CEGSA NEWS

Newsletter of the Cave Exploration Group (South Australia) Inc.

Volume 63 Number 2 Issue 250 MAY 2018

PULLED TO SAFETY: Emergency services personnel carry the teenager from underground at the Naracoorte Caves. The boy was stuck in a cave for more than six hours. Pictures: GRAEME MELLOR PHOTOGRAPHY

RESCUE EFFORT: A teenager is placed on a stretcher after being rescued from underground at the Naracoorte Caves.

See article on P52

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CAVE EXPLORATION GROUP (SOUTH AUSTRALIA) Inc.

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Meetings held on the fourth Wednesday of each month, except December, at 7.30 PM usually in the Royal Society of South Australia meeting room, Natural Science Building, South Australian Museum.

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Cover Photographs: Cave rescue at Naracoorte.(see article p52)
Photos By: Graeme Mellor Photography.

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QUARTERMASTERS NOTE.

High usage equipment will now be stored at the quartermaster's residence. Please make arrangements with the QM well in advance of required date for equipment. The QM can be contacted at the telephone numbers on the previous page.

NEWSLETTER MATERIAL

The deadline for copy or background material for Volume 63 Number 3 (Issue 251) must reach the Editor by Wednesday **8th AUGUST 2018**. Material not meeting this deadline may be retained for possible use in a following issue. The preferred method is via E-MAIL to atholjax@adam.com.au as an attachment or on a memory stick or CD, in Word *.doc(x) or *.rtf files. Of course other forms of communication will still be gratefully accepted. Photographs are preferred to be in colour as separate files and note in the article where to be inserted. (*.jpg format under 500Kb unless for the cover).
The views expressed in this publication are those of individual authors and not necessarily those of the Cave Exploration Group (South Australia) Inc., its Committee or the Editor.

PRESIDENTS SPOT

This issue's 'Prez Spot' has a different theme – a tribute to one of Australia's most prominent and active speleologists, John Dunkley AM. John was a great friend to many of us and a diligent documenter and writer of caving issues. Some of his work has been very influential in our understanding and conservation of Australia's caves, in particular at Jenolan where he was for many years also heavily involved with the Jenolan Caves Historical Society. He was one of the pioneers in the 1960's and 70's of travelling and exploring caves in South East Asia, particularly Thailand. After a recent trip there, he contracted an illness which developed very seriously and very quickly. When faced with the option of lengthy or permanent hospitalization and medication, John said 'no thanks folks' and chose to let nature take its course, knowing the consequences. This was typical of his positive and active attitude to life. John died a short while later, earlier this year, and his wife Jeanette invited speleos from all over the country to his wake with this message to all ASF members -

Hello ASF club contacts - A message from Jeanette Dunkley

John died peacefully this afternoon.

Yesterday he had a number of visitors and enjoyed reminiscing about 1965 Nullarbor trip and various other exploits. This morning he was awake briefly and said he had had a good night's sleep but needed to go back to sleep. He went back to sleep and didn't wake up again. I was there with two other cavers when he simply stopped breathing. He was not in any distress, and would have been very pleased to avoid a prolonged period of sleep or unconsciousness.

John and I would greatly appreciate donations to the ASF Karst Environment Fund in lieu of flowers. John was very pleased that the Karst Environment Fund had been able to achieve so much, and would be very pleased to know that he had been instrumental in assisting future projects - http://www.caves.org.au/conservation/karst-conservation-fund/donating-to-the-fund

John was amazed and thrilled by the number of emails and cards that he received and the details of things that people remembered. He was surprised that he had affected so many people. Special thanks to everyone who sent an email or card or came to visit, despite him saying initially that he didn't want visitors.

He was so grateful for the whole caving community, as I am. What wonderful friends!

Jeanette

Included in this issue of CEGSA NEWS is the memorial leaflet made available at the wake. A great many cavers from all over Australia attended including our George and June MacLucas and possibly one or two others representing CEGSA. Jeanette Dunkley held another small gathering last week in Canberra for those cavers who couldn't get to the big first one. That included me as I was on the Nullarbor at the time. Clare and Heiko were there from FUSSI too and we had a lovely warm discussion with her and the others for the afternoon. At each event, Jeanette displayed the caving books that John had written, other photo albums of a time when we all had hair of natural color (not white, or gone!) and his AM medal and citation for services to Australian speleology and karst.

John's greatest contribution to CEGSA was his joint authorship of 'Caves of the Nullarbor', the red-and-black book which he co-authored with CEGSA's own Tom Wigley, and a book which we still use 50 years later – including on our last month's Scout Caving Group expedition! Both John and Tom were in attendance together three years ago at a special 'Nullarbor' conference day in Melbourne which was organised by VSA's Sue White so we were all able on the day to commemorate that book and congratulate the authors, together again after many decades.

I lived in a small flat under John and Jeanette's house in Canberra for 6 months while I did some study there in the late 70's. Jeanette was surely one of the most tolerant caving wives in the country with two fanatic speleos in the house talking caving all the time and playing Goon Shows regularly! John had contacted me by letter just after I ran the first Nullarbor Cave Diving Expedition in 1972 and he encouraged me to write about it for the ASF Newsletter, and to come to NIBICON (the 9th ASF Conference) and give a talk on it there. That was the first ASF conference I had been to and I met the

eminent karst scientist Professor Joe Jennings and others there, commencing an enlightened caving career with interstate contacts which has worked excellently ever since.

That was also the conference after which I discovered the 'Twiddly-Om-Pom' extension in Mammoth Cave at Jenolan and named it after Grant Gartrell's renowned quote in a CEGSA Newsletter article. ("South Australian caves go ***along along along along*** while Eastern States caves go ***down up along down up along down up along twiddly om pom***!"). Had John Dunkley not contacted me and encouraged me, I may not have looked eastwards over the border at all! That later led to me discovering a smokers pipe in a chamber at Jenolan that could only be reached by cave diving. It turned out to be the pipe of Senior Guide John Culley who had dropped it while exploring an upper chamber 30 years before. The discovery linked historical passage with the Imperial River Streamway and John Dunkley was especially excited as it added an excellent story to Jenolan Caves history.

John's initial contact with me brought South Australian cavers and cave divers across to the Eastern States on a regular basis ever since. It was his nature to link people and make constructive connections. It was a privilege to know and work with him and we carry his Nullarbor legacy forward with our current discoveries there, in the cliffs, in the dry caves and under the cave lakes.

Grant Gartrell recalls -

My most vivid memory of John was sharing a week with him at Camp 1 in Mullamullang on the 1965-66 expedition. It was my job to wake up the entire underground "village" each morning, and to assist with this process I had carried underground a small portable red and white plastic record player, and due to weight limitations only two or three special LP records (round vinyl discs with grooves that rotated at 33 and 1/3 r.p.m. for the younger generations). In the morning I first lit a Tilley Lamp, then switched on the record player. After the gentle tones of Grieg's "Morning Song", I then danced around the Tilley Lamp, to the sound of "In the Hall of the Mountain King," also from Grieg's Peer Gynt Suite, casting 70 foot high shadows on the walls. Not quite as magical as a Nullarbor sunrise, but a fair enough substitute under the circumstances.

Later in the day, generally in the early evening, because the TV reception was non-existent down there, I cracked out the record player once more, and played one side of another LP record, which consisted of a half hour episode of the Goon Show. The next day (and each day thereafter) started again with Peer Gynt, but for variation I turned the Goon Show record over so we could hear the episode on the other side. After three or four days it became evident that the Goon Show record only had two sides, especially after John Dunkley pointed that fact out to everyone and said that if I played the record again he would break it over my head. Nice guy and all that, but a bit short on the cultural appreciation! As I recall, democracy and moderation prevailed, and we may have heard an episode repeated one more time by popular request. We finally broke camp, but not the record, and in solidarity with John, I don't think I've ever listened to either of those episodes of the Goon Show again to this day.

Vale John. Thanks for the memories. We'll miss you.

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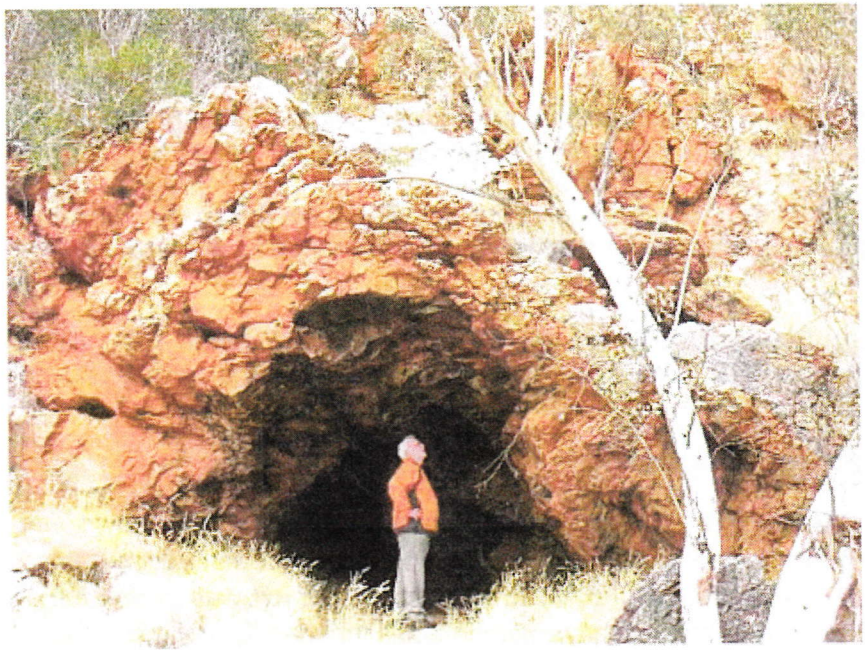
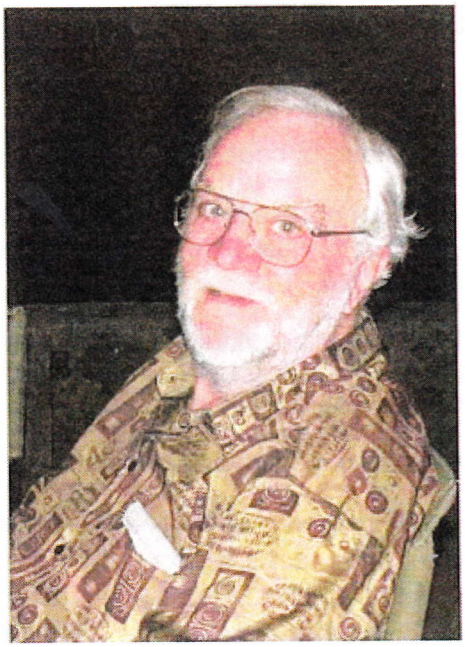




John Robert Dunkley AM

John loved, and knew a lot about,

Caves

Travel

Books (both reading and writing)

Maps

Classical Music

Thai shirts

Orange Kathmandu jacket

Trains

Stuffed toys

The Mystery of the Reversed Car

I went to lunch with a work friend one day, parked my car in the car park of a gallery. When we came out after lunch, I saw immediately that my car was facing the opposite direction to the way I had parked it. I checked the number plate, yes, definitely my car. My friend said this can't be your car, you parked facing the other way. We were both mystified. Then I unlocked the car and there was a piece of paper on the steering wheel. It said "GOTCHA". John had seen my car and turned it around.

Stuffed toys

In 1981, John and I went to the IUS Congress in Bowling Green, Kentucky. After the Congress, we sent a bag of books by bus to my sister's place near Denver. The bag weighed 75 lb (~34 Kg).

Then John travelled around while I went to an IT conference in Europe. When he visited Walt Disney World in Florida, he bought a large green toy frog for our nephew in Denver who was a couple of months old.

Then the airline pilots decided to boycott Denver airport and John could not get to Denver. The airline brought the suitcase of books to Los Angeles to rejoin John, but he still had the large green frog and had to bring it back to Australia with him.

He grew quite attached to the frog as time went by, and decided not to part with it.

In 1993, we went to the IUS Congress in Beijing. On one of the field trips we visited a lovely little town and wandering along a street of tourist shops beside a waterway, John spied a large stuffed toy panda and fell in love with it. He purchased it and brought it back to the minibus which was chock full of cavers and gear. I think this was in Lijiang, but someone who remembers this trip may correct me.

John went on to enjoy collecting stuffed toys, usually when they were on special. The lovely fish came from the National Museum, reduced after a particular exhibition had finished.

Thai shirts

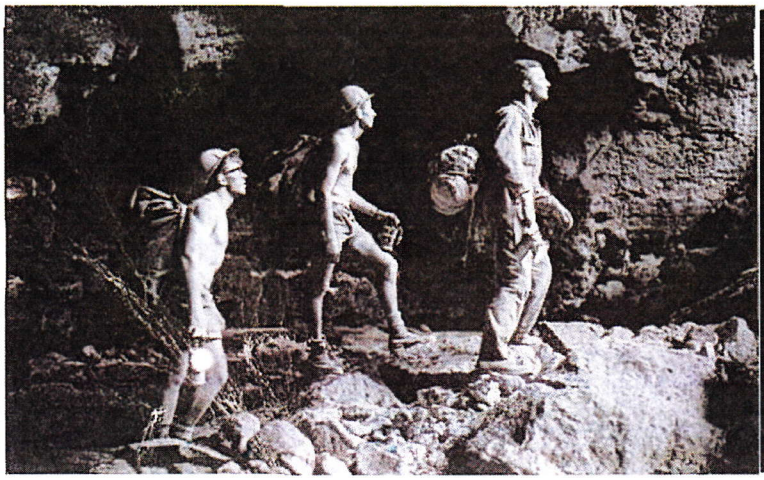
On one of John's early trips to Thailand, he purchased some shirts at a street stall in Bangkok. The shirts are labelled Thai silk. He found them very comfortable to wear, and they washed and dried very easily, and didn't have to be ironed. No idea if they are really made of Thai silk as they are amazingly tough. I don't think he has ever thrown one away, some have faded, none have frayed, they are quite happy to be washed on a cotton cycle in the washing machine.

On subsequent trips he found that the shirts were still on sale. The stalls were on Sukhumvit Road, with the only licensed venders having to be disabled, with most being deaf and dumb. He was pleased to continue purchasing shirts from them. On his last trip in 2017, the stalls were no longer there, but he managed to find somewhere else that sold the shirts.
John has worn these shirts all over the world, except where the weather was too cold, and then he wore his

Orange Kathmandu Jacket

John saw an orange jacket on sale at a Kathmandu store many years ago and bought it. He has really had his money's worth out of it.

Jeanette Dunkley



TRIP REPORTS

March 2nd 2018 Corra Lynn Cave

Attendees: Graham Pilkington, Michael Woodward, Matt Warne, Damien Pilkington, Steve Wasilewski, Mark Sellers and 13 students from Mercedes College.

Unfortunately once again time underground for the students from Mercedes College was limited, this time due to the traffic issues associated with many stretches of road widening along the road from Port Wakefield to Ardrossan. We arrived just after 9am and were underground by 10am. It's surprising how long it takes to get the students ready and in the cave.

I had a team of 4 students and Mark so we journeyed first to *Southern Cross* and then *Dicks Extension*. The purpose of this first section was to give the students different types of caving experience - tight squeezes but not too tight; some small climbs; and the experience of chimney climbing through fissures. We talked about cave safety and some of the history of the cave. I also allowed the students to choose some of the passages we went down. Many times ending in digs some of which I don't recall having visited before.

I also wanted the students to experience different techniques so even though the passage was easy to navigate head first, I asked them to go feet first so they could understand and experience the difference. I did make the mistake of putting my glasses down and forgetting to retrieve them. It took the students nearly an hour to get to the spot where I left my glasses but on my own it took 10 mins.

Following this we went into the *Crystal Ch*amber and *Crystal Maze* where I let the students explore. I followed a couple of the more adventurous ones and ended up in a part of the maze I hadn't visited since my first trip into the *Crystal Maze* which was good. I just wish we had had more time rather than having to be go go go because of time restraints.

I was happy with the group I took. They were inquisitive and helped each other a lot and at least I feel like I have been caving.

The doline to the cave has recently had sheep grazing in and around it. They cleared out most if not all of the vegetation planted there over the years to stabilize the soil around the entrance. The area really looked like a bomb site and will require extra work to stop the loose materials washing down in the next rain event.

Damien Pilkington

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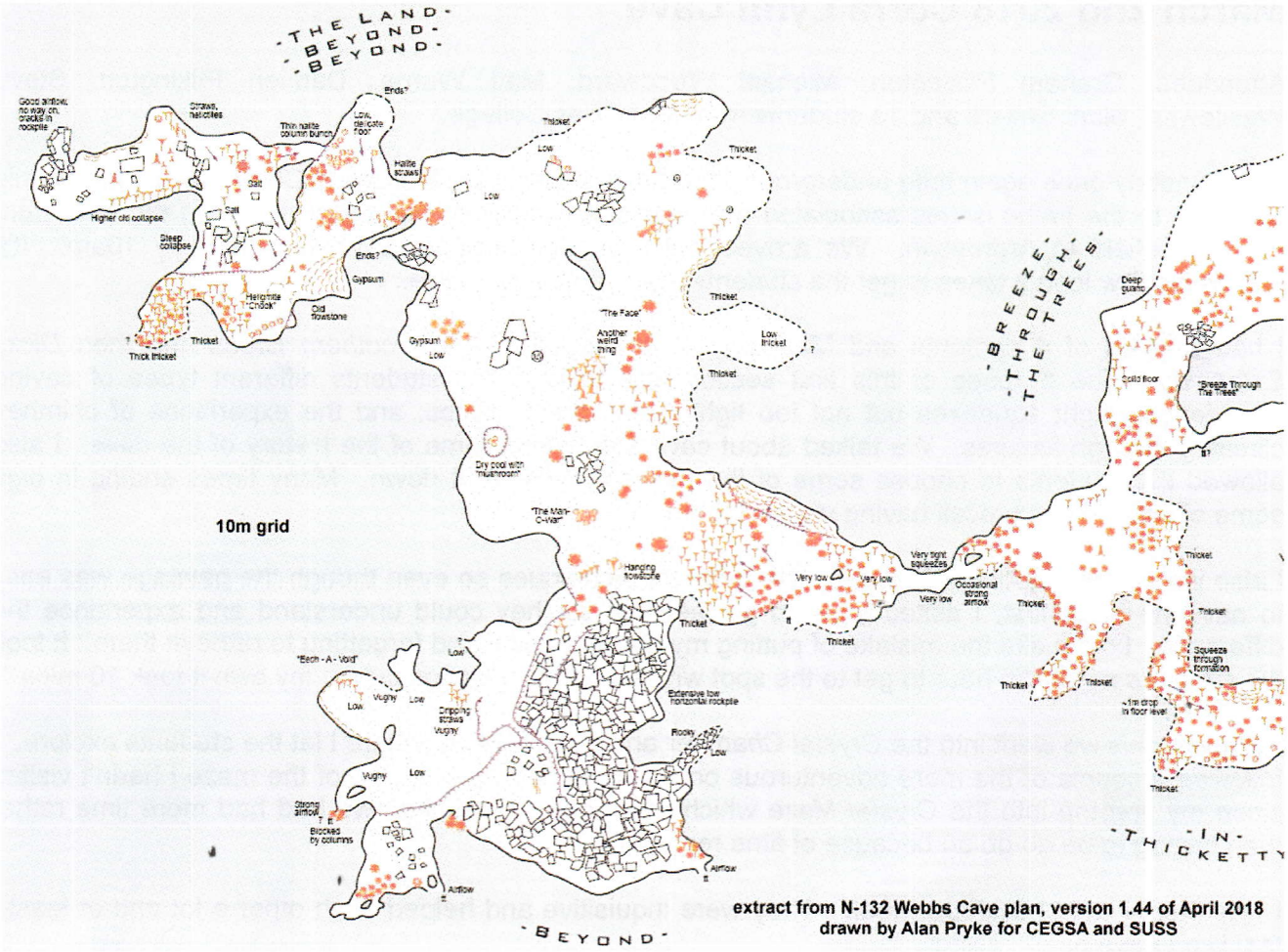
Nullarbor, 11-29 March 2018

Participants: CEGSA: Graham Pilkington
SUSS: Alan and Megan Pryke, Max Midlen.
VSA: Peter Freeman

The SUSS party met up with me at our usual campsite west of Nullarbor Roadhouse. Peter arrived on the 13th at our Webbs Cave campsite.

I had obtained a caving permit for both Webbs and Thampanna Caves for a week but we intended to spend most of our nearly 3 weeks at Old Homestead Cave hence lost no time after setting up camp at Webbs in testing out Max's micro-capping skills at the southwest end of *Inthinnity* to progress along the strongly-breathing tight tube. At least the other 3 did, I stayed in camp, which turned out to be a good choice because after 2m they had to enlarge another constriction followed immediately by a 3m long tube that they got through with great difficulty and declared "Graham Proof". Beyond the squeeze was an area of very well decorated chambers about 100m long and 20m wide extending the cave 40m further west than any previously known passage. The new chambers were beyond *Inthinnity* and ended being called *Beyond* as a skit on the Toy Story saying. The passages

discovered last year to the southeast off the end of *Inthinnity* were called *Inthicketty* because after the initial thicket entrance travel was easy. Webbs Cave is now 6.7km long.



extract from N-132 Webbs Cave plan, version 1.44 of April 2018
drawn by Alan Pryke for CEGSA and SUSS

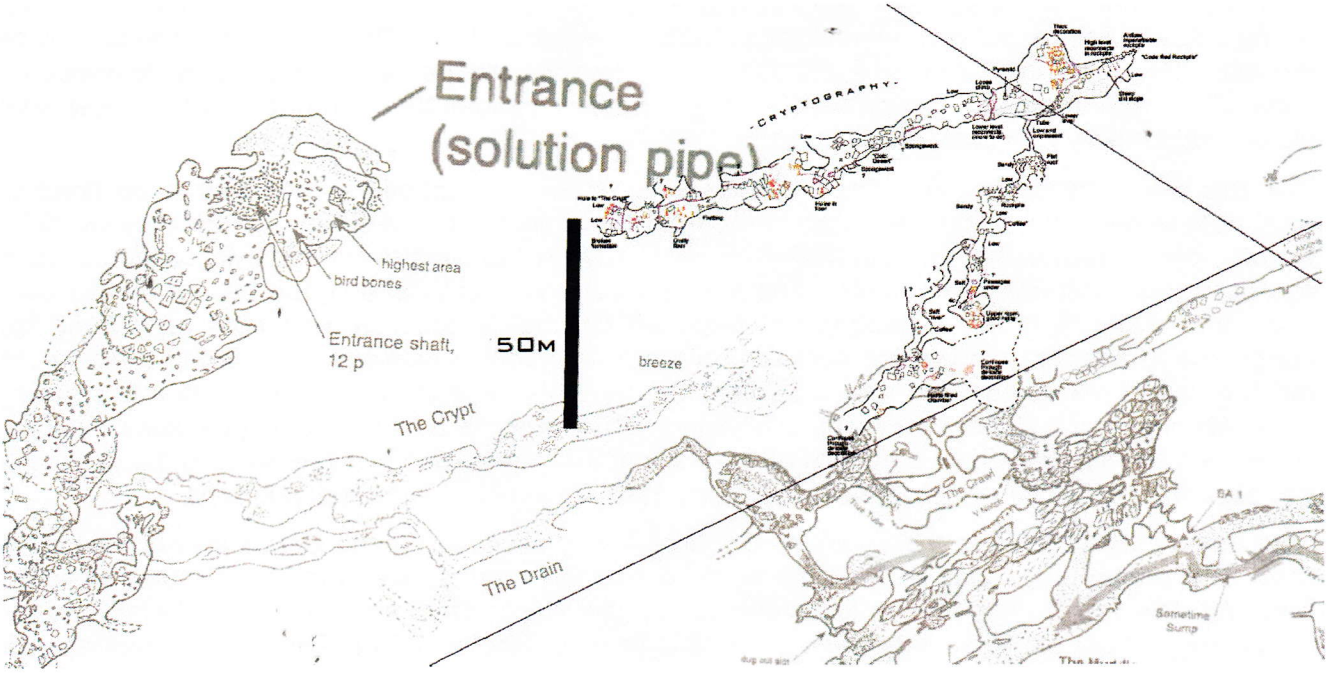
Graham spent his time uprooting all the horehound from the Doline. Being fire ban season it was left in piles because it could not be removed for burning elsewhere to destroy the seeds. No horehound had re-appeared at the entrance to Snake Pit.

On the 14th all 5 of us went over to Thampanna Cave, about 25km away. Horehound has taken over the rock doline, growing from every tiny crack. After playing with the exiting wind such as trying to get an abseil rope down the pitch, we all laddered or abseiled in. I was the only one of us who had visited the cave before hence lead the way to the inverted *Tube* passage. For the second time since I started coming here in 1981, the *Tube* was submerged making the *Enigma Chamber* inaccessible to "dry" cavers. The sump is too long and deep to safely duck-dive. Mundrabilla station had had some heavy rains a week before but the tracks had almost dried out by the time we arrived. On the previous occasion of a drowned *Tube*, I was with Max Meth and we had intended to continue our survey from the year before that we had stopped with a survey station on the bridge at the start of the *Tube* tunnel. The water level was above the bridge again but not as high hence the *Drain* should be open so I lead the party there. On that previous occasion we only found the *Drain* because the lack of water down the steep slope going south from the entrance to the Tube access tunnel was a puzzle. The cave entrance is a 3m diameter blowhole through 5.5m of solid rock dropping into the northern end of passage 2 to 4m high and 20m across that fills with water to the roof after heavy rains even though this passage has an incline of about 10 degrees. But the bottom of the steep slope of about 40 degrees after the entrance to the Tube, the passage was dry and even had undisturbed coffee and cream deposits close to the end. We'd had nothing else to do hence we dug in the appropriate place and uncovered the *Drain* leading off from the bottom of a chamber hiding under the steep passage.

On this trip the *Drain* was also submerged. The top of the entrance was about half a metre under water and hence most of the 150m long nearly horizontal *Drain* would also be submerged. Again a duck-dive was too dangerous to contemplate. It appeared that we'd made the trip from our Webbs camp for a very short cave visit. However, on the way out I realised that not only did the cave entrance have a strong breeze, but I could feel it in the 15m wide tunnel coming up from the

submerged Drain. How could this be? There had to be another way past the Drain into the rest of the 9km long cave. Max found what we thought was the entrance to the Crypt between boulders at the bottom of the steep slope and that was where the strong air flow was emanating from. Traversing along the Crypt, following the breeze, we still had air flow when we reached the end. The end was the bottom of a rockpile. Several hours later and enough rocks had been repositioned to gain access into a very well decorated passage typically 5m wide and 2m high heading east for 130m to a 15m diameter rockpile chamber. We named this new section *Cryptography* because it was a puzzle coming off the *Crypt*. Southwest from this, a tube passage leads 100m into another well-decorated chamber probably part of the *Seeing Red* series. The exploration and survey was made on the following day and was left incomplete with many unexplored passages, including the SW continuation of the large tunnel at the turn-around point.

On plotting the survey onto the end of the *Crypt*, it became obvious that something was seriously wrong because the new passages overlapped the known cave and yet should be at the same level. Either the Ken Boland map was in error (possibly in the assembly of the bits and pieces of survey done by various groups over many years, including incorrect scale assumptions); our survey was in error (impossible to the degree needed to eliminate the problem); or our assumption that we had found the new bit off the end of the *Crypt* was in error (highly possible because none of us knew of the *Crypt* before this trip). The attached map shows *Cryptography* as an offset so that the passages are not obscured.



Instead of continuing the Webbs Cave survey, we moved camp to Old Homestead Cave on the 16th. Not to waste time, Alan and Max continued the resurvey of the South Cave entrance series to the top of the high rockpile that was the end of the cave until 1984. The original survey had almost no floor detail for these 30m wide tunnels!

The main aim of this Nullarbor trip was to continue the (re)survey of the *Spring Series* and *Lord of the Rings* (*LOTR*). The original survey had been done over a decade or so by students from Narrabundah College from Canberra. The results were mixed with some parts done with a high grade and others that could probably have been free-drawn more accurately. All the surveys suffered from "Dome Syndrome" –leaving areas with the survey incomplete once a way on had been found. Our task was to survey every nook and cranny, most of which had been explored by the kids but never added to the map.

For the next two days, Peter and I surveyed along the *Spring Series* and in an unexplored section off the *Mouse Holes* that might lead to lots more cave. On the first day, Alan, Megan and Max also surveyed *Spring Series* tunnels concentrating on the bottom corner around the *Henry Moore Chamber* (named by the students after the artist because of the residual pillars of rock that would delight any tourist cave guide) and on the second day made their first foray into the *Lord Of the Rings* surveying from *Pillock Point* to the other side of the *Big Mother Chamber* (*BMC* a 25m diameter 4m high rockpile chamber).

On the 19th, Peter and I examined the *Improbability Drive* from the *Spring Series* side to see if we could sanitize it enough to make it the way into the *Spring Series* that it was before a safer way was found. I had to remove a few constrictions for me to get through but baulked at the final collapse that is at the bottom of the *South Cave* wall. It should be feasible to excavate the remaining "blockage" from above but suicidal from below.

The others carried gear and water into *Camp 1* (named by Narrabundah students because that is where they set up a place to stay overnight) in the *LOTR*. The camp still had sleeping mats and a few other items left from the 1990's. All but the sleeping mats, which were in good condition, were brought out of the cave. They surveyed from the *BMC* along the northern edge of the *LOTR*.

Peter left for home on the 20th because he had been unwell for the whole trip and still hadn't recovered. I cleared rocks from the wooden ladder "bypass" in the northern entrance doline to gain an alternate route in case the ladder was unusable or congested. Alan, Megan and Max went to *Camp 1* with enough resources for three days surveying. Over the three days they managed to survey most of the *LOTR* passages and chambers but had to leave a few southern passages untouched – probably one very long day will be needed to complete the area. All I did was create an easy crawl bypass for the start of *Whale Way* to avoid the awkward climb and grovel.

Our rest day turned out to be a hot one. In the morning we walked on the surface over the top of the cave south from the entrance. The Bluebush gave an excellent indication of what was 70m below. After a few hours of re-hydrating and trying to keep cool, Alan, Max and I went to the cool North doline and while there, surveyed it and the entrance cave down to the *Dug Well*. This was to replace the wall-only quick survey done in 1985. On exiting, the temperature had cooled enough to walk over some of the northern cave, visiting blowholes in the hill one kilometre north of the Hut to show what blowholes normally look like on the Nullarbor.

With this being Max's first trip to OHC, we had to show him that not all the cave was as confined as what he had been surveying, hence we went north as far as the *China Shop*. On the way we did a traverse-only survey using a DistoX from **RDF NF** to **RDF NP** to confirm the surveying done 30 years ago using less-accurate instruments. The main passage was essentially good but we did discover that some of the high side passages had been left off, mainly because they were considered too dangerous to access. On gaining access to a promising looking passage, Alan found a significant patch of passages and an alternate but safer way up. We all found the *China Shop* a fascinating area with heaps of "crockery" covering everything. The map was a bit misleading because it did not show the 1.5m high rock ridges running down many of the passages effectively splitting the passages into separate narrow tunnels instead of the wide passages implied by the wall positions.

Next day, we went back to the *Henry Moore* area, completing the *Spring Series* survey except for some lower-level tubes that shortcut the south corner. A surprise was the high fissures near the *Dogs Nostrils* that go up into the limestone above the Wilson Bluff and have an extremely vuggy morphology. Most of the Spring Series appears to lie below the top of the Wilson Bluff limestone but in the south around the *Henry Moore Chamber* the passages lie along the contact with tube-like floors with smooth sandy walls and vuggy pendulous sharp rock ceilings. The contact is an uninterrupted rock interface and does not have any residual ground surface evidence as appears in other places such as the Bunda Cliffs and some major dolines.

On the 27th, Alan, Max and Megan continued the *South Cave* resurvey with floor detail from the 1984 "end" to the *Lizard Link* entrance rockpile drop-off. They then toured to the end of the *Trident Series* and checked for a possible dig site to connect to the *LOTR* only 60m away but nearly 2km by known tunnels. A connection would reduce access to there from the surface by about one and a half hours each way as well as much easier on the knees and back.

For our last day we moved camp to just past the border visiting Chowilla Landslip, Abrakurrie Cave, Kutowalla Doline and Winbirra Cave on the way.

Graham Pilkington

WANDERING IN DREAMLAND

Sun 5th Nov 2017

Text by Sarah Gilbert
Reprinted from FUSSI Newsletter Vol 30 No 1 2018

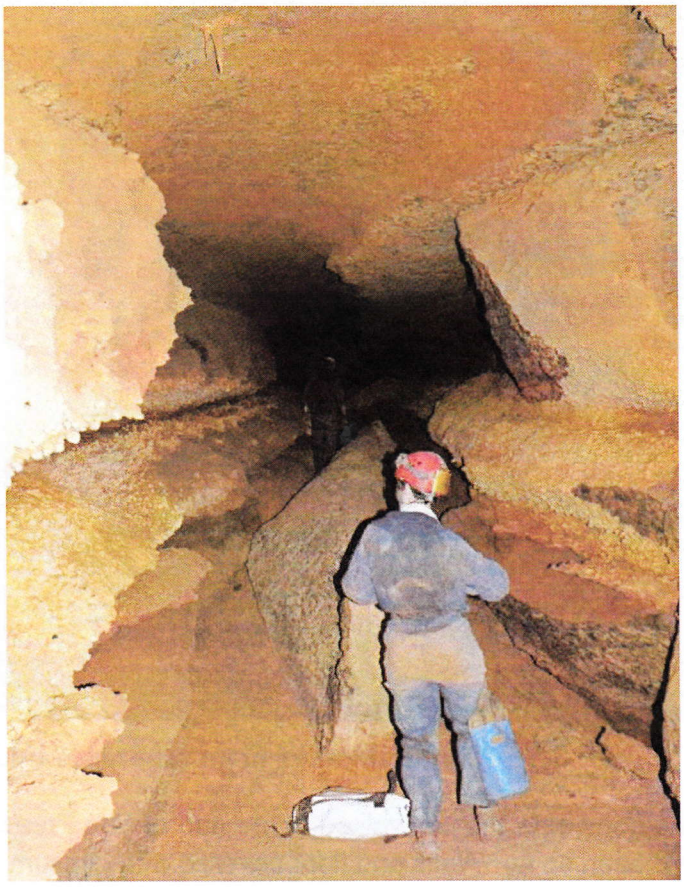
Trip participants:
Thomas Varga (Trip Leader), Sarah Gilbert and Neville Skinner with cameo appearances from Ian Lewis, Graham Pilkington and two State Heritage photographers.

With an early morning rendezvous in Saint Peters the three of us headed towards The Yorke (do I sound like a local yet?) listening to the Blues. We made the obligatory coffee/breakfast stop in Port Wakefield and met up with Ian and Graham who were heading the same way. We saw each other again in Curramulka for introductions with two photographers from State Heritage who were interested in documenting the cave. We entered the cave ~11am and left the photography party to gear up. We never saw them again...

We went the usual route from the Entrance to Grand Central, down the road and through the Letterbox. I then had plenty of time to study the soles of Thomas' boots with endless commando crawling through the escape tunnels dug by Corra Lynn's inmates of the caving past. There's been an impressive amount of digging done in this cave. It still has dig potential, apparently. Maybe next time.

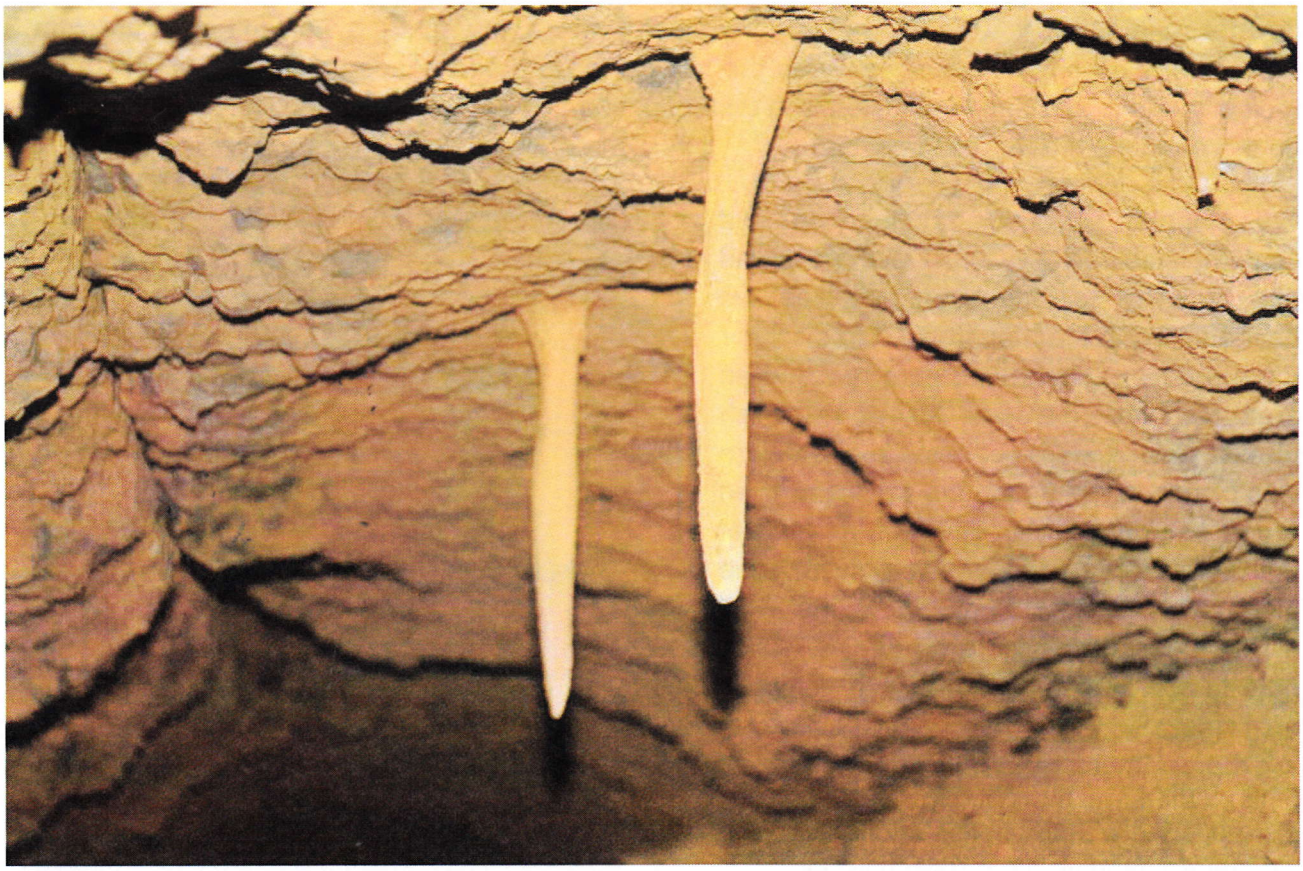
We finally made it to the Portal, with its homemade rope ladder designed by someone with longer legs than mine. Thomas The Tall went up first and made it look almost easy. I however, was slowed down a rung below the top. No matter how much I swore, my right leg wouldn't grow an extra 3 inches nor did I spontaneously develop the muscle to do a one handed chin up. Luckily Thomas took pity on me and rigged a customised foot-loop, and I was up. After I'd shown Neville how not to do the climb, he made it up in no time.

We stopped for lunch at the top and contemplated the way on. Once we found the Freeway to orientate ourselves we headed off with the map in hand to discover the wonders of Dreamland. We reached an area with relic, eroded flowstone which formed quite extensive false floors. There was plenty of gypsum on the walls and even a couple of stalactites. This was an area of the map where the white levels overlay the black levels overlaying grey levels, making it a little harder to navigate on paper. Mental note to self, remember to bring a compass next time.
We'd pretty much reached our turnaround time by then and enthusiasm was disappearing with our sense of direction, so we started heading back collecting our bread crumb trail of caving gear along the way.



Sarah examines the coral while Thomas explores The Freeway

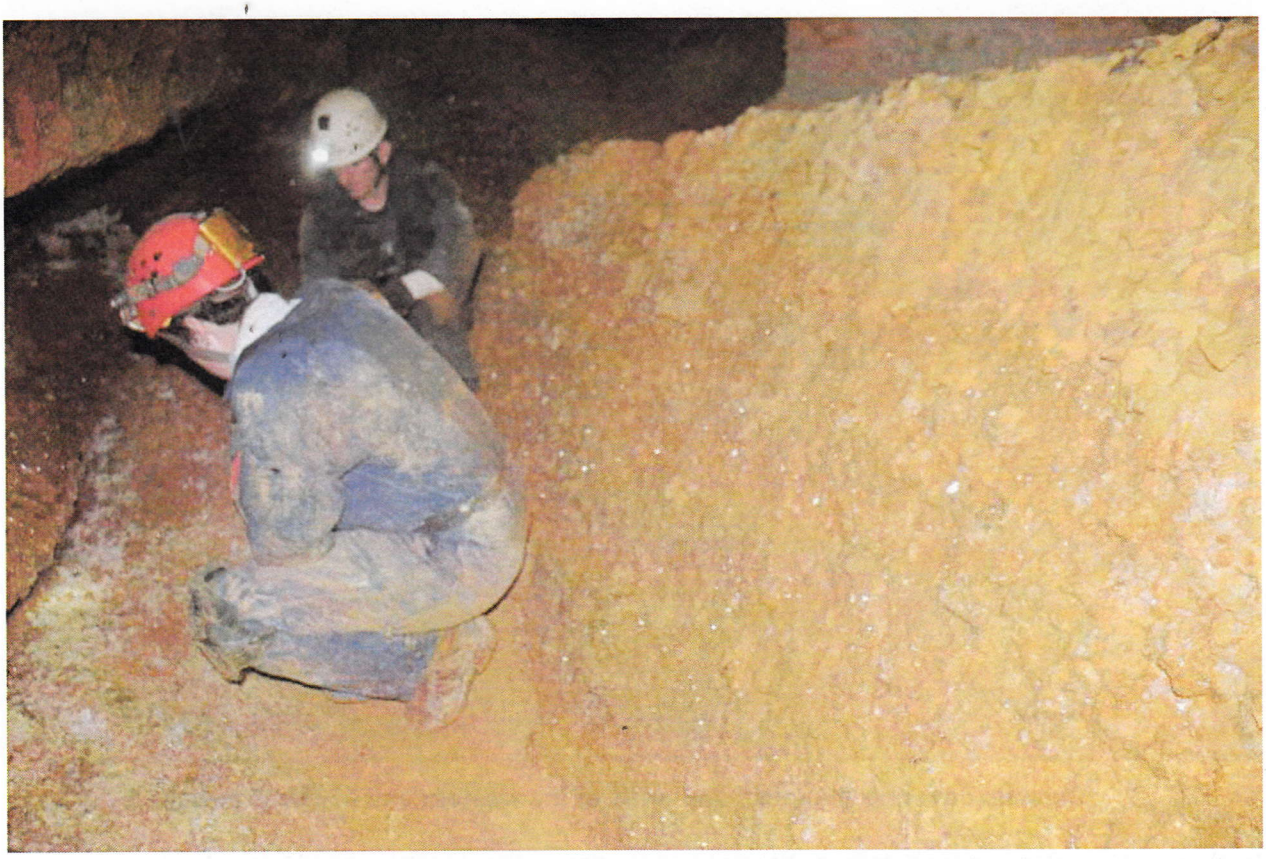
Large amount of coral formation in The Freeway



Twin Stalactites in an otherwise undecorated chamber

As a short side trip we walked to the end of The Freeway and discovered the best decorated region we'd seen so far. Walls and floor covered with gypsum flowers and needles. Well worth the detour.

Wafer thin sections of black stained rock on the ceiling



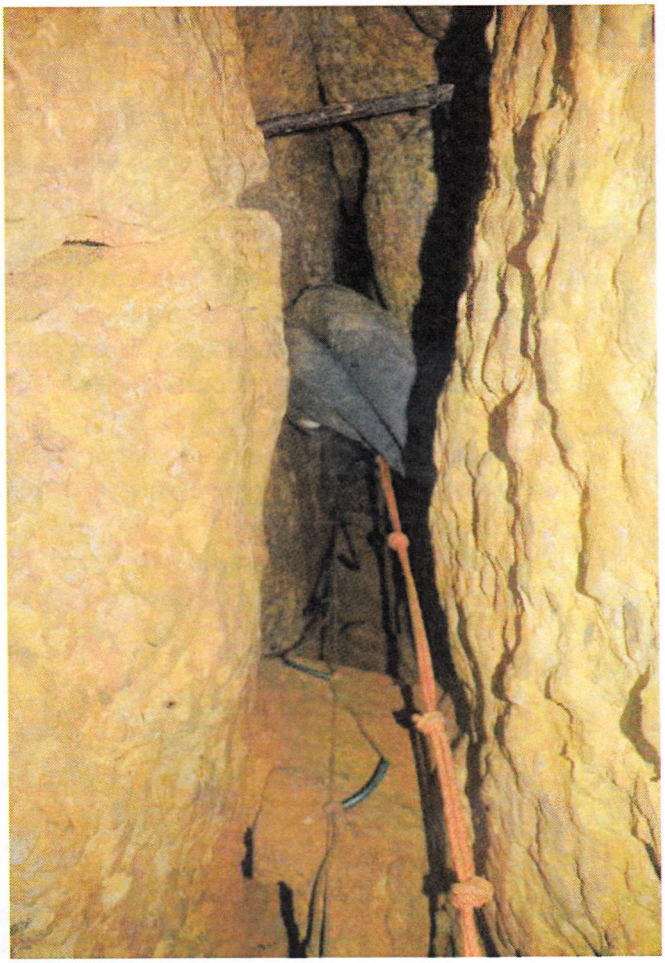
Thomas & Sarah check out gypsum creations forming on the floor

Gypsum creations covering the floor

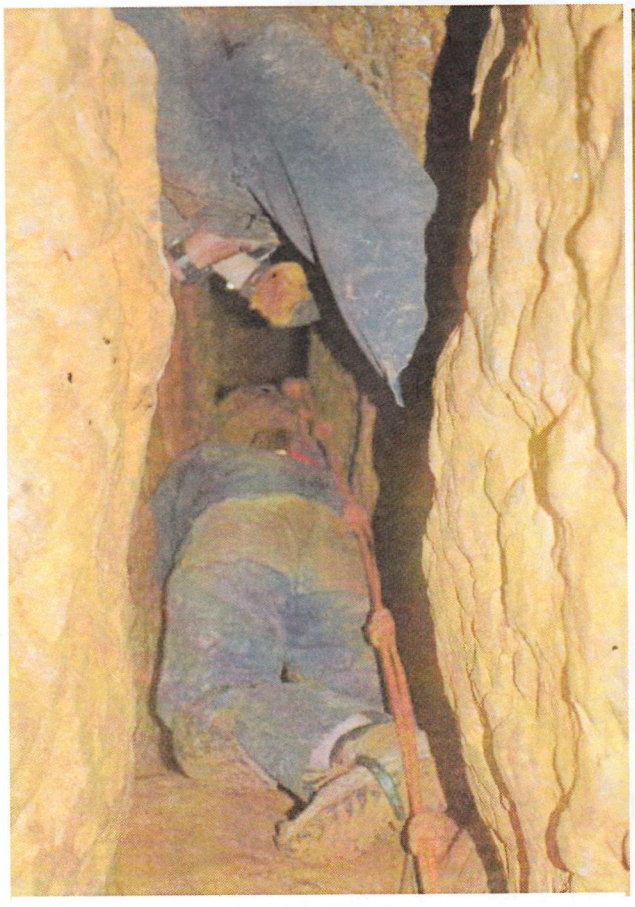
Crystals covering the rocks and walls of the western end of The Freeway

We then retraced our steps left, right, right, left, down the Portal, crawl, crawl, crawl, squeeze through the Letterbox, walk, stoop, walk and out again into the daylight at around 5pm. Overall a fun trip with enough hard work to give a sense of achievement.

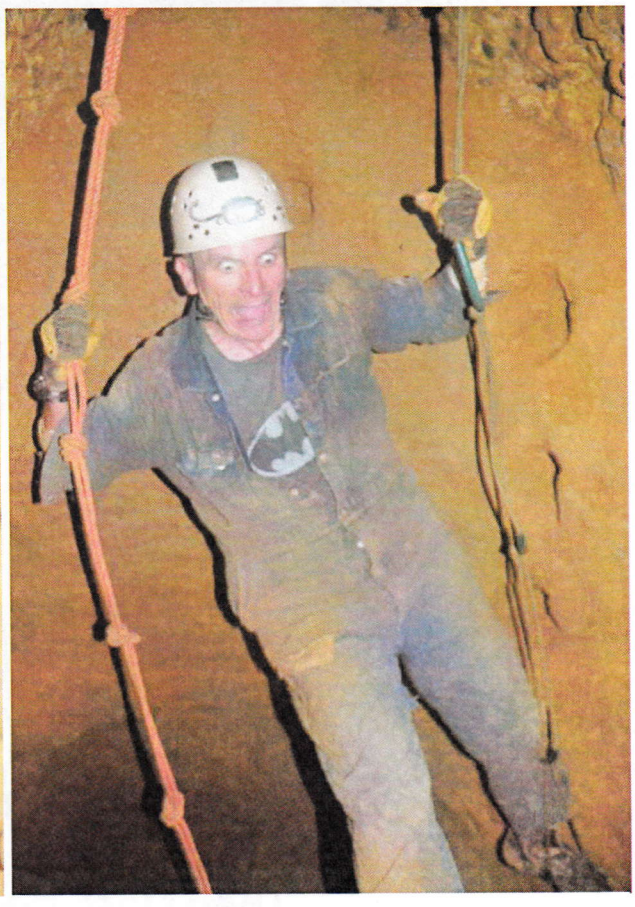
Sarah points out large piece of gypsum growing out of the floor



Thomas waits for Sarah to leave before him



Descending The Portal



Are we there yet?

Past Trips from General Meetings

February 2018

- **Matt Smith** visited Punyelroo Cave with 23 Scouts on Saturday the 24th of March

March 2018

- Matt Smith visited the Lower South East in early March, visiting Monbulla & Wrecked Car Caves, Snake Hill Cave and Morgans Cave. Bats were found in both Monbulla and Snake Hill Cave. The bats in Snake Hill Cave were found in a different chamber to the usual one (deeper into the dark section of the cave). Bats were easily bypassed with minimal disturbance by keeping to a low passage to the left, keeping quiet and using red lights.
- Ian Lewis and Steve Milner were part of a documentary film trip to the Nullarbor for the 'COAST' series which filmed the cliffs from a plane and from the edge plus some Melbourne Uni scientists dating stalactites in Witches Cave.
- Punyelroo and Gloop Caves via a riverboat trip with FUSSI (Nev)
- Naracoorte - Sand Cave, Fox Cave and Vic Fossil Great Hall Adventure section by FUSSI (Nev)

April 2018

Minutes not available

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TECHNICAL and OTHER ARTICLES

MEMBERSHIP FEES

If you have not renewed by 31st March this will be your last communication.

CEGSA MEMBERSHIP FEES became due on January 1st. To ensure continuity of membership and privileges (particularly insurance) please pay before March 31st.

Joining fee applies after March 31st.

CEGSA MEMBERSHIP FEES FOR 2018 YEAR

Full Membership	$ 45.00
Full Country Membership	39.00
Associate Membership	37.00
Long Term Associate	45.00
3 Month Introductory	5.00
Joining Fee (N/A to 3mth Intro)	12.00
Discount for Country Membership	6.00
Print Form CEGSA News	25.00

ASF LEVY FEE FOR 2018 YEAR

Single	$ 68.00
Family	119.00
3 Month Introductory	20.00
Journal Subscription	25.00

2018 YEAR FEES

	CEGSA	+ASF	TOTAL
Full Membership	$45.00	$ 68.00	$113.00
Full Country Membership	39.00	68.00	107.00
Associate Membership	37.00	68.00	105.00
3 Month Introductory	5.00	20.00	25.00

Variation for Family Membership

1st Full Member + 2nd Full Member	$90.00	$119.00	$209.00
1st Full Member + 2nd Associate Member	$82.00	$119.00	$201.00
1st Assoc Member + 2nd Assoc Member	$74.00	$119.00	$193.00

Discount for Country Membership applies for Family Memberships.

Please make sure your payment of fees includes CEGSA and ASF, if applicable.

Membership Fees can be paid direct into CEGSA Account BSB 105-900 Account No 950661040 and reference with your Name, CEGSA Fees or Membership Number.

Graham Pilkington. Membership Officer.

Approved CEGSA Trip Leaders

Name	Caving Leader level
Stan Flavel	Horizontal and Laddering
Grant Gartrell	Co-ordinator
Paul Harper	Horizontal and Laddering
Richard Harris	Horizontal
Peter Horne	Horizontal and Laddering
Peter Kraehenbuehl	Horizontal, Laddering and Vertical
Ian Lewis	Horizontal and Laddering
George MacLucas	Horizontal, Laddering and Vertical
June MacLucas	Horizontal
Steve Milner	Horizontal, Laddering and Vertical
Tim Payne	Horizontal, Laddering and Vertical
Graham Pilkington	Horizontal and Laddering
Eddie Rubessa	Horizontal and Laddering
Mark Sefton	Horizontal and Laddering
Neville Skinner	Horizontal, Laddering and Vertical
Matt Smith	Horizontal and Laddering
Michael Woodward	Horizontal, Laddering and Vertical

All the above named are also CEGSA Trip Coordinators.
Members may query the classification of any Trip Leader at any time with the committee.
It is a requirement that each trip be organised by an approved Trip Coordinator to be classed as an official CEGSA trip. It is also a requirement that dependent party trips be led by an approved Trip Leader at the appropriate skill level for the cave being entered. Trip Leaders are expected to maintain their First Aid training.

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The case of the exploding torch

Author: Neville R. Skinner

Last month, whilst preparing for a dive (I was already in my dry suit) at Fossils cave, a water dragon or the like, of a reasonable size about 30-40cm long and maybe around 10cms across the body, came out of the grass surrounding the doline, shot down the vertical rock face and then travelled about 50cms in a horizontal direction at an incredible speed into one of the grass covered holes in the northern side of the doline. It appeared to be of a black & white appearance, or should I say a black & white blur, because this creature moved so fast that it was difficult to capture an image on the retina.
There were four of us present and I was pleased that one of the other three also reported seeing it, but was also not able to register any detail(s). At that point I decided to withdraw from the dive, so that I could look for the creature whilst the other three completed the dive.
After they entered the water I grabbed one of my backup dive torches off a tank, and proceeded to look in all the holes on the northern side of the doline. I had no luck seeing anything of interest and came away with nothing more than a few nettle stings. I then went across to the southern side of the doline and was checking out the holes when the torch exploded in my hand. The sound was like a shotgun going off, with a clear conical shaped image that resembled a shock wave, about 20cms long, emanating from the face of the torch, and a smaller conical shaped flash, bluish in appearance for the first 15mm, appeared within this. The foul odour given off was quite strong and I later learnt these fumes are very toxic and should not be breathed.
I instinctively dropped the torch on the ground, and when I bent down to pick it up, I found it was far too hot to handle and could only be picked up by the dog clip attached to it. The glass from the front of the torch was gone and there was brown staining around the reflector, but the LED remained in place.
I took it to the water's edge to cool it before deciding to let it cool naturally rather than allow any contaminates to enter the water. I was thankful the torch was not made of plastic and that it had been machined out of aluminium, which had largely contained the explosive energy.

The two destroyed batteries, with two others bought at the same time – note one is considerably swollen.

The torch had contained two TOVATEC non-rechargeable Lithium CR123 dry cell batteries, out of four that came with my two backup torches, and are used for their longer burn time (no pun intended) and longer shelf life, compared to the usual Li-Ion or Li-Po batteries that one might suspect as being more likely to explode. The batteries had been in the torch for around two years and were still fully charged and ready for use. They remained in the dive tub with the other gear when not in use and were stored in the spare bedroom hallway between trips. I could think of no reason for them exploding, nor had they been mistreated in any way.

I have no doubts that had this happened in the vehicle or at home in the house whilst I was at work, or sleeping, the result would have been far more serious.

Much has been written about rechargeable Lithium-Ion and Lithium-Polymer batteries and their reputation for exploding during charging, but that is not what I am talking about here. I am talking about **non**-rechargeable Lithium-Metal batteries exploding for no apparent reason.

So what might have happened? I researched this and learnt that over time a crystalline structure called Dendrites will grow out of the Lithium metal anodes. As these Dendrites grow long enough they can short with the cathode, producing a heat source that in turn leads to a condition called thermal runaway, where the heat generation feeds on itself and the temp increases rapidly until the battery explodes.

Microscopic Lithium dendrites growing out from the anode, toward the cathode

I did locate one article at https://seekingalpha.com/article/3976731-teslas-huge-mistake-thin-film-lithium-ion-batteries-power-ev-revolution that explains in simple terms the history of batteries, the

different types and gives some insight into the pros & cons for each battery. (I highly recommend reading this article if you have any interest in batteries.)
In this article it says: "**Experimental Lithium Metal batteries had existed in the literature for many decades, but were considered too dangerous because of their unfortunate tendency to explode**. Finally, in 1981, Dr. John Bannister Goodenough of Oxford University had a breakthrough and invented modern Lithium Ion batteries, specifically the Cathode material which makes them possible. Sony commercialized the technology in 1991 when it paired the new cathode material with a charcoal anode. The revolutionary batteries became an instant blockbuster, and helped Sony sell a tremendous amount of equipment like hand-held video recorders. All modern Lithium batteries, including Tesla's, derive directly from this technology."

Another good article "*Stabilizing lithium metal using ionic liquids for long-lived batteries*" can be found at https://www.nature.com/articles/ncomms11794, where it explains how they discovered that immersing the electrodes in ionic liquid electrolytes for a period of time before battery assembly suppresses dendrite formation at the lithium metal anodes during cycling, thus preventing the battery from exploding.
So it seems that Lithium-Ion batteries were created to replace the unstable Lithium-Metal batteries that were inclined to explode, leaving me puzzled as to why it is still possible to buy the mongrels.
Further research on this led me to http://batteryuniversity.com/learn/article/primary_batteries:
"High specific energy, long storage times and instant readiness give primary batteries a unique advantage over other power sources. They can be carried to remote locations and used instantly, even after long storage; they are also readily available and environmentally friendly when disposed."
"The most popular primary battery is alkaline. It has a high specific energy and is cost effective, environmentally friendly and leak-proof even when fully discharged. Alkaline can be stored for up to 10 years, has a good safety record and can be carried on an aircraft without being subject to UN Transport and other regulations. The negative is low load currents, limiting its use to light loads such as remote controls, flashlights and portable entertainment devices. Moving into higher capacities and better loading leads to lithium-metal batteries. These have very strict air shipping guidelines and are subject to Dangerous Good Regulations involving Class 9 hazardous material.
(See BU-704a: Shipping Lithium-based Batteries by Air.)
The Figure 1 compares the specific energy of lead acid, NiMH and Li-ion as secondary, as well as alkaline and lithium-metal as primary batteries."

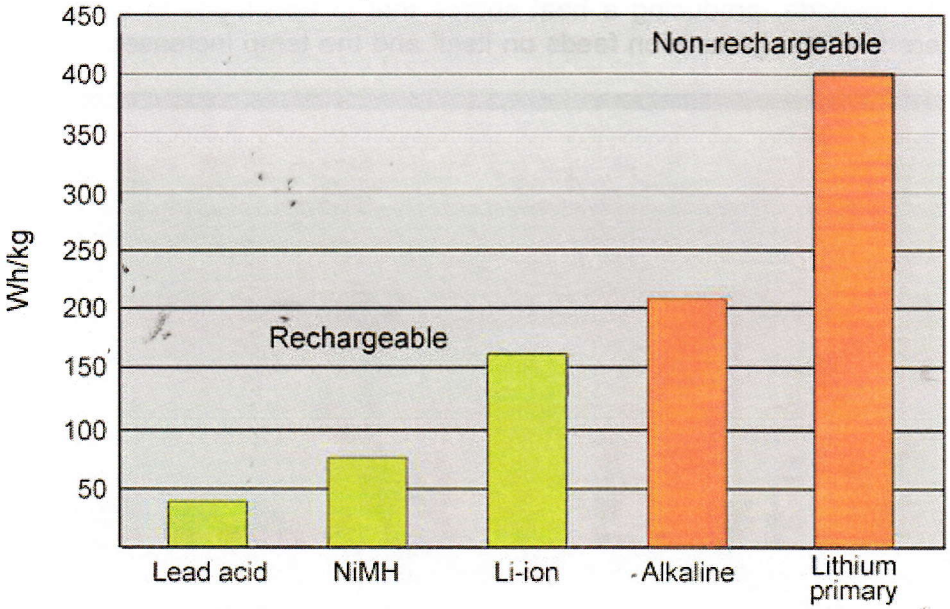

Figure 1: Specific energy comparison of secondary and primary batteries.

(Yes, I understand Lithium-Ion and Lithium-Polymer batteries can also explode, but as far as I know this is invariably when being recharged under incorrect or uncontrolled conditions, leading to overvoltage or overcurrent charging, again resulting in the battery getting hot and then running into thermal runaway. It is worth saying here, that one must always use a good quality, properly designed Li-Ion charger to charge Li-Ion batteries, as it is the electronic circuitry that prevents them from

exploding. And one should only use high quality brand-name Li-Ion batteries that contain the appropriate internal electronic circuitry to prevent overcharging or overvoltage.)

The **Lithium Batteries** Safety Guidelines for the Concordia University in Montreal, Canada says:

2.2 Lithium-Metal Batteries

Lithium-Metal batteries (Figure 3) are known as primary batteries and are usually non-rechargeable. They contain metallic lithium and feature higher charge densities (longer life) than other non-rechargeable batteries (e.g. alkaline or zinc-carbon). The most common type of lithium batteries use metallic lithium as anode, manganese dioxide as cathode and a salt of lithium dissolved in an organic solvent, usually composed of a mixture of a high-permittivity (e.g. propylene carbonate) and a low-viscosity solvent (e.g. dimethoxyethane).

Figure 3: Examples of lithium metal batteries

Having a longer life, lithium-metal batteries can replace ordinary alkaline batteries in many consumer devices, such as calculators, pacemakers, remote car locks, cameras or watches.

And at http://batteryuniversity.com/learn/article/bu_304c_battery_safety_in_public, it says:

"While Li-ion is rechargeable, there are non-rechargeable lithium batteries that exceed Li-ion in capacity. They contain a metallic anode and are often called lithium-metal. This increases volatility and these batteries are subject to tighter shipping regulations than the more benign lithium-ion. Primary lithium batteries come in many varieties and are mainly used for industrial uses. (See BU-106a: Choices of Primary Batteries.)

From http://batteryuniversity.com/learn/article/safety_concerns_with_li-ion:

"All batteries carry a safety risk, and battery makers are obligated to meet safety requirements; less reputable firms are knowns to make shortcuts and it's "buyer beware!" Battery manufacturers strive to minimize the presence of metallic particles. The semiconductor industry has spent billions of dollars to find ways in reducing particles that reduce the yield in wafers. Advanced cleanrooms are Class 10 in which 10,000 particles larger than 0.1µm per cubic meter are present (ISO 4 under ISO 14644 and ISO 14698). In spite of this high cleanliness, particle defects still occur in semiconductor wafers. Class 10 reduces the particles count but does not fully eliminate them."

"There are two basic types of battery failures. One occurs at a predictable interval-per-million and is connected with a design flaw involving the electrode, separator, electrolyte or processes. These defects often involve a recall to correct a discovered flaw. The more difficult failures are random events that do not point to a design flaw. It may be a stress event like charging at sub-freezing temperature, vibration, or a fluke incident that is comparable to being hit by a meteor."

"A mild short will only cause elevated self-discharge and the heat build-up is minimal because the discharging power is very low. If enough microscopic metallic particles converge on one spot, a sizable current begins to flow between the electrodes of the cell, and the spot heats up and weakens. As a small water leak in a faulty hydro dam can develop into a torrent and take a structure down, so too can heat build-up damage the insulation layer in a cell and cause an electrical short. The temperature can quickly reach 500°C, at which point the cell catches fire or it explodes. This thermal runaway that occurs is known as "venting with flame."

"Rapid disassembly" is the preferred term by the battery industry."

For those seeking information on the best battery to use for a particular application, or the best method for charging a particular battery, etc., I highly recommend you read the articles found at http://batteryuniversity.com/learn/.

This is one of the most informative websites for battery information that I have seen and is a must-read for anyone considering designing or assembling their own battery packs.

The bad news is that I not only need to buy new batteries, but I also need a new torch.

The good news – I get to keep my house!

The now worthless TOVATEC backup dive torch, caused by the "Rapid Disassembly" of a battery

Note:

1. Incorrect treatment of batteries includes excessive vibration, elevated heat and charging Li-ion below freezing.

2. It is advisable to store batteries when not in use in the refrigerator – this keeps them stable and extends their storage life dramatically.

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Teen trapped in cave

Emergency services combine for delicate rescue

Sandra Morello (The Border Watch 3/4/18)

Emergency services personnel have been praised for the delicate removal of a teenager who became wedged in a cave near Naracoorte on the weekend.

State Emergency Service, Country Fire Service, police personnel and rescue paramedics were called to the world renownedNaracoorte Caves late Saturday afternoon.

It is understood a teenage boy became stuck in Wet Cave "slot" around 5.30pm, which triggered a substantial response from emergency crews given the high technicality of the rescue.The teenager was extracted just before midnight after significant rope pulling to free him.

SES district officer Brad Flew yesterday praised the work of the emergency responders.

"It was a great multi-agency exercise, it was a successful rescue," Mr Flew said.

He said the responders worked "bit by bit" to remove the teenager. "It was a difficult rescue - there was only a limited space to work in and it was pretty dark with crews using emergency lighting," Mr Flew said.

The teenager was reportedly conveyed to the Naracoorte Hospital.

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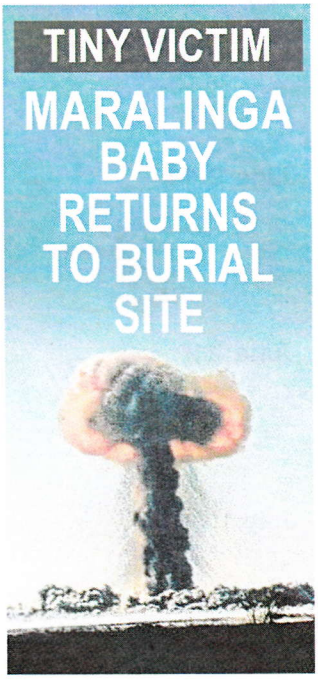
Baby bones will be laid to rest in sacred cave

NIGEL HUNT (Adelaide Advertiser 3/4/18)



The remains of an Aboriginal baby who died following the Maralinga atomic tests, taken by mistake from a sacred burial cave in the Far-North of the state, will be reburied in a traditional ceremony at the site this week.

And in a breakthrough for the traditional owners of the cave, near Sandy Bore on the Anangu Pitjantjatjara Yankunytjatjara Lands, the site and surrounding area has been placed on the state heritage register to protect it from any future interference.

The breakthrough follows intense lobbying by lawyers engaged by the traditional owners who were distressed following the unusual decision to remove the baby's remains from the burial cave.

In February last year *The Advertiser* revealed a row had broken out after the bones were discovered and subsequently removed by police and a forensic pathologist and brought to Adelaide for examination.

Barrister Rosanne McInness, who was engaged by the traditional owners following the removal of the remains, yesterday said the area was placed on the register several weeks ago following extensive negotiations.

"That is the principal protection we were after for this particular child," she said. "This will cover the cave and the surrounding area. It is quite significant."

Ms McInness said the removal of the remains was "a mistake that everyone has now done their best to rectify".

"I think it has raised an awareness that it is not just a simple matter of fly in and fly out," she said. "What we are hoping to establish in the area of the cave once the reburial is completed, is (to) set up some kind of cultural awareness program where things can be explained to people so mistakes don't get made."

The skeleton was discovered in November, 2016 by workers from the APY corporation land management section. Police at Mimili, 28km from the cave, were notified and detectives in Adelaide were then alerted.

A fortnight later pathologist Dr Roger Byard, forensic anthropologist Dr Ellie Simpson, forensic officers and detectives gathered at the cave to examine the remains and a decision was made to bring them to Adelaide for further examination.

Other items seized, including hair and vegetation used to wrap and protect the remains, a bone needle and stone tools and soil, will also be returned.

The remains will be flown to Mimili on the police plane on Thursday and handed to traditional owner Rex Tjami by Dr Byard. A funeral procession will then take them to the burial cave for the traditional burial ceremony. All costs of the reburial are being met by the State Government.

Mr Tjami, who is also on the APY executive, said the local people were happy the child's remains were being returned to the cave and he expected many to attend the ceremony.

"It never should have happened," he said.

"It is most important people understand this is a cultural area for our people. People entering the Lands must be made aware of these things. Education and awareness will now increase."

An affidavit sworn by Mr Tjami following the removal of the bones states the child and its parents "came from the area where there was nuclear testing" and had left the Maralinga Lands and were staying in the cave when the child died.

While Mr Tjami was aware of the burial cave, the Land Management employees who found the remains were not and so could not provide police with details of the origins of the remains. Mr Tjami's affidavit states when he went to the cave region, after being alerted to the discovery, he recognised it and recalled the story his mother had told him about the burial cave.

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FUSSI PROGRAMME

Note: FUSSI holds a general get together/meeting on the Third Thursday of each month except where notified. Programme subject to change.

Sunday May 27th	A Comms Day	Walkie Talkies, Sat Phone, Michie phone. Through Ground Radio. On Campus. Flinders Uni. Full Details available later.
June 9-11	(Betty' s b day.)	Volcanic Caves of Western Victoria Thomas Coordinating.
	Exams 18 June to 2 July	
June 21th	7pm	Ken Smith: Cook Is, A special place to dive. Noel Stockdale Rm, Flinders Uni Library
	July 2-24 Mid Year break	
July 15th		One day trip to the Yorke Peninsula. Dee, David Coordinating
July 19th		Film Night. " Descent" Noel Stockdale Rm, Flinders Uni Library. Or somewhere else. Place to Be Confirmed.
Aug 11/12		Naracoorte Trip. A trip for everyone. RSVP **19th July** 12 Noon. Don' t miss out put your name down, Clare Coordinating. Contact: fussi@fussi.org.au
Aug 16th	6.30pm.	Search, Rescue, & Comms Seminar. Noel Stockdale Rm, Flinders Uni Library.
Sept 8.		Real time rescue. Yorke Peninsula. FUSSI exec coordinating.

MID SEMESTER BREAK

17 Sept - 1 Oct.

Sept 20th		Library and pizza night. At the club store. On Campus, under the Union Hub.

Exams 5 Nov -18 Nov

End of year break 19 Nov
25 Feb 2019

Jan 6th Australian Speleological Federation Council

CEGSA members are welcome to attend. Contact Mark Sefton or Neville Skinner.

CALENDAR OF EVENTS

Date	Type of Event	Description	Contact
23/05/18	General Meeting	Royal Society Room, SA Museum, Adel. Cave related research on Ancient DNA	Professor Alan Cooper
??/06/18	Committee Meeting	TBA	Ian Lewis
09-11/ 06/18	Queens Birthday Long Week End		
27/06/18	General Meeting	Royal Society Room, SA Museum, Adel. TBA	Ian Lewis
??/07/18	Committee Meeting	TBA	Ian Lewis
25/07/18	General Meeting	Royal Society Room, SA Museum, Adel. TBA	Ian Lewis
??/08/18	Committee Meeting	TBA	Ian Lewis
8/08/18	CEGSA NEWS	Articles due	Athol Jackson
22/08/18	General Meeting	Royal Society Room, SA Museum, Adel. TBA	Ian Lewis
??/09/18	Committee Meeting	TBA	Ian Lewis
26/09/18	General Meeting	Royal Society Room, SA Museum, Adel. TBA	Ian Lewis
	Caving	Continuing Fleurieu Peninsula Exploration	Grant Gartrell

****Extra trips will be notified in the Calendar on the Website or at General Meetings****

To be covered by insurance it is mandatory that caving trips involving club members must be registered as CEGSA Trips. To do this, the nature and timing of the trip must be entered in the Calendar of events in CEGSA NEWS, minuted at a General Meeting of Members or entered in the Website Calendar. The member registering such a trip must be an accredited CEGSA Trip Coordinator and must agree to act in this capacity for the trip. There must also be an accredited trip leader with the appropriate skill endorsement to take a dependent party caving.
Also, please ensure that a report of the trip is submitted to the Records Officer and editor in a timely manner.

Notes