

got down to the bottom of the 5th pitch fairly quickly. I rigged the last pitch (49 m) using both ropes and down we went. We packed ropes and SRT and got through Matchbox Squeeze.

Beyond Matchbox Squeeze I suggested we could do bit of a side trip to Expletive Hall. Guy and Emilia decided to wait; the rest of us went left to Plague and Pestilence. All four of us got through this mud haven with just a bit of complaining. We all managed to get over the 4 m climb but Ana decided to wait at the start of the rock pile. Ben, Erin and I got all the way through the rock pile into the Bohemia Chamber. We spent a bit of time looking at the crystals and when we got bored we climbed up to the Expletive Hall. The time was pushing us for the return, so the visit was fairly short.

When we reunited with Guy and Emilia everybody had heaps of fun comparing how dirty we got doing this side-track exercise. (See cover photo). The rest of the trip was pretty much standard.

As I mentioned before the time we spent underground was 5 hours, which is my personal beginner's trip record for Midnight Hole. I also have to say all the beginners on this trip proved themselves to be enthusiastic and capable.



Crystals in Bohemia Chamber. Petr Smejkal.

MC-1 Kubla Khan

Exploration Dive in Upstream River Alph Sump

Janine McKinnon

2-3 April 2016

Party: Janine McKinnon, diver. Ric Tunney, surface support.

Day One: Well, here we were, back in Kubla for a look in another sump. This time it was one in the bottom entrance chamber. The main difference was the noticeable lack of support covers. No-one was interested. This weekend had actually been re-scheduled from four weeks earlier, due to a death in the family, and no-one had put their hand up for that trip either. (*Most members realise that assisted suicide is illegal in Tasmania – Editor.*)

It would have been a more convivial exercise with a couple of others along, and camped in the hut with us for the evenings, (*Murder is also illegal - Editor.*) but you work with what you've got.

The trip report following is basically the one I wrote for Parks, so it is a bit dry. It is a document of the exercise, though, and as I don't expect a huge amount of interest in the details of the dives, I have just included it pretty much as it was written. (*I hated it so I changed it to first person — hopefully for the better – Editor.*)

Ric and I arrived at the car park for Kubla Khan Cave at 9 am. The dive kit was sorted, with equal weights, into four Aspiring cave packs and then we ferried them to the lip of the bottom entrance doline in two shifts.

The pitch was rigged and at 10.30 am I descended to the rebelay ledge with one pack, and stationed myself there to guide the other packs, as Ric lowered them on a line from the top. This proved problematic, as the sloping nature of the doline stopped the first pack from sliding down to the bottom. It was decided that a more effective approach was for Ric to carry two packs to the rebelay ledge, and then lower the heavier one from there.



Ric hanging out with some other old bags. Janine McKinnon.

I proceeded to the bottom of the pitch, carrying one pack and guiding a second. When Ric had lowered the third pack down from the rebelay ledge I ferried the three packs now at the bottom of the pitch down the steps to the doline floor, whilst Ric descended the second part of the pitch, carrying the last pack.

The four packs were ferried, in staged shuffles, to the sump. This was accomplished at 11:45 am.

The water level in the River Alph was noted to be very low.

The sump was inspected for the best approach for the initial dive and the best location for the primary attachment point for the exploration line. The area around the pool consisted of some very friable rock, and a lot of mud. No secure attachment point could be found for the primary tie-off. Eventually a secure rock projection was found approximately ten metres back up the passage, near the flat area to be used for gear preparation.

A secondary tie-off point was created by placing a silt stake into the mud at the edge of the sump pool.

The dive gear was then unpacked and assembled.

Dive kit:

- 2 x 7 litre steel dive tanks
- 2 x first and second stage, cold water rated, regulators (Apeks XTX 50s).
- 2 x Submersible Pressure Gauges.

- Razor sidemount diving harness with MTD 9 kg-lif buoyancy wing (BC).
- 3 kg lead weight
- Exploration reel plus back-up reel.
- Emergency reel.
- 7 mm semi-dry suit.
- Hoods and gloves.
- 4 dive lights, one a Scurion dive light (two for emergency use only).
- 3 line-cutting devices.
- Fins
- Mask and spare mask.
- Multi tool with spanners and hexs for emergency underwater repairs.
- Adjustable spanner for emergency underwater repairs.
- 6 x silt stakes
- Survey slate and survey ancillaries.
- 2 x Dive computers (Shearwater Petrels).
- Helmet

I kitted up and started the initial dive at 1:05pm.

The water was clear and visibility very good. There was no discernible flow. Water temperature was 12°C.

I proceeded across the pool and under the wall at its far end. The passage followed a straight path along the same line as the dry passage and the entry point of the sump. I was unable to find any solid rock projections for another line tie-off at a time that I thought one appropriate, so I placed a silt stake in the floor. The passage was still approximately 1.5 m high and three metres wide, with clear visibility, as the large dimensions allowed me to remain off the floor and thus out of the silt.

I proceeded but, after another ten metres, found a silt and gravel bank extending across the passage ahead, restricting the passage to approximately 10-15 cm high although the passage was still 3 m wide.

Without disturbing the silt on the floor I had good visibility, and was able to see beyond the restriction to a steep downward slope on the other side, into a small underwater chamber. I could not see any passage leading beyond the chamber from this vantage point. I spent several minutes inspecting the view into the chamber for possible onward leads, but none were seen. I then attempted to fit through the restriction and failed, but determined that although the roof was bedrock, the floor was gravel and silt, and thus somewhat moveable. Before attempting a more serious effort to deepen the restriction by “gardening” I decided to return to the surface to report the situation and my further plans to Ric.

In my efforts to fit this time I had disturbed the silt on the floor, which reduced the visibility to zero. The silt stirred up had moved slowly ahead of me. Thus visibility beyond the restriction, if I made it through, would almost certainly be zero by the time I got there.

As I was nominally heading upstream, this movement of the silt ahead of me did not bode well for this sump to connect with a reasonable person-sized passage to the present main flow of the river.

Whilst I had been performing this first reconnaissance dive, Ric had done surface surveying shots, with a Disto X2, to tie the dive survey into the greater Kubla Khan survey being undertaken by Alan Jackson.

After discussing the situation, it was decided that I would make an attempt to dig out the restriction and check the small room

beyond, even if this would be difficult in the anticipated zero visibility.

I returned to the end of the line and spent some time attempting to fit through by pushing gravel aside. Visibility was zero. Again I was unable to fit through. I decided to leave the line and reel in-situ and retreat for the day, to allow the silt to settle overnight. I would return for another attempt the following day when clear water would allow me to assess the situation before making another attempt to fit through this restriction.

I returned to the surface and left the water.

The planned return meant that a large proportion of the dive kit could be left on site for the night. Only the gear that was deemed no longer required, or too delicate to leave in the cave, was packed to go.

Time out of cave: 2:40 pm.

Day Two: We arrived at the car park at 8:15 am and started into the cave at 8:40 am. As we were carrying only one pack each, which was quite light, the trip to the sump was quick. The gear had been left assembled the previous afternoon, and I had entered the cave wearing the semi-dry suit to be used for the dive, thus my preparations took little time.

I started the first dive at 9:35 am and the water was clear.

I swam quickly to the silt stake placed in the underwater passage and the reel, which had been left 5 m beyond the silt stake. I moved to near the restriction. I could now see, with good visibility, that the previous day because of the zero visibility, I had been attempting to pass the restriction too far to the left, near the wall. The gap was slightly wider two metres to the right.

I had another careful look at the room beyond the restriction, looking for onward leads. I anticipated that I would have zero visibility if I reached this area. Again, no onward leads could be seen from this vantage point.

I rechecked the dimensions of the passage for future mapping, whilst I still had visibility.

I picked up the reel and started into the restriction at the widest point. I spent a couple of minutes excavating a space wide enough to fit through by scooping out gravel and silt with my free hand, and squirming my body to push sediment aside. I then decided that it would be easier to do this in reverse, and so turned around so as to be backing down the bank. The space was very tight and I had to keep my head on the side to fit the helmet through but I progressed slowly.

Visibility was quickly reduced to zero.

I continued moving carefully, with frequent stops to assess my mental comfort level and the safety of the situation.

After some minutes I broke through and slid down the other side of the bank, into the small room. Visibility was still zero. There was no discernible flow. I placed another silt stake and used this as a reference point for my movement about the space. I spent some time feeling around in the area for a way on. This was problematic as I could see nothing. I determined that there was not a humanly navigable way forward from this room, as best as I could determine in the circumstances. The lack of any discernible flow reinforced this opinion.

As I retreated, I decided to remove the line from the sump, rather than tie it off and leave it at the furthest point of exploration, as is standard cave diving practice. The reason for this was twofold:

1. The easily accessed position of the sump, and thus the possibility that it might be visited by other caving parties. I felt that this would present an eye-sore to visitors.

2. Leaving signs of the dive in place, and in plain view, did not fit within the philosophy of the management plan, to retain the cave as close to a pristine state as practicable.

Survey was difficult in this situation. Distance was determined by counting knots in the line. The bearing was straight ahead from the secondary silt stake. LRUD's were estimated during times of good visibility and the dive distance was 40 metres.

On reaching the surface Ric suggested that I should attempt the dive again, by keeping to the right hand wall. As I had used only a quarter of my air supplies in these previous dives, I recalculated and determined that I had plenty of gas for another attempt. I immediately submerged again and followed the wall, in moderate-sized passage (approximately 1.5 m high by 1 m wide). I put in a tie off around a rock at the start of what seemed to be a narrowing passage. Visibility was approximately 2 cm. This very poor visibility implied a connection with the area from which I had just returned.

As the passage felt just wide enough to fit into, and I could not determine if there was a wider area to turn around in further into the passage, I decided to enter the passage in reverse, backing my way down. This would enable me to manage the reel more easily and also to retreat quickly and easily when I decided to, if the passage dimensions did not increase.

This passage quickly became very tight. I needed to keep my head on the side to fit the helmet and I needed to have my arms above my head to fit. I was able to pay out the reel effectively this way. I pushed backwards down this passage for some time. The passage was slightly downwards and it was only by fact of the gravels underneath me sliding down, as I pushed, that I was able to make progress. The dimensions of the passage did not increase and seemed to be decreasing slightly.

After approximately twenty metres I decided that I did not wish to continue. There were several reasons for this:

1. It was becoming harder to push through and the likelihood that the passage was not going to remain humanly navigable was very high.

2. The prospect of this passage leading to larger cave was low.

3. As the dive involved sliding and pushing vigorously through the gravel and silt, with me lying on my stomach, the second stage regulator (which was not being currently breathed from) and the power inflator for the BC, were both receiving very rough treatment as they were dragged along the floor beneath me. The probability that they (particularly the regulator) were having silt and stones pushed into them was almost certain. The possibility of gear failure as a result was increasing significantly. The likelihood that I could reach, and fix, a failure of the gear in these circumstances was low. The possibility of a free flow of air from the unused second stage

regulator, and thus loss of significant quantities of the diver's air supply, was increasing rapidly. A failure of the BC inflator valve would result in rapid, and continuous, inflation of the BC. This would wedge me in the passage. Reaching the dump valves to release the air would be very difficult in these extremely tight environs.

I had determined that the risk had now passed acceptable limits so I started to reel back towards the entrance. The sliding gravels now made progress more difficult than the inward trip had been. I counted knots as I reeled to determine distance covered.

After a brief break we started packing to exit the cave. We left the dive site at 11 am. The trip out was slow as two people had four packs to remove from the cave. We were out of the cave at 1:30 pm. All traces of the dive project were removed from the cave.

A survey was produced using Disto X2 for surface shots; depth gauge and knot counting for underwater measurements.

Conclusion: There remains a very slim chance that the passage continues upstream, in dimensions possible for a person to navigate, either via the small room encountered, or via the narrow passage followed along the right hand wall.

The small room cannot be categorically determined to have no exit upstream as its examination was done by feel, in zero visibility. However the lack of discernible water flow, together with the lack of observed passage from before the restriction, makes it very unlikely that such navigable passage exists. Possibly another attempt in times of high water flow may answer this small remaining query. I do not consider it very probable though.

The small passage along the right hand wall was not followed fully, so there is a small possibility that it can be followed. However it is most probable that a dive along the right hand wall was just paralleling the earlier dives, in the same passage, but just a couple of metres away in the same passage.

The prospects for further discovery are small. I am of small stature and I know of few divers who are smaller. I consider that the probability that another diver could progress as far as I did, let alone further, is low. The lack of flow in this passage supports the conclusion that it is only a backwater of the main stream.

We believe that the likelihood is that this sump is a fossil passage, and receives only limited water from the present main flow of the river. There is evidence the passage is an overflow route for River Alph.

The map is being drawn, and will follow at a later date. It will also be incorporated into the larger Kubla Khan map being produced by Alan Jackson.

A short video can be found here:

<https://vimeo.com/162357544>

IB-133 Old Ditch Road

Janine McKinnon

17 April 2016

Party: Phil Croker, Pat Fitzgerald, Janine McKinnon, Chris Sharples, Ric Tunney.

Pat and Phil were back down in Tas for some more vertical skills training and, hopefully, fun practical application of those skills. Old Ditch Road (ODR) seemed a good place to go for the caving day. Ric and I hadn't been there for more than a decade, so it seemed about due for a visit and Chris, who had missed doing this one in his long caving career, was keen for a look.