



Emergence du Ressel is a famous cave in the southern French department of Lot, and its furthest reaches have already been explored by many famous divers. But you don't have to go 4 km inside to appreciate the magic. Photo: Kurt Storms



C.D.A.A. Newsletter

No. 163 - JUNE 2023



CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)

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Front Cover:
Babak Shoeiby
in Pines

Photo by
Jane Bowman

CAVE DIVERS ASSOCIATION OF AUSTRALIA

ABN 65 062 259 956

P.O. BOX 544, Mt Gambier, SA 5291

GUIDELINES is a newsletter of the Cave Divers Association of Australia. All articles for the following issue are to be sent to the Publications Director, Email: publications@cavedivers.com.au

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CONTACT LIST

Please contact the most relevant person or, if unsure write to:
C.D.A.A. P.O. Box 544 Mt Gambier SA 5291 www.cavedivers.com.au

NATIONAL DIRECTOR - Grant Pearce Mobile: 0438 833 103
Email: national@cavedivers.com.au

Science Officer - Ian Lewis Mobile: 0427 284 051
Email: ian.lewis2@sa.gov.au

Media Contact - Grant Pearce Mobile: 0438 833 103
Email: national@cavedivers.com.au

Risk Officer - Grant Pearce Mobile: 0438 833 103
Email: national@cavedivers.com.au

Search & Rescue Officer - Richard Harris Mobile: 0417 177 830
Email: info@cavedivers.com.au Phil Croker 0423 393 347

STANDARDS DIRECTOR - Chris Edwards Mobile: 0417 116 372
Email: standards@cavedivers.com.au

Quality Control Officer - Chris Edwards Mobile: 0417 116 372
Email: quality@cavedivers.com.au

BUSINESS DIRECTOR - Mathew Rochford Mobile: 0411 529 512
Email: business@cavedivers.com.au

CDAA Products - Email: info@cavedivers.com.au

Bookkeeper - Vacant Email: business@cavedivers.com.au

SITE DIRECTOR - Kelynn Ball Mobile: 0428 842 259
Email: site@cavedivers.com.au

Mapping Officer - Tim Payne Mobile: 0448 147 927
Email: tim@diveessentials.com

Tank Cave Booking Officer - Damian Bishop Mobile: 0433 345 743
Email: damian.bishop@live.com.au

Kilsbys Booking Officer - Craig Larkin Mobile: 0418 821 191
Email: kilsby@cavedivers.com.au

Lady Nelson Booking Officer - Corrie Harry Mobile: 0400 008 460
Email: corrie@scubacapers.com

Shaft Booking Officer - Gary Barclay Mobile: 0407 527 921
Email: garinda@bigpond.com

Bakers Booking Officer - Kelynn Ball Mobile: 0428 842 259
Email: site@cavedivers.com.au

Little Blue Booking Officer - Email: site@cavedivers.com.au

PUBLICATIONS & RECORDS DIRECTOR - Hope Berry
Email: publications@cavedivers.com.au - Mobile: 0434 808 626

Records Officer - Brendan Moore Mobile 0407183522
Email records@cavedivers.com.au

Guidelines - Graphics & Advertising - David Bryant
Email: seapics.davebryant@gmail.com - Mobile: 0417 125 710

STATE REPRESENTATIVES

ACT: Ryan Post. Mob: 0439 855 067 Email: ryan@ryanpost.com.au

NSW: Matthew Pridham. Mob: 0410 598 859. Email: matt.pridham@yahoo.com.au

N.T.: Jeffrey SWANN. Mob: 0419 561 515 Email: jeff@darwin.ortho.com.au

QLD: Ben SHIELD. Mob: 0405 260 276 Email: benray80@hotmail.com

SA: Damian BISHOP. Mob: 0433 345 743 Email: damian.bishop@live.com.au

WA: Nunzio LOPOLO Mob: 0433 037 394

VIC: Benn Walton Mob: 0412 751 873 Email: bennwalton@hotmail.com

Public Officer - Andrew Seifried Mob: 0404 275 637
Email: info@cavedivers.com.au

CDAA INSURANCE

Web Site PDF: <http://www.cavedivers.com.au/public-documents>

Policy Type: Affinity Combined General & Products Liability Policy - LIU-CAS-AEAL-14-01
Insurer: Affinity Insurance Brokers Level 1, 1265 Nepean Highway, Cheltenham. VIC 3912.
Underwritten by: Liberty International Underwriters ABN: 61 086 083 605.
Incorporated in Massachusetts, USA.

Name Insured: Cave Divers Association of Australia Inc. **Policy#** 441680
Public Liability: \$20,000,000 any one claim. **Expiry:** 30th September 2023.

Pine Tank Lodge



Photo by Liz Rogers

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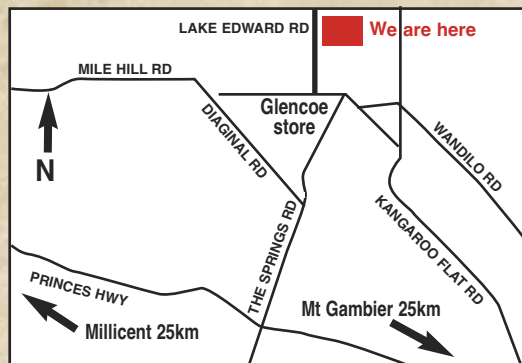
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Web: aquifertec.com.au



Publications Report

Hope Berry

With The approach of the CDAA's 50th anniversary and AGM, there is much action happening for all of our volunteers and the National Committee. We have some fantastic guest speakers, new merch and many other exciting surprises to look forward to later in the year. Dates have been published, and there is more information in this edition of Guidelines as to what you can all look forward to.

Now having spent some time settling into the role with the fantastic support of Vic Hudson, Brendan Moore and the rest of the National Committee. We have been looking at ways to improve the website further, building upon the work done previously when changing over to Member Jungle. Other special thanks to Josh Richards for spending time with me looking at improvements for the website.

Currently, we are working with Member Jungle's App team, to iron out a few bugs relating to certification upgrades not automatically showing on the app. We hope to see a new software update to fix this issue soon.

A few other projects we have in our sights are updating the websites site information, to centralise all of the information you will need to access each site, including indemnity forms, where and how to book, updated maps and any other useful information or updates to existing information (if members have any feedback or suggestions, please let me know what you would find helpful)

Another item we are looking into, is a private forum for CDAA members, We are currently looking at linking Member Jungle and Facebook for ease of use, so watch this space for a place to be able to discuss all things CDAA.

With each edition of Guidelines, we are always discussing better ways to meet members' needs and give you as much local content as possible. We are discussing the potential of releasing Guidelines Bi-Annually, and using the new and improved website to support the change in frequency in conjunction with the member forum. With this change, we will be releasing larger editions of Guidelines, with more local content (We need you for this *Nudge Nudge*). Advertising for our members will still be done in Guidelines with the potential of adding some advertisement facilities to the website. If you have any suggestions, concerns or ideas, please let me know.

As always, if you have any content for Guidelines, we would love to see it; please email it to Publications@cavedivers.com.au My aim is to fill Guidelines with more familiar faces and stories from local divers; if you have any ideas for content but need help, reach out!

Looking forward to seeing you all in November, Happy diving!

Hope Berry (#5375)
Publications & Records Director

Articles for Guidelines September 2023 - Deadline is August 10th

- Send articles and jpeg images by email to seapics.davebryant@gmail.com •

National Committee Update

JUNE 2023

This edition of the Guidelines has plenty of exciting content, including trip reports from Pannikin Plains and the darkest, coldest depths of Tasmania, i.e. Niggly and Delta Variant caves. Also, a unique use of our Ground Penetrating Radar.

The National Committee and all our volunteers continue to be busy becoming familiar with the legacy of migration to our website Member Jungle. Refer to the Business Director report.

Our membership continues to increase with 47 new members, including those who have done crossovers from other agencies. We have 38 new basic cave certifications, 22 new Cave, and 16 new Advanced Cave certifications. On behalf of the National Committee, we would like to welcome our new members into the dark side. And also, well done to those Cave and Advanced Cave members for achieving your next level of certification.

An important note on Kilsbys Sinkhole, while members are now enjoying frequent diving in Kilsbys Sinkhole, it is essential to remember and remind others in your group that you are entering private property. We have a unique licence agreement with our host Graham Kilsby, we can visit and dive the site unsupervised. For the Kilby family, it's frustrating when members don't take the time to read and follow the access conditions. It's easy to click "I accept" without reading the access conditions; however, if ignored can lead to severe consequences, i.e., as one buddy team has recently experienced at the unequivocal request of the Kilsbys.

Don't miss important information that can help you have the best experience possible. Plus, our Booking Officer and Site Director are always available to answer any questions you may have about the terms and conditions so you can book with confidence.

The Limestone Coast Water Allocation Plan (LC WAP) is under review; as a stakeholder, we are invited to provide comments. Based on recommendations from a science review, a new assessment of the risk to water resources in the Lower Limestone Coast, supported by the Stakeholder Advisory Group, was undertaken. Contributing issues include reduced rainfall due to climate change, an increase in groundwater extraction by commercial extractions (centre pivots), plantation forestry intercepting groundwater recharge (rain), coastal seawater intrusion into the unconfined aquifer (in which we cave dive), nitrification of icon wetlands including Ewan's and Piccaninnie Ponds. The above are multifaceted issues intrinsically linked and impact our activities (e.g., Piccaninnie Ponds).

Limestone Coast Sinkhole Trail: One of the outcomes of our recent landholder meetings is an opportunity for us to partner with the Local Councils, land managers/owners, and Limestone Coast Regional Tourism Board towards development of a regional tourist attraction centred on sinkholes to promote engagement of the broader non-cave diving community. This initiative will be known as the Limestone Coast Sinkhole Trail. Essentially, selected cave and sinkhole sites (yet to be

defined), are likely to have picture boards and QR codes showing non-cave divers the rich diversity of karstic sites scattered across the region linking each feature to the next, including such information as historical use, video clips, pictures, maps, cave formation and unique ecological features. If members are interested in contributing, please get in touch with me.

Grant Pearce, CDAA 1382
National Director



On behalf of the
National Committee



Mathew Rochford,
Business Director



Kelvyn Ball,
Site Director



Chris Edwards,
Standards Director



Hope Berry,
Publications and
Records Director

Site Report

Kelvyn Ball

My Opening Statement:-

I HIGHLY urge all members to read all ACCESS CONDITIONS on their website booking before booking. Do not click "I accept" unless you have read them beforehand. Some access conditions have recently been updated. Some divers have chosen not to read or follow the access conditions and have consequently received suspensions.

Grant Pearce and I have spent some considerable time visiting and having discussions with the Landowners again recently on how things are going and any improvements we can organise. A couple of concerns have been highlighted.

- Englebrechts - Jan appreciates a hello or a chat if time permits as she is genuinely interested in diving; she also has asked me to remind divers to turn off all lights, shut gates, and doors and lock up if leaving after hours. Also, a reminder to take the key in with you so you can get out after hours, please and sign out.

- Kilsby's - have concerns that divers are not clearing the platform in their designated 2 hours - please do your best to abide by the time slot. They are also concerned that divers are not read-

ing their access protocol on booking. Divers have been notified by email by me that new access protocols were in place not long ago. Please double-check with your next booking.

Our water testing kit has finally turned up for Earl's Cave, and hopefully, this leads to the site being opened very shortly, results depending, of course.

Ela Elap is still closed, but still chatting with the Landowner about how to reopen. Sisters is still in negotiation with Wattle Range Council.

Pics is still closed due to algae bloom, but after chatting with Ross Anderson, when the site reopens, we should be able to apply for a CTO license that allows all CDAA Instructors to use this site under the one license. Forestry sites are running well. The Shaft is open on requests - contact Gary Barclay with dates, and we will do our best to make it happen.

Peter Norman is still happily handing out the key for One Tree and is always up for a chat. All other sites are running smoothly so safe and happy diving to all!!!

Kelvyn Ball - Site Director #3276.



Business Report

Mathew Rochford

Fresh back from some time in WA, there's a lot to think about, including the run-up to the symposium, speakers, AGM, celebrations, and voting season.

You can expect a regular monthly update on our planning for the symposium starting in June. I can confirm our roster of speakers this year will be headlined by Tamara May talking about her role as head of emergency planning and mapping for project expedition Buteng on Muna Island, Indonesia. We are also welcoming back Patrick Widmann again, talking all things exploration and some KISS updates, and of course, some familiar faces with updates on more local exploration. There will also be a reflection on the history of the CDAA and a celebration of what we have achieved. The team are also putting together more presentations and workshops for Sunday this year, focusing on science.

I am exploring options for broadcasting our AGM and symposium talks to either state events for WA, NSW, and Qld or just online for individuals; stay tuned for details here.

I've also been working with the committee on a review of our regulations. Some content, such as site access procedures, will be removed with the source of truth formally becoming our website. This will support clear communication of the expectation of our members and simplify administration. This year I will be calling for National Committee position nominations, constitutional amendments and AGM business through online notices rather than Guidelines. I will publish a schedule in early July of essential dates and when you can expect correspondence and notices in your inbox. This year, being an odd-numbered year, we are seeking nominations for National, Site, Publications and Records positions, so please also consider if you would like to nominate.

In more mundane news, work continues to catalogue and understand all the IT systems, data sharing, and stakeholders we have, to ensure our systems and information are appropriately protected.

Cheers, Mathew Rochford, Business Director. #4827



Standards Report

Chris Edwards

Some teaching standards have been adjusted across all three courses to allow greater flexibility with in-water time.

Compulsory student training reviews have been dropped to facilitate faster processing.

The new standards will be available on the website by the end of June.

Whilst in most cases, certifications have been processed within three days, there have been some cases where this has yet to occur. Thanks to all for understanding that we are volunteers in these roles, and sometimes just like you, we have other priorities (jobs, holidays, family, cave diving). We are looking at ways to streamline the process even further.

Discussions are underway concerning the increased use of CCRs on CDAA courses and how best to safely and effectively manage that. Mainly where instructors are not qualified to teach or use the CCR units students are proposing to do a course with.

Preliminary research is underway to make the theory sections of all 3 of our courses 'online'. If anyone has good skills in this field and is prepared to help, please email me -

standards@cavedivers.com.au

We have had many overseas visitors - thanks to all those who have sponsored and looked after these people.

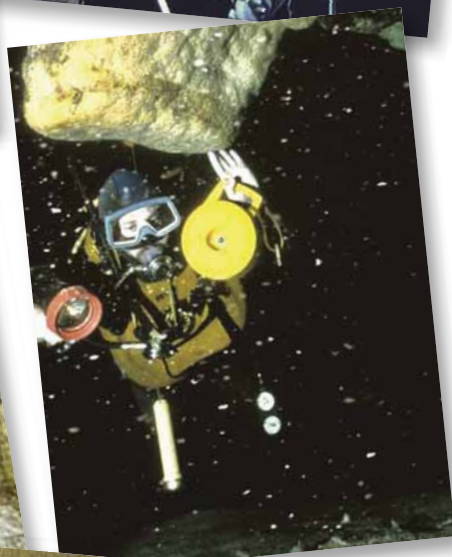


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Pictures courtesy Peter Horne



WE NEED YOU!!...

To Join us in celebrating Our 50th Anniversary!

NOVEMBER 4TH & 5TH, 2023.

We are pleased to announce the following Guest Speakers and Events:

- **Tamara May** will talk about her role as head of emergency planning and mapping for project expedition Buteng on Muna Island, Indonesia.
- **Patrick Widmann** again talking all things exploration and some KISS updates, and of course some familiar faces with updates on more local exploration.
- A Reflection on the **History of the CDAA** and Celebration of what we have achieved.

PLUS MANY MORE - TO BE ANNOUNCED!

**PLEASE COME ALONG AND JOIN US
FOR THE FESTIVITIES!**



Project: Pannikin Plains Push

Story and Photos by Ryan Kaczowski.

A quick glance at this title might make you think you are about to read about a concentrated GUE effort to put two back mount divers to the very limit of the cave (or as close as you could get with that configuration). However, our trip was certainly not that style - I just like a little bit of alliteration. I thought it might be of interest to some to write up a short article about Pannikin Plains Cave as there has been plenty of dive activity in that cave more recently. What is it like and what about current exploration?

Pannikin Plains Cave is (by far) my favourite high plains dive site and for good reasons. The water is the typical, clear, Nullarbor blue that you experience elsewhere on the Nullarbor cave diving region and with seemingly endless visibility (as far as your torch can handle). To say that the passages are massive, is an understatement and I doubt that a single person isn't blown away when diving it for the first time - even within the first 100m of sump 1. Plus,



It is hard to show the size of some of these floor slabs. I love slabs.

it just gets bigger! These things aside, the real gem for me is the vast amount of more complex side/perpendicular passages that seem to intersect the main conduit and become worthwhile dives on their own. 10 days diving there isn't enough.

Many of the high plains caves were known about very early on but it wasn't until the early 1970's that pioneer explorers began to use current equipment of the time to explore these amazing sites and Pannikin was one of them. A small amount of line was run but future trips proved that this cave wasn't going to end too soon. Most notably the 1988 trip led by the late Andrew Wight who, with a team of experienced divers put in an amazing effort to push the cave beyond the 'Concorde Landing' dry chamber to its divable penetration limit. This trip ended with

a very unfortunate storm which funneled millions of litres of water into the cave - while the team was still inside. Rocks were loosened and the cave collapsed at an internal choke causing 15 cavers to be trapped inside. Fortunately, no one was seriously injured and two cavers were able to find their way out, assemble a team that would safely rescue all members of the team unharmed. Andrew captured much of this

expedition on film and subsequently made a documentary about it entitled 'Nullarbor Dreaming'. It is a great watch. This documentary helped launch his career in film, working with people like James Cameron. It was in fact his experience in Pannikin which inspired parts of the 'Sanctum' movie narrative. She goes!

Unfortunately, after this event, the cave was deemed unstable and dangerous for the general cave diver and was closed until further notice. The exception was made for particular dive teams that

had necessary skills and research interests, that were able to get limited, strict permits. During this time, huge efforts were put in over subsequent years to extend, map and survey the cave by teams such as ones led by Chris Brown, Tim Payne and Dave Fielder. Research into cave flora and fauna as well as the stability of the cave was also done by Stefan Eberhard. The effort by these individuals helped lead the way for the cave to be reopened to cave divers with suitable qualifications.



Stephen Fordyce set up an amazing flying fox system which involved minimal faffing around (sarcasm). He was suitably impressed.



The banding on the walls in the Giga passage looks incredible

After entering the doline, you carefully wind your way down through a collapse via an SRT pitch to a small plughole before it opens up into a large long lake chamber. Car must be taken to minimize disturbance to bat colonies at various times of the year and string lines ensure you keep to a common trail, maintaining cave conservation as much as possible.

The dive begins by a descending straight down to 20m where you are met by a large right then left-hand bend. You find yourself in a big 'canyon' like passage with a ceiling of around 20m and a floor depth near 40m. After several

hundred metres the cave heads upward through various collapses and small air bells, into 'Concorde Landing' - a large dry chamber around 1km in from the entrance lake. From here you portage your dive gear a couple of hundred metres over to sump 2 via a short lake float over. Sump 2 definitely does not disappoint. It is huge, and even with mega hi-lumen video lights supplied by TFM Engineering, rooms like the Giga-Passage are still left dark. The original 'end of cave' terminated at a boulder collapse where the still large passage abruptly ended.



Bruce peering into massive tunnel. It just sucks up your light!



Looking up from the bottom of the daylight chamber.

Another trip to remember!

In 2016, I was fortunate enough to be invited to join a trip with Dave Fielder, Chris Brown and Chris Edwards and my mind was blown by this incredible cave. While the cave has so much passage to explore, my mind was fixed on extending sump 2 past its end, either wet or dry. It turned out to be the latter. I was able to 'maneuver' my way through a series of small restrictions which surfaced in a rather small lake. Initially a little disappointed, I climbed out and through a rock boulder collapse which opened straight up into a big dry chamber, with a large pyramid like hill to

climb over. It was named 'Chapel Hill' and immediately I went to work looking for water on the other side. It wasn't easy but a small sump 3 lake was found and I squeezed through into a small room to a depth around 12m.

In 2017, Myself, Steve Fordyce and Stefan Eberhard put in a big effort to push this third sump down into a 'fissure' passage with small side leads. Not the booming passage we had hoped for.

Both Myself and Steve had too many other projects and obstacles over the coming years to return but Steve decided it was time to organize



Running line in sump 3. But which way will go? Another trip will hold the answers



It is hard not to be impressed by the huge passages.



Skanda about to head of for a sump 3 push

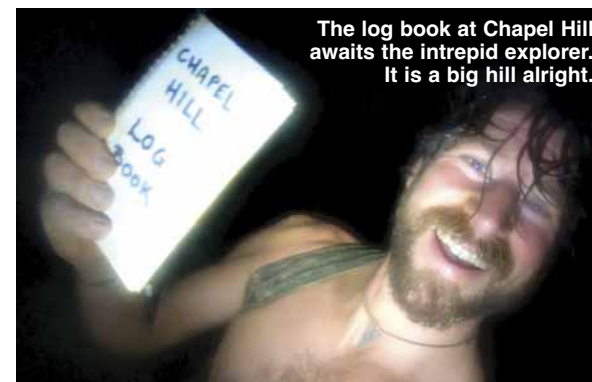


Chris and Aimee cruising through sump 2 - scooters recommended



Surfacing at Concorde Landing after a kilometer of sump 1 magic.

another push. That brings us to this April just gone. Steve had crunched the survey data and was sure that we may be looking in the wrong spot to find the 'Holy Grail' passage. Together



The log book at Chapel Hill awaits the intrepid explorer. It is a big hill alright.



As much fun as the diving is, it's nice to have everything back out. Good times, team and trip.

with Aussie divers (Stewart Donn, Andrea Russo, Chris and Aimee McCran) and internationals (Bruce Clulow and Skanda Cophield) we can it another crack. Over the next two weeks we set

pairs of push divers forward into Sump 3. Steve Fordyce by far, did the lion's share of pushing, laying a couple of hundred metres of line in nasty, silty, windy passage. A sterling effort indeed! However, we were still unable to break through into the big ongoing tunnel... Yet. The cave does not stop. We just need more time out there.

All push divers used differently configured Kiss Rebreathers to get to Chapel Hill and open circuit for the sump 3 push. All diluent, safety tanks and bail out cylinders were filled with 32% nitrox.

Is it there? Who knows? Will we find it on a future trip? Hopefully. These questions are unknown but one thing is for sure, it won't be our last trip. It is waiting for someone for whom the darkness beckons.

Skanda's Diving — Adventures — Return to Corazón

By Skanda Coffield. Photos by Alvero Hererro (aka Mekan).

Early in 2021 I happened to be guiding a former student in Corazón del Paraíso. It was awesome to be back diving in that cave! Big tunnels really cool flowing haloclines, interesting decorations, and small silty passages. The cave is really varied! Being back there made me think there might have been some unfinished exploration. Many of the lines I laid there in 2018 were done on open circuit, now with the rebreather the potential to find more cave or even a connection was there!

The 2018 explorations

Back in 2018 after resurveying the existing cave lines (everything upstream and 1000m / 3000ft downstream), I found some new passages. Many of these didn't go very far, but some I added in the saltwater did go some distance. In total, I managed to add around 3,500 feet of new line. Much of the exploration was done in pretty silty conditions because as soon as I would exhale, percolation would cascade down. This meant that I only would have one chance to pick a direction before zero visibility closed in. Many of the ends of my lines were left with comments like 'could go, small and silty'. So a return was not high on the priority list! At the end of 2019, I did return with Tamara May and we explored another 500 feet of challenging salt-water passages. But again nothing was significantly going, lots of silt and breakdowns to navigate.

Chasing the Santa Maria connection

One of the longer sections I added did seem

to be going in an interesting direction. It was parallel to the main tunnel and had similar conditions. But outside of the existing lines, meaning this could be where there is a chance to break out of the tunnel into new cave. Fast-forward to 2020 and we had extended the existing lines of Cenote Santa Maria and added 4,000 feet of line pretty much in one direction downstream. Right towards the upstream ends of line of Corazón, and most importantly my line! I remembered that there was potential unexplored cave off that line; it was just very, very silty! Knowing that there was more cave to north, with quite some flow coming towards Corazón, it was time to try again.

CCRs, the game-changer

Recently Tamara Adame and I went back to scout out the tunnel and check leads. Pushing a low silty bedding plane, I popped out into a big open room with options on where to go! Tamara followed through, and I passed off the reel to her and went back and began to survey in. Tamara laid some line down into a saltwater passage, but diving open circuit this was pretty much zero visibility for me surveying in behind her. Once we came back from that line, it was time to turn on gas, but there was definitely more cave off the initial big room. It was time to go back with just rebreathers!

I returned with another friend, Marceline, and we extended the line that Tamara and I had laid a little bit before the cave shut down. It seems fairly typical in this section of cave that

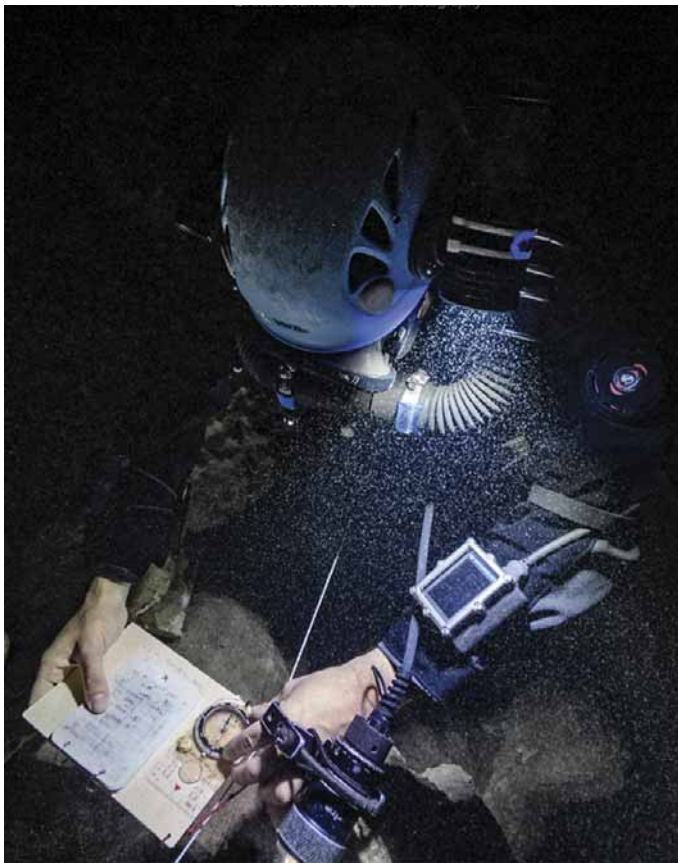
once in the saltwater, the passages are shorter and tend to end in breakdowns. The floors in the area are pretty silty, and even being on CCR there is a lot of percolation. We continued along my 2018 line and checked out some of the other leads I had noticed. Having the luxury of no time pressure with the rebreather gave us a chance to check a bunch of leads, and reduced the amount of sediment stirred up by bubbles.

While none of these leads were really going cave, they did not continue far or open into bigger passages, we did manage to lay a bunch more line and connect some of the lines we laid to existing lines. While not really significant or useful connections, this does help with confirming the accuracy of the survey. Knowing that the survey is accurate will help with the eventual connection to Santa Maria!

This summer has been a pretty busy time for us at ProTec with lots of teaching and guiding. With my teaching and guiding workload, and other exploration and survey projects I only managed a couple more dives continuing the exploration. During one of these dives I pushed one lead I had noticed with Marceline and the cave opened up! At least for a little bit!

The passage dropped again into saltwater with flowing freshwater on top. Soon enough I found myself





already drifted into the potential way on.

Deciding that exploration in clear water is way more effective, efficient, and safe, I cut free my reel, tied off the line, and began to survey out.

Since the last dive, I have been pretty booked up teaching so haven't been able to go back. But one of these days when I have a spare day or two it's going to be time to build the sidewinder, charge the Seacraft and Mnemo survey device, feel the exploration reel and go back!



in zero visibility and had to turn the dive. But there seemed to be potentially some more cave to explore in that section.

Another day I went back to check some of my ends of line from 2018. On my survey notes from back then, there was the comment 'cave goes small'. Probably why I never went back! But not wanting to leave any possibility unchecked, with the sidewinder it was time to go back! One of the lines continued through a snakey, zigzag tunnel which didn't really go the direction I wanted to push. The other line dipped in and out of saltwater before I popped up in a surprisingly big room. Looking around the walls for a way on, I checked the directions I wanted to push. But nothing, then turning back towards where I had come I saw a lead off to my left. Swimming over to it unfortunately I saw that disturbed sediment had



Originally from Melbourne, Australia I now call Tulum home. Since I first visited Mexico in 2014 I have been fascinated by caves and cave diving. Since moving there in 2016 I have been cave diving as much as I can! Working as a guide and later an instructor I have been privileged to see amazing places.

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Regional Victorian family attempts to solve century-old mystery to find burial plot of Maria and Louisa Langley

ABC Wimmera / By Gillian Aeria

According to chilling family legend passed down through generations, it was a ghostly apparition and bloodcurdling scream for help that led to the tragic discovery of the bodies of a young mother and her daughter. History passed down by descendants tells that, in 1884, workers were camping on a sheep station at Maryvale, western Victoria, when they claimed they saw a figure of a woman screaming and a baby crying. Next morning the workers persuaded the police to search the area. To their horror the constabulary quickly discovered the skeletal remains of Maria Langley and her toddler Louisa concealed under a large, fallen tree not far from the campsite — according to Kevin Ryan, a great-great-nephew of Maria's.

The boot still on her foot identified the adult remains as Maria, and the child, Louisa, had the remains of a leather stirrup around her neck. Maria's gold wedding ring and brooch were also found among her remains. More than 130 years have passed since the gruesome discovery, but Mr Ryan and another descendant, Lynette Van Vondel, are determined to find the bones of the mother and child. And their search has led them to the Edenhope cemetery, in western Victoria.

Who was Maria Langley?

Maria Langley led a tough life.

At 15 years old, she was sent to the South Australian town of Mount Gambier as an indentured servant to local baker Joseph Sugars, who was believed to have repeatedly sexually assaulted the teen, Mr Ryan said.



Maria Langley was killed when she was 19 years old.(ABC Wimmera: Gillian Aeria)

Ms Van Vondel, Maria's great-niece, said Maria ran away from the bakery several times but was arrested and sent back to finish her contract.

Maria fell pregnant to the baker, and was eventually taken in by her father to have the child, a move which was uncommon at the time.

Mr Ryan said Joseph Sugars paid a man named Robert Cook to marry her to make Louisa's birth legitimate.

Just days into their marriage Maria, Louisa and Robert Cook set off for Rupanyup in Victoria to start their new life.

At an 1884 inquest into her death, Maria's family members said they believed the marriage was agreeable to both parties but a traveller, who camped next to the family for a night, said Robert seemed cross — particularly with Louisa — and handled her roughly.

"We believe there was some sort of argument and one thing led to another and they disappeared," Ms Van Vondel said.



Maria and Louisa's remains are buried somewhere in the Edenhope cemetery. (ABC Wimmera: Gillian Aeria)

More than meets the eye?

Ms Van Vondel said police suspected Robert Cook of foul play when Maria went missing, but he assumed the identity of a man he was also suspected of murdering, before taking his own life.

His body was found in the Serviceton dam near the South Australian border.

When Maria and Louisa's remains were found, they were taken to the Edenhope police station and stored in the stables in a box until their murder could be solved.



Ian Lewis from the Cave Divers Association of Australia is trying to help the family find answers.(ABC Wimmera: Gillian Aeria)

But after more than 30 years without answers, special permission was granted from Victoria's Parliament for them to be buried at the local cemetery.

They were buried in an unmarked grave in 1918, but its whereabouts is unknown because the cemetery records were destroyed in a fire in the 1960s.

"We have no idea what part of the cemetery they're buried in," Mr Ryan said.

Help from an unlikely source

Without cemetery records, the family didn't know where to begin. That was until divers from Mount Gambier, who recently obtained a

ground-penetrating radar, offered to help.

"We've been using that in cave country but this is the first time we've used it for something quite different," Ian Lewis, a geologist and science officer for the Cave Divers Association of Australia, said.

He explained the radar was able to detect disturbances in the soil from excavations, including burials, which could help the family.

But not having a definitive search area within the cemetery was a challenge.

"If we had the old plans here ... then I'd feel more confident that we were above something to find," he said.

"Whether the radar can detect more subtle differences in soil because of age is what we're trying to find out."

Mr Lewis said if Maria and Louisa's skeletal remains were clustered together that would make them easier to detect.

"In other parts of the

world ground penetrating radar has been used to find shallow graves around Stonehenge in Britain and fossil remains for extinct animals ... so maybe the bones might be the things that show up," he said.

The researchers have now visited the cemetery and scanned a section of what they believe could be a burial site, but it will take some time to analyse the data.

It is not yet clear whether they will ever conclusively determine where the pair were buried.

The family must now wait for the results, hoping the researchers have found something that brings them a step closer to finding their ancestors.

"It's a tall order but we hope we can define where Maria and Louisa have been laid to rest and we can mark the area for them and for others that could be buried close by," Ms Van Vondel said.

For the family, a headstone would be the ultimate honour.



Ian Lewis says ground penetrating radars have been used to find fossils and bones.(ABC Wimmera: Gillian Aeria)

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CDAA INSTRUCTORS

NAME	Basic Cave	Cave	Adv. Cave
------	------------	------	-----------

NEW SOUTH WALES

	FEATONBY, Tim (CDAA 3327) Worring Heights, NSW Mob: 0402 129 253 E: tim.featonby@hotmail.com	Yes	Yes	Yes
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	Ryan Duchatel CDAA 4983 Mobile: 0419 268 714 E: ryan@totalimmersiondiving.com.au	Yes		
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SOUTH AUSTRALIA

	BISHOP, Damian (CDAA 4738) Mob: 0433 345 743 E: Damian.bishop@live.com.au	Yes		
---	---	-----	--	--

	PAYNE, Timothy (CDAA 2640) Mob: 0448 147 927 E: Tim@diveessentials.com	Yes	Yes	Yes
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VICTORIA

	BARCLAY, Gary (CDAA 1735) Mob: 0407 527 921 E: garinda@bigpond.com	Yes	Yes	Yes
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	BOWMAN, Jane (CDAA 1880) Mob: 0407 566 455 E: janelbowman@hotmail.com	Yes	Yes	Yes
---	---	-----	-----	-----

	CLARIDGE, Linda (CDAA 2214) Mob: 0408 052 070 E: garinda@tpgi.com.au	Yes	Yes	Yes
---	--	-----	-----	-----

	DALLA-ZUANNA, John (CDAA 236) Mob: 0407 887 060 E: jdz@paintandcustom.com.au	Yes	Yes	Yes
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NAME	Basic Cave	Cave	Adv. Cave
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VICTORIA Continued

	DALE, Steve (CDAA 3926) Mob: 0468 417 211 Email: info@extremewatersport.com.au	Yes	Yes	
---	--	-----	-----	--

	EDWARDS, Chris (CDAA 2247) Mob: 0417 116 372 Email: chrisedwards01@me.com	Yes	Yes	
---	---	-----	-----	--

	LEE, Hee Man (CDAA 5064) Mob: 0413 422 850 E: hfclee@hotmail.com		Yes	
---	--	--	-----	--

	MONACO, Rubens (CDAA 1731) Mob: 0413 429 533 E: info@idcscuba.com.au	Yes	Yes	Yes
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	WILSON, John (CDAA 4283) Mob: 0408 030 401 E: john@baycityscuba.com	Yes		
---	---	-----	--	--

WESTERN AUSTRALIA

	BICANIC, Josip (CDAA 4691) Mob: 0412 571 779 Email: joseph_b@me.com	Yes	Yes	
---	---	-----	-----	--

	PAYNTER, Geoff (CDAA 3784) Mob: 0407 445 112 E: gpaynter60@bigpond.com	Yes	Yes	Yes
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Book Review:

Breakthrough - Revealing the Secrets of Rebreather Scrubber Canisters

By: John R Clarke, PhD

If you are into rebreathers, love mathematics and reading research papers, then this is a book for you. But if you are not, this book will probably do your head in.

John Clarke brings together many years of research, both his own and that of others, to discuss the ins and outs of rebreather scrubbers. While the book dispels many myths, it proves others to be true.

The key point raised is that manufacturer recommendations are based on a limited set of parameters. But in real life there is a much wider number of factors that influence scrubber life. These factors include the scrubber and rebreather design, the water temperature, how well the scrubber was packed, the sorb used, the sorb grain size, the type of diluent used, the flow rate (how fast the person is breathing) and the diver's workload, to name just a few. These factors could extend the life of a scrubber or in the case of cold water (less than 10C) greatly reduce its life.

I, like many rebreather divers have at times, pushed my scrubber beyond the manufacturer's recommendation. My rationale was simple in that I had a temp stick so I could see sorb was active and I have a CO2 sensor to tell me when breakthrough had occurred. But the evidence in the book showed me that with so many factors influencing the scrubber life, what might work one day, may not work the next. I was playing Russian roulette.

Some of the points I took from the book were:

- Cold water greatly reduces the scrubber time. For ice diving, it is exceptionally short. Pre-breathing to warm up the scrubber before a cold water

dive might help kick off things in the air, but does not compensate for the cold water itself. As scrubbing is a chemical reaction, the colder the environment, the less scrubbing can take place.

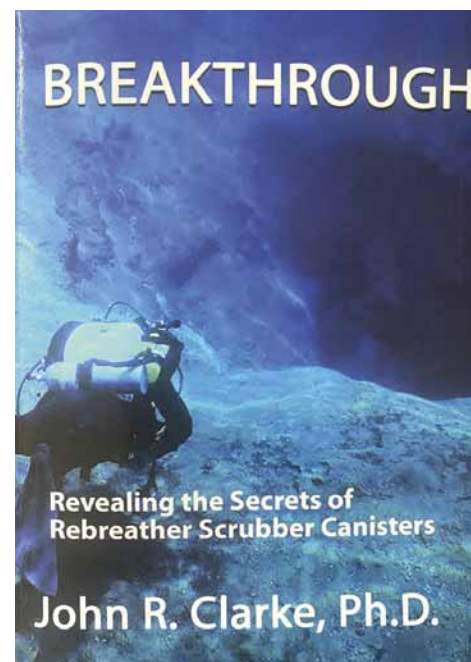
- In cold water the Sorb that sits close to the scrubber wall is likely to remain relatively inactive and not scrub the CO2 as you expect. This means that air passing through the scrubber is not evenly scrubbed, with more CO2 able to pass through the outer edges.

- As my temp stick sits in the middle of the scrubber, its only telling me that the centre of the sorb is working. I had assumed that this was true for all parts of the scrubber, but now know that in cold water, my temp stick might show lots of activity, but it does not mean breakthrough is not happening.

- The author recommends that a temp stick plus CO2 monitor as best option currently available for monitoring scrubber performance.

- Regardless of variables that affect scrubber life, it is important to understand that there is always some CO2 passing through your scrubber. For active swimming, less than 0.5% CO2 passing through your scrubber is acceptable, and for a diver at rest e.g on deco, 2% may be considered acceptable. But since there is no gauge on the market, there is no way of actually knowing what is really happening.

- Any CO2 that passes through the scrubber is circled around and added to the 4% you your body produces with each breath. What gets through the scrubber is snowball effect where divers can go from 2% to 7% or more in a short period of time. Higher CO2 leads to all sorts of issues for rebreather divers which the book did not discuss.



- While a CO2 monitor will alarm when the CO2 levels become dangerously high, letting you know it's time to get off the loop, the safer bet is not to push your time on the scrubber in the first instance. The CO2 monitor should be seen as the last line of defence and not your go to position.

And if you think you can simply tell you have elevated CO2 because it causes laboured breathing, then think again. One of the issues with higher CO2 is a dulling of the brain, so you may not even realise you have exhausted your scrubber. But what about things that can help you extend your scrubber life?

- The longer your exhaled air sits in the scrubber, the more chance it has to be absorbed. So, if you are fit, the slower you will breathe and the more time it takes for the air to pass through the scrubber. More contact time means more CO2 can be absorbed.

- Compared with single bag rebreathers, double bag rebreathers help in slowing down the gas passing through the scrubber.

- Smaller sorb granules allow you to pack more material in the canister, thereby increasing the amount of CO2 that can be absorbed.

While the book can be heavy reading, there is lots and lots of graphs which help you gloss over some of the maths, lots of tit bits of information and an extensive reference section that could keep you reading for years if so inclined.

John Vanderleest
CDAA 1965



Matt Gebert – Licensed electrician, cave diver and maker of things.

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Matt is a fellow CDAA Member!

JF-761 Delta Variant and JF-237 Niggly Cave Updates

By Stephen Fordyce (Photos by Stephen Fordyce unless otherwise credited)

Many in the Australian caving fraternity would be aware of JF-237 Niggly Cave which held the mantle of Australia's deepest cave for several decades, of JF-36 Growling Swallet which was connected to Niggly Cave in 2019 (see Caves Australia 209, p5), and of JF-761 Delta Variant which was also connected into the system in July 2022 (see Caves Australia 221, p5). Each subsequent connection increased the Australian depth record slightly – to a point where we now reckon it to be just over 400m (a final determination is pending some more exploration).

I've recently come back from an extended summer trip to the Junee Florentine in Tasmania's southwest (where these caves are), and a total of 10 days (and 7 nights) were spent in the Niggly/Delta part of the system. With some interesting developments at base level, this seems like a good time for a meaningful update. Plenty of good stuff happened in Delta Variant over the second half of 2022 as well (after the big connection). Excruciatingly detailed reports for each trip are published in the Speleo Spiel, this is meant to be a summary of the interesting stuff.

As such, I'm going to chicken out of trying to name everyone that's been involved. Suffice to say it's been a spectacular (and spectacularly fun)

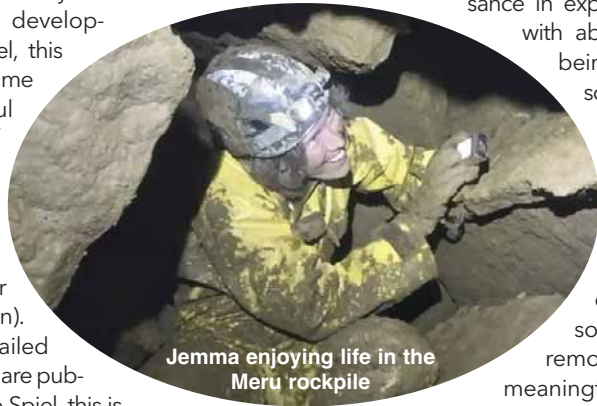
effort by the Southern Tasmanian Caverneers (STC) and associates.

I'd better lay out the de-facto nomenclature which has emerged:

- A "Niggly trip" involves doing things in the large horizontal stream cave at base level, even if accessed via Delta Variant
- A "Delta Variant trip" is focussed on the high level horizontal and vertical passages accessed via either the JF-761 Delta Variant original entrance (now de-rigged), or the alternate entrance JF-758 Negative RAT Hole
- Both caves are also part of the JF-36 Growling Swallet system, and since that's the lowest number, technically it encompasses everything.

Recap

Niggly Cave can be loosely described as a cave with two sections – 350m vertically down, and then a lot of horizontal cave at the bottom, including 2km of big "master cave" streamway passage. Niggly base level enjoyed a renaissance in exploration from 2016, with about 5km of survey being added to date, some of it in very nice cave indeed (but much of it bloody awful). The project has continued through a few different iterations of objective and personnel but it's hard remote caving and for meaningful exploration to take place, underground camping (typically 4 days/3 nights) has been required. The impacts on the cave have been carefully considered and minimised – we carry out our poop and camp below the flood line.



Jemma enjoying life in the Meru rockpile

In early 2022 a big swallet was discovered just above the Niggly entrance and named Delta Variant – it featured a cringeworthy series of COVID-related names for pitches and features. At the end of July 2022, it was connected into the mystery waterfall in Niggly by a big team (with much media fanfare) and the inaugural through trip also de-rigged the novelty-worn-off Niggly entrance.

The 2 recent camping trips to base level brought the total awfully close to 20, not counting all the daytrips.

A New Entrance – JF-758 Negative RAT Hole

Delta Variant was found to have a surprisingly extensive network of high level passages – most caves in this area are pretty adamant about going down very quickly. When the survey data was compared with high resolution LIDAR data for the area, one survey station was so close to the surface that it was apparently 3m ABOVE the surface – earning it the name "Negative Dig", with all sorts of hilarity around that. Some tweaks to the data shifted that to 1.5m below the surface, but with

potential survey error from 600m of nasty caving, it still wasn't a sure thing.

Some surface surveying also shifted the 40m deep JF-449 Perfect Pitch Pot (which incidentally was featured on the cover of Caves Australia 181 in 2010) to a position which was ripe for connection into the system. Alas, a few winter trips wallowing in sloppy filth in Perfect Pitch Pot, and a tight rifty aid climb up the Phosphorescent Phlegm Pitch in Delta Variant were unsuccessful in making it happen (although a sound connection was later noted).

Eventually the stars aligned for an all-in assault on Negative Dig, and a radiolocation kit (originally built by Peter Robertson) was borrowed from the Victorian Speleological Association (VSA). Comms between surface and cave were quickly established via cheapo UHF radios, which was interesting because it's not meant to go through rock. The signal bounced (or whatever) a surprisingly long way along the tunnel as well, perhaps 25m. This actually made it a bit useless for fine-tuning of location, but great for general comms. The underground party could also hear thumps



Just one of many Niggly/Delta Variant teams



A good way to tackle Daily Cases is to just grin and bear it

and scrapes from above, but it was hard to tell exactly where from.

The radiolocation kit was set up and worked well, the surface party locating a spot on the surface definitive to within half a meter. This eventually turned out to be about 1m away horizontally from the underground station, and about 10m above it. It took a LOT of effort by a lot of people over several long sessions, but thanks primarily to the tenacity of Petr Smejkal, eventually human traffic was possible. Several more long sessions made it slightly more comfortable for humans, and it was duly tagged JF-758 and named Negative RAT Hole.

Negative RAT Hole is now the preferred entrance, as apart from the squeeze entrance pitch, it's possible to walk most of the way to the top of Daily Cases with a large bag on your back in about 20 minutes. The sodding Test Station



Camping underground isn't so bad

Queue meander (and 50m Quarantine pitch) have thus been consigned to the annals of history.

Airy Traverse and Parallel Pitch Series

Those who stuck around until the end of my ASF Zoom presentation late last year might remember some theorising about a traverse over the top of the 163m "Daily Cases" pitch. Well it took several leisurely trips but the hair-raising Vaccine Strollout rift was traversed, and the final section aided by Henry Garratt's youthful enthusiasm and brute force across a pit 160m deep (it's now one hell of a scary tyrolean traverse). Ken Behrens Corridor was gained, and excitingly, it was on the same hard layer of bedding plane as previous development, with a solid floor, and continued along horizontally, a small stream joining from the side.

The big excitement here is that the Black Supergiant pitch (184m) in Niggly is not far away and has an aven above it - the true top (and ultimate length) of Australia's longest pitch is unknown. Perhaps water originally followed that hard bedding plane to the actual top of the Black Supergiant, if so this would make the total pitch length about 250m. Wow. Ken Behrens Corridor has got to within about 30m horizontally, but then had other ideas and is dropping down another pitch series. Currently it's only a 10m pitch plus another 30m or so, and still well above the current Black Supergiant pitch-head. Mysteries may be solved or compounded, there is a fair bit left to do here (including possibly more traverses above pitches).

Rigging Bonanza in Delta Variant

With Delta Variant now providing the new route to the Niggly master cave, con-



The drill wasn't just used for aid climbing



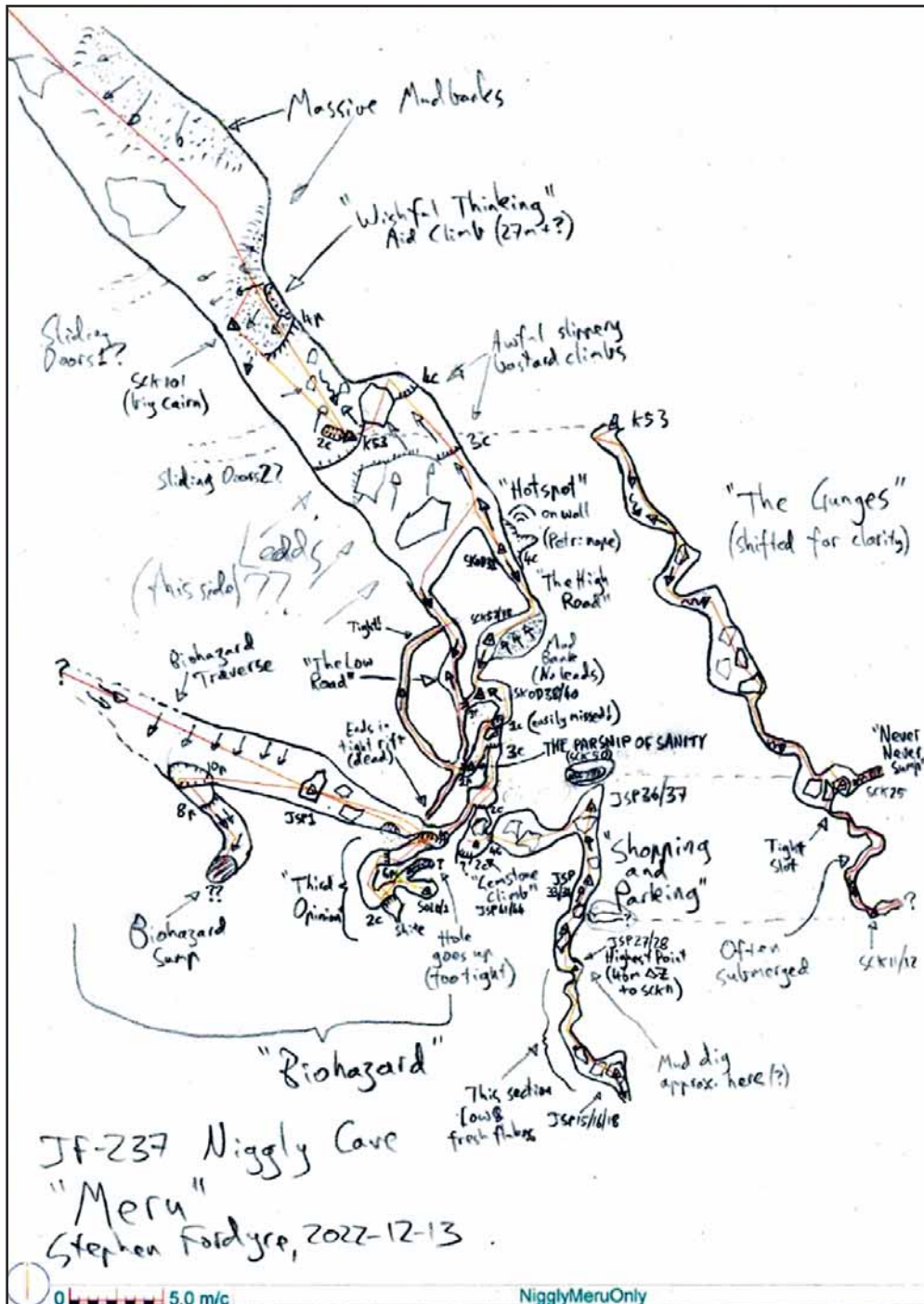
The Niggly/Delta Variant connection team

siderable effort was put into really optimising the rigging (which will likely be there for several years). This was no trivial exercise as there are approximately 400m of rope and 50x concrete screw anchors! The 163m "Daily Cases" pitch has 8 rebelay with considerable swing (rub potential) but this was finally pronounced nice. The canyon-like section afterwards ("Close Contact") had a number of climbs converted to pitches, and a nice assortment of safety/access lines added in anticipation of heavy bags and tired cavers. The final waterfall pitch into Niggly also saw some adjustments to make it a lot more user-friendly than the hasty rig on the connection trip.

The Magic Beanstalk is a water-powered counterbalance system to pull bags up 150m of Daily Cases and perhaps in the distant future assist cavers - it is rigged separately to the personnel rigging but close enough to make for some amusing spiderweb moments. Several attempts to commission the Magic Beanstalk led to spectacular tangles (even with the successful use of 2-way radios) and the regrettable scenario of having to climb 150m twice in a row.

With better spreading of load/counterweight at top and bottom, and some upgrades to better pulleys and solid water containers, the system seems a bit more workable - but we had been burned too many times to actually try it on the last ascent. It may yet become the stuff of caving legend, but the Magic Beanstalk is currently best described as a work in progress.

In the course of this fandangling a toaster-sized rock was dislodged near the top of the pitch, and the first successful communication over 150m of echoing waterfall pitch was fortuitous (and life-saving). My single call of "Rock" was clear



Interim map of Meru as of 2022-12

enough for Henry to understand and run away from the drop zone, receiving only a spray of shrapnel in the back of his legs. A sobering reminder of the importance of simple and clear calls, and immediate reaction (and of avoiding dropping rocks in the first place!).

Meru - the impossible rockpile

The big stream running through Niggly carries water from both Growling Swallet and Porcupine Pot, and it creates some spectacularly big and open passage which is a joy to walk along (or jog, if you like). It disappears under a huge and complex rockpile and isn't seen again until it comes out of the Junee Cave resurgence, 5km away (and it takes less than 24 hours in winter). So there is a very big prize waiting there if you can get past the rockpile, which was recently named "Meru" - if you haven't, watch the documentary, it's pretty inspiring.

This rockpile was cursorily checked by everyone who went there over the years, but it didn't get a whole lot of attention until we finished off Atlantis and shifted focus in 2020. Since then, the main goal of the project (and the last 6 camping trips) has been to systematically explore, survey and map this rockpile, in the

hope of finding a way past. The survey data had a major tidy-up and a draft map was made before the efforts of January 2023, this helped a lot in getting our heads around a jumbled mess of mud, rockpile and horror. Just as importantly, it means that anyone picking up this project later will have the benefit of all the groundwork (pun intended).

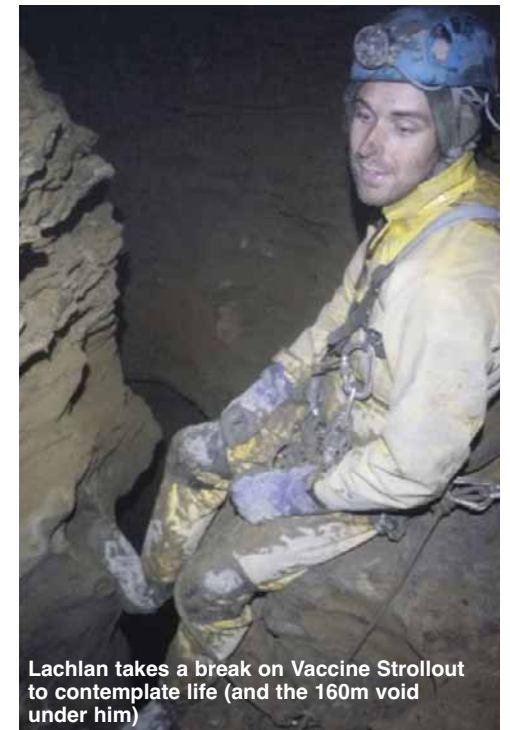
With most of the passages visited, surveyed, and examined in relation to each other, the recent trips were intended to push some of them a bit harder. To that end, we went to great efforts to dive the Biohazard Sump, and to aid our way up the Gemstone Climb. There was also a lead from the 1990s that still needed to be relocated and surveyed (Sliding Doors), and some other areas to check.

Sliding Doors and Butterfly Effect

We did a (long overdue) thorough sweep of the south wall of the whole section between the Tennis Court and Meru rockpiles, which proved illuminating. The way through this large mostly streamless section of base level master cave is



Radiolocating! (photo by Djuke Veldhuis)



Lachlan takes a break on Vaccine Strollout to contemplate life (and the 160m void under him)

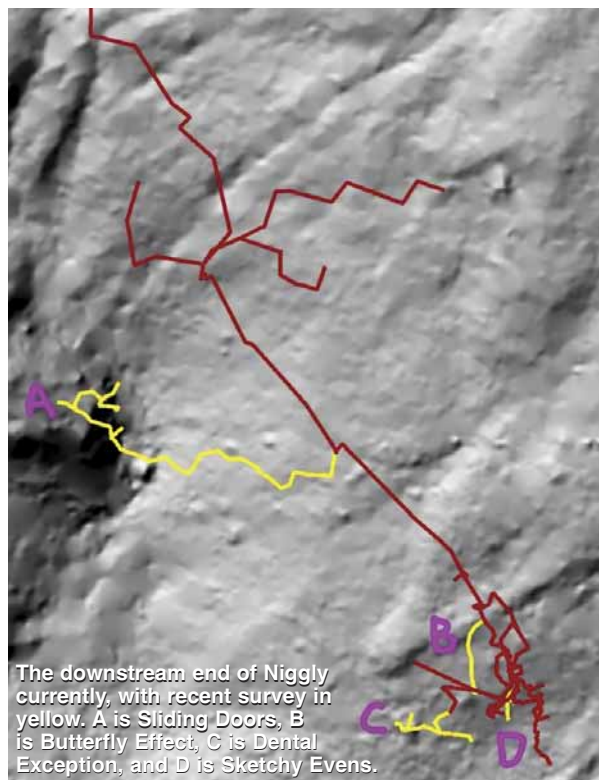
through and around large boulders and mud-banks, and the south wall in particular is often obscured. In 1993, Rolan Eberhard and Jeff Butt found a passage (but didn't survey it) leading away from the master cave along here. Our

recent dye tracing and survey results had suggested a decent sized stream running south of the master cave, and perhaps there would be a way into it.

We found 3 leads heading away from the master cave, all at the base of the passage in rockfall. "Butterfly Effect" is a 50m passage with clean washed cobble floor (ala flood overflow!) going underneath Biohazard and ending with upwards muddy rockpile, or onwards clean washed rockpile. Loose but scary.

The second lead that was found, we couldn't relocate, despite several attempts! But right where expected was the one discovered in 1993, at base level behind some big rocks. We headed on in, through a surprisingly tight but squishy diagonal mud squeeze. There followed a surprising amount of spacious, mostly walking passage (230m of survey in total). We had increasingly high hopes for this well-documented but much-neglected lead - and it was named "Sliding Doors" for the movie of the same name where a small decision leads to two vastly diverging life paths.

Obviously formed by a stream, it is an enlarged meander, in some places up to 8m high, but with solid flat ceil-



ing visible. Other places are only 1m high. There looked to be a few upper level bypasses but nothing worth climbing up to. The floor and walls are noticeably muddy, without recent signs of flowing water, and the survey shows this passage converging with the master cave. So it's quite conceivable the stream it once carried runs parallel with the master cave for longer and converges later - that possibility is quite exciting, as it might bypass the Meru rockpile (as theorised by Jeff and Rolan too).

Towards the end, a mud slope joined the passage from the right, but it was going upwards and died at an aven. Back at base level,

the horizontal passage continued onward, but in a muddy horizontal slot which narrowed quickly to become impassable. But from this otherwise unexciting hole came the sound of a goodly stream - which was given the suitably mythical name of "River of Babylon". The slot was worked on for 3 hard hours on new years day and thus named "Auld Lang Slime". It's... inconclusive.

Diving the Biohazard Sump, reaching Dental Exception

This sump is a static pool (no stream) the size of a bathtub accessed by untold misery climbing up inside the Meru rockpile, only to reach a 15m pitch going back down to base level. It's

interesting though because it's at the bottom of Biohazard, an actual chamber with solid rock walls which seems to be parallel (and converging with) the master cave and Meru rockpile. I was the diver, and used a much-reduced kit (7mm wetsuit, 3L steel tanks, and not a whole lot else) - the complete kit fit in 2 very heavy caving bags.

A strong team for the new year trip was a good excuse to get it done, but the universe had other ideas and one of

the tanks emptied on the way down (the brass DIN plug came loose AND the valve was knocked open). Plan B was for a bantam-weight 4 person team to get it done, but with a few pull-outs, Plan C saw a 2 person effort (but with a bounce daytrip by others to help get the gear out). An entire 3-day camping trip was dedicated to the dive, only the dive, and nothing but the dive, but it got done. It was a spectacul-



lar effort of will by everyone involved – special mention to Ciara Smart for being the lynchpin.

It was... interesting – the dive itself was only 7m long and 1.5m deep, but led to another static pool, and no sign of the expected stream. Some mud-choked (but free of rockfall) passage ran parallel to Biohazard, and a strange loose sand slope leading to a big aven with a possible

horizontal passage gave hints of strange things happening in flood. So while the aid climb is a red hot lead, it's behind a sump at the very end of the rockpile, and best described as desperation squared. We have some other leads which might just get us there a different way – worth trying first anyway.

Aiding the Gemstone Climb, reaching Sketchy Evens

Way up in the Meru rockpile was a chimney about 6m high. We had some gear issues and lost a lot of mojo, but eventually the beta was eaten and the stoke was sent up the unpleasant climb, and the static rope secured to dubious anchors with many rubs. To be fixed next time.

From the pitch head, there was a tight wriggle sideways into a room and some upward slimy chimneys easily free-climbed, leading to a larger horizontal section which looked very like the nearby Shopping and Parking section. It's less muddy and/or fresh black flakey rock, and this actually turned out to be a new high point in the rockpile, some 50m above stream level. To the south it crapped out, but it also curved around to the north-east, where we wriggled between fallen blocks and sloping ceiling to a constriction point too tight (just) to get through. Beyond it looked quite a bit bigger, but it would need modern digging techniques to get through. The survey indicates this may actually be separate to Shopping and Parking, but that might be worth another poke too. A piece of tape (blank) on a cairn was left where it would be obvious from the other side.

General Silliness

The caving in Niggly and Delta Variant is hard, wet, cold and muddy, and caving with only a moderate bag is a rare luxury. Fun was had of course, but it never hurts to have a bit of silliness to take our minds off the misery at hand, especially when that was what we had to look forward to in the morning. So beyond the usual sorts of caving shenanigans, we enjoyed:

- Theme songs. To be played, sung and bastardised at every opportunity. Catchy, positive, ear-wormy, topical, a bit annoying is good too. The new year theme song was "Caveman Dave", an apt kids song by Big Block Singson, and the later trip theme song was "Don't Worry Be Happy" sung by Bob Marley.

- Fortune cookies. A useful way to forecast the days events. However can backfire "You will express your anger towards men" was unfortunately prophetic.
- Party banner. It was new years eve after all (and we partied hard until 9pm)
- Excellent and copious food. Including a range of desserts including chocolate mousse, crème brulee, unicorns and rainbows.

Growing Swallet Rigging Updates

I'm going to sneak this in too. Veterans of classic southern Tassie trips would likely have done Slaughterhouse Pot and/or Ice Tube through trips, requiring the traversing of some ancient and terrifying ladders dating back to the '90s. The Ice Tube ones have been removed and replaced with standard SRT ropes, and the Windy Rift ones are up next. Huzzah!



The rigging anchors are almost all concrete screws, for minimal impact



The Biohazard Sump (home side pool)



Finally out, after the fortune cookie had run its course

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EMERGENCY PLANNING INFORMATION

TIPS FOR EFFECTIVE EMERGENCY MANAGEMENT

- Always inform someone (who is not part of your dive team) of your dive plan
- Be prepared, and ensure you can provide critical information (such as your location) to emergency services when required
- Always plan your dive and dive your plan!
- Be trained to administer First Aid and CPR. It's better to have it and not need it, than need it and not know what to do!

ACCIDENT/INCIDENT RESPONSE:

In the event of an incident or accident, CDAA members are to:

1. Assist the person or persons injured.
2. Contact emergency services (if needed) and provide clear and accurate information:
 - a. **WHAT** is the emergency?
 - b. **WHERE** is the emergency? Provide relevant information – street address, GPS coordinates, nearby landmarks.
 - c. **HOW** do emergency services access the site? If possible, direct another member to meet emergency services at the road or a nearby intersection and direct them towards the emergency
 - d. Provide the **NAME** of the injured person/s.
 - e. Provide **YOUR NAME** and contact details.
3. While you are waiting for emergency services record as much relevant information as possible, including times, names and contact details and events leading to incident.
4. Contact the CDAA National Director and/or the CDAA Site Director as soon as possible

MISSING/OVERDUE DIVER:

In the event that a diver has not returned to the surface by the expected time, it is important that members act quickly as time is of the essence. As a guide, if a diver is 15 MINUTES or more over their expected run-time, members are advised to;

1. Contact the CDAA Search & Recovery (SAR) Officer. In the event that the SAR Officer cannot be contacted, call the National Director, or Site Director. Follow the directions provided by the SAR Officer or relevant Director.
2. Provide as much information as you can – names of the missing divers, summary of the dive plan, time the divers entered the water, equipment configuration used, expected run time, time overdue.
3. Establish an appropriate course of action. Consideration should be given to the dive plan, extent of penetration and gas reserves of the missing/overdue divers. Are there any other divers on site (or nearby) who may be able to assist with an emergency search. **Note: a search should ONLY be considered if divers available are suitably experienced, equipped, and have sufficient (additional) gas to undertake a search and provide assistance.**
4. If no other divers are available to conduct a search or the missing/overdue divers are not located and have not otherwise returned within the timeframe decided, enact the **ACCIDENT/INCIDENT RESPONSE** procedures listed above.

DECEASED DIVER:

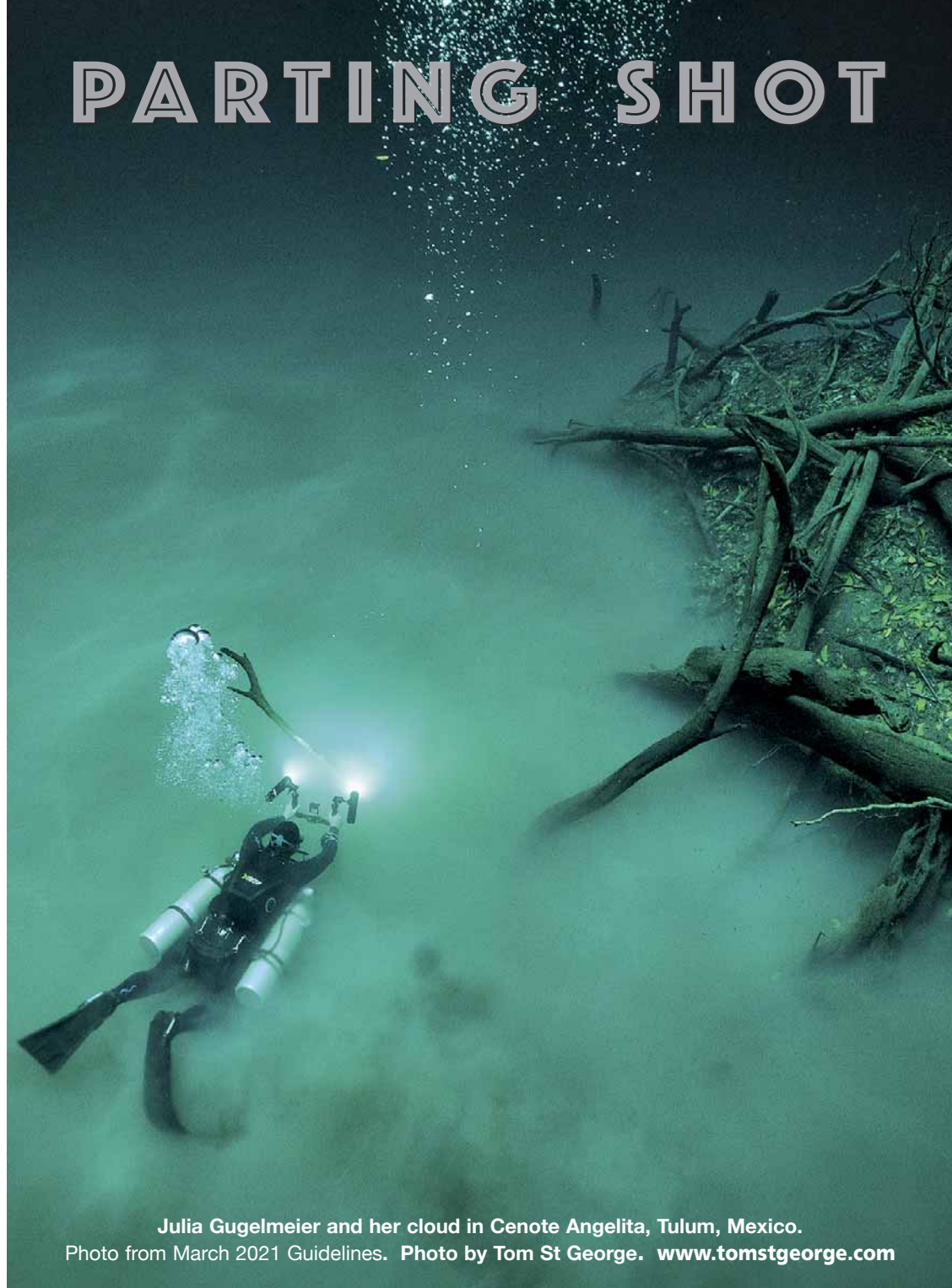
1. If a diver is found to be deceased within the cave, do not disturb the scene. If possible, try to note down pertinent information - location, position, remaining gas, computer runtime, then return to the surface as soon as possible.
2. Contact the CDAA National Director and the CDAA Search & Recovery (SAR) Officer immediately. The SAR Officer will liaise with the relevant authorities as required.

NOTE: Members are advised not to make any statements regarding incidents or accidents to members of the public, to landowners, to the media, or via any other platform/media. Please direct all associated enquiries to the National Director for comment.

EMERGENCY CONTACT DETAILS

Police, Ambulance, Fire	000 or 112 (mobile)	CDAA National Director – Grant Pearce	0438 833 103
State Emergency Services	132 500	CDAA Site Director – Kelynn Ball	0428 842 259
Mt Gambier Hospital	8721 1200	CDAA SAR Officer – Richard Harris	0417 177 830

PARTING SHOT



Julia Gugelmeier and her cloud in Cenote Angelita, Tulum, Mexico.
Photo from March 2021 Guidelines. Photo by Tom St George. www.tomstgeorge.com