Speleo Spiel 441

November-December 2020

Newsletter of Southern Tasmanian Caverneers Inc. ISSN 2208-1348

Front Cover: *Airlifting in progress.*
Photo: John Cannell

Back Cover: *Cave Unicorn.*
Photo: Janine McKinnon

STC was formed in December 1996 by the amalgamation of three former southern Tasmanian clubs: the *Tasmanian Caverneering Club*, the *Southern Caving Society* and the *Tasmanian Cave and Karst Research Group*. ***STC*** is the modern variant of the oldest caving club in Australia.

Speleo Spiel

Newsletter of the Southern Tasmanian Caverneers Incorporated

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Issue No. 441 – November-December 2020

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Editorial

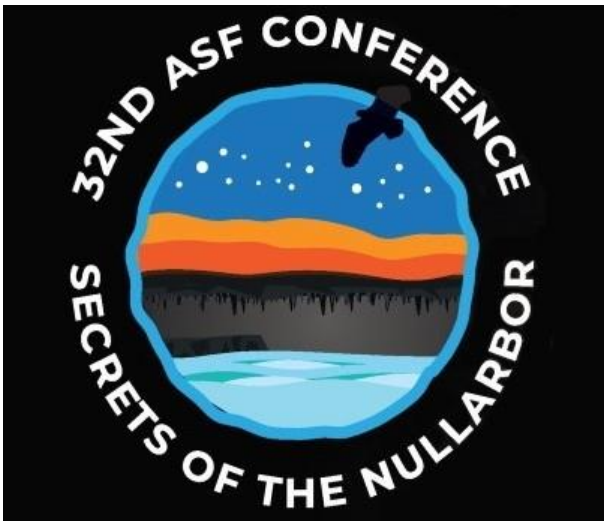
It's easy to understand the public's common misconception that we cavers put ourselves in dangerous situations for seemingly undefendable reasons, and this might never change. But it matters not, as we well know why we do what we do. And like any other human activity, sometimes things go wrong.

You will assuredly have heard about the caving accident which occurred at Mt Cripps on 10th October 2020 and about the subsequent rescue. This issue of *Speleo Spiel* is in large part dedicated to this event, with exhaustive and detailed accounts by various parties.

A life was saved and the day saw many heroes, too many to name in this little square. But you'll find them all herinafter. Many thanks.

Stuff 'n' Stuff

- The Australian Speleological Federation has announced its 32nd ASF Conference '*Secrets of the Nullarbor*', which will be held in 2022 in Ceduna, South Australia. It will focus on the world's largest karst area. Some key dates: Conference 17th-21st April 2022, Field trips 22nd April-1st May 2022. More info: http://asfconference2022.com/



- It was announced that the movie *Sixteen Legs* is finally coming out on VOD, DVD and Blu-ray. A crowdfunding campaign is underway with a few perks and goodies for early bird contributors: https://www.indiegogo.com/projects/sixteen-legs-special-edition-bluray-dvd-archive#/

Source: Bookend Trust

- Deb Hunter from Mole Creek Caving Club recently featured on ABC News Tasmania in a report about a project aimed at encouraging the tourism industry to be more accessible to people with disabilities. The interview can be watched here: https://youtu.be/_bqtif26KTA

Source: ABC

- It is the end of an old and tragic story: that of long-lost caver John Boyle. Back in 2019, fellow STC member Bill Nicholson managed to trigger a formal investigation by State Police and Federal agencies looking to shine some light on John's disappearance in 1969, at Mt Anne. Read Bill's article in *Speleo Spiel* 434 to refresh your memory.

  Coroner Simon Cooper of the Magistrates Court of Tasmania released his official report, available here: https://www.magistratescourt.tas.gov.au/__data/assets/pdf_file/0003/593661/Boyle,-John-Patrick-web.pdf

  Bill Nicholson wishes to add the following comments:
  "I present two points the Coroner made in his Comments and Recommendations, and I quote:
  #24 "*Those who venture into the remote areas of our state must be properly equipped and recognise that the responsibility for their safety ultimately rests with them*"
  #25 "*I do point out that had Mr. Boyle been carrying a whistle... then, perhaps, the outcome may have been different.*"
  And, may I add, both John Boyle, in 1969, and Richard Ferguson, in 1984, were vision impaired. They both required aids to correct their vision and there is no evidence that suggests either carried spares. Something to think about."

- The manky old Welcome Stranger gate has finally been replaced after years of creeping into a state of disrepair. I didn't hear back from Parks when prompted about the process, so I guess someone will have to go and let us know what the new one looks like! In the meantime, here is a photo of the old one, on its very last day of existence:

The day before the replacement. Photo: Gabriel Kinzler

Mt Cripps Cave Rescue

And who better to start telling the story than the victim himself? -Ed

CP-11 Snowy Mountain Cave – David's near demise

10 October 2020

David Wools-Cobb (NC/SRCC)

Party: Serena Benjamin (STC), Paul Darby (SRCC), John Oxley (STC), David Wools-Cobb… and eventually, many others

David in the flesh. "EPIC" indeed. Photo: Janice March

Whilst caving in the Mt Cripps area, West Coast of Tas on Oct 10 at about 1400 I fell 2-2.5m while climbing a ladder in a waterfall. I fell onto my cave pack with two pelican cases with photo gear, then apparently rolled some distance further. As I was very wet, hypothermia was a huge risk so I crawled in agony about 10 m up to a dry area and my companions put me on some plastic matting. I announced that there was no way I'd be able to get out of the cave under my own steam. Paul and John headed off to alert authorities, leaving behind some warm gear, and Serena, a nurse, stayed with me. It was bloody cold. Frankly my main expectation was to die of hypothermia; not being overly dramatic, but I knew the odds for a long delay in mobilising people, the fact that the cave was about 1.5 hrs from a road, on a poorly marked and difficult to follow route, mobile service would only be available further along the road, many cavers may be off caving for the day so possibly not available.

John Oxley turned up at the top of the 8 m pitch about 1930 and set down some warm gear. Getting warm covers was a total game changer: in fact, I consider that saved my life. John was asked to retrieve a few things from our packs outside, which he did, then left to walk yet again back to the hut at the end of the road. The true first responders arrived about 0130—0200 Oct 11, wilderness paramedics with caving experience and my mate Alan Jackson who would subsequently take 'charge' of the technical rescue operation. I then knew I was in good hands and Beccy (paramedic) quickly gave me Fentanyl for pain relief. After some time, a stretcher arrived and it was decided to place me in an "Oregon", which is basically a back board and then in the stretcher. At this stage we had no idea of my injuries; I was hoping they be just muscular, but Burnie Hospital work afterwards showed: fracture of five ribs, contused lungs, small pneumothorax, fluid on both lungs, fracture of both scapulae, fractures of the spinal processes from thoracic region down to the lumbar region (lots of fractures), possibility of pneumonia, in a lot of pain, to be being fitted a back brace (6 to 12 months). No spinal injury apparent at this stage (can move and feel all sensation in limbs etc.).

So, once I was 'packaged up' in the Petzl Nest too and the pitch rigged, the rescue party commenced my extraction. As I regularly train in cave rescue, I knew virtually all the cavers (25 turned up) and some of the Police and one SES member. About 40 people were at the cave site with more back at our hut & the access road. I was in fogged up goggles, but could recognise many voices, and even though in pain, in pretty good spirits. I saw it my duty to 'gee up' the group, as I knew they'd be tired, wet and cold. I know I have a reputation for 'talking too much' but knew that psychologically the

rescuers would be more concerned about a non-responsive casualty.

The pitch was straight forward, although getting me over the lip of the waterfall was a bit problematic, but they had rigged the lift to keep my dry. I was then hauled some distance through what proved to be quite tortuous passage until we came to an extremely tight section; I said they'd have to take me out of the stretcher, remove goggles and glasses to give greater clearance between floor and roof. This meant I was on the Oregon back board only, but it worked, and I could be pushed/pulled though. Having most of my body exposed was agonising, but it's a case of 'whatever it takes'.

Before all the drama. Tick, tock… Photo: John Oxley.

At one stage we had a second vertical lift (which had been a straightforward climbdown on the way in, but a body in a stretcher is a different dynamic). After some 20 m or so I was placed back in the protective stretcher and shortly after was at the entrance where they'd rigged a good tyrolean rope lift from the entrance up a steep incline out of the doline onto a flat area. I was placed in a heat tent, clothes cut off me and replaced with dry clothes and some warm Nalgene bottles.

Gabriel taking delivery of the casualty up the pitch. Photo: Han-Wei Lee

I could overhear the communication to the Westpac helicopter standing by at Cradle Mountain about 10-12 minutes away. There seemed debate whether a helicopter extraction would be needed (there was no way I could have survived a man-handle stretcher trip out, and that would be exhausting to those involved.) The helicopter delay seemed unnecessary from my perspective.

We headed for the North West Regional Hospital Burnie, where I was met by my wife Joy (who had been driving to Hobart, expecting me to fly directly there), and daughter Jessica, who had been involved in the rescue party, then driven my camper to Burnie. After several scans I was flown by fixed wing to Hobart and transferred by ambulance to the Royal Hobart Hospital. Most of my time there was in ICU, developed a paralytic ileus (can't shit, often after major trauma), given a spinal block, after eight days an operation on my left lung (which didn't go very well), had 1000 ml blood drained and a 500 g clot removed, collapsed twice. Briefly: several setbacks but in good care.

Upward and onward. Photo: Janice March

Meanwhile my surgical site into the lung became infected and I developed shingles (common after major trauma).

After 18 days I was transferred back to Burnie and after a further five days sent home.

What I face: continually tired, weak, but happy to be home, at least with Joy's assistance able to get out of bed whenever I want, exercise, move and slowly recover. I'll be in a back brace until after Christmas, just heal, attempt to get my left lung as good as possible and build up strength and muscle tone (I've lost 7 kg, but most likely mainly muscle). Onward and upward from here.

Of course, I'm very grateful for the fantastic effort of my fellow cavers, Tas Police, Ambulance Tas, SES and nursing staff: it's a much better outcome than I expected.

In all of his agonising misery, David could have had worse company: Serena Benjamin, a friend of his who also happens to be a nurse with formidable and relentless qualities, shares her fascinating account of events. A captivating and very interesting read by a true hero. -Ed

Mt Cripps Cave Rescue – Serena's perspective

10 October 2020

Serena Benjamin

Serena, shortly before the accident. Photo: John Oxley

1400

A loud thud and light disappearing downslope. It was Dave! Initially, no movement as we (Paul, John and I) scrambled down the rocks toward him. By the time we arrived the grimace of pain on his face was evident. Dave got out from under the waterfall with some effort and a bit of assistance. Some cursory spinal palpation and questioning of pain severity, quality and location occurred. Dave began self-evaluating the damage and his likelihood of self-rescue. Further movement up-slope quickly progressed the idea of 'two people just going out to the hut to get some rope' to 'call in a few extras' and finally to 'this will be a full-scale rescue'. As the local, it was a given that Paul would head out. John's statement that "if I stay in the cave, I will get very cold" and my medical background determined who would stay. Still near the spray of the waterfall I suggested we move to where it was drier and flatter. With difficulty this was achieved. This area, up-slope from the base of the pitch had been used as a point at which to take boots and trog suit off before proceeding further into the cave where there were decorations. Several hessian (?) mats on which to stand while changing into clean footwear were located here. This in-situ matting, our cave packs and my foam mat became an improvised sleeping mat onto which Dave was placed. It provided what little protection from the cave floor that could be had. The floor itself was gently sloping and our improvised mat was located between a cave wall on Dave's left-hand side and a ridge of rocks that protruded ~30 cm out of the floor on his right.

1420

John and I carefully peeled the top layer of his trog suit off and put John's spare jumper on. Due to the mechanism of injury the potential for spinal damage was high. It had been risky enough allowing him to move at all, a decision weighed against the risk of adding further injury if the three of us had needed to carry him away from the waterfall. We therefore elected not to take all thermal layers off, despite still being wet, to minimise movement. We did not have any cutting implements. Paul left his spare food (x5 fun-size chocs). I had 2 1/2 bite-size pieces of 'munchme' muesli bites. I promptly put my spare layer of thermals on over my wet ones.

Visualising the patient's position. Photo: Serena Benjamin

1430

John and Paul left. I commenced hourly radial pulse and respiration rate checks. Dave's pulse remained strong, regular and at roughly the same rate the entire time. He reported this rate as slightly above his norm which I attributed to pain. At one point, his pulse was difficult to palpate; he was talking to me the whole time so this caused no undue concern. Dave's respirate stayed consistent and he remained alert and orientated during the course of the night. Each time I checked his radial pulse he was warm to the touch. I frequently questioned him about whether he had any numbness/tingling/loss of movement etc. in his feet or toes that may indicate spinal cord damage; he said no and at all times was able to move his legs and arms. As there had been no apparent loss of consciousness, I did not monitor his pupillary response. In hindsight, a more robust secondary assessment should have been conducted which included this. An over-reliance on subjective assessment occurred where objective assessments could easily have been incorporated

even if they were later considered surplus to requirements. Observations should also have been documented. I had brought my mobile phone into the cave for use of its camera. As I only wear a watch at work this became my timepiece though could have been used as a notebook also.

Damian Bidgood coming up the dreaded waterfall. Wetter than it looks. Photo: Gabriel Kinzler

So we waited. And shivered. And I talked a lot. Dave talked a bit. With such scant supplies the aim was to make Dave as comfortable as possible by minimising exposure to the environment to slow his rate of heat loss. Thus, clothing was tucked in to minimise draught, exposed skin kept to a minimum and the pelican case that had broken his fall became a makeshift pillow to maintain a favourable spinal alignment. I fed Dave a couple of chocolate bars, ate one myself and finished off my muesli bites. Likely to be sometime before we saw anybody. His Scurion was appropriated and adjusted to light up the chamber. My light was turned off to preserve batteries (with spares *et al.* on low setting = enough light for a week). Our attempt at achieving some additional ambient lighting and a meagre source of heat via a candle of Dave's was thwarted when we confirmed that wet matches don't work. Additionally, it turns out that external flashes cannot be used as an improvised heat source. I believe it was at this point that Dave asked me not to make him laugh.

1930

John returned. An opportune time as the heat radiating off Dave had finally enticed me to try wedge myself between him and the cave wall. Not successfully. A pack was lowered down which contained a bunch of goodies: Thermarest, siltarp, sleeping bag, lilo, down jacket, polar fleece buff, gloves, first aid kit, stove, bowl, jug and a space blanket. We called up to John to bring food from the packs at the entrance which he did. This included a muesli slice of John's, Dave's silicone lunch box (sandwiches and choc muesli slice) and first aid kit. John called down that the appropriate people had been called and rescue was underway before exiting the cave. When would help arrive? I guessed midnight. Dave thought 0400.

With these additional supplies, priority was to minimise further heat loss. First the sleeping bag was lain over Dave while the ¾ length Thermarest inflated. The siltarp was then tucked underneath him and used as a slide sheet to manoeuvre all 80 kg of him on to the Thermarest, somewhat awkward to achieve in the confined space between the cave wall and ridge of rocks. Dave was able to assist minimally (e.g. lean to the left or right, bridging to raise his hips a few centimetres). Changing the alignment of his spine was actively discouraged, a point emphasised by the pain that resulted. He was then slid about a foot upslope to get his feet further from the cave wall at the bottom. The tarp was then wrapped around him with the sleeping bag on top and the space blanket as the final layer. This layering was to keep the bag dry from both Dave and the external environment. The lilo was also inflated and placed under his feet. His boots were removed with some difficulty and dry socks put on. After checking the capillary refill of his toes I could confirm that the decreased peripheral circulation to his lower extremities was consistent with the body's natural response to being in a cold environment of pooling blood in the torso. Dave nagged at me at this point to look after myself, saying that I should have the lilo. Pah. I'd nabbed the down jacket, buff and gloves. In retrospect, the gloves should have been put on him. Eventually I did relent and managed to curve the lilo around sufficiently for me to sit on a portion of it (FYI - not so good for it). In lieu of a couple of Nalgene bottles the food from Dave's lunchbox was taken out and boiled water put in its place. The lunchbox of hot water was then carefully (silicone remember!) placed on his chest between his layer of thermals (to not burn his skin) and underneath the sleeping bag. The water was reheated several times which required several trips down to the waterfall. It was difficult when doing this to keep dry which made noticeable difference to my own thermoregulation. The boiled water was also used to provide regular warm sips to Dave for hydration. Not sure if it was the water itself or from one of the containers however it tasted a bit odd. When cold, sense of thirst tends to diminish; the addition of less palatable water made this less desirable. With hourly checks, and completing all the tasks above time became an abstract concept. Other things that occurred: in the event that he became unconscious a past medical history, allergies, current medications, ins and outs and other relevant information was collected. Simple analgesia in the form of paracetamol and ibuprofen were also administered with little effect at 2130 and 2330 respectively. Some 10-15 minute soundbites of sleep were also achieved, each time having to orient myself and check how Dave was going. Dave, I understand, had no sleep.

Bec Foxen with the casualty. Photo: Serena Benjamin

One's a nurse, the other a paramedic, both are cavers, friends. Photo: Gabriel Kinzler

0115

The chattering of the waterfall resolved itself into the chattering of the rescue party.

0120

Bec Foxen was first down the pitch. I gave her a handover, whereupon she assumed responsibility and commenced her initial assessment, Han-Wei joined us soon after. Others appeared. I stayed to assist. Loathe to go near the water again I delegated the task to two others who appeared at various stages.

Quite some time later, Bec overcame my inertia by finally kicking me out of the way in order to get a line in Dave. I then assisted pack Dave into the Oregon and later the stretcher. At one point some soups were flung down the pitch at me so I did end up having to go near the waterfall again. In the meantime, the as yet unseen cast of thousands had been preparing the cave for his egress. It was soon a go for him to begin his journey out.

0430

Dave's long-awaited moment came: he was counterbalanced up the pitch. I began to pack up the gear remaining behind and this was passed up. As the ladder had been removed, I communicated that I now had no means of getting out. An SRT kit was sent down and I managed to redistribute my body mass (rather than redoing the straps) in order to squeeze into it so as not to inconvenience the owner.

Once up the pitch, the derig commenced behind me. Packs, including the paramedics' packs, were shuttled up to the point behind the stretcher as it moved out. Progress out was slow but steady.

0830

Daylight.

Note: Twelve years with the SES Search & Rescue team has provided me with valuable skills and experience.

The team's emphasis on Wilderness First Aid (WFA) has meant that I have been fortuitous enough to have been funded to participate in a WFA course run by TAFE.

For all those interested in outdoor pursuits I strongly encourage attending one of these or a First Aid course at the very least.

Another sleepless night, nothing unusual.
Photo: Janice March

John Oxley, who always wears his heart on his sleeve, was equally crucial for Dave's chances of survival. -Ed

Mt Cripps Cave Rescue – John's perspective

John Oxley

This is a brief account of the events as I saw them on Saturday 10 October 2020.

When we all returned to the waterfall chamber after visiting and photographing the pretties, we re-trogged and prepared to exit. David was ready first and started climbing the ladder which was hanging directly down the little waterfall. When he reached the top, he had some difficulty negotiating the overhang. He downclimbed some way then fell back. I estimate the time would be about 1400-1430.

We helped David up to a dry spot away from the water and attempted to make him as comfortable as possible. He was initially able to crawl and stand but he said his arms were very weak and he didn't think he would be able to climb the ladder. It was obvious that we would need assistance to get him out of the cave. I left my lightweight pullover and I think Paul also left some sort of light jacket.

Paul self-belayed up the ladder then top-belayed me up (I had a harness).

We walked back to the hut. As we went, Paul added flagging tape in the scrubbiest sections along the route. For a large part of the route, especially nearer the cave, the track was completely obscured by bracken, scrubby undergrowth and fallen trees. There was some flagging tape there but it was very old and very sparse.

On our arrival at the hut we jumped in my car and started driving along the track in order to get a reliable phone signal which was completely absent in the vicinity of the hut.

I was expecting we'd need to drive out (approx. 8 km) to the Belvoir road but we found a reasonable signal only a few hundred metres along the track.

Paul Darby, photographed here before the incident, played a crucial role in getting the rescue party going. Photo: John Oxley.

Paul called police and several other people from NC (there was a callout sheet in the hut with names and numbers). I called Alan Jackson and left a message on his answering service. I then called Gabriel Kinzler (at 1634). Luckily, Gabriel happened to be visiting Alan at the time so I was able to speak to both of them. I gave them a brief description of the situation including our inexpert opinion of David's injuries. I also described some of the character of the cave and the access to it from the hut.

I then proceeded to gather some items to return to Serena and David in the cave. I had a down jacket, a down sleeping bag from the hut, a self-inflating mattress from Paul, a "Lilo" mattress, a tiny gas stove with gas cylinder and billy, a groundsheet, a space blanket and some Panadol tablets. Unfortunately, in my haste, I forgot the tea bags so the only hot drink they would be able to make was hot water soup! (sorry about that Serena and David). Some packets of dehydrated soup would have been ideal.

I set off with my load back toward the cave. After crossing the main creek, I wasted some time (and energy) by heading up the wrong track some way before returning and finding the correct route. Despite having walked it earlier in the day I actually doubt I would have been able to find my way to the cave in the limited remaining daylight without the extra tapes that Paul added on our first return from the cave. I'm absolutely certain I would not have found my way back to the hut in the dark without the tapes. The track for much of the way was completely obscured by bracken and low scrub so the only guidance was the tapes. I reached the cave in fading daylight (I guess about 1915), put my caving suit, which I'd left near the entrance, on and went into the cave.

A testament to the track's tortuosity: the rescue team had to ditch the stretcher trolley early on. Photo: Cath Hemley

I moved slowly through the cave with the heavy pack and lowered it to Serena when I reached the pitch. David called out to ask me to retrieve some items from his pack that was outside the cave so I headed back out. I was pleased to hear David's voice sounding clear and strong. It was quite dark when I reached the entrance. I gathered the requested items and returned them to David and Serena in the plastic bag that had contained the rope when we first entered the cave. With the echo and the waterfall, communication was difficult so I didn't hang around. I wished them well and left.

(About 2030) The cloud was low and there was a light drizzle falling. It was an utterly dark night. I had some difficulty locating the first flagging tape above the doline but I was determined not to head off in what I thought was the right direction without seeing a tape. Crashing around in the bush all night wasn't very appealing. I briefly contemplated returning to the cave and waiting in the entrance until the morning. Although there was no wind and it wasn't particularly cold, I was wet from pushing through the wet scrub so I soon dismissed that idea.

After some minutes I was relieved to locate the first tape. The next few tapes followed easily and I headed up the hill into a thick drizzly mist. My return trip was slow as I often had to spend several minutes locating the way on. Sometimes I could identify trampled bracken when I couldn't see another tape. Several times I had to back track to the previous tape and try a different direction. I stopped to rest a couple of times, switched my light off and briefly enjoyed the silent darkness and isolation.

I wasn't carrying any means of telling the time so I don't know exactly when I arrived back at the hut (I guess about 2230-2300) but I was pleased to see lots of people and activity. I was pretty, pretty tired by then. Soon after I arrived Paul headed off toward the cave with the paramedics. He added more flagging tapes as they went making the route more obvious.

The chief ambulance officer on site grabbed me when I returned and asked me to give him my version of the incident. He was going to be preparing a report for internal Ambulance Tasmania use.

Back in the hut Lyndsey prepared some soup and bread for me then someone, perhaps SES, arrived with half a dozen pizzas. There were still a couple of Police, SES and Ambulance people around and they grabbed them.

At about 0630 on Sunday morning I was asked by the senior sergeant on site if I could carry some food out to everyone at the cave. He was short of staff. However, a little later a young policeman arrived at the hut. He had come back from leave having finished the Overland Track with his wife the previous day and was keen to participate in a remote area rescue. As it turned out I don't think he was needed because word arrived that David was out of the cave and the helicopter would be called in. By late morning people were returning from the cave and packing up. Serena and I left at about midday, stopped briefly at the SES food tent about 6 km back up the road, and then continued back to Hobart.

Before things went all pear-shaped, John had a hand at what he does best. Serena left, David at the back. Photo: John Oxley.

After the rescuees, the rescuers: an overview from various organisation leaders. -Ed

Mt Cripps Cave Rescue – Random thoughts

Alan Jackson

Being a bit pressed for time and energy, my contributions to the round-up of the rescue will be a bit briefer than my normal offerings (collective sigh of relief goes up…).

I'm sure everyone knows the basics: Dave, Serena, Paul and John go caving; D falls off ladder and breaks some stuff; S stays with D while P and J walk out to raise the alarm; J returns with warm stuff for S and D; cavalry arrives; D is extracted in a stretcher and taken by helicopter to hospital; we all live happily ever after.

How it unfolded for me

John tried to ring me at 1632 but I was distracted at the other end of the house and missed the call. John then rang Gabriel, who proved to be the source of my distraction, so John got hold of me after all. John provided the basics and we swung into action.

Emalisa and Gabriel were at my house and this proved very useful. G and I started calling other STC cavers and Em kept notes for us. I also rang David Butler and Janice March (NC) to make sure they knew and to ensure our responses were complimentary. I also rang Damian Bidgood (Tas Police) to see if SAR South had been made aware – they hadn't yet.

Having the furthest to travel and knowing that Janice and Deb Hunter had good numbers confirmed from NC/MCCC meant the STC contingent needed to be fast and would go with the small numbers who answered their phones straight away and were able to mobilise quickly.

In the end Gabriel, Pax, Petr and I arrived at the Glenorchy Police station around 1830. Janine and Ric would make their own way up. Andreas was available if required but a shoulder injury rendered him unlikely to be useful underground. We loaded gear into two Police vehicles and set off. The original plan had been to fly up but the helicopter got nervous about the weather and pulled the pin. We set off with minimal respect for the speed limit.

Early chaos. Photo: Deb Hunter

The 'dead' time of the drive up allowed for many good conversations and mental preparation. I got the run down on the northern Police personnel from Damian. I was able to be involved in multiple phone calls between the northern incident controllers and Damian sorting out logistics – most went along the lines of "Damian, what are we doing for comms underground?" and "Damian, are you bringing any bolting capacity?" to which I was able to chip in and say "Don't worry, the cavers have that covered." In the end, cavers provided and operated all the underground to surface comms, all the drilling/bolting capability and probably 80% of the technical rigging and the primary stretcher.

At the entrance of CP-11. Photo: Tasmania Police

I don't recall exactly what time we arrived onsite but it was around the 2130-2200 mark. We were held up by an Ambulance Tas vehicle which had speared off the mossy road into the roadside drain. It was dark and drizzly. Lots of NC and MCCC cavers were already there. To my great surprise, the advance team (paramedics and some Police and SES) were only just heading off from Th'ut as we arrived (I didn't get the chance to see who was in that team or talk to them but I knew Han-Wei Lee was in that party as he'd texted me earlier in the evening letting me know he was being choppered north for the job). I'd have thought that with the much shorter drive they'd all had from Devonport that they'd have left at least a couple of hours earlier.

Within 30 to 45 minutes we had ourselves organised and ready to head off. I questioned the Police officer in charge what the protocol was for checking in and he supposed a head count was a good idea. I suggested that if 30-odd random cavers were about to head off into the scrub to follow a poorly-marked track in the dark and drizzle that recording their names might be useful. Janice produced a pro forma from her bag and all the cavers signed in …

The advanced team had a bit of track finding and re-taping to do, so the faster members of the second team managed to get to the entrance only a few minutes after the advanced team arrived. I was delighted to find paramedics Han-Wei and Bec Foxen there and I was introduced to Spoon (Dean Wotherspoon) who would be in charge of the rescue. We hatched a plan to get the paramedics to Dave and start assessing the obstacles.

The obstacles were many and varied but nothing insurmountable so Spoon and I devised a strategy and tasked various cavers with bolting, rigging and 'de-obstruction' tasks. MCCC rolled out the Michie phone and had good comms going for the duration. The following obstacles required dealing with (refer to annotated map – Figure 1):

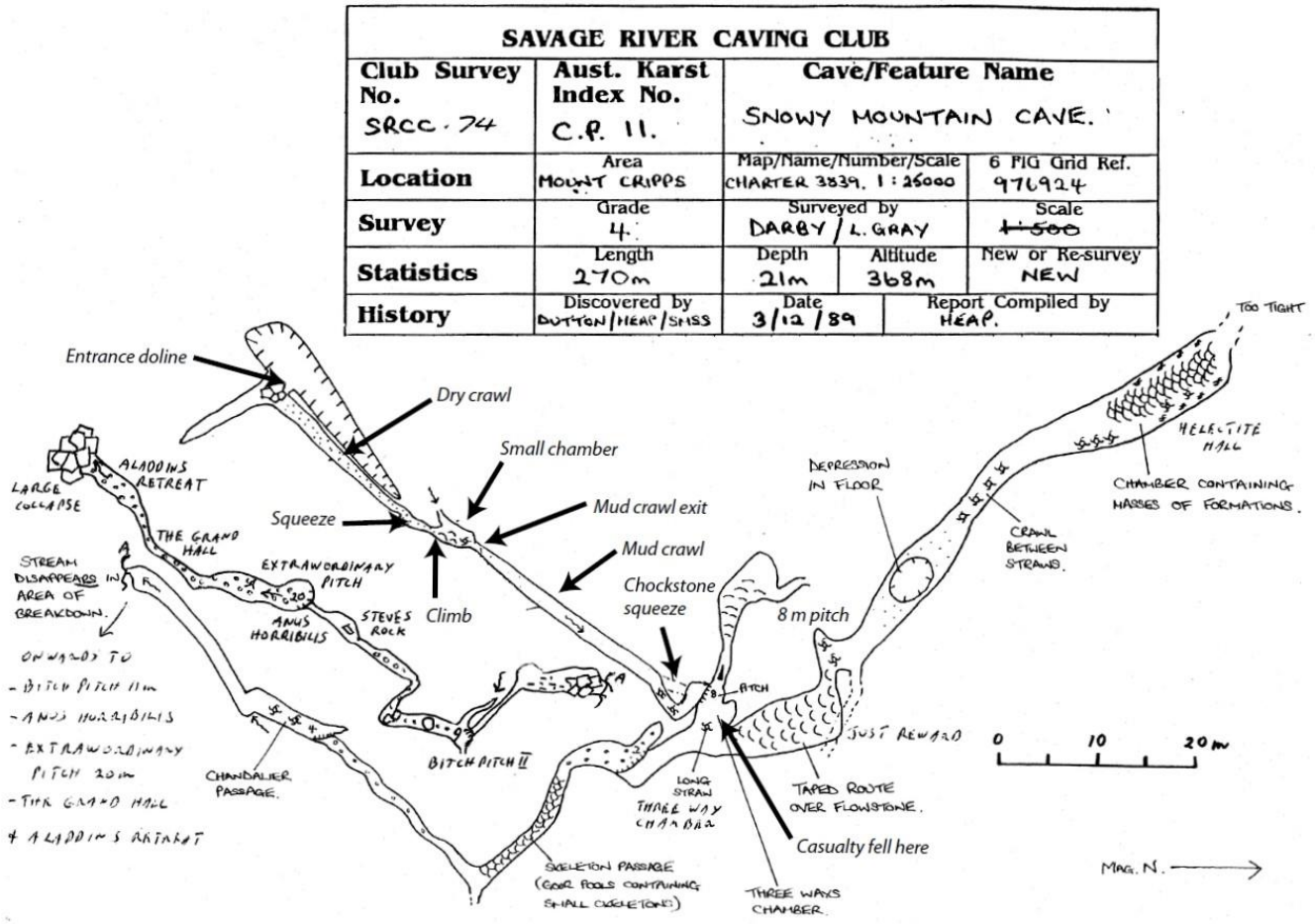


Figure 1: CP-11 Snowy Mountain Cave. Source: Savage River Caving Club, annotations by Alan Jackson

8 m pitch

Cavers installed and operated a triple bolt load share anchor in the ceiling above the pitch with a counterweight placed to hang down the dry gap between the two waterfalls on the pitch. This would get the casualty from the dry ledge to pitch head (in the vertical stretcher orientation).

Police and cavers set up a simple 1:1 haul with progress capture from the large natural chockstone rigging point to land the casualty atop the pitch. A 'head-foot' stretcher manoeuvre was performed at the pitch head to 'post' the stretcher into the low ceiling space landing at the top of the pitch. Two cavers (on safety lines rigged to the chockstone) operated the counterweight and steadied the stretcher during the head-foot and landing.

Chockstone Squeeze

The large rigging chockstone largely blocked the passage. There was an option to go under or over the chockstone but both would require enlarging to fit the loaded stretcher. The over option required removal of numerous speleothems and under required removal of mud and gravels from the stream bed.

The traditional caver route at this obstacle is under, so that route was chosen. Despite the removal of mud and gravel, this was still an awkward hole and the stretcher was rotated almost 90 degrees at times to fit through. At this point a small chamber allowed for personnel to easily overtake the stretcher and prepare for the next section.

Mud Crawl

Narrow, low but straight stream passage. The first half of this passage was wide and high enough to allow alternating and opposing cavers to squat and slide the stretcher over their thighs. The second half narrowed and had a keyhole profile with insufficient room for thigh-sliding. For two body lengths personnel lay face down in the narrow floor channel and the stretcher was slid over their legs and backs, pulled by cavers further along the passage via an attached rope.

Mud Crawl Exit

A tight window with a short vertical step from the narrow end of the Mud Crawl to the Small Chamber above. Significant 'deobstruction' was undertaken at this corner to allow easy passage of the stretcher.

Small Chamber

A small but sufficiently large chamber to allow personnel to overtake the stretcher with ease with flat and gently sloping surfaces for staging the casualty while preparing for the next vertical obstacle.

Climb

A ~3 m free-climb out of the Small Chamber was rigged as a redirected counterweight. The counterweight and two safety lines were rigged from a very large natural flowstone column. The counterweight was redirected via a releasable load-sharing anchor on two bolts. Due to space issues, the counterweight person commenced at floor level and stayed

there while the stretcher was passed up a steep slope, handled by the two cavers on safety lines. This landed the casualty on a sloping flowstone floor immediately before the Squeeze.

Squeeze

Quite tight (<300 mm) high squeeze with flat bedrock ceiling and slightly angled flowstone floor with a 1 m deep, 1 m diameter 'pot' immediately after the squeeze and continuing low crawling passage beyond. Various objects were 'de-obstructed' during preparation to make this squeeze larger. Initial attempts to fit the casualty packaged in the Nest failed. The stretcher was backed out, the Nest removed and the casualty reinserted into the squeeze in just the Oregon spine splint with a thin, slippery drag mat under it. Helmet off to allow him to fit. A caver filled the 1 m deep pot with their body to support the stretcher as it bridged over it.

Dry Crawl

Low, but not terrible, and reasonably wide crawling passage with a largely flat floor led to an awkward vertical step. Considerable de-obstruction was performed to permit passage of the stretcher. Sufficient room to fit the Nest was available in this section but insufficient room to allow repackaging of the casualty into the Nest, so this section was passed in the Oregon only.

Entrance Doline

Spacious passage at the entrance window permitted repackaging into the Nest stretcher. A tyrolean was used to float the stretcher over the steep and slippery, boulder, log-strewn doline floor. Three bolts in the ceiling and a triple load-sharing anchor were used at the entrance window end and a large (~2 m diameter) fallen log was used at the 'outside' end. The stretcher was then placed on belay (tree) and passed hand to hand up the final slope to level ground.

Helicopter Lift

The casualty was repackaged into a Stokes-style basket stretcher and passed up a hundred metres or so to a natural clearing where the helicopter could winch. The chopper came… eventually.

The extraction commenced at around 0430 hrs and the surface was reached at around 0830 hours. The helicopter arrived around 1100 hours.

Credit goes to SES for deployment of enough people initially to provide real assistance and more people in the morning to help carry stuff out.

With Dave 'safely' on the surface the focus moved to waiting for the chopper to be brave enough to fly in. The weather seemed pretty darn good to us (low winds and mostly blue sky) but they thought otherwise and it took several hours.

The 'walking dead' TRAIPSE out to the Th'ut with heavy loads after a sleepless night wasn't much fun, especially for those who did it twice.

Everyone dispersed back to their respective corners of the state and fell asleep.

The Good

The initial response by the rest of the party. Brilliant effort.

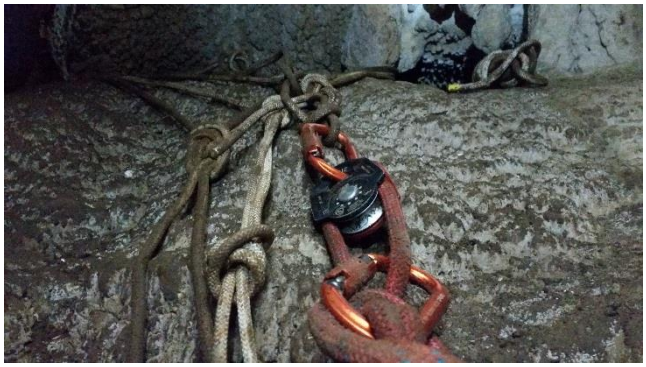
Sections of the track which were marked with reflective markers were much easier to follow in the dark than those without it!

The general level of trust/respect/rapport between the various emergency services and cavers was amazing. All the inter-agency and inter-club training and relationship building of previous years paid big dividends.

Alan and Dean "Spoon" Wotherspoon cooperating. Photo: Gabriel Kinzler

Following on from above, Police willingly delegating underground rescue roles to cavers was the key to success – I can't speak highly enough of Spoon and Damian. If we'd had an NSW-style top-down approach of 'the Police are in charge and they'll handle it without input from the pesky cavers' seen in the past (e.g. Geoff McDonnell's rescue) then Dave would have been underground MUCH longer.

Underground comms were generally pretty darn good (but see 'The Bad' later on) and without the cavers there wouldn't have been any underground comms.



Rigging at the 2nd pitch. Photo: Janice March

General skill set and willingness of cavers to fill the roles asked of them was excellent.

We didn't have any rubberneckers interfering with the call out process (i.e. people interstate, international or even local who weren't able to attend or assist but felt self-important enough to waste my time ringing me up or messaging me to sate their curiosity on what was happening).

Perhaps the lambasting the culprits of previous call outs received has done its job. Good work.

The Wools-Cobbs (particularly Jess and Joy) were brilliant during a highly stressful period. Jess during the rescue itself and Joy in the weeks that followed keeping us all informed of David's progress. I'm sure David knows how wonderful his family is but if he hasn't already done so he needs to give them a big hug and buy his daughter a decent caving light.

Plenty of other good things too, but I can't be bothered listing them. Just be satisfied with a general comment of 'youse all done good'.

The Bad

Yeah, not everything was perfect and lessons were learned.

Starting at the beginning: unbelayed ladder climbs. There's no glossing over it – it was a totally and easily avoidable incident in the first place. We all take risks underground and climb things with potential to hurt us if we peel off. Had I been on the trip I'm sure I wouldn't have used the available belay either. Rather than tell you all how you should be caving and assessing risk I'll just park it there and encourage you all to think about it.

The Good, the Bad… and the Ugly. Photo: Deb Hunter.

The first response party should have got away faster. I've heard various accounts describing what was going on during those few wasted hours and reading between the lines it looks like the overall incident commander got nervous about sending people in in the dark and was considering waiting till daylight before heading in. As an external party with no real skin in the game or concern about keeping my job, I'm prepared to state that this was pretty poor decision making and needs to not happen if there's a next time. Time is of the essence is any rescue and humans and GPS units both work in the dark.

The Police, as overall incident controllers, should have had a system in place to record who had headed into the bush and the cave. In the meantime, we'll keep using our own systems.

'De-obstruction' was a big cock up and I accept full responsibility for it. We didn't take any dedicated digging equipment (micro-shaving/capping, cold chisels, lump hammers, etc.) and it would have made the extraction a lot easier. We made do with bolting hammers and the drills but it was inefficient and suboptimal. I considered grabbing the capping gear but knew it hadn't been used for ages and was in various states of disrepair and dispersed around my shed so in the interest of speed and going by the cave description provided by John I decided to leave it.

Comms were generally pretty good but not enough wire was taken for the Michie phones. Enough wire was taken to Th'ut but was left there and not taken to the cave (despite me telling the comms team to bring it). This meant the comms got from the entrance to the top of the pitch but didn't reach the casualty/paramedics at the bottom of the pitch. The general rule is take more, not less (we had hordes of SES people to carry the load).

Deb and Janice worked together to deliver comms capabilities. Photo: Janice March

I was personally disappointed at the preparedness of attending cavers to carry any more than their personal caving gear. I know northern cavers don't generally walk to the cave with a massive walking pack overloaded with ropes and rigging gear like we southerners do, so the general 'going caving' mindset is 'take a medium-sized cave pack with your lunch in it', but I'd have thought the fact it was a cave rescue might have fired a few more synapses. Bring a big comfortable bag and if you don't need it then leave it in the car. Be prepared!

From a cave conservation perspective, the situation was fairly brutal. Quite a bit of stuff was dug out and smashed off to fit the loaded stretcher out. While this is essentially unavoidable in these situations, it's worth raising it on the 'bad' ledger. Keep yourself safe underground so we minimise our impacts on the caves.

Pretties in the cave. Some didn't survive. Photo: Deb Hunter

A few rigging booboos were made (but remedied before actual extraction). A reminder that rescue loads are big and single rigging tapes are not acceptable for rescue loads.

Most people went straight home after the rescue after a long sleepless night of hard work. Fatigue management wasn't brilliant. No one crashed and died on the way home but it is

a major risk and needs to be considered better if there's a next time.

The Editor dreaming about Speleo Spiel *441.*
Photo: Alan Jackson

Brian Evans used David's name in some of his emails to the general caving community in his role with ACRC. Brian's a very close friend of David's and the caver grapevine was working overtime well before Brian's emails and everyone knew David was the casualty but it was poor form for Brian, in his position with ACRC, to circulate the casualty's name before it had been officially released by the Police or the casualty's family. And don't worry, I raised this directly with Brian over the phone on the drive home from the rescue. I raise it here not to flame Brian (who already knows he's not the Messiah, just a very naught boy) to serve as a reminder to all other cavers to keep the names of casualties suppressed until you have clearance from Police or family to use them.

Media

I was not initially keen to do any media. I hate it. I was asked by Police to do some on the afternoon after the rescue and declined but during the evening I reflected upon comments Harry had made after the Thai soccer team rescue. He was wary of the media too but in the long run realised that, carefully managed, they were a tool that could prove useful. When I was woken up Monday morning by ABC Radio, I decided I would talk to them. There are things I'd change about the interview I provided but generally I think it was ok and I've only received minor constructive criticism so hopefully the general caving community also thought it was ok. I felt it was better to provide the media with an informed opinion rather than leaving it to them to make up an opinion and provide ignorant or sensationalist commentary. It was also an opportunity to publicly thank the many organisations and individuals who have contributed the funds and time which have resulted in the Tasmanian caving community's excellent level of rescue preparedness.

Alan on ABC Mornings. Source: ABC.

[Listen to the recorded interview online by using the following link. -Ed]

https://www.abc.net.au/radio/hobart/programs/mornings/caver-tells-of-effort-to-rescue-friend-of-twenty-years/12753716

What now?

The callout system still sucks. I think we need a WhatsApp group or equivalent so the first responder can post a single message and it arrives on everyone's mobile phone instantly.

STC needs dedicated rescue digging gear (capping kit and traditional cold chisels and lump hammers).

STC needs to get state-wide cave map resources, not just southern ones. Police would also like access to state-wide cave maps.

Keep training and keep hanging out with emergency services personnel. We're awesome but we can be awesomer!

Mt Cripps Cave Rescue – Tasmania Police

Damian Bidgood

I received a call initially from Alan Jackson to let me know there had been a caving incident in the Mt Cripps area. Alan told me there had been an accident in a cave and David Wools-Cobb had fallen down a short pitch and his injuries were unknown. He said there was little information and support from the south may be requested. Not long after I received a call from our Police search controller in the south, Sergeant Bernard Peters. Bernard said I had been requested along with Alan and other STC members to be flown to the area to assist with the rescue. Bernard was also going to organise any available Taspol search and rescue members to head north to assist with the rescue.

Following were numerous phone calls between me, Alan, Bernard and Dean Wotherspoon (one of our Police search controllers and search and rescue members in the North West) to organise the logistics to meet and head up north.

Spoon. Sorry mate, this is the least unflattering pic I got.
Photo: Gabriel Kinzler

Things can get very busy as a Police search controller when incidents like this happen, you are very busy on the phone and need to make lots of notes as you go. It really helps to get assistance with note taking, sorting maps, sorting people, transport etc. The logistics of coordinating a search and rescue are very involved. You are also faced with liaising with different organisations as in this incident: Police, Police Commanders, Ambulance Tasmania, helicopter crew, SES and cavers.

Damian Bidgood and Serena Benjamin, in the closing stages of the rescue. Photo: Janice March

By the time Alan, Bernard and I had organised members for the flight north the weather had turned and flights into the area was no longer an option.

Alan, Police SAR member John Hitchens, Gabriel Kinzler, Petr Smejkal, Michael Packer and I then hit the road north as quickly as possible. During the trip north phone calls continued between Dean, the Police Western search controller Sergeant Russel Judges, ambulance communications and I discussing logistics and gathering more information about the incident and who else might be available to assist. Alan was busy on the phone with the different clubs as well.

We arrived at the hut and met a cast of thousands, members from STC, MCCC, NC, SRCC, Police SAR, SES and Ambulance. We then walked to the cave entrance and on arrival caught up with Dean, Han-Wei, Bec and Paul.

A plan was devised where Dean and two paramedics Han-Wei and Bec, were going to head to the cave and get to David to start stabilising him to get him ready for rescue evacuation.

As it turned out we all arrived at the cave entrance within a short space of time. Then Alan, Dean, Gabriel, Han-Wei, Bec and I could entered the cave with Paul Darby to begin the rescue.

After a long night of rigging, digging, dragging and banter (thanks Spoon and Alan) we got Dave to the entrance to view partly cloudy blue skies. Whilst Han-Wei and Bec continued to work their magic with Dave, I went in search of a winch site location for the rescue helicopter. Unfortunately, the wait for the helicopter turned into a timely frustrating wait for everyone as low cloud to the south was causing issues in getting to the area.

Finally, the helicopter arrived and Dave was off to hospital and we could all drag our tired legs (was going to say “arses” but the PC got the better of me) back to the cars.

This is just a short version from me of the events of the night. I would like to add though that I would never have thought after the Midnight Hole rescue that we would be faced with another rescue in such a short space of time. It shows how anything can happen at any time but let’s hope now the next one is a very long time away or never.

This event again showed me, like Midnight Hole, how well our emergency service and rescue teams work together in this state. The majority of us know each other by first name, know what we are capable of and work well together under pressure and extreme conditions to achieve great results.

I commend everyone involved for their efforts on the night and especially thank my friends Alan, Paul and Dean for their comradery and the shit stirring from Alan and Dean along with it.

Inter-agency collaboration at its best. Photo: Janice March

A state wide cavex will be run next September for us to practice for these events. Hopefully we will all learn or practice our skill for a rescue never needed again.

Thanks, Dave, for passing my little message to the pilot. He did appreciate it and I hope you recover and get back underground soon.

P.S. Alan you still have a big nose ☺.

You don't need to add that last sentence. *[Ha, but I do! -Ed]*

Mt Cripps Cave Rescue – Ambulance Tasmania: Bec's musings on the best and worst day out…

Bec Foxen

Sometime after 5 pm I answered the phone as I prepared to attend my rostered night shift. I had one leg in my uniform pants, and despite attempting to multi-task, I came unstuck when asked if I could respond to a wilderness job 'in a cave at Cradle Mountain'. Picking myself up off the ground I attempted to resolve that information into a packing list. Failing dismally, I packed everything, and headed in to work.

Vital suckling in progress. Photo: Janice March

As more information came to light and the team tasked, gear was collated, and we all started heading in the right direction. Han-Wei was flown to Cradle Mountain where we met with members of the TasPol SAR Team, who we followed to Mount Cripps. It was now clear that we weren't picking a bushwalker with a sore ankle out of a hole on a bushwalking track, but that one of our own required assistance.

Arriving in convoy, we were met by a member of the caving party, with not only fantastic information, but also a map of the cave. In the world of emergency response where information is usually sparse and unreliable at best, this was a revelation. Credit is due to all members of the caving party. The decision on who to leave with the patient, the effort taken to get additional resources to the patient, and maintenance of a contact person to meet emergency services, all contributed to form the foundation of a successful rescue.

After discussion with those awaiting us, a plan was hashed out, gear packed and repacked, and the trek to the cave entrance commenced. Luckily members of the SES SAR team, and northern / north-western cavers had also arrived on scene and many bodies made for easier work carrying gear to the cave entrance. Due to tagging the track on the way in, the southern cavers caught us at the cave entrance and an initial party, including myself and Han-Wei entered the cave.

As an avid outdoor enthusiast, with a shed full of gear that gets more use than most people's TV remote, I often wonder what would happen if I got myself in trouble in some of the places I frequent. I imagine many of you have had those thoughts. The passing 'it wouldn't be a good idea to hurt myself right now… but let's not think about that'! A few of these thoughts crept in as I entered the cave, squeezing through spaces that would be considerably roomier by the time of my exit, but also prevented some very capable people forming part of the team accessing the patient.

On reaching the waterfall, I poked my head over the top and called out. The ensuing laughter, and the call of 'is that you Bec?' that floated back to me lifted my spirits almost as much as I believe it lifted those of the two chilly cavers below me. Credit is due to the patient, who was still in good spirits, and despite being slightly chilly, failed to complain, even while being poked and prodded as part of our assessment. With our main priorities identified as pain management, spinal protection, and hypothermia management / prevention, it was time to get on with getting the patient out!

Stretcher knee slide-along. Photo: Han-Wei Lee

Our extraction plan was somewhat convoluted due to the concern for the patient's spine combined with awareness that the stretcher would be unlikely to fit back through the cave with a patient in it! As a result, we packaged the patient in an Oregon splint, inside the stretcher. The Oregon is a torso spinal immobilisation device usually used in extraction of patients from motor vehicle accidents and which, in my opinion, has far too many straps for sensible people! This odd plan enabled us to remove the patient

from the stretcher to manipulate him through some of the smaller spaces, while maintaining some degree of spinal protection.

Bec and others helping stretcher movement.
Photo: Han-Wei Lee

Managing for hypothermia once again cemented the relevance of the good old Nalgene hot water bottle. It is well known amongst us outdoorsy types, but a great reminder that having some kind of insulation from the ground, a stove, Nalgene bottle (or other container) and plenty of water is a 'must' on all adventures. Finding Nalgene bottles creeping into the TasPol SAR team members' personal kit shortly after this rescue made me smile and highlighted that, regardless of our experience, we can always learn from the tips and tricks of others!

Despite the laughter that we contributed, I am reasonably sure that many see our main contribution as Paramedics to have been the administration of pain relief. However, I feel that the whole rescue team contributed in this respect.

Laughter and distraction were applied liberally, and by everyone. I know that every time someone (often the patient) made me laugh, I was relieved of some of the fatigue and discomfort I personally experienced!

So, thank you. To every single member of the team who responded. Not only for the patient, and for contributing to this rescue, but also for being willing to step up and be counted.

I will still have those thoughts when I am in remote places, and think quietly to myself 'I hope I don't need to be rescued from here'… but I will know beyond a shadow of a doubt, that there is an exceptional team who would step in if I needed them.

Mt Cripps Cave Rescue – State Emergency Service report

Graeme Brown, SES North West Search and Rescue

At 1757 hrs I receive a call from our Regional Officer, Damian Hingston, asking for a team for a rescue at Mt Cripps. Mt Cripps is an area that several of us are familiar with as we have had many training exercises there over the years with Paul Darby.

I return home quickly from my walk and spend the next hour ringing around, organizing vehicles, arranging meeting and pick up points and packing gear. We are asked to rendezvous with the police at the Cradle Mountain turnoff, later changed to the Cripps Road near the Southwell River. As our unit is spread along the coast, two of our members, Jordan and Simon, travel up via Wilmot. While Mark and I travel from Devonport through Sheffield, picking up Maurice on the way. The team from Northern SES Search and Rescue (SAR) are also in transit.

We arrive at the Mt Cripps junction and find a line of cars from the Northern Caverneers readying to make their way down to the hut. Simon and Jordan had arrived earlier than my team and by this time were at the hut. It is raining steadily by this stage; the time is approximately 2130 hrs.

We approach the hut and are able to give Damian Hingston, our Regional Officer, a final SITREP about one km from the hut. Due to the nature of the road we recommend the communications bus not be brought down to the hut.

Upon arriving we check in with Dean Wotherspoon from TASPOL, giving him numbers and names of SES Search and Rescue team members.

I also check in with Bec from Tas Ambulance, while busily organizing food and tents in case they are needed when the rescue is complete.

A plan is formulated, which for us, means emptying our packs, so we can carry as much roping gear as we can to the site and then come back to the hut for more gear as required. Communications is an issue due to the terrain; two of us are asked to take gear for an overnight stay at the cave to do communications. While Simon carries a bag of medical gear and minimal supplies, Jordan and Mark carry ropes and other gear. As the party moves out Maurice and I finish repacking and catch up with the team of police and ambulance, being led in by Paul Darby.

Graeme (right) alongside Han-Wei Lee (left) and others.
Photo: Janice March

It is somewhere around 2300hrs. The track is being taped by various people along the route, so it can be followed without difficulty, which slows our progress slightly, but ensures anyone travelling in or out can follow the track without difficulty as the terrain in this area can be very disorienting. By the time everyone was returning the next morning this same track resembled a highway, due to the large volume of foot traffic the previous night.

As we are walking to the cave the Incident Management Unit have arrived and are looking at whether it is possible to set up a repeater radio network which will service the rescue site. Also members of the Northern SES (SAR) have arrived at the hut and are getting ready to head to the cave. As we descend to the cave, the hillside is muddy and very slippery; we hope there won't be the need for a stretcher carry the following morning as it is quite treacherous. Several people spend time sitting down on the way to the cave, but not by choice.

SES member waiting outside the cave
Photo: Janice March

We reach the cave, however need to spend some time finding the entrance, as there is a sheer drop of several metres on the edge of the doline. Head torches spread out around the area and finally the safest way is found, directly opposite our approach.

Packs are downed and a cache of gear is dragged out of our packs. While gear is being organized, lights appear opposite us, descending the hill. Someone is sent to flag around the rim higher up from the cave for a safer approach. The cavers from Hobart have made good time and are soon putting a plan together with Dean Wotherspoon. Caving gear is donned and discussions are had about what gear to take. They then are off along with Bec and Han-Wei from Tas Ambulance so David can receive his first medical assessment and care in many hours. Elmar from TASPOL oversees organizing things above ground: gear, people and communications.

The initial plans to walk in and back out have changed for us, as more and more rescuers join our camp perched on the side of the hill. Communication was only achievable by sat phone, so every hour Elmar would run up the hill to give a sitrep.

The Northern SES SARU team had seven members join us with many other members from the various caving clubs all eager to help in the rescue. More gear comes out including the cave radio system which is being prepared. Cavers gear up ready to descend.

As plans of the extrication are formed, we are tasked with clearing the bush and vegetation from around some large logs which have fallen near the cave entrance. These are to be the anchor for the Tyrolean traverse to allow the stretcher to be removed safely from the mouth of the cave. There is a call for water to be boiled, so it can be taken to keep David warm, cookers are lit and hot water is sent back down the cave in Nalgene bottles.

Some people not yet busy try to get a quick nap and others try to keep warm in the light drizzle. The weather is thankfully quite mild. The cave radio is now in use and Simon takes up position as scribe, waiting for instructions from below. Jordan counts everyone in and out to keep track of numbers of who is under ground.

Due to the tight section in the cave several of the cavers head in with bolt hammers to start chipping at the flowstone to enlarge the tight access, hopefully allowing the stretcher to pass through at a later hour. As the rigging is done in the cave, more numbers are requested to head down to assist with the slow extrication process.

One of the first things you learn in Search and Rescue is to hurry up and wait. While plans are made, they are changed based on the situation, which calls for everyone to stand around. We had a few hours practicing this skill while all the action was happening underground. Maurice and I are asked to get ready to assist with the rescue underground; we wait until called, then head in.

It is approximately 0400 hrs. Once in the cave, we can hear hammers working to enlarge the opening through which the stretcher must pass. The operators are sounding weary from their hours of hard work, so I offer to relieve the user of one. For the next couple of hours, we continue enlarging the opening, removing pieces of rock which are sticking out as well as flowstone and the silt below it.

The people in orange made a huge difference in all departments. Photo: Catherine Stark

Sitting just above the first pitch and being the farthest into the cave in our small group, I and another caver are asked to help below so we climb down to the next level. Maurice and others continue with the digging to enlarge the hole using hammers and rocks. The stretcher is just approaching the end of the long tunnel as we arrive. We assist with dragging the stretcher out of the tunnel into the open cavern and then getting it into the sheltered section in the chamber below the

first pitch while the ropes are rigged ready to haul up the 3 m pitch. Another assessment is made by Bec and Han-Wei and pain relief administered. Cavers from further down move up through the cave, ready to help up front. Some head out for a quick break. The stretcher is hauled upwards and is perched precariously on the ledge three meters above, as preparations are made for the tight squeeze. Meanwhile five or six of us are left below to wait out the next part of the rescue. Discarded packs are collected from the end of the cave ready to be passed upwards when the path is clear.

Meanwhile, Elmar and Damo from TASPOL and Jordan have been rigging the tensioned line at the cave mouth, working out angles and where the stretcher will need to be attached and unattached ready for the stretcher. John from Northern SARU and his crew have been busy keeping hot water up to whoever comes out for a break, some food and maybe a nap on the hill.

Jordan, Simon and Mark along with John and his team from the Northern SES SAR are ready to assist with hauling from the mouth of the cave when the stretcher finally does get clipped onto the rope. The final section of cave negotiated, the cave radio is coiled up and gear bags moved forward and the cave slowly clears of people. The stretcher moves outside into the morning sun followed by all still left in the cave. It is approximately 0800 hrs.

Now outside the cave, snacks are being eaten, more water being boiled for hot water bottles, while Bec and Han-Wei do more assessments and administer pain relief to David. The rescue chopper has been called for the evacuation. We pack up gear and prepare for the stretcher carry up the hill. With so many rescuers available the stretcher is moved quickly uphill passing from person to person, only stopping when the stretcher reaches the end of the line. The stretcher is moved to the holding point where David will be safe while the rescue chopper hovers nearby, but close enough to be ready to be winched up. The chopper finally arrives and winches down another paramedic, ready for the trip to hospital. Everyone assembles again and we do a final stretcher pass to the winch site, stretchers are changed ready for winching and a handover to the transporting paramedic by Bec and Han-Wei.

Meanwhile, another seven SES SAR members have been waiting at the hut ready to assist with a stretcher carry if winching was not possible and to carry any gear back up the hill. Rescuers walking out were offered drinks and rolls to eat by SAR members walking in. The SES catering van was set up at the road junction, with another eight members of the northern General Rescue Unit ready to serve meals to weary rescuers before heading home.

In total the contribution to the rescue by SES totalled:

1 SES NW Region Staff

9 North West SES SAR Volunteers

10 Northern SES SAR Volunteers

2 Incident Management Volunteers

8 Catering Volunteers

4 Drivers

In addition to this, Bec from Tas Ambulance is also a member of the NW Search and Rescue, Serena is a member of the Southern Search and Rescue, and Paul Darby and Lyndsey Gray are both past members of the NW Search and Rescue.

The final stretcher carry out of the doline. Photo: Janice March

Not everything went perfectly well during the rescue however, and here's one example. -Ed

Mt Cripps Cave Rescue – A McTinney cameo appearance

Janine McKinnon, Ric Tunney

At around 5 pm Alan Jackson video-bombed an ASF Webex meeting I was having to ask if we were available for a potential cave rescue up at Mt Cripps. We were told to pack for a vertical rescue and possibly camping wild at the cave for several days. He also asked if we could drive ourselves up there. We started to pack immediately.

At some time after 6 pm we were having an early dinner (in anticipation of not eating properly for quite some time) when he called again to say the rescue was on (for us down south) and could we leave ASAP. He was catching a helicopter with some others, which news was a surprise to us.

We threw gear in the car and got ready to go. He called again at 7:10 pm to say that he was now driving up with the police and that they were at Pontville and would be (legally) breaking speed limits. We answered that we had left home at 7 pm but would not catch them. That was our last communication with Alan.

We had rung Janice March at 6:30 pm to advise her we would be leaving soon and anticipated arriving at Mt Cripps around 11:30 pm. We texted her at 7 pm to tell her we were on our way and our projected ETA: between 11 pm and 11:30 pm. She acknowledged the text and we heard nothing further from her. We did not try to contact her again.

We drove as fast as we thought we could get away with and arrived at the "road" into the Mt Cripps hut at 11 pm. We took about 25 minutes to drive the road as we had only done it once, a few years ago, and weren't sure of its condition. We were only driving a Subaru.

We expected to arrive at the hut to a hubbub of activity. We arrived in the cold and drizzle to find four people and no organized base. Lyndsey Gray, John Oxley, a random Ambo and a west coast police sergeant. The sergeant was on a sat phone to someone at the cave entrance, getting updates on the progress of the rescue.

All were totally surprised to see us. Obviously, we had not been expected. The sergeant told us that two teams had already gone to the cave, around 40 personnel were now on site there and that extras were not needed. The last group of 28 had left the hut around 11 pm. No one else was going there before daylight, if then.

We thought about just going in ourselves but we had only been to the area once before, had no idea where the cave was or anything about marking for the track (other than following the footprints of the 40 ahead of us). It was a dark and wet night and we could see ourselves wandering around for a couple of hours to end up back at the hut, unable to find our way to the cave.

It was also made clear to us that the police would not be happy if we just went off ourselves. It seemed ridiculous to disobey the police and chase randomly off into the bush to "help" when they had a multitude in there already. So we went into the hut to have a cup of tea with the others and see what played out for a while.

The Police's system of recording personnel was lacking. Photo: Deb Hunter

An hour and a half of pleasant tea drinking later, and they still didn't have a use for us. We felt ridiculous, to be honest. The inspector arrived and the update was that they expected David to be out of the cave around dawn. They didn't think others would be going in as they expected to helicopter him out. He said we could hang around and they may find something for us to do.

One suggestion was we could go in and help carry out gear, although he intended to use the helicopter to lift out gear. It was clear that staying was a waste of time for us, so we said we'd drive home.

He told us to make sure we "signed out" before leaving and Ric replied that we didn't need to as there had been nowhere to sign in. We drove from the hut at 1 pm.

We drove straight home and arrived home at 5:30 am Sunday morning.

And a few more bits and pieces. -Ed

Dean Wotherspoon, Tasmania Police

What I would like to reiterate is the way all agencies came together for the rescue. There were people that had never met before, who were able to come together and work as a team.

Having known Paul Darby for over 20 years, I'm glad that I was able to play a part in the rescue of a good friend of someone that I hold in very high regard and consider a friend. When Paul is calling for help, you know it is legitimate and you're going to get accurate information for planning and want to do everything you can to provide the best possible outcome.

What I also forgot to say is how the job was yet another example of how this state can't run emergency management without volunteers.

Brian Evans, Commissioner of the ACRC

The Australian Cave Rescue Commission would like to take this opportunity to say a few things. Well done to all of those readers who were involved, or ready to be, in the Mt Cripps rescue. Well done to the many people who have helped Tasmanian cave rescue preparedness to this point.

Over very many years, some have contributed a lot, some less, but all have contributed to the successful rescue of a caver and friend from a situation with considerable difficulties. All cavers can be very proud of those efforts over decades that have prepared Tasmania to provide an effective cave rescue capability.

From all accounts his caving buddies did an outstanding job, and the rescuers and emergency services got to a relatively remote location promptly, managed a rescue from a tight and difficult cave and successfully retrieved a casualty who was very unwell, and did all this pretty quickly, despite delays. Certainly, you were able to get him to medical help in time!

The conversations I've had with various rescuers, the casualty and casualty's family have been glowing in their praise. It's at times like this that everyone who trains for cave rescue can be very proud – that the training and collaboration we've done helped save a colleague.

Thank you for making the cave rescue and wider caving community proud and showing your best.

Transcription of Michie phone log by Deb Hunter

Operator(s): Geoff Kidd (MCCC): Base station above entrance; Deb Hunter (MCCC): Forward station in cave

Scribe(s): Cath Hemsley, Simon Hughes

Time	Who called	Message	Follow up
2.12	Deb Hunter	1st check-in - dripline	
2.27	"	Situation report: 15 m from patient- [site] congested. Awaiting relay report of patient's status	
2.33	"	Still rigging pitch. No status report.	
2.35	"	Stretcher- Oregon & goggles requested	
2.42	"	2 x Nalgene water bottles >> hot water requested.	
		The comms station is within hearing of patient.	
2.45	"	Request for Petzl [Nest] stretcher	Already on its way
2.53	"	Stretcher arrived at top of pitch	
2.59	Geoff Kidd	Hot water is on its way in	
3.02	Deb Hunter	Status: combination of two stretchers being used. Nest up pitch, then Oregon.	Button on line or was sticking?
3.19	"	Progress is good. De-obstruction progressing well. Both stretchers are with patient.	
3.42	"	Check in. Things are progressing. Base station requested 10 mm 50 m white rope to come out	
3.50	"	Team on lift asking if they can start lift. Told to wait/hold for further instructions.	
3.56	"	Checking on status of 50 m rope. Location unknown.	
4.00	"	50 m rope located at pitch head. Call for Alan so lift can commence. Told he was already on way.	
4.08	"	Can start lift. Hold. Lift to start. Jess will be back in 10 mins (Base to pitch)	
4.15	Deb Hunter	Request for red rigging bag. Reply: Janice is bringing it.	
4.26	Geoff Kidd	Confirm location of stretcher bearers. To wait in chamber before creek, post 3 m climb. – 4 ppl to start in.	
4.39	Deb Hunter	Deb would like muesli bar no peanuts	
4.46	"	Confirm additional cavers coming in. Request for four more.	
4.57	"	Patient up first pitch. Beginning transfer through cave. Stretcher change in approx. 10 minutes	
5.10	"	Correction- not up pitch, coming up now.	
5.46	"	Need everyone possible.	
6.16	"	Patient at base of second pitch	

 A20/229751.

SAVAGE RIVER CAVING CLUB Inc.
PO Box 364, Ulverstone TAS 7315
Ph (03) 6425 4395

24 October 2020

The Director
Tasmania State Emergency Service
GPO Box 1290
HOBART TAS 7001

MT CRIPPS CAVE RESCUE, 10th and 11th October, 2020

On the 10th October our club had a photographic trip into Snowy Mountain Cave which is situated in the Reynolds Falls Nature Recreation Area near Mt. Cripps. There were 4 speleologists involved; two from our club and two from Southern Tasmanian Caverneers. Unfortunately, while exiting the cave, one of the party, David Wools-Cobb, had a fall and was seriously hurt. Serena Benjamin, a nurse, remained with the casualty while the other two, Paul Darby and John Oxley, went for help more than 1 hours bushwalk from the roadhead and the Savage River caving hut. John returned to the cave and accident site to take essential warm gear for David and Serena. Paul was tasked with initiating a cave rescue and subsequently guided parties to the cave entrance. Quick action probably contributed to a successful outcome.

Our club's rescue plan was put into action and the response was amazing. With Police, Ambulance Officers, the State Emergency Service and trained Cavers arriving over the next few hours.

As a club we have had in the past run exercises at Mt Cripps with the NW Police Search & Rescue unit and also familiarization trips with the SES NW SAR Unit.

The NW Police S&R group arrived with Dean Wotherspoon in charge of the forward response team. Damian Bidgood also arrived from Hobart to assist Dean in the cave rescue. Over the past 30 years some members of the club had got to know Dean and Damian very well due to the fact that they were SES NW SAR members and had been involved in many searches and training exercises; and also trained with the Police on Vertical Rope Techniques. Other Police present organized the overall rescue situation at the road head and cave mouth.

SES volunteers attended from the NW SAR Unit, NW Regional Headquarters and Northern Headquarters. Graeme Brown and his team assisted in transportation of equipment and setup and operation of the external highline to safely transport David out of the sink hole containing the cave entrance. They also assisted in clearing the tight passages and passing the stretcher through them. Others assisted in recovering equipment (the cave was over an hours walk through rough terrain from the road) and with catering back at the Command Post.

Other emergency response teams also attended, namely :

- Two cave rescue experienced Tasmanian Ambulance paramedics with backup officers,
- Experienced and cave rescue practiced cavers from the other three Tasmanian caving clubs – Northern Caverneers (NC), Mole Creek Caving Club (MCCC), and Southern Tasmanian Caverneers (STC).

We wish to convey our thanks to all responders for the effort that they put into the rescue, their professionalism and attitude was exemplary. Although the rescue took nearly 22 hours from the time of the accident, for a cave rescue in this situation, it could not possibly have gone any quicker or more smoothly due to the skills and dedication of all the rescuers. Please pass on our thanks to all the SES volunteers who were involved.

Yours gratefully

Joy Wools-Cobb
President

Lyndsey Gray
Secretary

Paul Darby
Treasurer

P.O.Box 467,
Ulverstone Tas 7315
tascaver@bigpond.net.au

Dec 4, 2020

The Secretary,

Southern Tasmanian Caverneers

Dear STC members,

I am writing to express my gratitude for the great turnout and effectiveness of your members for my successful cave rescue from Snowy Mountain Cave, Mt Cripps on October 10/11.

Frankly my expectation was to die of hypothermia: to me that was a realistic outcome. John Oxley returning to the cave with a backpack full of tarps and some warm gear was a game changer; I felt at that stage I had a chance of surviving.

Serena's care, companionship and great discussions while waiting for the first responders was fantastic. Alan Jackson (with the first responders) turning up with the comment "Joy (wife) is going to kill you when you get out, so we may as well leave you here" was exactly the type of humour we share.

The teamwork of rigging and passing the stretcher in what proved to be extremely tight and difficult conditions proved the value of the training we cavers have undergone over the past few years.

As a casualty I was quite aware that everyone would be tired, wet & cold, so did what I could to stir the troops up, not-with-standing the considerable pain I was in: it was almost 'nice' to be rescued by a bunch of friends. No doubt Northern Taspol & SES now have an appreciation of what the caving community is capable of regarding cave rescue.

As a small token of my appreciation, find enclosed a cheque for $2000 to go towards future cave rescue equipment purchases.

The whole exercise proved what a great community we have amongst Tasmanian caving clubs.

Yours sincerely,

Dave Wools-Cobb

Trip Reports

Chrisps Creek area

20 September 2020

Russell Fulton

Party: Russell Fulton, Greg Jordan

I'd had a few trips to this area recently and on this trip wanted to relocate JF-114 and JF-115, two caves found in the 1970s adjacent to the old Adamsfield track about ¼ mile west of the Chrisps Hut site.

JF-114 was reported as having a strongly draughting entrance with pitches of 18 metres and 10 metres to a low chamber with some "possibilities for further exploration". At an altitude of approximately 500 metres above sea level, it would offer the divers a much more comfortable access to the Junee master cave system than the Niggly option. Just a few modest abseils and a short stroll…

Russell looking down the reported 25 metre deep entrance shaft to JF-115. Photo: Greg Jordan

The weather was reasonable as we set off up the Niggly track. We walked past the obvious place where the Adamsfield track might cross the Niggly track (but didn't investigate), then turned right a bit further up the track at the first good limestone outcrop, blundered about in the bush for a while, and eventually found the Adamsfield track, which was marked with relatively new pink flagging tape.

We weren't sure if the caves were east of us or west of us, so we guessed west and headed back along the track. We didn't find the caves but did find the Niggly track at the obvious place we'd passed before. Oh well, we had achieved something.

Heading back east we spotted an old yellow tape north of the track and that led us to the base of a line of outcrop. Here we located a strongly draughting entrance leading to a 15-20 metre or so drop. There was no obvious number tag, but the cave is almost certainly JF-114. The cave is located in an area of abundant outcrop and after wandering about a bit we located what is likely to be JF-115. This cave had a nice circular shaft entrance several metres across with a couple of large logs across the top that one could walk onto to get a view directly down the reported 20-25 m deep entrance shaft.

Greg looking down the 15 metre deep, gently draughting hole near JF-700. Photo: Russell Fulton

Satisfied with the relocation finds, we headed along the Adamsfield track towards Chrisps Hut, about 300 metres west of JF-114, to investigate some dolines that are prominent on LiDAR and lie between Chrisps Hut and JF-700.

The going was pretty easy through the forest and we ticked off the first four features. All dolines and all devoid of limestone and general interest. Further up the hill we came to a line of small bluffs and the karst meter started to tick a bit louder. We poked about along the line of outcrop but didn't find anything.

We then headed up to the next target and before reaching it we found a small vertical entrance with a gentle draught emanating. There was a drop of a few metres and then a further drop out of sight. We estimated that it was at least 15 metres deep and definitely worth returning to. We continued on to the next target which was a choked rift in an area of good outcrop, then headed around into the valley of one of the major Chrisps Creek tributaries, below JF-663 (The Chasm). It was getting on in the day, so we decided to head back. We followed the left bank going downhill for a while in good going and then somehow ended up on the right bank.

The creek was dry and there was no limestone outcrop. The vegetation slowly worsened, and we ended up in some unpleasant horizontal scrub. Using our years of accumulated bush knowledge, we made a few course corrections and ended up in even worse horizontal, eventually reducing us to crawling over and under it. After half an hour or so of not much fun we broke out of the horizontal and found ourselves back at the Adamsfield track near JF-114 and JF-115.

All in all, a satisfying day with the relocation of JF-114 and JF-115.

MC-13 Croesus

23 October 2020

Karina Anders (photos John Oxley)

Party: Karina Anders, Serena Benjamin, Janine McKinnon, Chris McMonagle, John Oxley, Ciara Smart

Model: Ciara Smart. Not a hard guess though.

A short walk from the carpark led us through the forest to the entrance of Croesus. All geared up in thermals, wetsuit and booties, it was a very comfortable beginning.

The gours were dry.

It didn't last long though, as to get inside you have to get shoulder deep in water. The wade was 100% worth it as afterwards you were rewarded with waves of gour pools. If the tranquillity of this mystical place (because yes, it is so beautiful it looks like it comes out of a fairy tale) isn't enough, you just have to glance at the walls and you could spend hours studying the helictites. We spent about four hours in the cave, with the slow pace making us cold and lunch beckoning us from the car.

An original angle.

I have never seen anything quite like it and I certainly won't be forgetting it anytime soon.

MC-1 Kubla Khan

24 October 2020

Ciara Smart (photos John Oxley)

Party: Karina Anders, Janine McKinnon, John Oxley, Ciara Smart, Ric Tunney

Continuing with the theme of this trip *[NC rescue exercise on the 22nd, Croesus on the 23rd -Ed]*, our third day of underground delight was so smooth and efficient as to be forgettable were it not for the particular pleasures of this fabled subterranean wonderland.

Departing Mole Creek by 8:00 am, we were at the carpark by 8:30 am. Janine rigged the exit pitch and we were at the top entrance by 9:30 am. All five members of the party had made the voyage down Kubla before except Karina whose expectations were built up suitably.

Stalactite with anthodites.

After unlocking the gate, the first boot wash was undertaken and we were away. Finding the entrance pitches rigged saved us some time (Parks are doing management work). We meandered through the cave in no particular hurry, absorbing the intricate delicacies of the Opium Den, the frozen-in-motion ribbons of the Silk Shop and the grandeur of the Xanadu Chamber. After lunch by the sparkling Khan we negotiated Sallys Folly with appropriate squeals and hesitancy. Sadly for the camera footage there were no splashes to report.

Karina not taking the cave seriously enough.

Soon, after some conjecture about mislabelled rope lengths on the middle pitches, we found ourselves in the River Alph. A short time later, trog-suits off and clean shoes on, we entered the Pleasure Dome. This was an unusually wet trip and we were lucky to view most of the gour pools brimming with water and a thin film of water washing down from the top of the dome.

Some of the deeper pools were a spectacular turquoise blue. Appropriate ‘oohs’ and ‘aahs’ were uttered.

John makes even smartphone photos look good.

All too soon it was time to wetsuit up and face the short swim through River Alph. After negotiating this particular obstacle, we crossed the series of climbs without fuss (great fun in a too-small wetsuit below a too-small cave suit) and passed the formidable grate on the exit. The exit pitches were ascended smoothly and all members were back in the carpark well before dusk, making a 7.5 hour trip.

Thanks to Janine for facilitating such a well-run trip.

MC-120 Marakoopa

25 October 2020

John Oxley (text and photos)

Party: Karina Anders, Serena Benjamin, Janine McKinnon, John Oxley, Ciara Smart, Ric Tunney

Ciara in Marakoopa.

Janine had suggested a trip into Marakoopa for the final morning of our extended Mole Creek excursion which started with the rescue exercise in Honeycomb hosted by Northern Caverneers.

It was three decades since I last visited Marakoopa so for me it was as good as a 'new' cave in the same way Honeycomb and Kubla Khan were on the previous days. I think it may also have been the first visit for Karina and Ciara too.

I don't remember Marakoopa being so pretty! -Ed

My vague memory of my previous trip is that we did both sections of the cave downstream. This time we entered through the main show cave gate, walked along the path and stepped off into the creek before the stairs ascend to a higher level.

There are some beautiful vadose sections along the way especially in the second (upstream) section where I took some photos.

Long exposure, to water.

After exiting we headed up to the top of the ridge to have a look at the Devils Pot doline and the waterfall which was flowing well.

We finished up with lunch at the picnic area near the office before all heading home.

Marble Hill meanderings

28 October 2020

Janine McKinnon

Party: Janine McKinnon, Ric Tunney

We have a plan to do a pull-through trip of IB-136: Halfway Hole this summer. The last trip we did there (and I am almost certain the last trip by anyone) was in January 2015 (*SS* 406, p.10) when we rebolted the cave as the trip before that had been in 1994 by Jeff Butt, where he had placed spits.

As this route has not been visited since then we thought a re-tarting of the taped route was in order first. 'Learn from your mistakes' is my motto and if you read the trip report from last time you will see that idea hadn't occurred to us back then. So today was the day to make sure we could find the cave again without major navigational dramas on the next visit with lots of caving gear.

We were staying for a couple of days with friends in Southport, so we were at the carpark at 8:30 am after a leisurely start. The walk up to the first saddle on the southern ranges track took an hour. We placed another obvious taped marking at the place that you dive off the track and around the hill.

The tapes cross-country don't start for about 50 m, so walkers don't see them and get confused. We found the first tape but then had a little trouble finding the next one. To cut a long taping story short, we have placed tapes to the cave so that you should be able to see a tape at all times.

Lunch at the cave and then we decided to continue around the hill and down via IB-8 Mini-Martin. It gets a bit messy here. This is a survey line that Madphil Rowsell and we put in around 2001 and was thus taped. It hasn't had much tarting up since then (just the odd extra tape by us on various circumnavigations of Marble Hill).

I started taping where tapes were missing but we kept losing them and taking a lot of time finding where they went, so I stopped taping and we just made our way around the hillside traversing in the direction we knew to go, without further taping. So, if you are in the area and see a nice tape-line suddenly stop in the middle of the donga, that's why.

We came across tapes randomly along the way but had run out of motivation to put more tapes in.

From IB-8 we followed the track, of course. We did a short re-route (with lots of tapes) around the big fallen log not far from the junction with the Exit track.

From the Exit track back to the top of the quarry we placed reflective markers on the route back to the quarry from Exit Cave (but NOT the route in). It was daylight so hard to be certain but we are pretty sure you should be able to follow the track from the Mini Martin turn-off back to the top of the quarry with reflective markers in sight all the way.

At some point we will do the same for the track from Exit Cave to the Mini-Martin turn-off, to complete the job.

JF-345 Ice Tube – Rigging Maintenance and Derig

29 October 2020

Alan Jackson (text and photo)

Party: Serena Benjamin, Alan Jackson, Ciara Smart

It took longer than expected to get back due to various distractions but we finally managed it. The cave is now derigged and the following rigging changes were made:

Pitch 1 Phreds Downfall – Installed a new bolt midway along the permanent approach line to split it in two and keep it against the wall (I get worried on a pull through trip when there are five or so people clipped into this line queueing …). Also inserted stainless maillons onto any (sharp) hangers which previously just had rope rethreaded directly to.

Pitch 2 Degenerated Man – Swapped some hangers around to put ones with captive rings into better use and inserted stainless maillons as per P1.

Pitch 3 Placebo Effect – Swapped out non-stainless hardware for stainless.

Pitch 4 Short Drop – No change.

Pitch 5 Inlet Pitch – Replaced old rusty chains and hardware with 11 mm rope and stainless hardware (including a ring for pull through).

Pitch 6 Ramp Pitch – No change.

Pitch 7 Fabulous Spangley Pt 1 – Swapped out non-stainless for stainless maillons on permanent approach line.

Removed old festy red tape tat back-up and replaced with 11 mm rope which now connects all three bolts at the pitch head (the current vertical alignment of the two main pull through anchors is such that the load is entirely on the upper bolt and now if it fails there won't be a massive shockload when the next anchor kicks in). This new bit of permanent rope might need adjusting on the next pull through trip as it might rub against the ropes when they're pulled through. We'll see.

Pitch 8 Fabulous Spangley Pt 2 – Swapped out non-stainless hardware for stainless.

Pitch 9 Handline – Swapped out non-stainless hardware for stainless.

Pitch 10 Killing Joke – Installed a permanent approach line to the pitch head via two new bolts (the two old homemade aluminium hangers and 40-year-old (?) spits are finally gone) and installed 11 mm rope y-hang with ring at main anchor. Installed a double bolt chain rap station with ring at the large ledge half way down the pitch (to avoid future rope hang-up issues so common on this pitch). The new rap station is on the right wall (when abseiling). I would suggest on future pull through trips that all but the last person abseil all the way to the floor of this pitch and only the last person use the midway rap point. This will get people down faster and drier but still ensure the big ledge doesn't snag the rope for the last step.

Pitch 11 Maelstrom – Installed 11 mm rope y-hang with ring at main anchor. Installed a double bolt rebelay a few metres over the edge and well to the left (when abseiling). This rebelay hangs free of the water. It has a bit of red rigging tape on it which is tied to act as a redirect for pull through trips. For bounce trips using it as a rebelay will keep you

drier. NOTE THAT NO CARABINER WAS LEFT ON THE REDIRECT. The next pull through trip should take a stainless carabiner of some description to be left permanently.

Pitch 12 Never Forever – Swapped out non-stainless hardware for stainless.

All bolts (old and new) are 10 mm stainless steel expansion/through bolts.

I put Loctite on most maillons and bolt threads (no doubt missed a few…) but still a good idea to throw in an adjustable spanner on any trip to this cave as the nuts have a habit of working loose and some were wet and grotty so the Loctite might be ineffective. An adjustable spanner is needed as the nut diameter is variable throughout.

The two stainless maillons on the new rebelay/redirect on Maelstrom were not Loctited, so if doing a bounce trip, you shouldn't need to take carabiners for these two anchors.
Only P5, P10 and P11 have anchor equalising rope y-hangs on them. I only installed them where Madphil had previously installed chain. All the other anchors are just two hangers with captive or connected rings.

For pitches with two relatively closely spaced anchors this is of little concern, but in hindsight P1 and P6 have widely spaced anchors and would benefit from a rope y-hang.

Thanks very much to Ciara, Serena and Karina who all helped drag ropes in and out of this cave while I fiddled with hardware. Much appreciated.

The hardware removed from Ice Tube and why we don't use non-stainless material in permanent cave rigging.

IB-1 Revelation Cave

30 October 2020

Gabriel Kinzler (photos Ciara Smart)

Party: Jess Brown, Gemma Killalea, Gabriel Kinzler, Ciara Smart

Ciara and I co-inherited this trip from James Barnes who decided he couldn't make it in the end. Described to me as a nice cave, IB-1 was suggested to us for its beginner-friendliness and – clearly a lure – because it notoriously contains a draughty lead that's "certain" to join Exit Cave.

Finding the entrance was a win in itself.

I put on my best feminine side to make it a perfect girls' day out, and it was. Great weather, a very well-marked track, spot on instructions from previous visitors and good banter to cap it all off. Gemma and Jess both had extensive rope skills, but the setting certainly made an impression on them, and going up and down the pitches was not without a few exclamations. Reaching the bottom, true to herself, Ciara couldn't resist having a look at the dig (right prong at the fork), which looks about 60-70% through to the other side, and even more excitedly at the stream's outlet (left prong), which isn't drawn on the existing map. Of course, turns out it had already been looked at by Greg Jordan (in 1992, *Southern Caver* 57) and Amy Robertson (in 2005, *Speleo Spiel* 351). Worth it.

Gemma in one of her elements.

I thought the last pitch (P18) could do with a repositioned anchor instead of using the rub-inducing, razor-sharp blade, backed up to a single through-bolt located 8 metres above. The lip of the pitch is reached by a series of climbs deserving a hand/approach line, and a Y-belay could be installed just off the ledge.

Tarn Creek Swallet, Cave Hill, Florentine Valley

1 November 2020

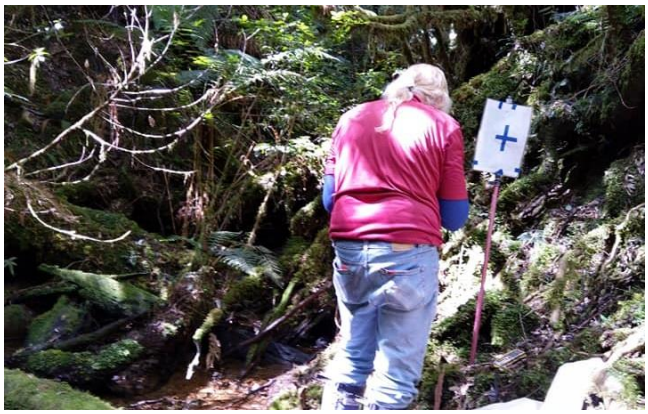
Bill Nicholson

Party: Philip Jackson, Bill Nicholson, Tamara Shearing

A somewhat glorious and relaxing day surveying the Tarn Creek Swallet Doline.

The stream level was low but still flowing.

Not much else to say really except to stipulate the equipment abused was a Suunto Compass and Leica D5 Disto.



Doline surveying, it's a thing! Photo: Bill Nicholson

JF-237 Niggly - Party hats and champagne; another caving birthday

5 November 2020

Janine McKinnon (text and photos)

Party: Serena Benjamin, Janine McKinnon, Ciara Smart, Ric Tunney

Another decade, another small birthday party underground, with Serena's cake. It is becoming a bit of a tradition. Ric's 60th birthday was at the bottom of Dwarrowdelf (*SS* 381, p.13), for his 70th he wanted to celebrate at the bottom of Niggly. Serena produced a masterpiece of a cake this time; a carrot cake and cheesecake swirl. But I am getting ahead a bit here.

Bliss.

Our progress down the cave was smooth and steady. We stayed within calling range of each other as Ric's objective may have been the bottom of the cave but he was assessing how likely that plan was as he went. He has only been into Niggly once before, 10 years ago, and only to the top of the 85 m pitch.

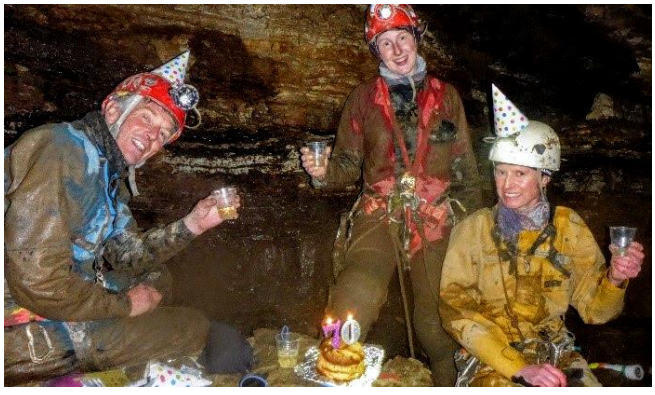
At Microwave pitch (just above the 100 m pitch) we gathered to assess. Ciara was really hungry and wanted food. Ric was uncertain if he should go deeper and wanted to think about it. We were in a dry, large place. Serena had a few jobs to do at the bottom of the cave and was going there regardless of the rest of us but didn't want to miss the party (and she had control of the cake). It was 12:30 pm. So lunch/party time was declared.

We had party hats, cake, plates and forks, cups and champagne. A little less champagne than intended as one of the two small bottles had smashed in Tigertooth Passage. Somehow it hadn't liked being dragged through the passage, luckily its mate was a bit tougher.

After lunch Serena headed down and Ciara and Ric decided to start back up the cave. Ric was a little uncertain about his fitness to get out easily from the bottom. Given that he hasn't caved much this year, and had major surgery three months ago that took a few weeks to recover from, I think he was showing amazing resilience getting this far.

I went to the top of the 100 m pitch with Serena, watched her out of sight and waited around there for about 30 minutes. I thought about dropping to the bottom just for fun whilst I waited, but realised that I would then have to keep up with Serena back out of the cave. That was going to be hard work, so I decided against it. I then moved back to the lunch spot and waited another 20 minutes or so before starting slowly out, expecting her to catch me along the way.

I caught the other two on the 85 m pitch. I had a wonderfully enjoyable prusik up doing lots of looking and enjoying this gorgeous pitch. I wasn't in a hurry. Ric was at the top waiting and Ciara had continued outwards.



Happy 70th, Ric.

Ric and I stayed together as we continued out and Serena caught us just as we exited Tigertooth Passage. How convenient.

On the way down the hill we added tapes where needed and I placed reflectors as far as the Slip, where I ran out. This should made downhill walks in the dark a little easier.

IB-11 Midnight Hole – The Hopefully Ending Never-Ending Bolt Saga

Alan Jackson

Trip 1 (7 November 2020)

Party: Alan Jackson, John Oxley, Michael Packer

The engineer's report was in and the ruling was to replace everything in the cave using 100 mm long bolts (20 mm longer than the minimum standard) and the best glue money could buy (Hilti RE-500). Parks were paying so no skin off my nose.

Stereo drilling. Photo: John Oxley

The RE-500 glue has a very slow cure time, so there was no rush to get all the holes drilled first then race through doing all the squirting. This allowed us to do a pull through trip at a sedate speed, drilling, cleaning and gluing each pitch head as we moved through the cave. We took the chance to (hopefully) improve bolt position, generally placing them higher than the old ones. It was a solid day but not epic, departing Hobart around 7 am and returning about 6 pm.

Trip 2 (15 November 2020)

Party: Alan Jackson, Janine McKinnon, John Oxley

Back again so soon? 'Twas now time to load test the previous week's installations, attempt to remove all the old bolts, transfer the chain assemblies across to the new bolts and swap the annoying big captive rings with smaller ones. It required quite a large range of very heavy equipment.

Testing one two. Photo: Janine McKinnon

All the new bolts passed the test (7.5 kN in tension) and, to our surprise, all the old bolts came out after a bit of glue sabotage work with 5 and 6 mm drill bits, rotation with a 1 m crow bar and plenty of kN from the load tester. It is worth noting that only the right-hand bolt on pitch 5 came out without putting up a serious fight. The 2001 resin was still wet/runny in the back of the hole for this one, confirming that insufficient hardener was pumped through the mixing nozzle before this one was installed in 2001. All the rest put up a bloody good fight, even after most of the glue was drilled out and the bolt rotation completed. Generally, between 8 and 15 kN tensile force had to be applied with the bolt tester to get them to slowly inch out. Essentially, if bolts in other caves go a little wobbly then we don't need to panic! A cordless angle grinder made for nice fireworks displays while cutting off the upper captive rings.

Don't do this at home, kids. Photo: Janine McKinnon

New Setups

Pitch 1 – Basically the same as original, but placed ever so slightly higher and to the right (rock options are limited here). They should be slightly easier to reach than the old ones. There's still a minor rub on the flat face below the bolts, but that is unavoidable without installing a redirect on the opposite wall.

Pitch 2 – Again, same as original but bolts placed about 1 m higher. This makes it easier to get on, as you're fiddling with rope at belly button height instead of genitalia height and it also improves the angle on the rub at the lip. Again, a redirect (like we set up for Isabelle's rescue) could be installed here to reduce rope damage.

Pitch 3 – Old bolts were both on left wall but are now one on each wall and almost a metre higher. Same belly button/genitalia improvement as well as a better line down the pitch. The old set up had a bad rub a few metres down as well as the main edge several metres down. The first rub is now gone. Nothing much can be done about the main rub though, as there's no opposite wall within reach to redirect. A stainless steel guide/channel could be bolted to the rock to run the rope through if we wanted to.

Pitch 4 – Basically the same as the original.

Pitch 5 – Almost the same as original, but slightly further out over the pitch. Again, a redirect would be a good option about 8 m down where the pitch swings around the corner.

Pitch 6 – Significant changes here. We installed two bolts a metre back from the corner/pitch head and tied in a permanent 11 mm rope approach line between these bolts and the main hang. This should make the nervous beginners more comfortable with this awkward pitch head which often unsettles people. The main hang was also moved up almost a metre higher and the bolts are placed on opposite walls. This gives a slightly drier hang but most importantly, means one can pull the ring over more easily, attach to the rope and swing across/out, rather than down, when weighting the rope

(i.e. less intimidating for the easily unsettled). However, the existing chains were a fraction short for an optimum set up (they create a 90 degree y-hang and sit just annoyingly too high for anyone but long-limbed gits to reach easily), so we'll bung a bit more chain in there on a future trip and improve both those aspects.

Rings – The old chain-ring assemblies had two captive rings – one to join the two lengths of chain and then a second ring on the first ring for threading the rope. The second ring was too large and required a very large knot if the "knot jam SRT" pull through technique was being used (which is the usual caver approach). We cut out the first ring, salvaged the second ring and added in a new maillon and smaller diameter ring to the chain ends, so now a standard double strand rope (even on 9 mm rope) should be enough to prevent the knot pulling through the ring and killing people. Yay.

Thanks very much to Pax, John and Janine for their assistance with the re-bolting. They have earned their community service badges. Midnight Hole is now officially open again.

The Hon. Alan Jackson grinding the ribbon. Photo: Janine McKinnon

Mt Weld – Reccy trip

10 November 2020

Michael Packer

Party: Ben Armstrong, Veronica Hayes, Gabriel Kinzler, John Oxley, Michael 'Pax' Packer, Lauren Platzer, Amy Robertson, Chantelle 'Shoz' Rose, Ciara Smart

One of the joys of looking after the Archive is that I get to delve through all the history of the club and read about some of the epic, and in some cases, hair-raising adventures that our predecessors had in Tassie caves. These adventures are sometimes accompanied by maps of where the events took place (though more often than not there is a just a vague description – 'third ridge from the east, just past the twisted tree' etc.).

It was whilst reading about the exploration of Mt Weld and particularly the enormous arched cave known as Arrakis that I stumbled upon a map form the late '80s that marked quite a few additional caves that weren't listed in the Archive. Things with names like 'Sump Thing' and descriptions like 'Massive hole that river vanishes into' etc. My curiosity was tweaked! An enthusiastic few minutes with QGIS soon had the map scanned in and georeferenced which gave me an approximate location for all the features.

The class of 2020, almost. Photo: Gabriel Kinzler

A further investigation of the LiDAR data for the area showed up some really interesting-looking features near

Arrakis and picking Russell's brain (as he had been involved in many of the earlier expeditions) furnished more tantalising details of unexplored caves in the area. It was clear that a trip out to the Weld Valley was called for! With the aid of the STC Facebook page a robust team of enthusiastic cavers was put together and a multi-day trip was organised for late November.

Day 1 – With trepidation we approached the fabled cutting grass of the Mt Weld track, which turned out to be far less horrible than we'd been led to believe. A quick 2 hr walk saw us across the flats to the base of the climb towards Crystal Caves/Arrakis. After some deliberation it was decided that we would leave our packs at the base of the climb next to the creek (Trout Creek?) and see if there was a better campsite up the hill or whether we should camp next to the creek. A brisk 20-minute climb got us to the vicinity of Crystal Caves and we quickly located the entrance to the cave below Crystal Cave (not to be confused with Crystal Caves itself). In a flurry of limestone dust and enthusiasm I quickly labelled it MW-003, took some photos and a got a GPS fix. We then climbed further up the hill and after a brief search located Crystal Caves proper. More dust was liberated in the process of affixing a 'MW-002' tag to it and then a happy hour (and significant battery power) was spent by all and sundry ogling and photographing the crystal formation inside the cave – very impressive!

We were reasonably impressed by Crystal Cave. Photo: Gabriel Kinzler

After lunch we headed SE with the intention of exploring an interesting looking line of features from the LiDAR. It wasn't long before a scream of delight from Ciara had us all running to what turned out to be very interesting-looking vertical pitch that vanished into the darkness. The echoes from the hail of rocks hurled into it suggested a 15 to 20 m pitch and climbing harness and rope was quickly extracted from various packs.

A brief scuffle ensued between Gab and Ciara about who should decent the pitch first – curiously each suggesting that the other should. The reason for this pseudo-civility became evident to everyone else as Ciara descended into a steady trickle of (apparently) extremely cold water. Unfortunately, the rope ran out about 3 m above the floor of the pitch (I'd deliberately packed a 20 m rope on the basis that whatever we found would be at least several meters deeper than the rope we had). However, there were clearly rifts going in multiple directions. An exciting start! I labelled the cave with the 'MW-004' tag and took photos and a GPS fix.

Ciara descends MW-004. Photo: John Oxley

We then headed down the hill towards Arrakis with the aim of looking at the LiDAR features above Arrakis. I'd been unable to find any mention of these caves despite their proximity to Arrakis and their obvious size on the LiDAR (admittedly the LiDAR was not available to the early explorers in the '80s and their attention was justifiably

focussed on Arrakis). After bashing through some pretty open bush, we reached the group of features. These turned out to be a series of deep dolines and, with more delight than kids given $100 and let loose in a candy store, everyone scattered to claim their own doline.

Multiple entrances were quickly found, and I struggled along behind lugging the drill and tagging kit. Tags 'MW-005' to 'MW-010' were quickly attached to the entrances with potential and photos and GPS fixes were taken. On later inspection of the Arrakis map it looks like many of these dolines are above the Southern upper-level area and possibly provide an alternative entrance to that area of the cave – further exploration needed on a future trip as we didn't have enough rope this time.

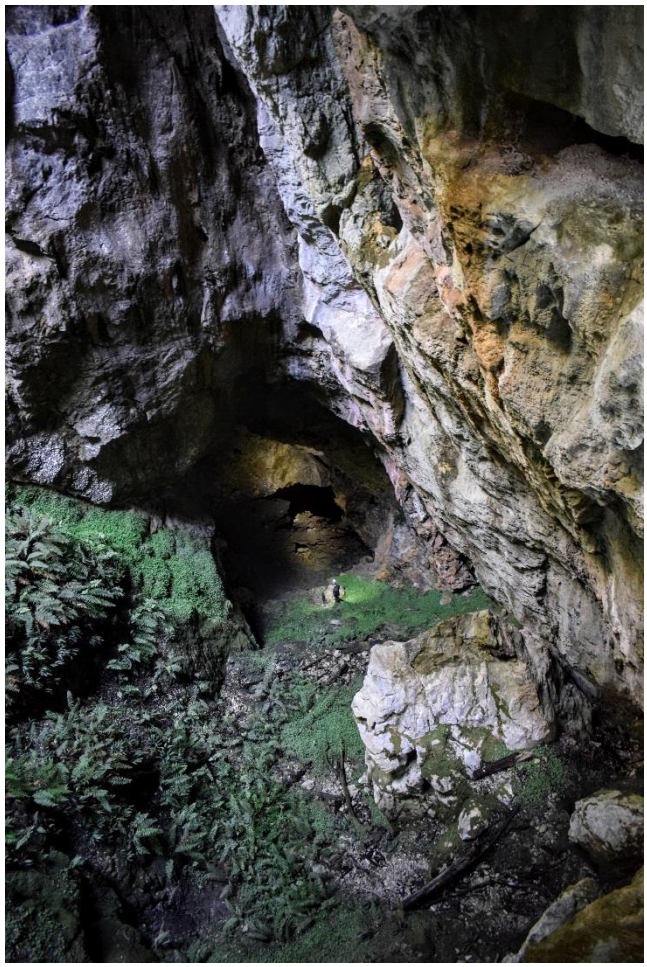
Pax's favourite past-time. Photo: Gabriel Kinzler

Once everyone had come down from their cave-induced highs we headed downhill to have a look at Arrakis itself. Bashing through the scrub ended us up, by a navigational fluke, directly on top of the arch above Arrakis.

A few minutes of confusion and questions of 'where the hell did the world go, it vanishes on all sides!?' got us sorted out and we headed down to the lower entrance. 'Entrance' is not really the correct term and utterly fails to sum up the mind-blowing size of the cave (yeah, yeah, yeah, Alan, we know that it pails into insignificance next to the caves in Vietnam!). Various 'Ohhs' and 'Ahhs' were expressed as we clambered up to the viewing gallery directly underneath the arch to stare into the huge maw of Arrakis. The 60 m drop to the fern-covered floor is amazing and then looking into the black mouth of the further 70 m pitch to the cave is even more mind-blowing. Definitely one of the more visually spectacular entrances in Tassie. (Mind you I went for a wander up North East Ridge on Mt Anne a few weeks later and Anne-A-Kananda is pretty damn impressive too!).

It was with a certain degree of ceremony that I finally attached the 'MW-001' tag to Arrakis. That tag has been sitting in the gear store for over 40 years waiting for its moment of glory! Photos and GPS fixes were taken.

Once everyone had their fill of Arrakis and further depleted their phone batteries snapping every possible specky shot we decided to call it a day and head back to the packs at the bottom of the hill. We'd failed to find a better campsite near Crystal Cave/Arrakis and nobody could be arsed dragging the packs plus water back up the hill so we elected to camp near the creek that night. A nice flat area was found several hundred meters back along the track and tents were pitched, food was cooked, and general merriment was had. Amy and Shoz joined, having walked in after work and we spent the evening making them jealous about how much fun they had missed.



Ben at the bottom of Arrakis. Photo: Gabriel Kinzler

Day 2 – See Low/High Team reports

Day 3 – We discussed the possibility of exploring further to the NW where a number of other caves were shown on the old map, but the general consensus was to pack up and head out. It was clear that we would need to come back with more rope and explore the caves we had found on a future trip. The deal was struck and a brisk 2 hr march saw us back at the cars around late morning. Stay tuned for the next trip! Or better still sign up for it!

On Day 2, we decided to split into two teams: some of us would look for caves at higher contour lines (between 500 and 700 m ASL) while others would roam lower, north-east and then further north of Arrakis. Ben, Ciara, Chantelle (Shoz) and myself were Team High. Amy, John, Lauren and Pax were Team Low. Ronni decided to bore herself out by staying at camp for the day. -Ed

Team High (Ben, Ciara, Gabriel, Shoz), text by Gabriel

First, we attempted to bottom the waterfall pitch of MW-4 found on Day 1 near MW-2 Crystal Cave. There is a report in an old email about a swallet in that area, but the match to today's reality is yet to be confirmed. With our meagre 25 m rope and a 6 m cordelette on loan from Amy, Ben rigged and abseiled after donning his rain jacket to protect him from the steady drip above the entrance. The pitch turned out to be a 24 m tall free-hanger. He returned 15 minutes later, reporting a vicious cave, with two leads – pitches in rifts going in different directions. At about 450 m ASL, this is a

fine prospect, which constitutes our main priority for the next trip.

It was Ben's turn to go down the waterfall pitch. Photo: Gabriel Kinzler

After a short reunion when Team Low arrived on the scene for an update, we split again, this time for the rest of the day. Looking at an old geological map referenced in QGIS on my phone, we headed due west, paralleling the Mt Weld track, staying north of it. We checked a marked POI which yielded nothing and, with no dolomite in sight for almost an hour, we decided Team High was decidedly "too High", yearning for some sub-contact features. Thus, we walked down hill, due north, trying to return to the dolomite boundary marked on the old geological map.

Almost immediately, we found a subjacent doline, right at the contact. Blind, but encouraging. The next target was a creek deep in the valley below, which feeds Weld River a couple of kilometres north-east. This area has been previously looked at, but with the clock ticking, we couldn't afford to venture further north in more virgin territory. After crossing the creek, we scaled tiered cliffs immediately north of it. Immense outcropping walls promised so much, yet we only found one miserable enterable hole at the very top of the vertiginous cliffs – a 3 m long stretch adorned by a light hole, barely worth mentioning.

No new caves for the majority of the day, but at least the forest was splendid. Photo: Gabriel Kinzler

Defeated, we initiated our return to camp, redescended to the creek and aimed due east towards Arrakis. Three quarters of the day in, I was walking a few lengths behind the others when I heard the group gasping, which then turned into uncontrollable laughter: Shoz had stumbled upon an inconspicuously large cave. We were so resigned after seeing nothing but sealed ground all day that it felt completely unreal. No matter what happened next, the day was now made.

A large (~10 m tall by ~5 m wide) horizontal opening into a hillock was standing in front of us, with an easily negotiated drop at the entrance. Very draughty. Crystals of different sizes everywhere. Extremely chossy. A second, medium-sized, luminous entrance appeared a few metres in, on the left. Then a ~8 m pitch, which we rigged with the valiant 25 m rope around a large boulder. I was chosen for the abseil, at the bottom of which I found a littering of crystals on numerous debris. I then scaled the rock pile blocking the way on, which we could already see from the entrance of the cave. Another pitch, much deeper, possibly over 20 m, was left for another day.

Finally, a new cave! And another dozen after that. Photo: Gabriel Kinzler

Atop the hillock, literally on the roof of the cave, Ben found another decent hole, out of which trees were growing. I had a quick look and reported only a dubious squeeze. But the Pandora's box was really opened after that. Moving closer towards Arrakis, we lost count of how many caves we found. I reckon it's close to 15, notwithstanding littler holes (that could be nothing, but also may be everything). A minefield, that area.

Shock and horror: our elation was brutally spoilt by the discovery of a blue tape on a small tree, right in front of one of the many cave entrances. BUGGER. Undeterred, we figured it was either from the previous expedition which

hadn't had time to look at much of anything, or maybe from a random walker.

Holes, holes, holes. Photo: Gabriel Kinzler

Okay, now it was *really* time to go home. Except it wasn't: next, we re-discovered the humongous hole that is MW-13. Taped only during the 2010 expedition by Alan Jackson & co., with no record of exploration. This is our "second main priority" for the next expedition. Note to self: don't forget to check out the insolently draughty rift above MW-13 next time. Note to self #2: stop leaving stuff behind (my camera this time).

It was a great day with lovable people, and reconvening with the others at camp in the evening was equally nice.

Team Low (Amy, John, Lauren, Pax), text by Pax

After getting over our initial ire at being designated 'Team Low' we wandered off in the general direction of Arrakis with the intent of finding holes that were allegedly tagged as MW-011, MW-012 and MW-013 by the 2010 party. With the aid of the QGIS on the phone, we made quick time to the dry valley below the general area. We spread out and started wandering up the valley. In less than 50 m I nearly fell into a small vertical hole in the ground. A yelp of delight brought Amy, John and Lauren running to inspect the find. It was a 5 m shaft with what might be a lead heading to the north. Interesting! John, Lauren and I turned our backs to lament the absence of any rope only to hear a scuffling sound behind us.

Amy into a hole. Photo: John Oxley

Something as trivial as no rope was not going to stop Amy! We turned in time to see her vanishing into the shaft! In a very impressive bout of energy and strength she worked her way halfway down to a small ledge where she was able to confirm that it appeared to go a bit further at least beyond what she could see. As she worked her way back out in equally impressive Herculean fashion, I took a GPS mark and Lauren scouted the nearby vicinity.

Lauren found another small rift 20 m uphill with a 3 m drop which might go, definitely needs further exploration. We took a GPS and returned to the valley floor. Not far up the valley another decent entrance was found and this one was tagged as 'MW-011' with some faded pink tape. It appeared we had relocated the 2010 caves. A new GPS location was taken (the previous one having vanished into the mists of time) and a brief exploration showed a downward-sloping passage with a squeeze, beyond which a handline would be required. Further exploration required on the next trip! Trekking a bit further up the valley quickly revealed MW-012 which was a beautiful 2 m diameter pitch with at least a 15 m drop. Amy baulked at hurling herself into this one, so we settled for a GPS mark and copious notes about returning with lots of rope.

Lauren out a hole. Photo: John Oxley

Pushing further uphill we found another doline with no entrances. At this point we decided that rather than heading further uphill and covering some of the area that Team High were looking at we would skirt the edge of the valley and aim for the ridgeline to the north-west. We again split up to cover more area and worked our way along the hillside. Half an hour of walking turned up nothing interesting despite lots of exposed dolomite and karren. At this point Amy had to head back home so we pointed her in the general direction of Arrakis and waved goodbye.

Amy at it again. Photo: John Oxley

Lauren, John and I then headed up the hill towards the ridgeline with the intent of dropping into the next valley over and refinding the swallet and 'Sump Thing' marked on the old map that I'd unearthed in the Archive. However less than 10 minutes after waving Amy off we stumbled across a yawning great big hole! A large entrance, 8 m in diameter with a steeply-sloping floor (too steep and slippery to do without a handline unfortunately) and then vanishing around a corner – definitely needs further exploring! A GPS mark

was taken and with a final look we headed on. Turns out that this hole is just down the hill from where Team High (re)found MW-013 later the same day.

We then reached the ridgeline and Lauren lead the charge down towards the bottom of the valley. Turns out the contour lines are not very accurate on the TasMap 25 thou map! What appeared to be a steady but gentle slope is probably better described as 'almost cliff'! After a rather rapid decent we reached the valley floor a little way upstream from where the old map placed the swallet.

A short walk downstream brought us to the swallet. Actually, we walked right past it initially, as what appeared to be a substantial hole but turned out to be just a muddy doline, drew our attention first. The actual sink was just above the doline and disappeared into a clean sump in some beautifully sculpted dolomite which clearly takes a lot of water at times. Further exploration will require diving gear - that said it looks quite feasible to dive it – nice clean sump, no mud and a clear passage descending beyond the surface. A little scouting in the vicinity revealed a higher entrance shaft (no rope, damn it!) which needs exploring further.

Off again down the, now dry valley in the direction of 'Sump Thing' with John leading the charge this time. Several hundred meters down the valley my cave spidey sense started tingling and I felt the urge to scout a little way up a dry valley that joined from the left. I should point out at this point that the day was perfect, not a breath of wind, clear sky, just the right temperature to be walking.

As I walked up the valley, I noticed a bunch of stinging nettles waving enthusiastically. Odd behaviour even for stinging nettles, I though. On closer inspection (though not too close, those bastards hurt!) I discovered a small hole with a strong draught blasting out of it! Another yelp of delight had John and Lauren dashing over and they rapidly dispersed looking for more holes. John quickly located another one with an equally strong draft and equally tight entrance.

Further searching in the immediate vicinity didn't reveal any more but a more extensive search is definitely needed as there is clearly a distant connection to this point.

Minimal comfort back at camp. Photo: Gabriel Kinzler

After this exciting find we headed again in the direction of 'Sump Thing' and utterly failed to locate it. We wandered around for a bit but with no success and it was getting late in the day so we started in the direction of camp which turned out to be quite a long trip as we were some way to the NW. However, an hour of steady walking saw us back at camp where Ronni was patiently waiting for us. She confirmed that Amy's keen sense of direction and bush skills had served her well and that she was probably enjoying a shower at home at that very moment. Team High wandered back in about half an hour later and we spent an enjoyable evening swapping stories and sharing Ben's port.

All in all, a great day, lots of ground covered and plenty more work to do.

JF-344 Serendipity

21 November 2020

Serena Benjamin

Party: Karina Anders, Serena Benjamin, Petr Smejkal

'Twas an absolute cracker of a day when the three of us set off with the intention of completing the last pitch in Serendipity, have a bit of a potter around according to motivation level and de-rig the cave.

The pre-rigged cave ensured it was a nice smooth trip to the point reached by the others' previous trip. Petr (father of two young children) and me (nurse) had the talking shit aspect of the trip covered while Karina proved adept at taking the piss. Petr rigged the last pitch and we all descended to find that we had insufficient gear to get down a final climb. Alas.

After much deliberation we decided to leave it rigged and return at a later date. A great cave and certainly one that we'll be back to sooner rather than later.

IB-10 Mystery Creek Cave

22 November 2020

Bill Nicholson

Party: Philip Jackson, Liam & Bill Nicholson, Tamara Shearing

Another absolutely glorious day out chillin'. Water level was such that we barely got our boots wet. There was evidence of a significant water event since our previous visit earlier this year. The log jam at the Mystery Creek Crossing / Tea Room has gone and with high level debris evident inside.

JF-337 Slaughterhouse Pot

28 November 2020

Serena Benjamin

Party: Serena Benjamin, Michael Packer

Only one contender was willing to do a cave with 'Slaughterhouse' in its title with me. Pax, as it turned out, hadn't been there before, so it was a fun trip showing him the way through with a slight deviation to check out the highlights of Black River.

The way down through Windy Rift was the big question mark of the day - it turned out the last major bit of sediment in the streamway had shifted sufficiently that once you had scrambled down the bank to the water you could then go straight up the streamway from there. How long this bank is going to remain easily walked down is the next question. The streamway at this point is a bit squidgy underfoot but otherwise okay.

We exited the cave into some brilliant sunshine so took some time to indulge in cleaning gear before returning to the car. A pleasant day all round with no technical, mechanical or any other sort of hitch.

H-16 Enthusiasts Retreat, H-17 Poor Mans Pot, H-18 Hubris

6 December 2020

Gabriel Kinzler (text and photos)

Party: Gabriel Kinzler, Ciara Smart

With Big Mama in the rear-view mirror, one more task kept calling us back to Hastings before we could put the area to rest for a while: further pushing the previously tagged H-16 as well as another small hole nearby, found on a previous trip off Hot Springs Creek.

But before we could even don our gear to re-enter the gross-looking little hole, Ciara started emitting strange noises when she went hiding to have a wee. You guessed correctly, she did it again: another cave. For goodness sake. You can't take her anywhere. At least, it was a lot more appetising than the initial plan.

H-17's entrance is a convenient rig.

The new entrance, tagged H-17, is a 10 m pitch, conveniently located five frigging metres from H-16. How could we have missed it so many times? It's right on the way to Big Mama. Very obvious in retrospect. About 2 m in width at the mouth, with useful exposed roots as primary anchors.

Ciara abseiled first: "it goes", classic. I joined her, she asked "how do you wanna do this?" I replied "if we find the end soon, we survey out, if there's no end in sight, we survey in".

It didn't go very far. The cave is formed in an east-west rift, shooting off perpendicularly into another rift heading north for about 50 m. It has some cool little features including the most prominent snaggy popcorn I have seen to date, two really thick (~10 cm diameter) tree roots looking like undersea cables popping in from a wall, some false floor as well as expansive flowstone. Nothing overly pretty, but quite cool nonetheless, and pleasantly dry. We later decided to call the cave Poor Mans Pot, which is a direct reference to the name of a Hobart-based music and comedy band we've been hanging out with recently. It also fits the actual cave well, given the underwhelming amount of passage yielded, not matching the typical high expectations of the noobs we are.

After the two second walk back to H-16, we lunched, then resumed work. A quick 3 m abseil is followed immediately by a very tight squeeze that nonetheless allows you to see the bottom of what looks like a 15 m flowstone-clad pitch, widening into some sort of a flat-ground chamber at the bottom. Unfortunately, we were both just a bit too thick around our respective area of the arse to fit through, and none of my metallic persuasion made it much better. It was named Enthusiasts Retreat.

H-18: not as pleasant.

Hoping to check out more of Chris Sharples' markers up the valley, we quickly became disillusioned when the slow scrub got the better of us. Thus, we headed back down towards the creek and checked one more small hole on the way that Ciara had found a previous time: H-18. I dug some soft ground out of the way while she re-suited. She reported a small chamber no more than a few metres away from the entrance. But it's a cave, and so she had the honour of tagging one for the first time. She named it Hubris.

Other exciting stuff

Northern Cave Rescue Practice 2020

22 October 2020
Janine McKinnon (photos John Oxley)

Efficiency is my motto, or if not exactly a motto, a goal. So it seemed a clever idea to tag a Mole Creek caving weekend onto the S&R exercise being organized by Janice March for the northerners. Six of the seven of us up from STC attended the exercise. A couple of others came up separately, so STC managed to field a team of eight for this exercise.

The northerners had an excellent turn out, partly due to the recent rescue of David Wools-Cobb which seemed to inspire quite a few. They had many new cavers at the practice. I think 23 was the total number in attendance for the day. We gathered at 9 am for a briefing and introductions and got underway around 10 am. The venue was Honeycomb Cave and the scenario involved two cavers needing rescue from different locations in the cave. The first was a simple shoulder injury where the patient was able to walk and exited the cave wearing a sling. The second needed stretcher evacuation from an area with some small horizontal passage and a tyrolean lift was needed to get them out of the cave.

Janice had plenty of gear available, a check-in team monitoring caver movement and a comms team to run that side of things. Everyone was placed in teams, according to experience and wishes. I elected to go on the comms team as I have never done that. All went well, the patients were in position and the call had been raised. The comms team started to enter the cave to lay line to each casualty when we were stopped mid-step. Two of the four-man team would take the numbers in the cave to 20. Twenty was the maximum we were allowed in the cave at any time. Chris McMonagle, the ranger-in-charge at Mole Creek, was in attendance to see how we did things.

So two of the comms team went in and I and the other waited uselessly outside. We finally got clearance to go in about half an hour later. This numbers limit proved to be a problem all day but Janice did a brilliant job working the organization around it (note: she discovered from Chris around midday that she could have applied for an exemption and had as many as she wanted in there - if only she'd known that).

Carefully supervised tyrolean action.

After laying comms line to the junction of the two rescues, and then on to the mobile patient, I joined the team rescuing the latter. This was a pretty easy job really. I then relocated to help with the stretcher carry. This went well too, with plenty of hands available. We had been told that the exercise had to be all wrapped up before 3 pm as a de-brief of the actual rescue of DWC was to follow. We made it with a few minutes to spare.

It was a good day's practice with easy collaboration and camaraderie between all involved.

Ciara in Honeycombe Cave.

The (Solved) Mystery of JF-234 Sump Pot

Stephen Fordyce

In my travels through the STC archive (more on that later) I was able to figure out at least a rough (from trip report) location for all JF numbers except one – JF-234, which happened to be particularly interesting to me as a cave diver with the name "Sump Pot". It took quite a bit of detective work, so here is what I was able to find out, for the benefit of future archivists.

Spoiler: a few weeks after I'd written the first version of this report, Pax stumbled across the JF-234 maps and location in with a bunch of Mole Creek stuff. This will be revisited at the end, and the stuff in between is just because the journey is important (and I already wrote it all).

JF-234 gets a brief mention in Rolan's 1994 Forestry report, and the only entry in Alan's JF references points to page 4 of *Speleo Spiel* #319 in a 1999 report by Arthur Clarke, which says only "JF-234 (Sump Pot) discovery by Jeff Butt (1986). Data Source: J. Butt pers. comm.;". Rolan didn't have any record or memory of JF-234 and neither did Arthur.

The big question is "what happened to Jeff Butt's data", since he is sadly no longer with us. You might assume it all went happily to the STC archive, but this appears not to be the case. Detective work continues – please contact Crimestoppers, or preferably me directly if you have any information on this! Bits and pieces seem to be in the archive, and Alan had inherited an annotated map, but major things were missing.

I did of course check my electronic copy of the archive, and STC archivist Michael Packer checked the physical records, with nada being the result for JF-234. Pax did find a mention on page 29 of *Southern Caver* #59 which promised an upcoming article, unfortunately this did not appear in any subsequent editions. The Karst Index had nothing other than the number and name we already knew.

Still, Arthur put me onto Greg Middleton, suggesting he might have Karst Index (KI) forms for that cave. These seem to have fallen out of favour in recent years, but were basically a form filled out describing a new discovery. Greg M. had KI forms, but none for JF-234, however he had a list of caves with the KID forms, and against JF-234 it has, handwritten, "*Tagged & surveyed by J. Butt & G. Jordan*". Aha, a new lead! Although Jeff Butt contemporary and current committee member Philip (Jacko) Jackson had no memory of JF-234, he was able to identify the co-surveyor as Greg Jordan.

It turns out Greg Jordan is well and truly alive and still kicking about the JF on occasion, but had no memory of the cave or the survey trip. However, he suggested that Dave Rasch was very active at that time and might have an idea.

By this stage things were getting desperate enough that conclusions were being jumped to. Maybe JF-234 was close to JF-233 or JF-235 since it's common to tag nearby caves consecutively. JF-233 Troll Hole is a significant cave near Dwarrowdelf/Khazad-Dum (and sort of near Cauldron Pot) that had a good of number trips, a survey and a map made. JF-235 is un-named near Threefortyone/Rift Cave but reported as "Some draught, many bones in calcite, several pitches, one a nice 20 m free hang". Location for that one is based on a trip report, both have a mess of tagged (and conceivably re-tagged) caves from multiple eras around them and they are 1.5 km apart. Not particularly helpful.

Dave was able to add a little to our scant collection of information. His notes indicated that JF-234 Sump Pot was surveyed in 1989 to "level 3 quality", and that two survey A2 (?) pages were drawn up in pencil by Jeff B. Dave didn't think the hole was particularly worthy (although apparently significant enough to warrant Jeff doing a survey). The STC archive was searched again, but the map/survey could not be found.

Dave and Greg J. put their heads together and remembered a shaft directly uphill from the Rift Cave doline which might possibly be Sump Pot. Dave had vague recollections of visiting it, maybe helping Jeff Butt to survey it, although didn't remember a sump at the bottom, and guessed that it drained into the "new" (at that time) section of Rift Cave. This matches with the location recorded for JF-561.

Having been bitten by the bug, Dave had an overnight epiphany and I donned my technicolour dreamcoat to read his email (copied below with permission):

"*I suspect this (JF-234) might be a small cave I discovered near Voltera swallet. If you go upstream from Voltera, maybe about 70 m then turn right and head up the hill about 50 m or so, the entrance is a narrow slot in a rocky outcrop. Just a single short pitch into a chamber measuring maybe 15 m x 15 m which has a sump/soak/pool at the bottom.*"

"*I recall finding this on a trip Jeff B and I did once, while clambering around the vicinity of Voltera looking for an entrance.*"

"*This location is more likely than any shafts near Rift Cave, because I don't recall any shafts in that area having a sump at the bottom…*"

Referencing a couple of potential caves tagged by Ken and Bunty a decade ago (*Speleo Spiel* 376 and 379), it's possible but I think unlikely that JF-513 could be a re-tag of JF-234. From the LiDAR data and my sketchy memory, I think they are up the wrong gully, and Dave's description puts JF-234 in an area with no tagged caves. So that's cool, although my enthusiasm for the "sump" part of the pot has waned considerably.

With some luck (and it's conceivable from the description of a small entrance in rocky outcrop), the tag which was placed when I was a toddler will be moss-free and visible, and the mystery can be definitively solved by whoever gets there next. It's been five years since the last Voltera project, but hopefully the track is still useful. It would be great to get a GPS log for that too – it's missing from the growing collection.

It would be great to see someone going to check it out – please let me know if you plan on going and I'll give you some other stuff to check out in the area if you like. Who knows when I'll be allowed back to do it? Meanwhile, reports without photos are boring, so I have done my best… *[Maybe spare us next time. -Ed]*

New development 1: the Jeff Butt data collection is found (in the archive)

One detective story is enough, so suffice to say I asked lots of people about this, and while most assumed that Jeff Butt's data collection has been absorbed into the STC archive, the

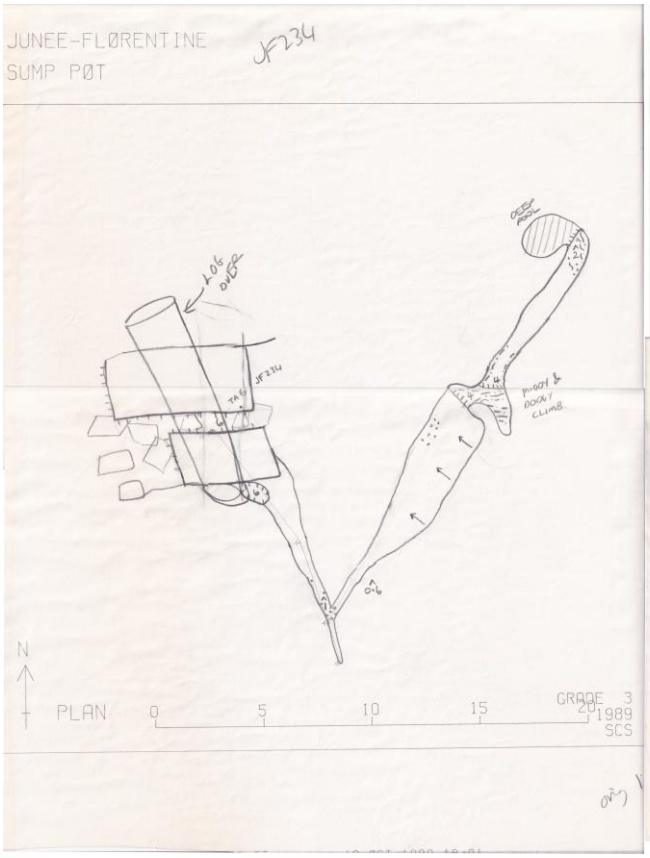
lack of Sump Pot information and anyone with a definitive memory was not sufficiently definitive. Past committee lists in *Spiels* did not include the Archivist, and so Ric Tunney was a ways down my list, although I really should have thought about that one harder.

Ric reported that shortly after Jeff Butt's passing, a large collection of caving data (several boxes at least) was collected and added to the STC archive – Jeff's wife Sarah was very accommodating, giving full access. The collection was extensive and much of it not catalogued or organised, so while some of it was triaged at the time, a good deal of it remained unsorted, and probably still does today.

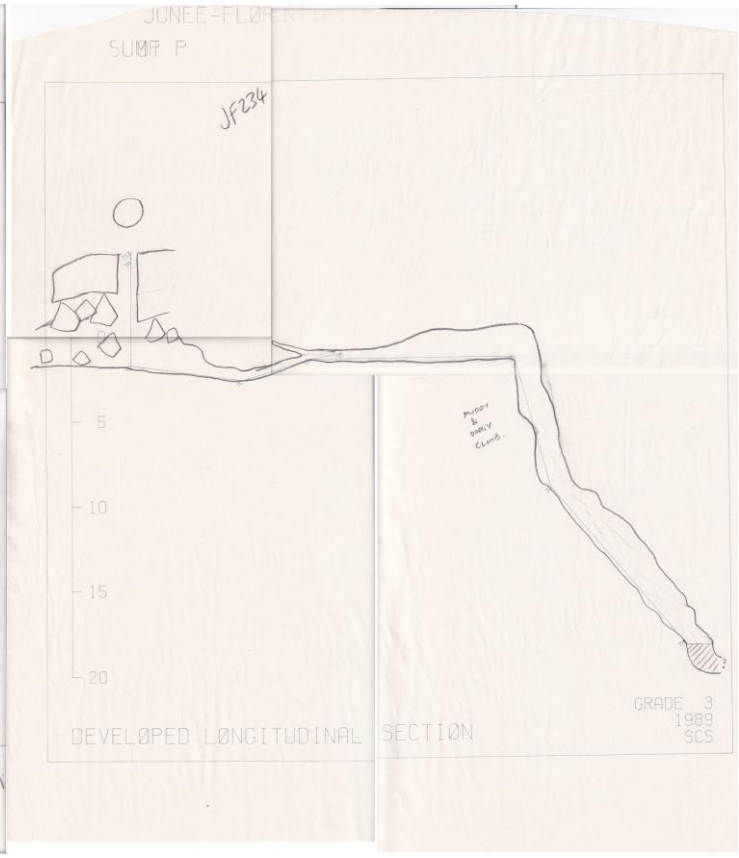
New development 2: the needle in the haystack is found

The whereabouts of the JF-234 Sump Pot information remained a mystery until some weeks later, where pants in Hobart and Melbourne were very nearly wet when Pax stumbled across the lost maps in with a bunch of Mole Creek stuff, along with a high accuracy multi-cave map including locations (thus, not published here). All our previous guesses were wrong, and the cave is actually related to the JF-228 Trouble Pot/JF-402 Burning Down The House complex of caves (in the far northwest of the Junee catchment), although heading in the opposite direction.

I'm glad these maps can finally see the light of day and the hard work of a conscientious caver who is no longer with us is not lost. (All it took was a lifetime, a global pandemic, a super sleuth and some good luck – plus a good helping of patience from everyone who I've been bothering about it) I'm also looking forward to seeing someone check out the sump!

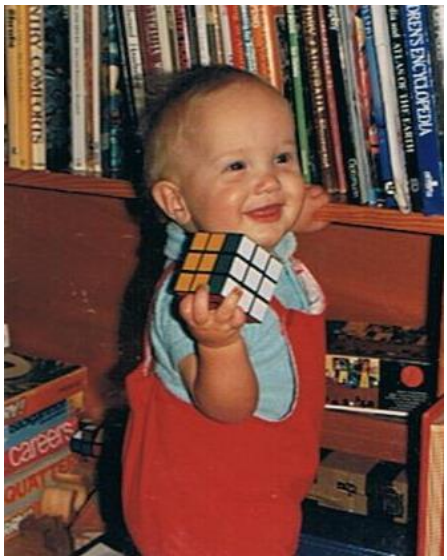


Original Jeff Butt Map – Plan View



Original Jeff Butt Map – Developed Longitudinal Section

Me, when JF-234 Sump Pot was tagged.



Me, when a JF-234 Sump Pot report was published (30 years older, but I seem to have regressed on the wisdom front).

The Mount Leillateah Karst – Another karst area in southern Tasmania

21 March 2011

Chris Sharples and Rolan Eberhard

Party: Rolan Eberhard, Chris Sharples

Introduction

OK, this trip report is a little bit old, but still not previously published and it is about time it was!

One of the nice things about Tasmania is that you can drop the kids off at school in the morning, go out in the bush, discover an entirely new previously-unrecorded karst area, and still be home in time to tuck the kids into bed. Or at least that is what Rolan Eberhard (with Chris Sharples) did on the 21st of March 2011. Although to be honest, we had a shrewd expectation that there might be some limestone to be found – but still, it had never actually been confirmed.

It is an odd thing that, despite Exit Cave at Marble Hill in southern Tasmania being one of Tasmania's best known and most explored large cave systems, the boundaries of the limestone in which it occurs are known with reasonable certainty on only the eastern side of the hill.

To the north, west and south the extent of the limestone has only been confirmed to the lower slopes of Marble Hill itself and its actual geological boundaries were (and remain) unknown (see Figure 1).

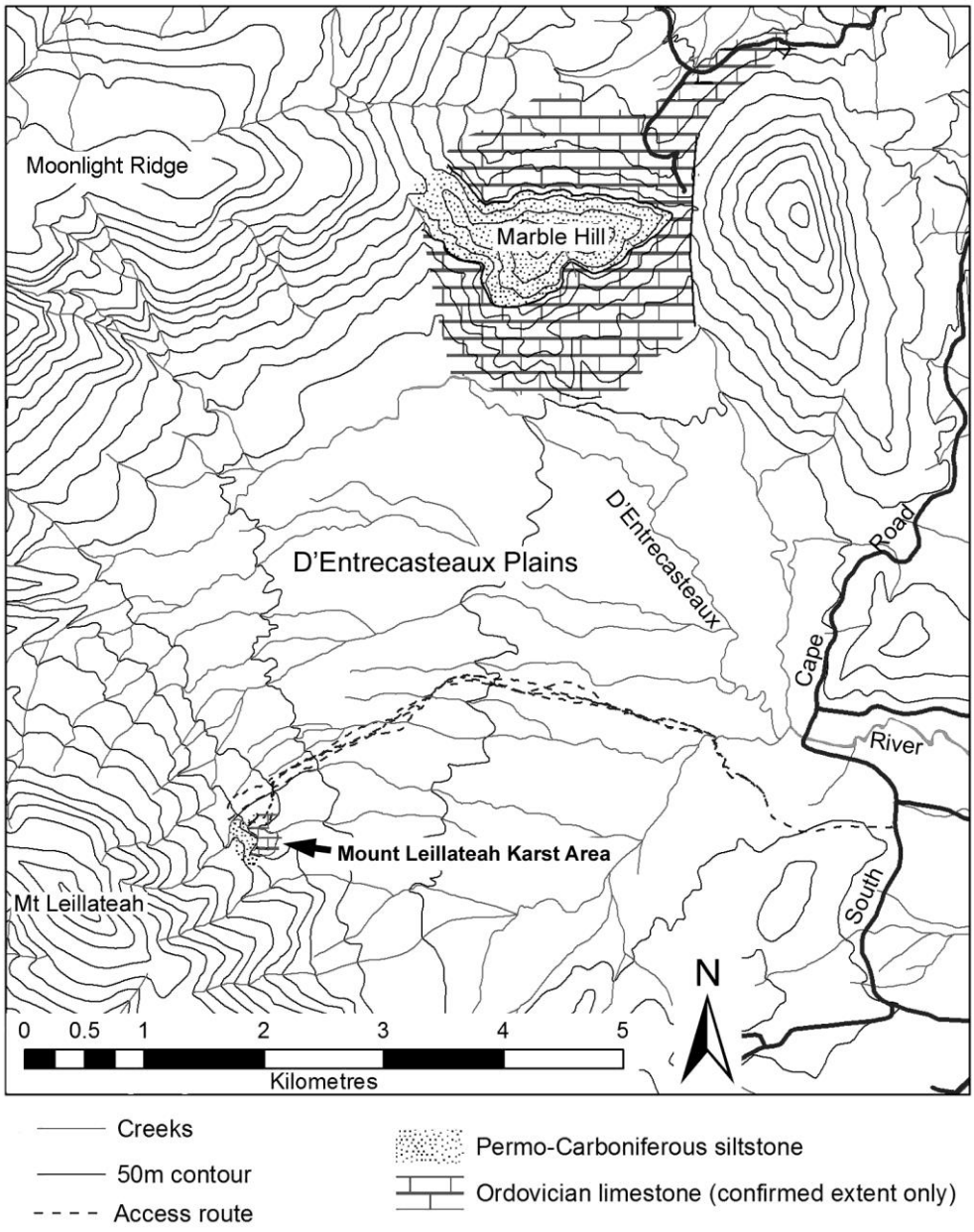


Figure 1: Locality map of D'Entrecasteaux Plains, showing location of the new limestone outcrops and karst features described here as the 'Mount Leillateah Karst'. The extent of the limestone depicted at Marble Hill remains the limits of the confirmed limestone, although the discovery of the Mount Leillateah Karst implies that limestone must almost certainly extend southwards beneath D'Entrecasteaux Plains and is also likely to occur on lower slopes west of Marble Hill and south of Moonlight Flats. Any significant relief on such hill flank limestone would make at least some cave development likely.

Nonetheless, during preparation of an inventory of landform systems in State forest, Sharples (1994, p. 55) had hypothesised that the limestone at Marble Hill could be expected to extend southwards beneath the D'Entrecasteaux Plains. This speculation was based largely on the fact that the low-relief D'Entrecasteaux Plains give a strong impression of being a karst plain, and indeed an earlier regional geological interpretation (Perkins & Dunn 1984, Vol. 3) had reached the same conclusion based purely on air photo interpretation. The plain itself is thickly mantled by glacial outwash sediments and no limestone outcrops have been reported. However, if limestone does underlie the plain it might also outcrop on the lower slopes of Moonlight Ridge and Mt Leillateah which flank the plains.

On the basis of nothing more concrete than these speculations, subsequent editions of the Tasmanian Geological Survey 1:250,000 Geological Map series have depicted limestone surrounding and beneath the D'Entrecasteaux Plains (the Geological Survey abhors blank spots on their maps, and have been known to use even wilder speculations to fill other gaps, for example in the floor of the upper Picton River valley where the geology shown on the current 1:250,000 Geological Survey maps is no more than speculation). In what may seem like a case of Chinese whispers (but from another perspective is really just the precautionary use of the best available information), this speculative mapping then became the basis for karst potential maps used by planners in both Forestry Tasmania and the Tasmanian Parks and Wildlife Service. However, it was not until 2010 when Parks planners contemplating a managed burn on the D'Entrecasteaux Plains contacted Rolan Eberhard for advice on possible karst impacts, that anyone thought of actually going for a look to see what is there. Rolan identified some possible unconformity cliffs and a possible doline / stream sink on the lower flanks of Mt Leillateah during an initial Parks & Wildlife Service aerial reconnaissance. At about the same time Chris Sharples was writing a paper for the forthcoming 2011 ACKMA Conference on the theme of how much unexplored karst there is in Tasmania, and so the possibility of confirming the existence of long-speculated but never-demonstrated limestone on Mt Leillateah sounded like an ideal opportunity to ram home the point.

Access to the D'Entrecasteaux Plains is relatively easy via a forestry road and recently logged coupe just off South Cape Road (see Figure 1), and it is then only a two or three hour walk across the plains to the foot of Mt Leillateah. We made an initial excursion across the plains during 2010, and although we reached the slopes below Mt Leillateah the speculative stream sink previously identified from the air turned out to be a dud (just a stream gully becoming less pronounced). Refusing to be deterred by complete failure, we spent months convincing ourselves that we had probably been on the verge of discovering limestone when forced to turn back by time constraints on the first outing. Fully convinced of this spurious logic we returned in March 2011, this time making a beeline for the possible unconformity cliffs Rolan had earlier seen from the air. To cut a short story even shorter, with little further ado we proceeded to discover plenty of outcropping limestone (Figure 2) with some karst development immediately below the said cliff. What follows is a description of our findings during a brief surface reconnaissance on 21st March 2011, and a few comments on their significance.

Figure 2: The discovery moment! Rolan with the first bit of limestone spotted in the Leillateah karst area. Photo: Chris Sharples (2011).

Geology

The stratigraphy and lithology of the Ordovician-age limestones outcropping on and within Marble Hill were described in detail by Sharples (1979) and Burrett *et al.* (1984). Immediately south of Marble Hill, the D'Entrecasteaux Plains (Figure 1) are mantled by unconsolidated dolerite and sandstone cobble and boulder deposits thought likely to be mainly glacial outwash sediments derived from the formerly glaciated headwaters of the D'Entrecasteaux River (Sharples 1994). Although the broad low-lying form of the plains suggest they are likely to be underlain by limestone, no bedrock outcrops have been identified on the plains to date. However, the authors have recently identified limestone bedrock outcrops about 4.5 km southwest across the plains from Marble Hill, on the lower north-eastern slopes of Mt Leillateah (Figure 1), which now supports the suggestion that limestone bedrock may be contiguous beneath the D'Entrecasteaux Plains.

The limestone outcrops are a hard grey, horizontally bedded rock which displays algal laminations, oncolites (algal balls), coralline or calcareous algal fossils, and shelly fossils indicative of a shallow marine tidal palaeo-environment above wave base. The oncolite content is suggestive of correlation with the Cashions Creek Limestone unit (Corbett & Banks 1974) of the Ordovician-age Gordon Group limestone, which has previously been recognised in the Marble Hill limestones (Burrett *et al.* 1984).

Limestone outcrops were observed down to about 125 metres above sea level (ASL), and upslope to about 185 m ASL where the sequence is truncated by a roughly horizontal unconformity (erosion surface). Immediately above the unconformity, horizontally bedded marine siltstone bedrock with shelly marine fossils of presumed Permo-Carboniferous age (Parmeener Supergroup) outcrops in a cliff about 20 metres high. The exact base of the Permo-Carboniferous sequence is not exposed, however if a basal conglomerate (tillite) bed is present – as is the case at Marble

Hill and other localities in the nearby Lune River - Hastings region (Sharples 1979) - then it must be no more than a few metres thick since the lowest siltstone outcrops occur within 10 metres or so above the inferred unconformity position.

Colluvium (slope deposits) dominated by quartz sandstone and siltstone boulders and cobbles derived from the overlying Permo-Carboniferous sequence mantles slopes immediately north of the observed limestone outcrops and are probably obscuring limestone bedrock in that area. However, it appears that the spur-and-gully slope topography has shed colluvium away from the area in which the observed limestone outcrops, allowing the limestone bedrock to protrude there.

The Mount Leillateah Karst

Although it is likely that the limestone bedrock described here is contiguous with the Marble Hill limestones, karst features in the new limestone area are almost certainly hydrologically separate from karst in Marble Hill. There may also be major faults disrupting the limestone bedrock between the two areas, for example it is likely that a roughly NNW-trending fault (indicated by a linear stream gully) disrupts the limestone on the western side of Marble Hill. Hence karst in the area of limestone described here can be considered as a distinctive (albeit probably small) new karst system, which we name 'The Mount Leillateah Karst' since it is situated on the lower slopes of Mt Leillateah.

The Mount Leillateah Karst is mantled by mature eucalypt forest, beneath which bare limestone outcrops commonly display karren including rundkarren. The area of limestone outcrops that were explored includes two stream gullies which were both dry when observed, but whose flows evidently sink in small caves (ML-1 and ML-4; see below) when wet. Both gully streams have very small catchments (about 0.2 square km each) above the stream sinks; hence will only flow during heavy rainfalls. It is notable that current 1:25,000 topographic mapping indicates the northern gully as being the downstream part of a much larger stream, however this was shown to be a map error by our reconnaissance. Apart from the two stream sink caves, several other small cave entrances and dolines were identified within the area of limestone outcrops. Sketch plans and sections of these are provided on Figure 4, and the features are described below.

ML-1: Limestone outcrop in the dry bed of the southern stream gully a short distance downslope of the Permo-Carboniferous siltstone cliff, with a small entrance to a narrow (impenetrable?) vertical shaft descending at least 10 metres. The cave is evidently a stream sink when the creek is flowing. Not explored.

ML-2: Limestone outcrop on hill slope with an entrance about 0.5m wide to a vertical shaft at least 5 metres deep and going out of sight. Not explored.

ML-3: Limestone overhang projecting a couple of metres on the south side of the northern gully. More a grotto than a cave.

ML-4: Limestone outcrop in the dry bed of the northern gully with an enterable narrow inclined stream cave about a metre wide and 2 metres high which extends at least 10 metres but narrows and becomes impenetrable about 5 metres in. The cave contains a few small straws and a population of cave crickets, glow worms and cave spiders (*Hickmania troglodytes*). The cave is evidently a stream sink taking the whole of the northern stream when it is in flow.

ML-5: A conical doline 6 metres diameter and 4 metres deep in the dry bed of the northern gully containing limestone outcrops with an inclined draughting fissure about 0.5 wide which descends steeply for at least 3 metres (see Figure 3). Not explored.

Figure 3: View down the draughting fissure in the doline at cave ML-5, showing horizontally bedded algal-laminated limestone. Photo: Chris Sharples (2011).

ML-6: A conical doline 15 metres diameter and 10 metres deep in the dry bed of the northern gully, with limestone outcrops having a narrow impenetrable (?) steeply inclined slightly draughting fissure descending at least 4 metres.

None of these six caves have been physically tagged.

Discussion

The maximum theoretical cave depth potential for the Leillateah Karst is probably represented by the vertical distance of about 115 metres (over a horizontal distance of one kilometre) between the unconformable top of the limestone at 185 m ASL (Figure 1) and a base level at the D'Entrecasteaux Plains downslope at about 70 m ASL. In principle the two stream sink caves (ML-1 & 4) should represent the upstream entrances of the largest cave systems developed in the area since these are the sinking points for the two main water flows available (in the two gullies). Although both caves are only humanly penetrable for short distances at their known entrances it remains possible that other entrances may exist leading into the same cave systems, and indeed the draughting fissures in the dolines at ML-5 & 6 are suggestive of some degree of passage development. It is unlikely that the very brief and cursory surface reconnaissance of the area that has occurred to date has exhausted the potential for cave entrance discoveries and a more detailed surface inspection of the area is warranted. On the other hand, the rather small water catchment areas of the two gullies does suggest that development of very large caves is unlikely to have occurred.

Nonetheless, confirmation of limestone bedrock at the Mount Leillateah Karst supports the likelihood that further limestone may outcrop along the lower slopes of Mt Leillateah both north and south of the confirmed outcrops, and that the limestone may continue north and eastwards along the lower southern slopes below Moonlight Ridge to Marble Hill as previously hypothesised on structural

grounds. It is probable that large sections of these slopes will be thickly mantled by colluvial slope deposits (as is the case immediately north of the limestone outcrops described here), and probably by glacial deposits near the D'Entrecasteaux River, which are likely to inhibit karst development in underlying limestones. However, it is also possible that some portions of these prospective slopes will be largely free of colluvium so that limestone may outcrop and be exposed to conditions favouring karst development.

In particular there may be value in considering the topography of the slopes of Mt Leillateah and Moonlight Ridge in order to identify ridges and spurs most likely to have shed colluvium into gullies leaving spurs and other areas further downslope free of colluvial mantles. This is the situation that the karst described here is exposed in, and other such topographically defined locations may be the most promising areas for further limestone and karst exploration away from Marble Hill itself.

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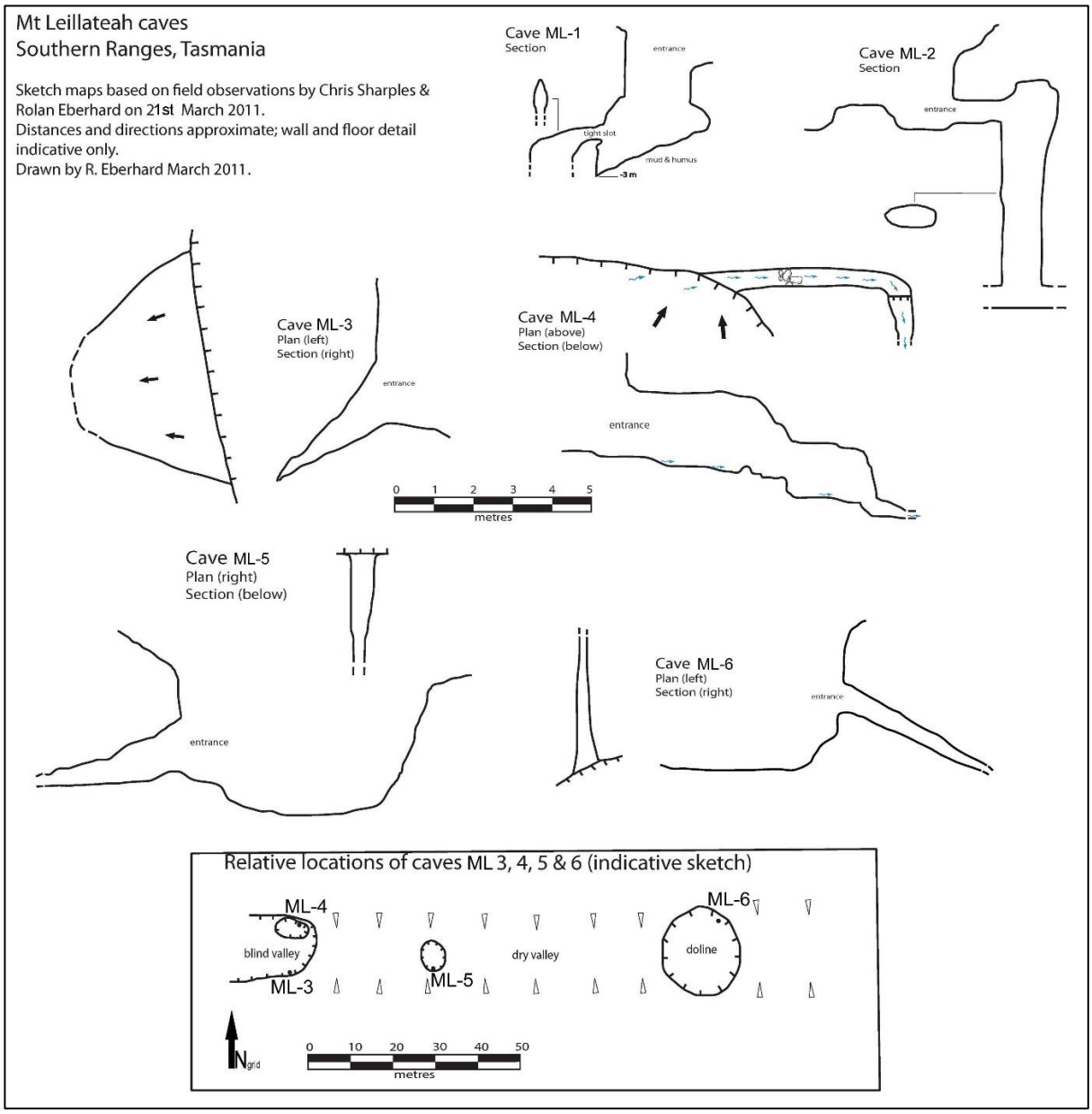


Figure 4: Cave plans recorded and drawn by Rolan Eberhard.

H-11 Big Mama & H-15 Chromosomia

Hastings, Tasmania

7H11.STC476

Surveyed by Gabriel Kinzler, Alan Jackson, Ciara Smart, Chris Sharples, Serena Benjamin, Janine McKinnon, Anna Jackson, Liz McCutcheon (08/06/2019 to 17/10/2020)
Drawn by Gabriel Kinzler (2020)

ASF Grade 54
Surveyed Length - 1501 m
Surveyed Depth - 146 m

20 m 40 m

True N

WHINGE STREAMWAY
Whiny Duck 2
Whiny Duck 1
Approximate surface doline boundary
MAIN CHAMBER
SLICE'N'DICE
talus slope
The Guillotine
ringtail possum skeleton
Blowing Gale Four-Way
separate aven above Handkerchief Chamber
HANDKERCHIEF CHAMBER
false floor
The Handkerchief
H-11
H-15
P58
P54
P68
LASSO CHAMBER
Durex Squeeze
P6
lasso handline needed
GARGOYLE CHAMBER
mud cracking
drop showing sedimental mud layers
The Coconut Ball
Cumbersome Straw
The Gargoyle
The Rocket Plume
very long straws
crusty floor
squeeze in rift continuation
crawl under boulders
Rift of Mixed Feelings
P3
sump
Thor's Hammer Squeeze
vadose passage
WRONG ANSWER
tightish
exposed sediment and gravel banks with banding/layers
fossilised passage
Dalmatian Junction
P6
P3
cracked mud
ICING ON THE CAVE
loose climbs to passage
exposed climb to passage
sump

PLAN

LEGEND

- passage wall
- passage wall - conjectural or continues (tight/low)
- passage wall - underlying passage
- drop off/ledge - with height (m)
- ceiling height (m)
- section (with view direction)
- direction of floor slope
- entrance
- cave tag
- permanent survey station
- 6 mm bolt holes
- stringline (route demarcation)
- large boulders/rocks
- log/timber
- mud feature
- water
- water (sumped)
- water direction of flow
- water direction of flow (inlet)
- water direction of flow (outlet)
- stalagmite
- column
- shawl
- stalactite with anthodites
- stalactite with helictites
- straws
- flowstone
- fauna remains

H-11 Big Mama & H-15 Chromosomia

Hastings, Tasmania

7H11.STC480

Surveyed by Gabriel Kinzler, Alan Jackson, Ciara Smart, Chris Sharples, Serena Benjamin, Janine McKinnon, Anna Jackson, Liz McCutcheon (08/06/2019 to 17/10/2020)

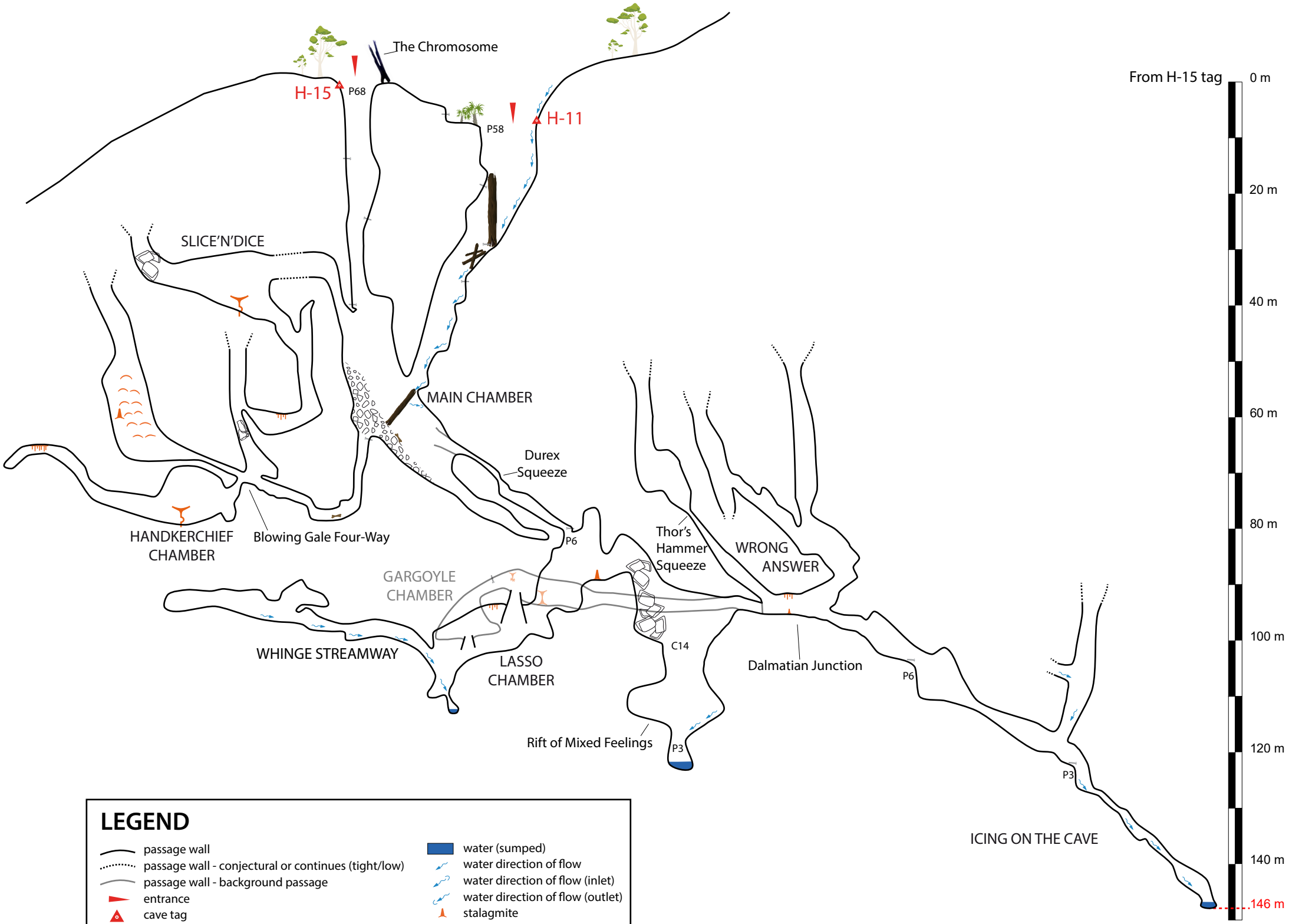
Drawn by Gabriel Kinzler (2020)

ASF Grade 54

Surveyed Length - 1501 m

Surveyed Depth - 146 m

SIMPLIFIED DEVELOPED SECTION



LEGEND

- passage wall
- passage wall - conjectural or continues (tight/low)
- passage wall - background passage
- entrance
- cave tag
- 6 mm bolt holes
- large boulders/rocks
- log/timber
- flowstone
- fauna remains
- water (sumped)
- water direction of flow
- water direction of flow (inlet)
- water direction of flow (outlet)
- stalagmite
- column
- shawl
- stalactite with anthodites
- stalactite with helictites
- straws

H-17 Poor Mans Pot

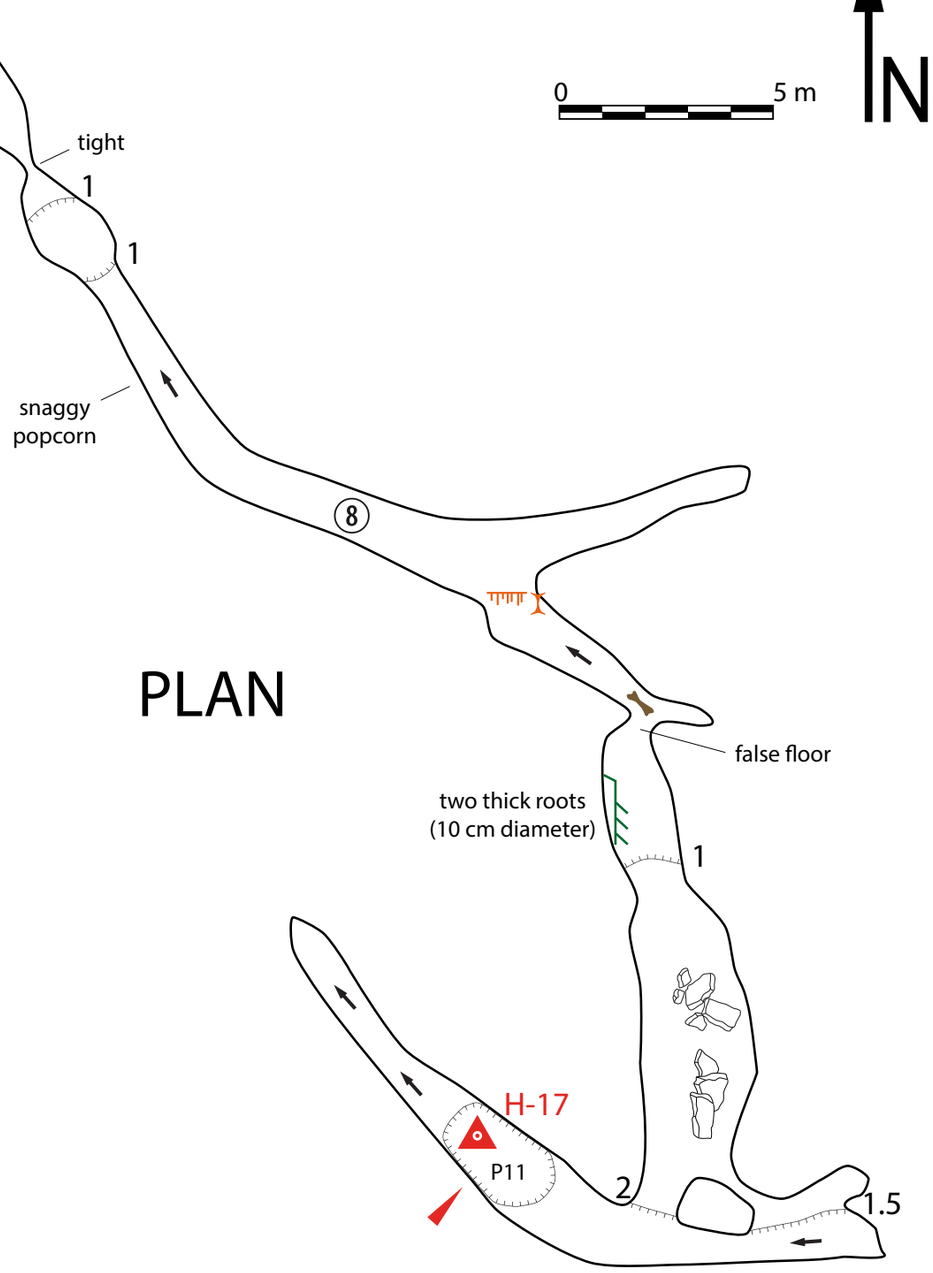
Hastings, Tasmania

7H17.STC479

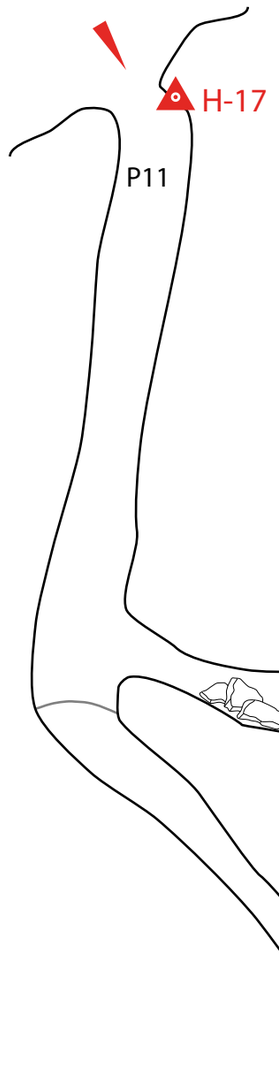
Southern Tasmanian Caverneers

ASF Grade 22

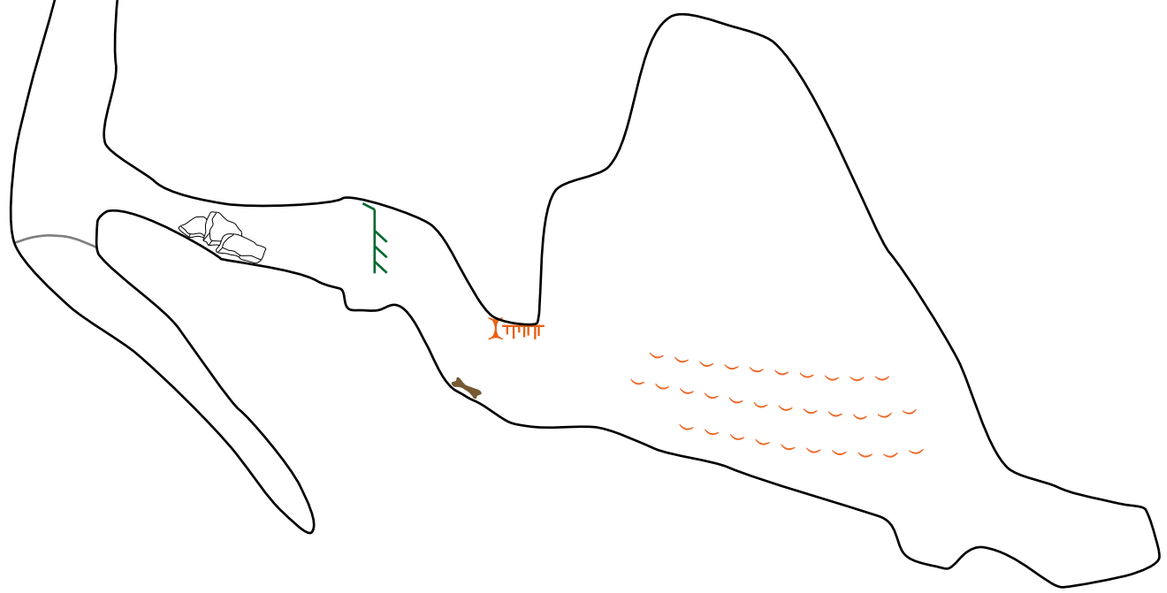
Surveyed by Gabriel Kinzler, Ciara Smart (06-12-2020)
Drawn by Gabriel Kinzler (December 2020)
Surveyed Length - 52 m
Surveyed Depth - 18 m



PLAN



DEVELOPED SECTION



LEGEND

- passage wall
- drop off/ledge - with height (m)
- ceiling height (m)
- direction of floor slope
- entrance
- cave tag
- large boulders/rocks
- column
- straws
- flowstone
- fauna remains
- roots

The Last Page