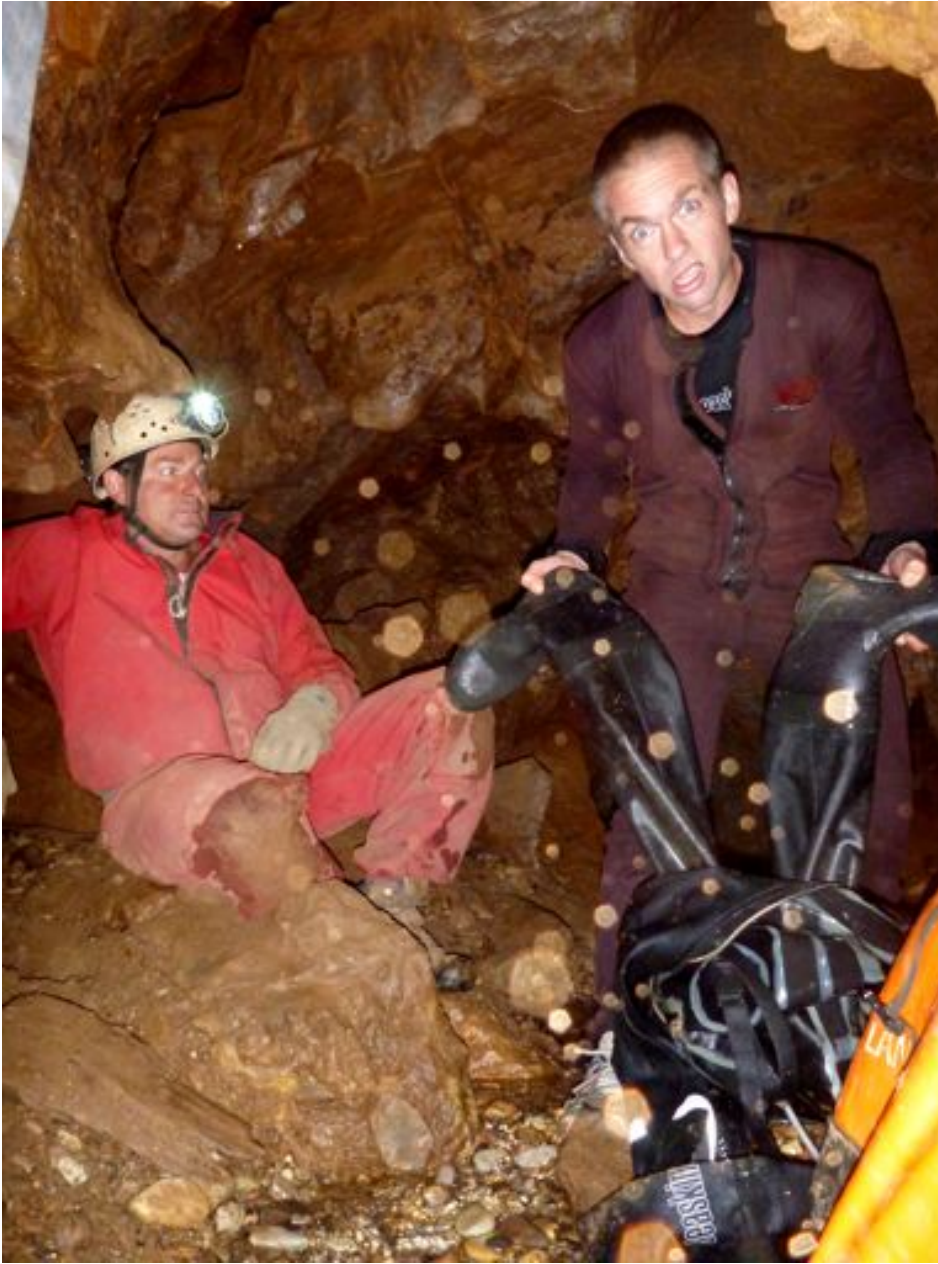
Diving Downstream Bluetongue, Southern Tourist Caves

Participants: Alex Boulton and Rick Grundy (diving), Deborah Johnston, Rod Obrien and Felix Ossig-Bonanno

We had initially planned to return to Mammoth today to continue the push and survey of upstream lower river. We had been told by one of the adventure tour guides that he had a trip the next day, but that it would be OK for us to go ahead with the trip anyway. In the past we have always been expressly forbidden from the wild caves when commercial tours are being run (to avoid spoiling the experience for the customers) so we decided to err on the side of caution and defer the trip to the following day.

Rick and Alex arrived around 10am, constituting 2/3rds of the expected group. We stalled with tea and gear packing for an hour then left a note for John Wooden explaining that we'd left without him! We went down to the guides office to arrange a time for entering the tourist caves and they explained that there had been a horrific head-on collision on the road down to Jenolan which had closed the road for most of the rest of the day. The five of us headed into the tourist caves via the Baal entrance and visited the abandoned tourist section before going off-track to the passage to blue tongue. We made it to the water in around half an hour by efficient chaining through the rock-pile and Alex geared up by the water. On the way in Alex snuck in a little trash-talking about a previous trip report I'd written which he thought had implied he was too soft to push a dry lead in his drysuit. . . explaining to the group that he wore that drysuit in the caves because it was built for punishment. . . but more about that later! Alex crawled

down into the small entrance of the sump, and Felix and I went slightly back down the dry passage downstream of the dive where we showed Felix a very tight and awkward rift. We had found this rift on the previous month's trip and Phil I and had thrown some rocks around the corner and heard some enticing splashes.



*Alex Boulton with torn drysuit, Bluetongue.
Photo by Deborah Johnston*

that the regulator for the other tank was wedged on the side of the gap that his mouth wasn't on! He immediately decided that he needed his right hand on the other side of the rock to disconnect the inflator, and forced that hand along the sharp rock slicing a deep gash in the back of his hand. He disconnected the hose then instead of turning back, he kept going and managed to lay around 6m of new line before the silt caught up with him and he had to retreat. This was an exciting find as we hope to eventually connect this passage in with upstream lethe as a continuous dive. Alex's progress would not have been possible without the earlier work done by Keir Vaughan-Taylor and Phil Maynard who had spent hours digging out the gravel restriction and exploring the rockpile for leads and clearing the silt which gave Alex the visibility required to progress further.

Saturday December 7th

Diving Downstream Bluetongue, Southern Tourist Caves

Participants: Alex Boulton and Rick Grundy (diving), Deborah Johnston, Rod O'Brien and Felix Ossig-Bonanno

With plenty of air left in the tanks, Alex then did a quick dive upstream where he made it a fair way up the dive reaching the first airchamber. He'd worn his fleece undersuit into the cave so unfortunately then had to wear it out, completely soaked! On the way out we stopped to clean the formation that is climbed over to access the off-track

Felix, the microbod, completely shredded what was left of his cotton overalls as he contorted past an awkward bend and then dropped into a chamber high enough to stand up in. The floor sloped away to a crystal clear sump around 2m by 3m and at least 2m deep with a small window heading off into the unknown. The dive looked enticing and promising, but getting dive gear to this pool of water would be an absolutely herculean effort! Felix named this section the worm hole, then contemplated how on earth to get back out! Whatever was left of Felix's suit was destroyed on the way out and we went back down the sump in time to see a sodden Alex pouring litres of water out of the legs of his drysuit which had filled up with the 15° water after an unfortunate series of events. Alex had made excellent progress in the dive, and reached the end of the previous line quickly then continued. He reached a small awkward section which required lying down on one side with one arm up ahead and one behind to make the smallest profile before wiggling through then popping up into an airchamber. Unfortunately, just as he wedged in the gap something pressed on the power inflator that sends air to bcd (air jacket) on his back. It immediately filled up completely and then continued dumping air out. His first thought was "meh... I don't care" before he realised that there really wasn't a lot of air in the small 3l air cylinders we'd taken, and also

section, as we didn't have enough spare water to clean the damage we'd spotted on the previous trip. Alarmingly, it looked like some people had accessed this cave in the weeks between our trips, who had carelessly and unnecessarily placed stacks of muddy hand and footprints on the otherwise perfectly white flowstone wall. We just beat a tour group so exited the cave in around 45minutes then ran into Rowena and Coops in the carpark. They were so impressed by Felix's efforts of the day that they stole him away from us to be deployed in another cave that they were on their way to check out. I saw Rowena holding up a string of black beads and thought she had found a bracelet, then was informed that it was actually quoll scat.

Alex, Rick, Rod and I returned to the hut to see if John had arrived (he hadn't!), then stuffed around with tea and bickies.

Southern Survey - Ed

There was a need to complete the Lucas Rocks Survey so Ian and Tony Le got together with Rowena to run the survey from Sleet Cave back to the fixed station in the saddle.

After the Lucas Rocks Survey was completed, and Tony had wandered off, we met up with the divers in Carpark three. Here we acquired the services of MicroBod Felix and it was off to survey J306. This cave filled the air with powdery dust as soon as the ground was disturbed, earning it the name "Dustbath". Felix was the only one able to pour himself past the squeeze, earning him the right to do the surveying of this terminal aven.

Diving Blue Lake to Mud Tunnels

Participants: Rick Grundy and Alex Boulton (diving), Deborah Johnston and Rod Obrien

Saturday December 7th

Diving Downstream Bluetongue, Southern Tourist Caves

Participants: Alex Boulton and Rick Grundy (diving), Deborah Johnston, Rod Obrien and Felix Ossig-Bonanno



Reflection in Stalactite.
Photo by Deborah Johnston

Alex was still keen to dive after bluetongue so we dug up the thin wetsuits Phil had been suffering in earlier in the week, and found that luckily (or unluckily?) they fitted him perfectly. We drove down to the grand arch where the guys geared up then strode impressively down to the resurgence of the southern river. We had run into Phil Maynard, Don Matthews, Don's son Finn and godson Sydney who watched the guys disappear in the cold dark water. Rod and I went for a stroll down to the dam wall to kill time where we saw the big platypus cruising around on the surface of the lake in the sun at around 4pm. The guys were back in just under an hour, completely frozen from the cold. They had moved some rocks out of a passage to make it easier to negotiate, checked some line that we had thought might need replacing, and experimented with a new configuration of dive lights. We went back up to the hut where we found John (who had been stuck behind the traffic accident) and harassed the others by running the compressor for an hour to refill the tanks.

That evening some SUSSlings went down to the freshed to watch the Jenolan staff 'Donut Awards' ceremony which was entertaining. My particular favourite was Customer Comment No. 6, received after a guide had completed a long and serious explanation of the perils and achievements of SUSS cave diving over the years, to which a customer replied "do they use candles during the dives?". Steve Kennedy won the award for Culinary Excellence after leaving a box of eggs in the hot staff laundry for two months. He might have been able to deny ownership if it wasn't for the sign saying "Steve's, don't move!". Chatting with managers that evening we were told that we should have gone ahead with the Mammoth dive trip that day as they would have loved to tie in the exploration aspect with the tour. Oh well!



Rod Obrien wrestling gear out of Mammoth.

Photo by Deborah Johnston

Sunday December 8th

Diving Upstream Lower River, Mammoth Cave

Group One Trip Participants: Deborah Johnston and Rod Obrien (diving), John Wooden, Ian Cooper, Phil Maynard

Group Two Trip Participants: Maranie Ing, Felix Ossig-Bonanno, John Wooden, Susan Vu, Thomas Wilson, Alison Chau, Don Matthews, Finn Matthews, Sydney Foquet, Alan Pryke, Tony Le

Everyone was up early enough to stuff around with breakfasts and gear before leisurely heading down to the caves and reaching the entrance at 9:30am.

It took us around 40 minutes to chain five bags (including four 7l tanks) down to the river, and I geared up as Rod watched on cautiously. Coops calculated the water flow and pointed out that it is almost exactly 1/3rd of the normal flow. Don Matthews arrived with his 7yr old son Finn who was looking flash in gumboots and fitted red cave suit. I pointed at the hole for the start of the dive and asked Finn what he thought to which he said he thought we were a bit crazy. He then gave me a high-five for luck as I plunged into the cold water to tackle the first squeeze.

Coops and Phil continued on down the main passage, bridging over the river and continuing down the passage towards Slug Lake. The purpose of this side trip was for Coops to point out a pool of water he knew of that Phil hadn't included yet on his thorough map of the cave. The guys climbed 8m down a tight rift and inspected the pool at the bottom, determining that it was in a good spot to have potential for leads, and also possible to get dive gear to (with some difficulty).

I took Rod's advice and wore a harness instead of a bcd, no weights, and no fins. At his suggestion, I clipped both 7l tank together and pushed them ahead of me into the start of the dive which is also one of the tightest parts. The water here is trying its hardest to push you back out of the cave so you need to splay out like a cat and push your way forward by pressing your feet on ridges on the roof and forcing yourself forward. Luckily, the squeeze is short so once you're through there is a larger chamber where the water pressure eases off for the next few metres. The next obstacle is a tight rift which is best negotiated by standing up horizontally with a stomach against one wall and holding the tanks out to each side in your hands. A bit of side shuffling and wiggling gets you through this short rift which is when it's time to start travelling feet first down a series of tight vertical shafts intersected by horizontal bits around a body length or two. Most of these sections are best negotiated by finding your way with your feet and holding both tanks up above. Eventually I reached the end of the line at the bottom of one of the vertical shafts where Al had tied off to a weight at 32m just above what appeared to be another horizontal section. I plonked down on the bottom and twisted around to see where the passage was continuing.

The passage had followed a very straight line but at the bottom of this shaft it swung down at what seemed to be a 90° change, entering passage which was wide with large scalloping on the roof, and sloping gently down with around 10 or so metres visible. Unfortunately the passage was very chocked up with large cobblestones. No worries I thought as the passage would be wide enough to bulldoze the cobbles to the side as you wiggled down it feet first. Unfortunately though, a thick layer of black silt had covered all the cobblestones then hardened to cement them together. I tested this by trying to move just a couple of rocks and found that I had to pull fairly hard with both hands to make them budge. Persisting, I shoved my legs down the passage and started trying to force the top layer of rocks away by doing big long kicks down with the legs. This stirred up a lot of silt but not much else and I hit my turn-around point of air supply and decompression obligations and had to leave without finding out what was around that next corner. After my dive, Rod jumped in and made it down to his survey peg he'd left the weekend before and continued his survey. Rod is by far the fastest dive surveyer in the club (state, country, world?!) so he was able to reach the end of the line on this, his third survey dive in the passage. Rod inspected the same passage and saw how hard it was going to be to dig so instead he collected two samples of rock to show Coops, the club geology expert.

By then he had clocked up a fair bit of decompression so started making his way out doing decompression stops on the way to near the end of the dive where I had left one of my 7l tanks which was still over half full.

Luckily, during Rod's dive, a large group of dry cavers arrived who were willing to entertain themselves by bridging across lower river (with John falling in wearing just cotton overalls!), and then helping us take four heavy bags out (with Phil and Coops having generously taken two of my bags out with them earlier).

It was a quick exit with all the girls there to muscle out the bags upstaging the guys. On the way out I mentioned to Thomas that I thought I might be the first lady to dive in Mammoth (or any of the wild caves?), to which he joked "woman maybe, lady... I think not!".

Coops had left for home by the time we got back to the hut so the rock samples are still unknown, but the best guess was that they are dolomite.

Diving Downstream Bluetongue, Southern Tourist Caves

Participants: Rick Grundy (diving), Alex Boulton, Stephen Kennedy, Rowena Larkins

The group entered the southern tourist caves via the Baal steps at around 9:15am and made their way back to the Blue Tongue sumps. Alex and Rick were confident the night before that they could find their way back, but we convinced Steve (the all-knowing guide and hard-man SUSS member) to go along to make sure they didn't lose their way anyway (as we all know how caves grow extra loops and turns between trips!). Rowena took in a couple of litres of spare water to keep cleaning the muddied formation we had noticed the day before. They got to the water in under half an hour with all Ricks gear in just two medium sized bags. Rick geared up and dived to the end of the line where he laid an extra 6-8m before losing visibility, with a total dive time of just over 15minutes. Rick knew this would be a difficult dive after seeing that it had chewed up Alex's hand and drysuit the day before. Rick renamed the scariest muck passage 'soiled suit alley' in honour of Alex's ripped drysuit and an unnamed diver who had suffered a stomach upset earlier in the trip. Upon hearing Rick's description of the dive she suggested it could be renamed brown-tongue instead of blue-tongue because it's nasty enough to make divers shit themselves (metaphorically anyway). While Rick was in the water, Steve went to the incredibly horrible rift that Felix had somehow fitted through the day before to film the sump Phil and I had been tossing rocks into from around the corner. Steve, always up for a physical challenge, somehow defied the laws of nature and got through. On the other side he saw and heard bubbles coming up through the sump, verifying that it connects in with the main downstream passage. Entering via this sump would bypass the biggest restrictions in the dive, and allow the use of larger tanks, but accessing the sump with gear is not possible without seriously enlarging it. The group returned to the hut a few hours later where Rick made a grade 1 sketch on his iPad. The pair are keen to return next month to continue adding to this new passage bit by bit, clearing the silt as they go.

Other trips - Ed

Another trip was made to Sydney Smith cave to continue the survey.



***Rod Obrien, surveying Lower River, Mammoth.
Photo by Deborah Johnston***