

CEGSA NEWS



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CAVE EXPLORATION GROUP (SOUTH AUSTRALIA) Inc.

PO Box 144, Rundle Mall, South Australia, 5000.

<http://www.cegsa.org.au>

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 Photograph: Ray Gibbons at one of the Turner Rockholes — Goorunghia Rockhole (N-3942).

Photo: Peter Ackroyd, 5 May 2006.

CONTENTS**Volume 55 Number 1****Issue 217****FEBRUARY 2010****CONTENTS**

	AUTHOR	PAGE
Committee and Office Bearers		1
Contents		2
Presidents Spot	Mark Sefton	3
Annual General Meeting Report	Athol Jackson	3
2009 Awards	Mark Sefton	3

TRIP REPORTS

The Turner Rockholes, Nullarbor Plain, Part 2	Peter Ackroyd	4
6E120 – Ray of Sunshine Cave, The newest cave in WA.	Paul Hosie	12
Fossil Cave megafaunal fossil discovery and retrieval.	Neville Skinner	14
Corra Lynn Cave, 14 November 2009	Graham Pilkington	21
Past Trips (from November General Meeting)		22
Past Trips (from January General Meeting)		22
Reminder	Committee	22

TECHNICAL AND OTHER ARTICLES

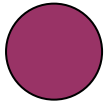
Membership	Chris Gibbons	23
Membership Fees	Chris Gibbons	23
Approved CEGSA Trip Leaders	Committee	24
Notice of Motion to alter Constitution	Graham Pilkington	24
Council Areas of Caves and Features	Kevin Mott	25
Calendar of Events	Committee	30

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 55 Number 2 (Issue 218) must reach the Editor by Wednesday **12th MAY 2010**. 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 3.5" IBM floppy disk, in Word or ASCII text format. Of course other forms of communication will still be gratefully accepted. Photographs are preferred to be in colour (jpg format). 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

By the time this comes to print, a new Committee will have been elected and CEGSA will be well into a new caving year. As I have said on more than one occasion (ad nauseam?), one of the biggest challenges we face is that of renewing our membership with a new generation of cavers. To do this, we need to make ourselves known to the outside world and to provide good caving opportunities for those 'newies' curious enough to 'give it a go'. Your previous Committee has tried to promote an active caving and training program, supported the increase in capacity for our website (the first port of call for most of those seeking to know more about caves and caving in South Australia) and has plans for other ways to advertise our wares. I hope the new Committee will continue on with these efforts. But we will be more successful if this is not left to just CEGSA's Committee and Office Bearers. Athol Jackson has repeatedly asked for members to supply him with digital underground photos (or slides that he can scan) for use in our website but the response has been slow to say the least. If you have some good quality photos, please dig them out and get in touch with Athol. And if you have some ideas for caving trips that you would like to do but don't have the knowledge or time to do all the organising yourself then why not bring your suggestions to the new Committee. It will be much easier to organise a caving program if the Committee knows what members want.

Mark Sefton

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Annual General Meeting Report

The Annual General Meeting was held at the home of Ray and Chris Gibbons on Saturday 6th Feb. The Annual awards for 2009 were announced and two of the four recipients were present and were presented with their awards. The other two will be presented at a later opportunity. The Annual Report was presented and accepted, followed by the election of officers and committee. The results of the election were as follows:

President: Mark Sefton.
 Secretary: Graham Pilkington.
 Committee Members: Chris Gibbons, Ian Lewis, Marie Choi and Ken Smith.
 With one committee position vacant and still to be filled.

If any Member wishes to help the Group by being on the committee please let any of the committee members know so it can be organised.

The meeting was followed by supper including the consumption of a birthday cake provided by Chris Gibbons for Athol Jackson on reaching his 75th birthday.

Athol Jackson.

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2009 AWARDS

Stirrer's Spoon (Rivett's Reward) Paul Harper

For his efforts in trying to get CEGSA to recognise its unsung heroes

Golden Compass Peter Ackroyd and Ray Gibbons (Presented)

For yet another addition to our knowledge of fine caves in the Nullarbor.

Mundrabilla Marble Graham Pilkington (Presented)

For the best designed underground shopping trolley seen in a long time. Unlike the surface version it actually goes where you want it to.

Courage Under Fire Andrea Gordon

For refusing to allow a bunch of trigger happy roo shooters to spoil a good laksa.

Mark Sefton

TRIP REPORTS

The Turner Rockholes, Nullarbor Plain Part 2: April/May 2006

Trip dates: 16 April – 11 May 2006

Party: Peter Ackroyd and Ray Gibbons.

Introduction

In part 1 of this series I wrote about the 1885 survey traverse to about 80 rockholes and about 10 other karst features carried out by George Russell Turner and his party. Turner had been instructed by the Western Australian Surveyor General of the day, John Forrest, himself a Nullarbor explorer in 1870, to locate “all rockholes likely to be useful to lessees between Eyre and Eucla” (State Records Office of Western Australia, 1885, item 1890/85). I was able to secure a copy of Turner’s data, reduce it to AMG coordinates and check the accuracy of the traverse. This I found to be quite good. In fact, the data set should have allowed positioning of any of the features to within about 25m (Ackroyd, 2009B).

Given this relatively high grade of precision, I was confident that these points could be located on the ground. Therefore, the aim of the trip covered by this report was to follow in Turner’s footsteps, and to locate and record as many of his points and karst features as possible.

The Trip

Ray Gibbons and I packed carefully for this trip. We included a solar panel that was bolted to the roof of Ray’s Holden Rodeo to recharge a 12V battery system. On 16 April 2006 we left Adelaide, arriving at Max and Hennie Meth’s house in Ceduna that evening.

The following day, travelling via Warbla Cave to install a tag on it (N-1), we reached Noorilla Rockhole (N-1225), which, although not one that Turner had reached, is a moderately significant rockhole on the Old Coach Road. Near here we took the first of two soil density tests on behalf of researchers based at Swansea University in the UK. We had already provided some assistance to them on a previous trip (Ackroyd, 2009A), but they needed additional in situ soil density information to supplement their microgravity results (Doerr, Davies et al, 2006). See Appendix 2 for the results of our testing.

From this point we were on the scent of Turner’s 1885 traverse. We drove west to a well-known feature, Naliwoodin Rockhole (N-1223), which was also Turner’s final recorded feature (T90).

We did additional documentation work on the rockhole and on the nearby Muirs Well No 1 (N-981), which was also logged by Turner and Compton in 1885. In addition we were able to relocate the sheep paddock shown in Turner and Compton’s notes. It is south of Naliwoodin hut ruins, and was revealed to us by a rectangular shaped area of weeds.

The Nullarbor was lush and green after recent rains, so it was a pleasant drive down to the start of the stranded cliff line, known locally as the Hampton Range or the Roe Plain Escarpment, in order that we could begin at the same point at which Turner began — the old Eucla township.



Ray Gibbons at the ruins of Naliwoodin hut, a little south of Naliwoodin Rockhole.

Photo: Peter Ackroyd, 18 April 2006.

During Turner’s time there were many more settlements along the base of the Hampton Range. We felt fortunate to have Turner and Compton’s information in front of us, showing where people had lived and toiled 121 years previously. As we progressed westward, we relocated remnants of 1880s fences, huts and other structures, solely because we knew exactly where to look — Turner and Compton had recorded all these and more. In effect, we had on our hands a kind of time machine.

The rockhole closest to Eucla was one that Turner had missed — “10 Mile Rockhole”. We were alerted to this rockhole by a photo taken by Eucla telegraphist William Russell Evans in about 1905, “View 13”, which showed the gully behind “10 Mile Point” (Evans, 1919). However, due to a



Ray Gibbons at Najada Rockhole (N-985).
Photo: Peter Ackroyd, 20 April 2006.



Ray Gibbons at Knouseley well and tank.
Photo: Peter Ackroyd, 21 April 2006.



Peter Ackroyd at work on the data.
Photo: Ray Gibbons, 25 April 2006.

publishing mix-up, his detailed caption for this photo, which mentioned the rockhole's presence, was not published until 1921 (Evans, 1921). Armed with copies of this photo, we thought we would try to relocate the rockhole. We camped nearby and, the next morning, whilst I did my usual computer work, Ray went searching, and found it — a pleasant rockhole holding about 20 litres of clear water. Later that day, we tagged this (N-3912) then descended directly down the cliff line, finding on our descent the remains of a partly constructed hut, with an enclosed yard and, incongruously, a flag pole. We later learnt that this was the site a local 'hermit' had inhabited for several years in the late 1980s.

Travelling further west, we searched for one of Turner's permanent marks, E2, a post set into the soil of the Roe Plain. It was long gone — something we were going to experience for most of Turner's 'permanent' marks.

Turner's first recorded rockhole, T1, was Najada Rockhole (N-984). For this feature, as for most others, we had to rely on Turner's notes and data. The only other information we had, apart from the highly inaccurate location shown on topographic maps, was from Harry Wheeler's records. Harry had visited this feature, which he labelled QWRH49, on 9 January 1958, and noted that it was located "75 yards inland from the cliff brink... and is obscured from the south by mallee" (Wheeler, 1952–1980). This was useful information as, despite knowing its location to within less than 100m, it was still not easy to spot.

Actually, there were two major rockholes in this position. Wheeler had described one of them (see photo above) and Turner had sketched the other. The water this pair of rockholes provided would have been of major importance to the Nullarbor dwellers. At the time of our visit the rockholes held a total of 120 litres, and they were far from full.

We camped nearby that night and on the following day (21 April 2006) continued west along the original settler track, the same one as used by Turner's party. It was overgrown in parts but, with care, was negotiable. We found T2, a small rockhole, and moved on to Knouseley, an old settlement now largely forgotten.

Turner had recorded fences, a hut, a tank, a shed and a well at Knouseley. We found a tank made of mortar and rocks adjacent to a well. The tank was 5.5m square by 0.9m deep and was lined with mortar and tar. The well, despite being over 120 years old, still had its timber lining intact. It was quite deep but held no water.

Uphill, at the hut site, we found only a mound of loose rocks formed into a rough cairn, and a survey mark labelled "HUT". The Eyre Highway road contractors had been here in the early 1990s to widen and improve the highway and had made some changes, not all for the better and not the first that we had noted. At 10 Mile Point we had observed a massive amount of bulldozing of a track up and into the rather significant gorge behind it. Now it is a dump for road waste amongst the mallee trees and the Kangaroo Apple shrubs (*Solanum* sp.).

At Wanteen Rockhole (N-3914), we found more signs of settlement — old iron tanks with the maker's name still visible, "Calvert Law of London". We made our camp nearby.

We soon settled into a familiar pattern of working. Each morning I devoted to adding the previous day's work to the data set by downloading photos and GPS points to the computer.

While I did the computer work, Ray set off to walk up the cliffs, looking for the next one or two Turner rockholes. We both got pretty fit, walking up that 50m or so of steep rock, Ray especially as he did the climbs twice! Once we had located and documented as many of the Turner features as we could for the day, we drove on a bit, made camp, enjoyed a couple of beers and watched the stars come out.

Because Turner's survey was so accurate, we were usually able to locate each of his rockholes, and an occasional well or survey mark, without too much trouble. At first, we tried to track down each of Turner's 'permanent' stations, which he had labelled E1 – E47. We quickly found this to be impractical because the intervening time had taken its toll on his posts and blazed trees. So we limited our searches to the rock cairns he had constructed on the cliff top. There were not many of these: E5, E6, E7, E13 and E20 to 25. Of these cairns, E5 had been built at Kuthala Pass and so has long since vanished due to the roadwork there. We found E6 and E7 (see Ackroyd, 2009B, for photo of E7). We did not find cairn E13 as it had been constructed at the foot of the cliffs and so was probably disturbed in the intervening years, and, on this trip, we did not get as far as E20.

However, it was pleasing to find any of these marks at all, after the passage of 121 years. I feel sure it is only the relative isolation of the rocky edge of the Roe Plain cliffs that has allowed some of these cairns to survive.

We also had a look at some other historical artefacts, such as the major survey station cairns placed by the Australian Government. These were presumably established around 1972 for the Eyre Highway construction project. The cairns were built on the top of the cliffs and must have taken a considerable amount of effort.

Some of Turner's rockholes had been modified by early settlers, usually indirectly by raising their height or building dam walls to trap more water. Sometimes ill-advised blasting had been carried out to deepen the existing rockhole, with consequent cracking of the hard pavement underneath resulting in loss of all water. Yakoorga Rockhole (N-3916) is an example of this type of activity. The original rockhole had been blasted, and now holds no water. A wide weir, placed a few metres upstream, has been constructed to undo the earlier mistake.

Continuing west, we moved into the Mundrabilla lease, for which we had been granted permission by the leaseholders. Still following the cliff line, we tagged and documented each of Turner's rockholes, and continued to be amazed at the level of activity and settlement in this area around the 1880s.

At Kuthala Pass, Turner's sketches showed a hut and a tank. The tank, despite recent human activity and the presence of the nearby roadhouse, still exists and is signed and dated (1880) by its manufacturer, Jack Batt, an employee of John and Andrew Muir of the old Moopina lease at Eucla.

A fully timbered, 30m deep well alongside this tank was the apparent source of water for it. A 30m long stock trough, also made of mortared rock, was nearby.

Whilst we were at Kuthala Pass, we took the time to tag and accurately record some other numbered (but not tagged) and poorly described features in the area. Some were rockshelters and one was a small cave exposed by the quarry



Ray Gibbons at WA Government survey cairn NMF-106, on the cliff-top.

Photo: Peter Ackroyd, 29 April 2006.



Ray Gibbons on mortar-lined rock and stone tank near Kuthala Pass. Note builder's name and date marked in the mortar, "J D Batt, 1880".

Photo: Peter Ackroyd, 24 April 2006.

workings (N-3262). We also found and tagged Turner's Kuthala Rockhole (T6), which we numbered N-3920. It was a large rockhole that had been modified by the addition of a weir below it, which subsequently fed water into a mortared rock tank in the gully.

Continuing our travels west along the edge of the cliff, we checked a rare non-rockhole karst feature of Turner's — a cave. This had a surprise for us, two chert axe-heads, which we left in situ.

At an old settlement called Winganna, we again found remnant signs of human activity — a well and a trough, both constructed by Jack Batt in 1881, according to the inscription he'd left in the mortar. We climbed the adjacent cliffs in deteriorating weather to locate Winganna Cave (N-616) and a nearby decorated rockshelter (N-615). I was keen to climb to the very top of the cliffs to look for Turner's cairn E6, but the weather was looking quite iffy. However, we went anyway, locating first a 'Rockhole' NX-53, which turned out to be a blowhole, and is now tagged N-3926.



Ray Gibbons in heavy rain at rockhole N-3927. Note filled rockhole, empty prior to our arrival.
Photo: Peter Ackroyd, 26 April 2006.

The weather was closing in, but we walked to the north looking for E6 only to find an old truck abandoned on top of the cliffs, close to the old vermin proof fence. This truck bore the legend, in flaking paint, "Harvey Gurney, Moopina". Dodging showers and walking a little to the west we soon found Turner's cairn E6 and, nearby, a rockhole (N-3927) of about 100 litres capacity. Then the rain really set in.

We sheltered in the meagre covering offered by the nearby mallee scrub, but soon became soaked to the skin and had to admit defeat. We sallied forth, opened the field book for the last time that day and, in the pouring rain, recorded and tagged the rockhole. The moment was not without its benefits, as we were able to watch the rockhole fill completely, within minutes, right in front of our eyes.

Bedraggled, we wandered back to the car in the rain and, changing into dry clothes, resigned ourselves to a wet night.

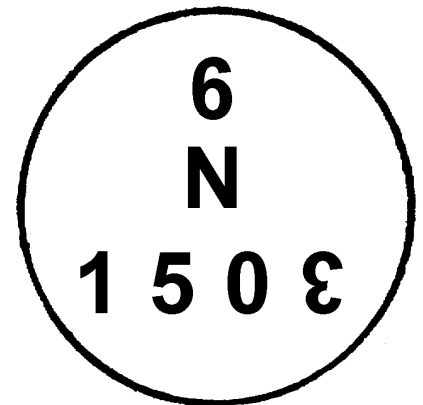
The next day (27 April 2006) was still wet. So, once I had done the paper and computer work, we rested. In the Nullarbor, if it rains, everything stops, especially vehicles. The following day was still drizzly, but we had had enough of doing nothing so we walked, and walked, to the next Turner feature, Cheeta Rockhole. Along the way we came across a known, but poorly documented feature, N-1503. This blowhole was notable for two reasons: it had a really large *Cratystylis conocephala* (false bluebush) near it and the number on the existing tag looked a little weird. Because of the



Ray Gibbons at Cheeta Hut ruins.
Photo: Peter Ackroyd, 28 April 2006.

rain, Cheeta Rockhole (N-1480) was full of water, and so were the three weirs upstream of it. We tagged the

rockhole and also took data and GPS coordinates on N-1479, the nearby rockshelter. Cheeta Hut, which Turner had recorded in his notes, is still there, although somewhat the worse for wear. The weather cleared the next day, so we were able to drive further to the west to Emu Well Homestead. This was the original home of the Kennedy brothers — Thomas, who died at Mundrabilla in 1896, aged 67, and



Upside down view of tag in N-1503. This tag had been designed to be read upside down ... almost!
Sketch: Peter Ackroyd, 11 Nov 2009.



Graves of Annie McGill and Thomas Kennedy behind the Mundrabilla Homestead.
Photo: Peter Ackroyd, 20 Oct 2009.



Ray Gibbons at Emu Well Homestead, on the Mundrabilla lease.
Photo: Peter Ackroyd, 30 April 2006.

William. The Kennedy brothers, with William Stuart McGill, brought sheep from Albany and settled on the Mundrabilla lease in 1872. They, along with the Muirs of Eucla, were the first permanent settlers on the Nullarbor.

William McGill, and his young wife Annie, lived at Mundrabilla Homestead, a little further to the west. Annie died in childbirth in 1879, at age 29 and she, then later Thomas Kennedy, were buried in two lonely graves a couple of hundred metres behind the Mundrabilla Homestead.

At Emu Well Homestead, we discovered that the well Turner had recorded in his notes had been filled in and replaced with a bore. Behind the Homestead the Kennedys and McGill (presumably) had constructed an elaborate series of low walls made of mortared rock. These were designed to direct the rainwater down a large expanse of sloping rock pavement on the cliff side into a rock and mortar flume which then channelled the water into an underground tank.

The next day, 30 April 2006, we called in on the leaseholders at Mundrabilla Homestead, as arranged. We noticed they were converting from diesel power to solar and wind power, as well as carrying out extensive fencing work. After we had settled up for the number of nights we expected to stay on the property, we continued our journey west, still following the route of the original cart track used by all the early settlers, and also by Turner.

West of Mundrabilla Homestead this track is well used by the lessees and has the further advantage of being close to the cliff line and the rockholes. While looking for T19, an "elliptical rockhole on slope of cliffs", we came across a large weir built into one of the gullies. The only recent rain was the



Ray Gibbons and perentie (*Varanus giganteus*) near Youlgarou Rockhole (N-3937).
Photo: Peter Ackroyd, 3 May 2006.

shower we had been caught in a few days previously, and then the following day's drizzle. The weir contained an estimated 10 kilolitres of water. The early settlers were industrious, especially when it came to harvesting water.

The track was beginning to deteriorate a little and our average speed was down to 15 km per hour. However, being close to the cliff line saved us plenty of walking, so we carried on, trimming the occasional overhanging branch in the Moonah (*Melaleuca lanceolata*) forested parts as necessary.

At Youlgarou Rockhole (N-3937), we were fortunate enough to photograph a young perentie (*Varanus giganteus*), Australia's largest lizard, which is not normally found this far south.

After a few more kilometres along the old track we reached the rather substantial dog proof fence surrounding the Madura Plains lease. Without a gate, we were forced to retreat to the Eyre Highway and continue our search to the west along that. We stopped at each rockhole location in order to walk on into the property (for which we had been granted access from the managers), carried out documentation and tagging, then walked back to the car. Sometimes the Highway was less than a kilometre from the cliff face; other times it was somewhat more.

Fortunately, at Moodini Rockhole, there was a lifting gate set in the fence. This ingenious lever mechanism raised the whole fence so that we could drive underneath. Here we found another set of hut ruins and a substantial weir, repaired in 1940 according to an inscription we found etched into the mortar.

The next day, 5 May 2006, it was more legwork as we worked our way west, stopping to walk into the cliff-line for each rockhole. We reached Madura Pass at nightfall and decided to treat ourselves to a room in the Madura Pass Oasis Motel. This gave us an opportunity to wash ourselves and some of our clothes.

Turner's party spent three days at the old Madura Homestead, now reduced to ruins. The old homestead was then a substantial building located at the foot of the cliffs about 1 km southwest of the present day motel at the pass.



Original Madura Homestead.
Photo: William Russell Evans, ca 1905.
Image courtesy of the State Library of South Australia,
Call No SLA: B54060/73



Original Madura Homestead today.
Photo: Peter Ackroyd, 27 Apr 2007.

Turner's group had been on the track for a month and no doubt Turner had data to compute, supplies to replenish and items to repair. Also while at Madura Homestead, Turner arranged for a telegram to be sent to John Forrest from Eyre telegraph station, dated 3 June 1885: "Arrived at Madura 110 miles from Eucla. Plan of [Eucla] town site by next mail. All well. G. R. Turner" (State Records Office of Western Australia, 1885).

Our own sojourn at Madura was less than 18 hours then we were once more on the old cliff-side track. Our first stop was the Madura Homestead ruins where we had to check on some known, but untagged rock shelters in the gully behind. In the same gully we also found a nice rockhole, N-3946, which we tagged and recorded. We noted many old car wrecks around the old homestead ruins and a rather ingeniously cobbled together car gearbox incorporated into the windmill pump on the nearby bore. (Regrettably, I did not photograph this marvel of bush mechanics. Upon our return the following year we found that it had been replaced.)

Toondi Rockholes (N-3947 and 3948) were our next stop, and here we found the ruins of the house Turner had recorded on 4 June 1885, along with the two rockholes and a well. We also found a beautifully constructed bridle trail up to the top of the cliff line. The path had been built using dry stone walling with rubble infill and, although it had washed away a little, it was still quite serviceable, if a little overgrown. This bridle trail passed within 6m of Toondi Rockshelter (N-296), which we duly tagged and documented.

We usually record any unusual plant species we see and 20m north-east of Toondi Rockshelter we noted several correas in flower. These were almost certainly *Correa reflexa*, a common enough shrub, but not generally seen on the Nullarbor. We noted correas at more rockshelters or rockholes (eg. N-310, N-3951) in the cliffs as we worked our way westwards.

From Toondi Rockshelter we continued climbing to reach the top of the cliffs where we were rewarded with northern views of a triple weir system, built into a steep-sided gully behind the cliff face — truly a wondrous piece of engineering, constructed by men for whom water was the most precious commodity of all.

We camped at Toondi, declaring it to be the most attractive of all the places we had seen so far.. The soil was richer and darker than elsewhere, the trees were taller and we were treated to clear evening skies and the sight of three Major Mitchell cockatoos (*Cacatua leadbeateri*), one of Australia's most striking cockatoos.



Campsite at Toondi ruins.
Photo: Peter Ackroyd, 7 May 2006.



Ray Gibbons at Burn-Billi-Billi Rockhole (N-3949) — typical of many of the rockholes we located.
Photo: Peter Ackroyd, 7 May 2006.

The next day, 7 May 2006, was to be our last full day on the Turner project, as we had been asked by the CEGSA Committee to meet with Craig Haslam, a Nullarbor tourism entrepreneur from Port Kenny. We were due to meet him at Cocklebiddy Motel on 9 May from where we had been instructed to take him into Murra El Elevyn Cave (N-47). We continued south-west, along the foot of the cliff line, locating each of Turner's rockholes as we came to them, including the rather fetchingly named Burn-Billi-Billi Rockhole (N-3949).



Ray Gibbons and Craig Haslam in Murra El Elevyn Cave (N-47).
Photo: Peter Ackroyd, 9 May 2006.

Our last Turner feature for this trip was Olwolgan Rockhole (Turner's spelling). This rockhole, which we tagged N-3951, was rather hard to find, being more like a burrow in the cliff face rather than the more traditional basin type rockhole. The locating and tagging of this feature meant that we had found 34 of the 90 Turner features, leaving us plenty to do for the next trip.

We camped nearby, and next morning, after the usual "data download", we visited a rockshelter we could see in the cliff face. We tagged it N-3952 before backtracking to Madura Pass to change our many-times-repaired bush wheels and tyres for the road set that we carried on the roof. We then drove west along the Eyre Highway to Cocklebiddy Motel in order to meet Craig Haslam as arranged.

We took Craig to Murra El Elevyn and gave him instructions on ladder climbing technique. We hung a ladder from a tree so that he could practise, and then rigged the ladder into the cave. I belayed Craig and Ray down so that Ray could show Craig the highlights of the cave. Afterwards, we had a chat about general cave ethics and then Craig departed for his home at Port Kenny.

While in the vicinity, Ray and I checked out a very minor rockhole, N-697. We camped nearby and next morning commenced our drive back east, arriving at Max Meth's place at Ceduna rather late. The following day (11 May 2006), Ray and I swapped driving duties every 1½ – 2 hours to arrive safely back in Adelaide after sunset, where we shared a bottle of red to toast an interesting trip.

Appendix 1: Listing of features examined and karst numbers allocated

New 'N' numbers allocated, tagged and documented:

6N-3910, 6N-3911, 6N-3912 (10 Mile Rockhole), 6N-3913, 6N-3914 (Wanteen Rockhole), 6N-3915, 6N-3916 (Yakcoorga Rockhole), 6N-3917 (Yuwanyadi Rockhole), 6N-3918, 6N-3919, 6N-3920 (Kuthala Weir Rockhole), 6N-3921 (Undina Rockhole), 6N-3922, 6N-3923, 6N-3924 (Jallah Rockhole), 6N-3925, 6N-3926, 6N-3927, 6N-3928 (Maeraming Rockhole?), 6N-3929, 6N-3930 (Unknown Name Rockhole), 6N-3931 (Boolaboola Rockhole), 6N-3932, 6N-3933, 6N-3934, 6N-3935, 6N-3936 (Carlabeeencabba Rockhole), 6N-3937 (Crystal Rockshelter), 6N-3938 (Youlgarou Rockhole), 6N-3939 (Nooraraba Rockhole), 6N-3940 Weedoodoo Rockhole), 6N-3941 (Elarbila Rockhole), 6N-3942 (Goorunghia Rockhole), 6N-3943, 6N-3944 (Kooleriga Rockhole), 6N-3945 (Nuneeja Rockhole), 6N-3946 (Madura Gully Rockhole), 6N-3947 (Toondi No 1 Rockhole), 6N-3948 (Toondi No 2 Rockhole), 6N-3949 (Burn-Billi-Billi Rockhole), 6N-3950 (Mungedija Rockhole), 6N-3951 (Olwolgen Rockhole), 6N-3952 (Olwolgen Bluff Rockshelter) (Total = 43).

Existing 'N' numbers visited, data collected and feature tagged (when no tag found):

5N-1 (Warbla Cave), 6N-47 (Murra-El-Elevyn), 6N-296 (Toondi Rockshelter), 6N-297, 6N-310, 6N-577 (Old Madura Gully), 6N-614 (Dynamite Cave), 6N-615, 6N-616 (Winganna Cave), 6N-697, 6N-726, 6N-981 (Muir Well No 1), 6N-984 (Najada Rockhole), 6N-988 (Noorilla South Rockhole), 6N-1221, 6N-1223 (Naliwoodin Rockhole), 6N-1225 (Noorilla Rockhole), 6N-1340 (Moodini Rockhole), 6N-1392 (Mundrabilla Rockhole), 6N-1419, 6N-1479, 6N-1480 (Cheeta Rockhole), 6N-1503, 6N-3260, 6N-3261 (Kadula Rockhole), 6N-3262 (Total = 26).

Temporary 'NX' numbers visited and 'N' numbers allocated (where applicable):

NX-23, 24, 25, 45 (destroyed), 53, 62, 123, 132 (never existed), 244, 256, 257, 258, 259, 260, 261, 265, 266, 267, 268, 269, 270, 271, 272, 315, 317, 344, 347, 348, 485, 486, NXK-954 (Total = 31).

All our cave information was entered into the CEGSA Karst Index (KIDSA) in mid 2006 and so is accessible to all cavers.

Appendix 2: Soil Density Tests

Test 1:

Test date: 18 Apr 2006

General location: Claypan on Hampton Tableland.

Soil description: silty clay, homogeneous.

Exact location: AGD 66 cords 52J 487,600; 6505,250

Pit size: 0.44x0.26x0.15m deep.

Soil mass: 23.8kg

Calculated density: 1,390kg/m³

Comments: Very even hole due to homogeneous clay

Test 2:

Test date: 4 May 2006

General location: Roe Plain.

Soil description: very sandy loam containing (limestone) cobbles and pebbles.

Exact location: AGD 66 cords 52J 330,800;6467,710

Pit size: 0.56x0.28x0.17m

Soil mass: 33.6kg

Calculated density: 1,260kg/m³

Comments: slightly uneven hole due to presence of occasional cobbles. Hole dimensions were determined with this in mind.

Instruments used: tape measure, 50kg spring balance, US postal airmail bag (negligible mass)
Probable max error: $\pm 70\text{kg/m}^3$.

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Peter Ackroyd, 8 Feb 2010

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6E120 - Ray of Sunshine Cave, the Newest Cave in WA!

A recent Social Sandgroper weekend caving trip to the Eneabba area saw Kim Halliday and the author revisit a new karst feature we located whilst bushwalking on 26 July. The feature consists of an area of karst pavement and blocked solution tubes approximately 20mW x 50mL. We knew there was a cave under our feet because one small impenetrable hole we found had cold air blowing out of it and thick green moss around its rim. A disto showed the chamber floor was 8m below the surface with a 2m thick roof.



Kim Halliday at the entrance and squeezing down the solution rift.
Photo: Paul Hosie.

The location of the feature indicated that it was on the line of a relict flow path of a significant cave system, so we were well motivated to find a way into it. We checked a couple of obvious, partially blocked solution tubes but they pinched down one metre below the surface. We next faced the prospect of checking every little rubble filled hole in the area. Kim chose one and said "how about this one, could be alright?" I noticed dried moss around the edge of the rubble and agreed with the choice, so we set to work.

30 minutes later we had exposed a beautifully clean, 1.5m long x 0.35m wide solution tube that dropped straight down into a large open chamber below.

Back to the car to get the vertical gear, rig up and then we squeezed down the hole one at a time. The main chamber is 50mL x 23mW x 8mH with a soil floor and some limited flowstone and roof formations. The most fascinating features within the cave are the numerous drip holes and calcite splash deposits in the soil floor at the upper (East) end of the main chamber. Many of these 'holes'

had calcified tree roots lying in them which had been subjected to a formation process similar to that of cave pearls as they were smoothly and evenly coated with calcite in the holes where many of them lay together.

An extension at the lower (West) end of the main chamber dropped down a floor hole to a 30m long, muddy streamway passage that terminates



Drip holes and splash deposits.
Photo: Paul Hosie.

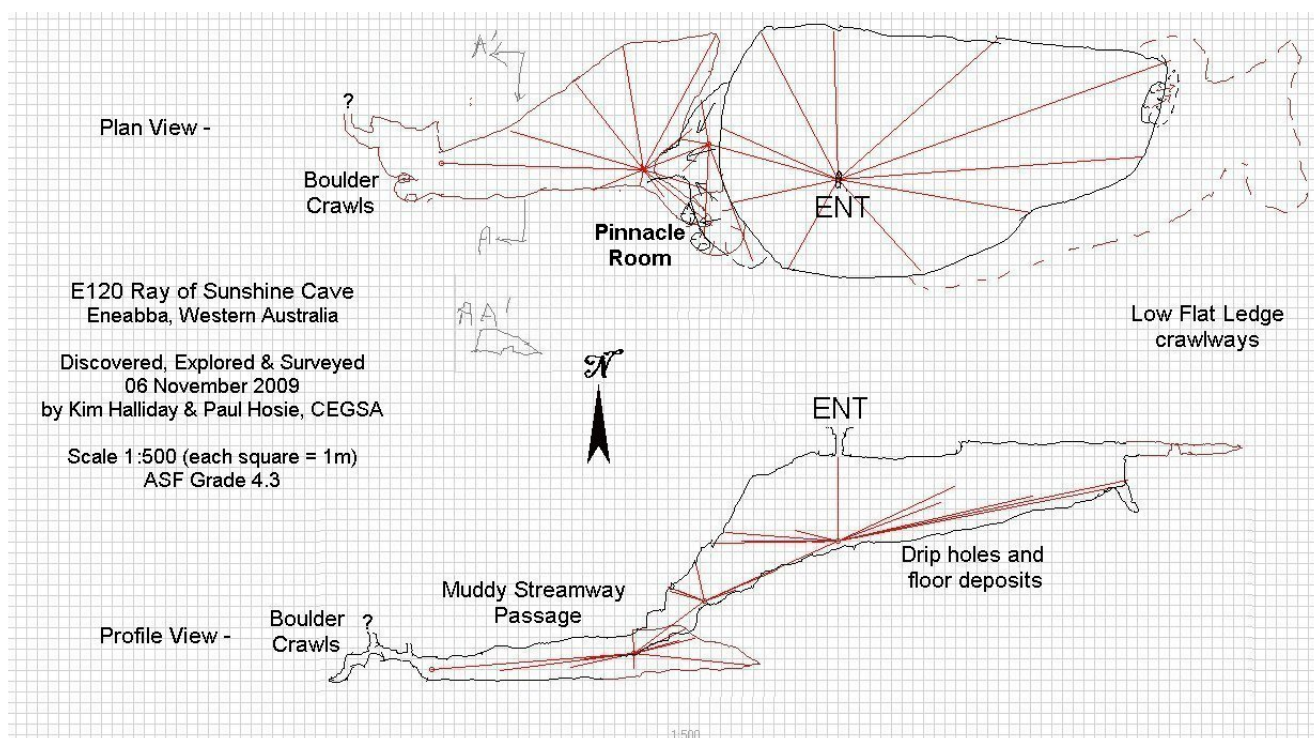


"Ray of Sunshine".
Photo: Paul Hosie.

in a boulder choke. We fully explored and surveyed the cave while we were there and an overlay of the cave map shows that the boulder choke area is directly beneath the edge of a surface doline feature some 20m above.

While we were exploring the main chamber, the clouds must have cleared for a brief period and the sun shone a stunning beam of light down into the cave through the (new) entrance. This mesmerising sight inspired the naming of the cave.

The map and photos accompanying this report should give you some idea of the features in E120 - Ray of Sunshine Cave, the latest addition to the wonderful caves of Western Australia!



Paul Hosie.

Fossil Cave megafaunal fossil discovery and retrieval, 2009

For me the discovery of important megafaunal bones had started with a dive in Fossil Cave (5L81) back in August 2008, at a time when Matt Skinner was preparing for his CDAA Penetration (Advanced Cave) course and keen to dive as many sites as possible. Megafauna relates to large animals (mammals & flightless birds), usually heavier than 30kg, that have become extinct since the last ice-age, i.e. from 1.6m to 10,000 years ago approx.

The '5L81' refers to the official cave reference number recognised by the Cave Exploration Group (of) South Australia (CEGSA) Inc., replacing its original south-east reference number "S123" in the mid-1970s with its Lower south-east number of "5L81" ('5' referring to the state of SA, 'L' for the Lower South East, and '81' because it was the eighty-first cave registered in the then newly-defined LSE area).

Until recent times the recorded name for Fossil Cave was "The Green Waterhole"; although it has also been referred to as the "Greenwater Hole Cave" in some past reports. I imagine this naming was because of the green plants that grew from the waters edge across the surface, combined with the green moss that grew on the rocks and the ever-green foliage within the doline. When horses were the normal mode of transport a hundred years ago, they probably drank from The Green Waterhole, and likely fed on the green grass that grew in the doline, supplemented by the apples that were planted along the roadside for that purpose.

During the writing of this article I wrote to fellow cave diver Peter Horne asking for clarification on the Green Waterhole name. Peter had compiled a considerable history about the feature through coordinating a major mapping and bone-retrieval project in the cave during the late 1980s, and he subsequently informed me that in the South Australian Government Gazette of 4th May 1989 (page 1215) it was "recommended that the names Goulden Waterhole and The Green Waterhole be altered to Goulden Hole and Fossil Cave respectively". I am presently waiting to hear if this eventually happened (it is possible that it may not have), and if so, when. Readers ought to be aware of the cave renaming since the significant discovery of fossil bones there in the 1970's, as the name "Green Waterhole" remains valid for searching on past articles.

Earlier in 2008 Bruce Bulled discovered a new room in Fossil Cave, which he had shown to Matt and others on a previous dive but which had not yet been fully explored. This was a good opportunity to explore this new room. After entering the water Matt reeled and I followed. Following the obligatory check of the main area of the cave, we headed to that part of the cave where the new room was located. When I first saw it I realised why it had not been discovered sooner – it was a well concealed opening, about 400-500mm across, between rocks that led into a small room.

Matt shot into the entrance of the small room like a rat up a drainpipe, with me close behind, until I realised there may not be enough room for the two of us. At that point Matt had hardly gone 2m in to check out the room and was now on the other side of it. Perhaps I had over inflated my expectations a smidgen I was thinking, as I waited for Matt to find a space to turn around before heading out again. While Matt stopped to investigate a window in the floor I noticed a tunnel heading off to my right, which had a few bones sitting on a ledge adjacent to its entrance (see Figure 1) that Matt had not yet noticed.

As Matt was swimming toward me ready to leave the room, I flashed my torch at the tunnel entrance, and since Matt had the reel he entered the tunnel first with me in close pursuit. It was evident from the silt pouring down from our bubbles, and the white silt mounds half-blocking the tunnel entrance, that no-one else had previously entered that area. We could see that the tunnel went for several metres and appeared to open out into another room.

Taking great care not to disturb or damage any bones that might be contained in the silt mounds blocking the tunnel, we carefully pushed these aside and pulled our way in (by now I'm quite accustomed to following in zero viz). Matt continued to the end of the tunnel that widened as we entered, then dropped down into the lower corner section and poked his head into a second tunnel. Wow! Everything in this section was covered in totally undisturbed virgin silt, which meant that very quickly silt was raining down from the ceiling at an increasing rate. I watched from the side and above as Matt disappeared into the lower section tunnel, now almost hidden by silt. At that point I



Figure 1: Silt pile at bottom of fissure, on ledge at entrance to tunnel (NRS)

reassessed whether I should stay where I was as this would likely result in an untidy collision with Matt on his return, so I decided to move back to the tunnel entrance and wait for him to reappear, as it would compromise diver safety to blindly follow.

I was very pleased for Matt because he had been trying desperately to get into another area nearby that I now believe might be linked. Perhaps this was the lead Matt had been searching for all along. When Matt reappeared, grinning from ear to ear, we both exited the cave and agreed to come back another day and check this area out further. Matt told me he had travelled another 2-3m to the end of the tunnel, but it had become too silty to see much detail.

It was not until May 2009 that we eventually returned, due to Matt having to complete his Penetration course, after which our focus switched to diving Pen-rated sites for several months to achieve Tank Cave access for Matt. This time we headed straight for the new area, where Matt reeled into the tunnel while I explored the area of the first room adjacent to the tunnel entrance. To my surprise, I realised I could see Matt down below me through a gap in the rocks. I shone my torch down at Matt as he was looking in the direction of what appeared to be a megafauna jaw, along with other bones directly in front of him and signalled to him not to touch them.

Matt was clearly very excited on his return and we exited the cave feeling very pleased with ourselves. We then discussed the importance of not touching the fossils because they would be extremely fragile and may fall apart when handled.

Most divers are not aware that ancient fossil bones become the property of the state museum in the state in which they are found, the instant they are removed from the water. (In our case, special arrangements were made by the Flinders University to have these specimens located at the University, rather than at the SA Museum.). It is illegal to remove bones from sites without permission and an approved collection permit. Fines can be imposed by the SA Government on divers removing fossil bones without these approvals.

As mentioned previously, fossil bones can be very fragile and may fall apart when removed from their gravity-free environment. Bones should not be removed to the surface until arrangements for their removal have been put in place that includes containers to put them into, before carrying them through or lifting them out of the water. They can also become flaky and fall to pieces when they dry out. Old bones become very thin over time due to dissolution in the water with time. They need to be kept damp until treated by specialists. Never try to clean them underwater; this should be left to the trained specialists in controlled conditions.

The exact location of the bones must be recorded before, or at the time, they are moved (refer Figure 7). This information is vital in establishing links to previous or future finds in the same area that may be related. Sometimes fossil bones are discovered in apparently different areas and it isn't until later it is realised this is the same animal that has partially slipped into a new position due to subsidence or interference by another animal for example.

After the fossil bones have been removed a marker is usually left behind to identify the area where the bones lay in case additional follow-up checks for 'missing' bones are required. These markers are also useful links back to written reports regarding the location of bones in the past.

I suggested to Matt that we come back with the camera and document them before they were disturbed by anyone. Matt was concerned about the possibility of other divers damaging the bones when entering the confined space where they lay. The following month we returned with Matt's camera, and this time we both entered the confined area at the bottom together. I could see from below and behind Matt that he was having trouble holding the light and taking photos of the jaw at the

same time, so I moved forward underneath him just as he set his primary light aside to take the photos using internal flash. Matt was quite surprised when suddenly my light appeared on one side of the jaw being photographed and his light appeared on the other side, providing underwater 'studio' lighting on-site!

Once Matt had photographed the jaw for identification purposes (refer Figures 2 & 3), seemingly from every conceivable and imaginable angle, we carefully returned it to the exact spot from whence we had found it.



Figure 2: Location and ID photos of first *Sthenurus* jaw taken in-situ (MS)



Figure 3: Jaw replaced in silt where found after ID photos taken (MS)

Matt then emailed the images to Mr. Steve Bourne, DEH Deputy Regional Conservator for the South East Region, for identification. Here's what Steve said:

"It's *Simosthenurus occidentalis*, one of the extinct browsing kangaroos. Gavin Prideaux from Flinders Uni ID'd it to species. Limb bones are more than likely the same animal. Discussing with him about possible collection. There was a complete skeleton of this species recovered from there a few years ago. Good find though."

Steve then began the process of obtaining Government approval for the removal of the

fossils from the cave to Flinders University of SA, where they could be examined by Dr. Prideaux and hopefully linked back to the other specimens taken from the same site over the last 30-40 years.

According to a detailed research report by the South Australian Underwater Speleological Society Inc.¹, fossil bones were first discovered in Fossil Cave back in 1964 by Mr. G. McKenzie, which subsequently resulted in many fossil bones being located and removed from the site in January 1968 by Messrs. McKenzie and Brian Brawley, "including six extremely well-preserved sets of skulls and jaws". This discovery was reported in "The Border Watch" newspaper on 27th February 1968, and resulted in further expeditions taking place later in 1968, early 1969 and in June 1974. Following the discovery of more bones in the cave in late 1978 by divers from the Flinders University, the area was thoroughly checked using a star-picket grid pattern to assist in recording bone locations. During this search a "nearly complete and excellently preserved skeleton of a *Sthenurus* kangaroo" was found, and it was the assemblage of this skeleton that showed the species was "in fact relatively short, stocky, large-necked animals".

Sthenurus (Latin for "Strong Tail") is the name of the genus to which the species *Simosthenurus occidentalis* belongs. These are believed to have been extinct for 50,000 years. An impression of what this browsing kangaroo looked like and more information may be found on the DEH website at <http://www.environment.sa.gov.au/parks/sanpr/naracoortecaves/ea4.html>.

It is a credit to those early cave divers that complete skeletons were still able to be removed from on top of the rocks in Jan 1979², some 10 years after these sites had become popular dive sites, and almost 6 years after the formation of the CDAA. It is the remains of 80 star pickets and 750m of line that were installed in Fossil Cave during the Christmas break of 1978 that can still be seen in the cave today².

Upon seeing pictures of the jaw found in Fossil Cave in 2009, Mr. Neville Pledge (Senior Palaeontologist, SA Museum) said "The specimen certainly is 'megafauna'; it is a jaw from an immature sthenurine, possibly '*Procoptodon*' *occidentalis*. [used to be *Simosthenurus occidentalis*.], but I can't be certain without examination and measurement."

After negotiating with Steve Bourne, as well as Dr. Prideaux and others, it was agreed we would remove the fossil bones on the weekend of 15-16th August 2009.

We also invited cave-divers Mark Nielsen, who had been involved in previous bone retrievals from Fossil Cave, to join us and share his expertise, and Grant Pearce as well as CDAA Site Director Rob Brennan who was not able to make it that weekend.

Matt Skinner, Mark Nielsen and I started the day late on the morning of Sat 15th August with a pleasure dive in The Pines to ensure our gear was ready for the dive later in Fossil, hitting the water at 11:45am!

We did not want to start the dive in Fossil Cave in the company of the landowner and others to find we had gear issues. Not that we expected any of course. We were also careful to avoid decompression obligation as we were prepared to spend considerable time under the water, and we knew we would be bounce diving for the time we were there.

On arrival at Fossil at about 1:30pm, we went straight in so Matt could take some video footage of the area, before coming back out to await the arrival of the others.

Grant Pearce was expected to arrive first, followed by Steve Bourne (DEH) and Dr. Prideaux who were coming from the Naracoorte Caves to receive the fossil bones from us as we brought them to the surface. We did not want the responsibility of taking these back to Adelaide with us for fear of something happening enroute.

Grant arrived around 2:30pm or thereabouts with the marking pen we needed to mark our removal containers. We used the extra time to brief Grant on how we planned to remove the bones and get them to the surface safely, and to ensure we were ready to hit the water.



Figure 4: Bone deposits at end of tunnel, in lower area (MS)

Once Steve and Gavin had arrived, we spent 10-15 minutes discussing what they wanted (in terms of silt samples, etc) before donning our dive gear once again. Silt samples are required to allow chemical/geological analysis of the immediate environment in which the bones are located. If analysis of the bones reveals the presence of any unusual elements, then the silt may be tested to ascertain whether the bones have been contaminated by their surroundings.

Matt, Mark and I entered the water together, with Matt and Mark 'de-fossilising' the tunnel area together, and myself in the main chamber area and off to the side. It was clear from the beginning there was no room for three divers inside the tunnel, so we agreed beforehand that I would remove the fossils from outside of the main rock-pile and adjacent to the tunnel entrance which we believed may belong to the same animal. I also spent some of this time checking the rock-pile over to

ascertain how the fossils made it into where they were found. During this time I noted I could see Matt's light inside the rock-pile from the top, looking down through a 300mm wide vertical fissure in the major section of rock that forms the bulk of the rock-pile. Presumably this fissure was created when the roof section fell down onto the rock-pile and broke, but I still found it extraordinary that the two sides of the fissure appeared to be so precisely parallel over their considerable length (10m?) and depth (4-5m).

Steve and Gavin were on-site from approx 3:10pm until 4:15pm. Before they left I advised them that a second jaw had been discovered that was in excellent condition, with all teeth intact, and that this would be retrieved next, but unfortunately they had run out of time and were unable to wait. They agreed for us to drop the remaining bones off to them at Naracoorte Caves on our way back to Adelaide, rather than expecting them to return the next day at 5pm to take delivery of same. This would not only save them the cost of the return trip plus 2.5 hours travel, but would also put us an hour ahead of schedule on our return journey.

It was shortly after Steve and Gavin had left the site on the Saturday that I removed the second *Simosthenurus occidentalis* jaw, which was indeed a fine specimen. I made no attempt to clear the silt off the jaw prior to removal, as the coating of wet silt helps to prevent the bones from drying out. We wrapped the bones in chemical-free paper provided by Gavin, and then wet the paper to prevent the bones from drying out. I am aware that it is not good to wrap fossil bones in newspaper and the like, because printers ink and kerosene can contaminate the bones and render them useless for DNA sampling if required.

We finished up around 4:45pm that afternoon; Matt was running low on air and we were all keen to ready ourselves for an ale and meal. All the bones including the jaw were carefully placed on paper in separate plastic bags according to location; the bags were labelled and then put into a cardboard carton that we (very carefully) took back to our lodgings for safekeeping. The carton spent the night safely stored under the bed.



Figure 5: Second undisturbed *Sthenurus* jaw prior to removal (NRS)



Figure 6: Second *Sthenurus* jaw after removal, covered in black silt (NRS).



Figure 7: Peg 3; location of the second *Sthenurus* jaw marked after removal (NRS)

Due to the extremely poor visibility within the rock-pile and the fact we were returning the next morning, we decided that rather than remove our guideline to the surface, we would disconnect the end of it at the surface and leave it at the 4-5m mark where it could not be readily accessed by visitors.

On Sunday morning we decided to go straight to Fossil Cave as it was apparent that if we were to get to Naracoorte by 4pm then we would have to be gone by 2pm or earlier, as we still had to return to Mount Gambier to pick up our gear. We also agreed this time it would be better to separate into three groups of one, to maximise private space and facilitate more

efficient collection. Mark would focus on a potential new area we referred to as area #5 that was halfway between area #1 on the upper level and area #2 at the far end of the tunnel on the lower level. Matt would revisit area #1 near the entrance on the upper level, believed to be the source of bones falling into the lower level, and I would spend more time checking area #3 where I located the second *Simosthenurus occidentalis* jaw as well as further examination of the surrounding area.

Each area, typically around 1-2 square metres in size, was defined by a peg bearing the numerals 2009 for year of survey and a unique number within the range 1-5 (refer Figure 7). This is done to mark each area and provides a reference/record for any future studies or expeditions.

On arrival at Fossil Cave on the Sunday, we reconnected the line and I took my camera in for a few photos within the rock-pile, to the end of the tunnel. Upon entering I was quite surprised at how milky the water was from the previous day. Taking care to not disturb the silt further, I very carefully swam to the end of the tunnel and took one bad-viz photo (Figure 8) before withdrawing and inviting Mark in for a look prior to recommencing the task of collecting the fossil bones as planned. Later, Mark also commented on how silty it was in there.



Figure 8: Peg 2; silt pile at bottom of new area, directly below Figure 7 (NRS)

On further examination of the surrounding area, I was quite intrigued by the deep fissure in the rock-pile. During the course of trying to see the location of the top of the fissure from below, a line with a jump reel at the end of it was left hanging from the top by Matt, but still we could not see this line from below. I believe this to be due to the build-up of deposition from above into the lower section of the fissure, which blocked the angled view to the surface some 3-4m further along the fissure, and that the key to finding more of the skeleton lies within this deposition at the bottom of this fissure. One

would assume that much of this deposition would have occurred in more recent times due to the softening of the surrounding rock.

I was surprised to later learn that it was a distance of 20m from the entrance of the tunnel into the rock-pile to the far end of the tunnel; it doesn't seem at all like it when you are swimming through. Matt had marked his line and after getting out of the water had measured it to obtain an accurate measurement.

We left the site at around 2:10pm (I think) on Sunday and it was a rush to get to Naracoorte at 4:25pm, where the palaeontologists were waiting for us in the car park (we had rung and let them know we were on the way and running a little late). I was surprised to run into Dr. Grant Gartrell with the same group, but later learnt that that week was "Palaeontology Week 2009". This also explained why Gavin was busy at Naracoorte Caves that weekend and wasn't keen to do the fossil collection at that time.

Gavin was delighted with the second *Simosthenurus occidentalis* jaw that I had found sitting on a shelf in black silt in near mint condition (as good as it gets), but probably no more so than the rest of the fossils because each is just as important as the other in assembling the skeleton. Disappointingly, Matt was not able to travel to Naracoorte with us as he was heading off in the other direction to Melbourne and was concerned about getting clear of the forests before dusk, due to the high incidence of kangaroos on the Victorian side of South-East SA.

After leaving Naracoorte Caves, Mark and I headed into town for a well-deserved feed at the local pub, only to find we were one hour too early for the pub meal we had been salivating for, so we settled instead for a feed at Pinkies Ribs. Afterwards I thought, not a good idea, too many bones...

We have been told that because of this discovery, all fossil bones previously taken from Fossil Cave and stored at the SA Museum have subsequently been relocated to the Flinders University, where a research grant has been made available for a short-term contract position for a palaeontologist to

sort and collate those bones, along with any others from Fossil Cave that may have been stored at Flinders University.

Of particular interest to myself was the way the new area seemed to have been formed. The ceiling and walls/sides are scalloped limestone, similar to what may be seen in most caves where the water has dissolved the limestone away leaving an ornate effect such as one sees in Tommy Graham's, Engelbrechts West and Tank caves, to name but a few. The 'floor' on the other hand is made up of boulders, some small, some quite large. So why are the roof and sides of the new area scalloped when the rest of Fossil Cave is smooth?

I believe that what can be seen is in fact the roof of the cave that has fallen down and landed on top of the original rock-pile formed when the current entrance doline collapsed. This would explain that large 300mm wide fissure, which I believe was formed when the roof came down onto the rock-pile and broke, with the lower section sliding down the slope 300mm more than the section above it. It also explains that nice round, rather smooth, gently sloping bottom that can be seen when one stands at the entrance to the water filled cave and examines the area under the water (only small sections of the large fissure can be seen from the top, since more recent roof collapses have added another layer of flat rocks that covers most of it over). This same effect can also be viewed by divers in several other places where there exist small rooms, many too small for divers to enter.



Figure 9: Roof collapse on top of rock pile/boulders, showing subsequent roof collapses (NRS)

This suggested to me that browsing kangaroos would have possibly slipped and fallen down into the crack in the collapsed roof whilst searching for, or attempting to drink, the water at a time when levels were much lower than those seen today, before eventually sliding down the slope into their final resting place.

The SAUSS report states "Greg Bulling and Chris Hales went to the cave on the weekend of October 18th (1987) and undertook an extremely valuable reconnaissance dive, locating a new and very rich bone site at the bottom of a 4-metre deep fissure." What wasn't clear in the report is whether the bones were removed by some means of extracting them from the top of the fissure (see figure

10), or whether Greg and Chris had actually accessed the same area as ourselves, thus obtaining access to the fissure from the bottom. However this seems unlikely, otherwise the two jaws and other bones would most certainly have also been discovered and removed at that time.



Figure 10: Looking down into the fissure portal from above (NRS)

On January 18th 2010, I received an email from Dr. Prideaux who said "you guys collected a more encouraging bunch of bones than I first anticipated", and went on to advise that amongst the bones retrieved was the humerus (upper arm bone) of a magpie-sized bird (not yet identified to species), a pair of lower jaws and several limb bones of *Macropus giganteus* (grey kangaroo), several limb bones of a wallaby, possibly *Macropus rufogriseus* (red-necked wallaby), pairs of lower jaws of two adult individuals of the extinct short-faced kangaroo *Simosthenurus occidentalis*, plus numerous limb bones, ribs and a vertebrae, and the most complete jaw ever found of *Palorchestes parvus*, the smaller of the Pleistocene marsupial 'tapirs'. Dr. Prideaux also said that there were "some important

specimens that we already have that are missing bits", so every bone is just as important as the first. This was indeed exciting news; it meant our work was worth the effort and that our reward lay in the knowledge we had achieved something worthwhile for the world to share.

Acknowledgements:

Thanks to Bruce Bulled for discovering the new area, and to Matt Skinner for his work liaising with DEH (Steve Bourne) in the subsequent retrieval of the bones. Many thanks also to Peter Horne for his advice and guidance on who to contact, how to record the fossil bone locations before removal, how best to retrieve the bones without causing damage to them, for providing a copy of his original SAUSS Research Report (No.1), and for additional research of historical facts. And many thanks to Steve Bourne for organising the retrieval, and to Dr Gavin Prideaux for his help in the retrieval, collation and safe storage of the bones, and subsequent information about those bones included in this report.

Photos Copyright: Matt Skinner (MS), Neville Skinner (NRS)

References and Recommended Reading:

1. South Australian Underwater Speleological Society (SAUSS) Report #1: "Fossil Cave – 5L81 UNDERWATER PALAEONTOLOGICAL AND SURVEYING PROJECT 1987 – 1988". Author: Peter Horne

<http://sites.google.com/site/mgreports/5L81-FossilCave-SAUSSResearchReport1.jpg>

2. CDAA Occasional Paper No 2 Sept 1981 (from topics presented at the CDAA bi-annual conference 22 Sept 1979). Pages 4-12 (Williams, Rogers & Hiscock).

3. <http://mgreports.googlepages.com/5L81-PalaeontologicalWork-May2006.pdf> (P. Horne)

4. <http://www.environment.sa.gov.au/parks/pdfs/005605.PDF> - Pg 6-8 (L. Reed / S. Bourne)

More reading may be found through a Google search of "Green Waterhole Cave"+Australia.

Neville Skinner, Jan 2010

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Corra Lynn Cave, 14 November 2009

Party: Graham Pilkington (L), Ray Gibbons, Mark Sefton, Sue McCormack, Steve Maxwell and Daniell Rasheed.

We journeyed out to the Portal and Ray installed 2 stainless steel bolts above the ladder pitch that descends to the lower Wishing Well Dig. At the same time the Portal entrance was enlarged by moving a few hundred kg of dirt back along the Alberta. It took some trial and error to get the ring-bolts securely installed and drained 3 of the 4 batteries that we had for the drill. The second bolting spot at the Lower Wishing Well Dig was not attempted because we did not have enough battery power left to complete the job and it was concluded that we would not know the best spot to install the bolt until a few metres of excavation had exposed more of the drop.

The bolting task completed and tested with a ladder, we drifted off back to the entrance. Mark left for his dinner appointment. The rest of us left the heat to the flies and enjoyed a short tour of the Crystal Maze. This was to show the newcomers that not all Corra Lynn is like the Alberta!

Graham Pilkington

Past Trips from General Meetings

November 2009

- 1 **Marie Choi** to Corra Lynn on 12th September to allow a group of beginners the privilege of enjoying the caves' embrace.
- 2 **Peter Ashenden** visited a volcanic cave in Arizona in July that was formed by the roofing over of a valley.
- 3 **George MacLucas** and June went on a tour of waterholes and rock shelters to examine Aboriginal art.
- 4 **Sue McCormick** to Corra Lynn with 5 others on 14th November. Ray Gibbons bolted the Portal Dig whilst others enlarged the Portal's entrance tunnel using a specially designed trolley to convey the spoil. After a quick return to the hot surface, Graham led the troops on a brief tour of the Crystal Maze.

January 2010

- 1 **Graham Pilkington** visited caves in early January in the Jaunter and Tuglow areas, about 100km due west of Sydney, whilst staying with Peter Dykes.
- 2 **Tim Payne** and companions dived in The Shaft using re-breathers after getting special permission from the owner. They tried taking some video but there was not enough light. Maximum depth was 114m
- 3 **Ian Lewis** dived in The Pics down to 40m examining solutional sculpting and geology. Harry Harris dived deeper taking various measurements. Ian found that he could relate his observations to the video taken by Harry and hence obtain information on solutional notches down to depths that he was not able to descend.
- 4 **Harry Harris** plus 5 others explored the Pearce Resurgence in New Zealand. They spent almost all their time designing and building a traversing dry decompression chamber – an air bag under pressure - that can gradually rise from 40m to 12m depth. The cave has levelled off at depth but is heading away from the dye-traced water source 6km distant. NettleBed Cave has been dye-trace connected to the Pearce Resurgence which would give NettleBed a depth of over 1km – the deepest in the southern hemisphere. A bio-survey was conducted and collected several cave-adapted stygofauna.

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REMINDER

Members are reminded that CEGSA will reimburse all reasonable expenses incurred by members in catering to the operation of the Group, execution of Office bearer activities; and running Group functions. If the expense will be beyond the pre-approved budget, then it's suggested that the member get prior approval from the Committee or a General Meeting before expending the money.

TECHNICAL and OTHER ARTICLES

MEMBERSHIP

Welcome to new Members:-

A 1001 Jonathon Adams NFP

A 1002 Robert Brennan 47 Minns Street, Seaton SA 5023
(H) 8345-4144 (M) 0414-821-322 (E) robbrenn@adam.com.au

MEMBERSHIP FEES

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

If you prefer to direct credit your fees, the CEGSA Bank Account details are:

BSB 105-900, Account No 950661040, reference with your name and CEGSA fees due.

CEGSA MEMBERSHIP FEES FOR 2010 YEAR

Full Membership	\$ 53.00
Full Country Membership	47.00
Associate Membership	45.00
Long Term Associate	53.00
3 Month Introductory	5.00
Joining Fee (N/A to 3mth Intro)	12.00
Discount for e-mail CEGSA News	15.00
Discount for Country Membership	6.00

ASF LEVY FEE FOR 2010 YEAR

Single	\$ 68.00
Family	121.50
3 Month Introductory	20.00
Student	61.00
Journal Subscription	25.00

2010 YEAR FEES

	CEGSA	+ASF	TOTAL
Full Membership	\$53.00	\$ 68.00	\$121.00
Full Country Membership	47.00	68.00	115.00
Associate Membership	45.00	68.00	113.00
3 Month Introductory	5.00	20.00	25.00

Variation for Family Membership

1 st Full Member + 2 nd Full Member			
Less \$16.00 for only 1 CEGSA News	\$90.00	\$121.50	\$211.50
1 st Full Member + 2 nd Associate Member			
Less \$16.00 for only 1 CEGSA News	\$82.00	\$121.50	\$203.50
1 st Associate Member + 2 nd Assoc Member			
Less \$16.00 for only 1 CEGSA News	\$74.00	\$121.50	\$195.50

Discount for Country Membership applies for Family Memberships.

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

Chris Gibbons.

Treasurer/Membership Officer.

Approved CEGSA Trip Leaders

Name	Caving Leader level
Marie Choi	Horizontal, Laddering and Vertical
Stan Flavel	Horizontal and Laddering
Grant Gartrell	Nil
Chris Gibbons	Nil
Amanda Grindley	Horizontal
Damian Grindley	Horizontal, Laddering and Vertical
Paul Harper	Horizontal, Laddering and Vertical
Richard Harris	Horizontal
Lance Hoey	Horizontal and Laddering
Peter Horne	Horizontal and Laddering
Paul Hosie	Horizontal, Laddering and Vertical
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
Phil Prust	Horizontal and Laddering
Eddie Rubessa	Horizontal and Laddering
Mark Sefton	Horizontal and Laddering
Gary Woodcock	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.

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Notice of motion to amend the Constitution

Current Clause on the duties of the Publications Officer:

- 5c (vii) The Publications Officer shall prepare in collaboration with appropriate officers, an information bulletin containing a program of meetings, trips and social events to be submitted to Committee for approval before issue at no greater interval than four months. He or she shall also be responsible for the preparation and or publication of all other material as directed by and at the approval of the Committee.

Proposed new Clause:

- 5c (vii) The Publications Officer shall prepare in collaboration with appropriate officers, an information bulletin containing **reports on previous activities and** a program of meetings, trips and social events ~~to be submitted to Committee for approval before issue~~ at no greater interval than four months. He or she shall also be responsible for the preparation and or publication of ~~all~~ other material as directed by and at the approval of the Committee.

Note: **Bold italics** are added words and ~~strike throughs~~ are deleted words.

This Motion is to be voted upon at the General Meeting held on March 24th 2010 or at a subsequent meeting if a quorum is not present.

Graham Pilkington

Council Areas of Caves and Features

Name	Feature Type	Local Government
<u>Aladdins Cave</u>	Cave; Grotto	Out of Councils
<u>Alexandra Caves</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Aliena Cave</u>	Cave; Grotto	Out of Councils
<u>Anderite Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Anticline Cave</u>	Cave; Grotto	Out of Councils
<u>Appledore Cave</u>	Cave; Grotto	Tatiara District Council
<u>Arcoona Cave Dam</u>	Catch; Catchment; Dam	Out of Councils
<u>Arcoota Cave</u>	Cave; Grotto	Out of Councils
<u>Arcoota Creek Cave</u>	Cave; Grotto	Out of Councils
<u>Auntys Cave</u>	Cave; Grotto	The District Council of Grant
<u>B B Cave</u>	Cave; Grotto	Tatiara District Council
<u>Backwater Cave</u>	Cave; Grotto	Out of Councils
<u>Bakara Well Cave</u>	Cave; Grotto	The District Council of Karoonda East Murray
<u>Balds Cave</u>	Cave; Grotto	Wattle Range Council
<u>Bandoona Cave</u>	Cave; Grotto	Out of Councils
<u>Banksia Cave</u>	Cave; Grotto	The District Council of Grant
<u>Bat Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Beekeepers Cave</u>	Cave; Grotto	Tatiara District Council
<u>Bildoolja Cave</u>	Cave; Grotto	Out of Councils
<u>Blackberry Cave</u>	Cave; Grotto	Tatiara District Council
<u>Blackfellows Cave</u>	Cave; Grotto	The District Council of Grant
<u>Blackfellows Caves</u>	Locality Bounded	The District Council of Grant
<u>Blackfellows Caves Road</u>	Road	The District Council of Grant
<u>Blanche Caves</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Boars Cave</u>	Cave; Grotto	The District Council of Grant
<u>Bone Cave</u>	Cave; Grotto	Tatiara District Council
<u>Bone, Stone and Bottle Cave</u>	Cave; Grotto	The District Council of Yorke Peninsula
<u>Bottleneck Cave</u>	Cave; Grotto	Tatiara District Council
<u>Briar Cave</u>	Cave; Grotto	Tatiara District Council
<u>Broadnibs Cave</u>	Cave; Grotto	City of Mount Gambier
<u>Broken Mirror Caves</u>	Cave; Grotto	Mid Murray Council
<u>Brown Snake Cave</u>	Cave; Grotto	Tatiara District Council
<u>Bungalow Bay Cave</u>	Cave; Grotto	Wattle Range Council
<u>Bunyerroo Gorge Cave</u>	Cave; Grotto	Out of Councils
<u>Burleeyung Cave</u>	Cave; Grotto	The Regional Council of Goyder
<u>Burr Well Cave</u>	Cave; Grotto	Out of Councils
<u>Carrickalinga Cave</u>	Cave; Grotto	The District Council of Yankalilla
<u>Carters New Cave</u>	Cave; Grotto	Kingston District Council
<u>Catacombs Cave</u>	Cave; Grotto	Out of Councils
<u>Cathedral Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Cave Bore</u>	Bore; Gas Well; Oil Well	Out of Councils
<u>Cave Hill</u>	Hill	Out of Councils
<u>Cave Hill Homeland</u>	Locality Unbounded	Out of Councils
<u>Cave Hut</u>	Building	Naracoorte Lucindale Council
<u>Cave Paddock</u>	Paddock	Out of Councils
<u>Cave Paddock</u>	Paddock	Out of Councils
<u>Cave Paddock</u>	Paddock	Out of Councils
<u>Cave Park</u>	Homestead	Naracoorte Lucindale Council
<u>Cave Park Cave</u>	Cave; Grotto	Kingston District Council
<u>Cave Place</u>	Road	District Council of Coober Pedy
<u>Cave Point</u>	Head; Headland; Point; Spit	Kangaroo Island Council
<u>Cave Range</u>	Homestead	Wattle Range Council
<u>Cave Range</u>	Mountain Range	Wattle Range Council
<u>Cave Range Forest</u>	Forest; Woods	Naracoorte Lucindale Council
<u>Cave Range Native Forest Reserve</u>	Forest; Woods	Naracoorte Lucindale Council
<u>Cave Range Road</u>	Road	Wattle Range Council
<u>Cave Road</u>	Road	City of Mount Gambier
<u>Cave Swamp</u>	Marsh; Swamp	Wattle Range Council
<u>Cave View</u>	Homestead	The District Council of Grant
<u>Cavenagh</u>	Locality Bounded	The District Council of Peterborough
<u>Cavenagh Paddock</u>	Paddock	Out of Councils

Name	Feature Type	Local Government
<u>Cavenagh Paddock</u>	Paddock	Out of Councils
<u>Cavenagh Post Office</u>	Building	The District Council of Peterborough
<u>Cavenagh West</u>	Homestead	The District Council of Peterborough
<u>Cavenagh West</u>	Locality Unbounded	The District Council of Peterborough
<u>Cavenagh West Post Office</u>	Building	The District Council of Peterborough
<u>Cavender Court</u>	Road	City of Holdfast Bay
<u>Cavenett Street</u>	Road	Port Pirie Regional Council
<u>Cavern Vale</u>	Homestead	The District Council of Karoonda East Murray
<u>Caversham</u>	Subdivision	City of Charles Sturt
<u>Caves Dam</u>	Catch; Catchment; Dam	Out of Councils
<u>Caves Paddock</u>	Paddock	Out of Councils
<u>Caves Paddock</u>	Paddock	Out of Councils
<u>Caves Road</u>	Road	Naracoorte Lucindale Council
<u>Caves Waterhole</u>	Pond; Waterhole	Out of Councils
<u>Caves Yard</u>	Yard	Out of Councils
<u>Caveton</u>	Locality Bounded	The District Council of Grant
<u>Caveton Park</u>	Homestead	The District Council of Grant
<u>Caveton Park Estate</u>	Homestead	The District Council of Grant
<u>Caveton Road</u>	Road	The District Council of Grant
<u>Champness Cave</u>	Cave; Grotto	Tatiara District Council
<u>Cheese and Putty Cave</u>	Cave; Grotto	Tatiara District Council
<u>Clara St Dora Cave</u>	Cave; Grotto	Out of Councils
<u>Clara St Dora South Cave</u>	Cave; Grotto	Out of Councils
<u>Clay Dam Cave</u>	Cave; Grotto	Out of Councils
<u>Collins Cave</u>	Cave; Grotto	The District Council of Grant
<u>Considines Cave</u>	Cave; Grotto	Wattle Range Council
<u>Coobowie Corner Cave</u>	Cave; Grotto	The District Council of Yorke Peninsula
<u>Corner of the Fence Cave</u>	Cave; Grotto	Tatiara District Council
<u>Corra-Lynn Cave</u>	Cave; Grotto	The District Council of Yorke Peninsula
<u>Creek Tank Cave</u>	Cave; Grotto	Out of Councils
<u>Crevasse Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Crevice Cave</u>	Cave; Grotto	Wattle Range Council
<u>Dead Sheep Cave</u>	Cave; Grotto	Tatiara District Council
<u>Deadman Cave</u>	Cave; Grotto	City of Onkaparinga
<u>Deathtrap Cave</u>	Cave; Grotto	District Council of Lower Eyre Peninsula
<u>Diprose Caves</u>	Cave; Grotto	Out of Councils
<u>Diprose No 1 Cave</u>	Cave; Grotto	Out of Councils
<u>Diprose No 2 Cave</u>	Cave; Grotto	Out of Councils
<u>Diprose No 3 Cave</u>	Cave; Grotto	Out of Councils
<u>Disappointment Cave</u>	Cave; Grotto	Out of Councils
<u>Disappointment Cave Mapsheet</u>	Mapsheet	Out of Councils
<u>Dittiminkinna Cave</u>	Cave; Grotto	Out of Councils
<u>Earls Cave</u>	Cave; Grotto	The District Council of Grant
<u>Earls Cave East Road</u>	Road	The District Council of Grant
<u>Earls Cave Road</u>	Road	The District Council of Grant
<u>Echidna Cave</u>	Cave; Grotto	Tatiara District Council
<u>Ellis Homestead Cave</u>	Cave; Grotto	The District Council of Grant
<u>Elliston Sea Cave</u>	Cave; Grotto	The District Council of Elliston
<u>Engelbrecht Cave</u>	Cave; Grotto	City of Mount Gambier
<u>Evans Caves</u>	Cave; Grotto	District Council of Robe
<u>Eyrie Cave</u>	Cave; Grotto	Out of Councils
<u>Five Corners Cave</u>	Cave; Grotto	Wattle Range Council
<u>Fossil Cave</u>	Cave; Grotto	Wattle Range Council
<u>Fossil Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Fowlyard Cave</u>	Cave; Grotto	Wattle Range Council
<u>Fox Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Frog Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Frosted Floor Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Furness Cave</u>	Cave; Grotto	The District Council of Grant
<u>George Varcoe Cave</u>	Cave; Grotto	Wattle Range Council
<u>Giants Cave</u>	Cave; Grotto	Adelaide Hills Council
<u>Glencoe East Cave</u>	Cave; Grotto	Wattle Range Council
<u>Glencoe West Cave</u>	Cave; Grotto	Wattle Range Council
<u>Glenhuntly Cave</u>	Cave; Grotto	The District Council of Grant

Name	Feature Type	Local Government
<u>Good Friday Caves</u>	Cave; Grotto	Out of Councils
<u>Gorge Cave</u>	Cave; Grotto	Out of Councils
<u>Gran Gran Cave</u>	Cave; Grotto	Wattle Range Council
<u>Graveyard Cave</u>	Cave; Grotto	Out of Councils
<u>Greys Hut Cave</u>	Cave; Grotto	The District Council of Mount Remarkable
<u>Gums Road Cave</u>	Cave; Grotto	The District Council of Grant
<u>Hancocks Cave</u>	Cave; Grotto	Wattle Range Council
<u>Hand Cave</u>	Cave; Grotto	Wattle Range Council
<u>Hansen Bay Sea Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Haynes Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Haystall Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Hell Mouth Cave</u>	Cave; Grotto	The District Council of Grant
<u>Henschkes Lower Wet Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Henschkes Upper Wet Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Hereford-Stream Cave</u>	Cave; Grotto	Wattle Range Council
<u>Hic-Up Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Homestead Cave</u>	Cave; Grotto	District Council of Lower Eyre Peninsula
<u>Honeycomb Cave</u>	Cave; Grotto	District Council of Lower Eyre Peninsula
<u>Hoods Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Hot Air Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Hundred of Cavenagh</u>	Hundred	The District Council of Peterborough
<u>Hynam Caves Road</u>	Road	Naracoorte Lucindale Council
<u>Hynam Quarry Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Ivy Cave</u>	Cave; Grotto	Out of Councils
<u>Ivy Tank South Cave</u>	Cave; Grotto	Out of Councils
<u>Jam Tim Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>James Quarry Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Jimmies Cave</u>	Cave; Grotto	Out of Councils
<u>Joanna Bat Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Joanna Bat South Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Joanne's Cave</u>	Cave; Grotto	Out of Councils
<u>Joint Cave</u>	Cave; Grotto	The Flinders Ranges Council
<u>Keilira Quarry Cave</u>	Cave; Grotto	Kingston District Council
<u>Kelly Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Kelly Hill Caves</u>	Cave; Grotto	Kangaroo Island Council
<u>Kiana Cave</u>	Cave; Grotto	District Council of Lower Eyre Peninsula
<u>Kilsby Cave</u>	Cave; Grotto	The District Council of Grant
<u>Kitty Temple's Cave</u>	Cave; Grotto	The District Council of Grant
<u>Knowles Cave</u>	Cave; Grotto	Out of Councils
<u>Kongarati Cave</u>	Cave; Grotto	City of Onkaparinga
<u>Koomooloobooka Cave</u>	Cave; Grotto	Out of Councils
<u>Koonalda Cave</u>	Cave; Grotto	Out of Councils
<u>Kunanyanutjintinya Cave</u>	Cave; Grotto	Out of Councils
<u>Lake Cave</u>	Cave; Grotto	Out of Councils
<u>Little Victoria Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Livingstons Cave</u>	Cave; Grotto	The District Council of Grant
<u>Lizard Cave</u>	Cave; Grotto	Out of Councils
<u>Loch Nagar Cave</u>	Cave; Grotto	The District Council of Mount Remarkable
<u>Lost Cave</u>	Cave; Grotto	District Council of Lower Eyre Peninsula
<u>Lost Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Mairs Cave</u>	Cave; Grotto	Out of Councils
<u>Marcollat Cave</u>	Cave; Grotto	Kingston District Council
<u>Mareenna Cave Soakage</u>	Native Well; Soak; Soakage	Out of Councils
<u>Mares Cave</u>	Cave; Grotto	Out of Councils
<u>Maroona Cave Soak</u>	Native Well; Soak; Soakage	Out of Councils
<u>Max Cave</u>	Cave; Grotto	City of Onkaparinga
<u>Mock Cave</u>	Cave; Grotto	Kingston District Council
<u>Monbulla Cave</u>	Cave; Grotto	Wattle Range Council
<u>Monk Cave</u>	Cave; Grotto	Kingston District Council
<u>Morgans Cave</u>	Cave; Grotto	The District Council of Grant
<u>Mosquito Creek Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Mount Burr Cave</u>	Cave; Grotto	Wattle Range Council
<u>Mount Cavern</u>	Mountain	The District Council of Mount Remarkable

Name	Feature Type	Local Government
<u>Mount Cavern Walking Track</u>	Road	The District Council of Mount Remarkable
<u>Mount Sims Caves</u>	Cave; Grotto	Out of Councils
<u>Mount Taylor Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Muddy Cave</u>	Cave; Grotto	Wattle Range Council
<u>Murrawijinie Caves</u>	Cave; Grotto	Out of Councils
<u>Murrawijinie No 1 Cave</u>	Cave; Grotto	Out of Councils
<u>Murrawijinie No 2 Cave</u>	Cave; Grotto	Out of Councils
<u>Murrawijinie No 3 Cave</u>	Cave; Grotto	Out of Councils
<u>Murray Bridge Cave</u>	Cave; Grotto	The Rural City of Murray Bridge
<u>Mushroom Cave</u>	Cave; Grotto	Wattle Range Council
<u>Naracoorte Caves</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Naracoorte Caves Conservation Park</u>	Park (NPWS)	Naracoorte Lucindale Council
<u>Naracoorte Caves Conservation Reserve</u>	Reserve	Naracoorte Lucindale Council
<u>Naracoorte Caves National Park</u>	Park (NPWS)	Naracoorte Lucindale Council
<u>Narrina Cave</u>	Cave; Grotto	Out of Councils
<u>Neechy Cave</u>	Cave; Grotto	Wattle Range Council
<u>New Cave</u>	Cave; Grotto	Out of Councils
<u>New Years Day Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>New Years Eve Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Newland Head Cave</u>	Cave; Grotto	City of Victor Harbor
<u>Noonans East Cave</u>	Cave; Grotto	The District Council of Grant
<u>Noonans West Cave</u>	Cave; Grotto	The District Council of Grant
<u>Normans Cave</u>	Cave; Grotto	Wattle Range Council
<u>North Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Number Six Cave</u>	Cave; Grotto	Out of Councils
<u>Ochre Caves</u>	Cave; Grotto	Out of Councils
<u>Old Cave Hut</u>	Ruin	Naracoorte Lucindale Council
<u>Old Caves Road</u>	Road	Naracoorte Lucindale Council
<u>Oraparinna Cave</u>	Cave; Grotto	Out of Councils
<u>Orroroo Cave</u>	Cave; Grotto	The District Council of Orroroo/Carrieton
<u>Pawn Flat Cave</u>	Cave; Grotto	The District Council of Grant
<u>Petrified Horse Cave</u>	Cave; Grotto	Out of Councils
<u>Porky Flat Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Port Price Cave</u>	Cave; Grotto	The District Council of Yorke Peninsula
<u>Portee Cave</u>	Cave; Grotto	Mid Murray Council
<u>Possum No 1 Cave</u>	Cave; Grotto	Wattle Range Council
<u>Possum No 2 Cave</u>	Cave; Grotto	Tatiara District Council
<u>Possum Skin Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Proper Bay Cave</u>	Cave; Grotto	District Council of Lower Eyre Peninsula
<u>Punyelroo Cave</u>	Cave; Grotto	Mid Murray Council
<u>Quarry Cave</u>	Cave; Grotto	Wattle Range Council
<u>Rabbit Cave</u>	Cave; Grotto	Tatiara District Council
<u>Rapid Bay Cove Cave</u>	Cave; Grotto	The District Council of Yankalilla
<u>Ravine Des Casoars Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Rendelsham Cave</u>	Cave; Grotto	Wattle Range Council
<u>Reynella Cave</u>	Cave; Grotto	City of Marion
<u>Rifle Range Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Robertson Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Rock Cavern</u>	Homestead	The District Council of Grant
<u>Rubbish Cave</u>	Cave; Grotto	Wattle Range Council
<u>Saddle Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Salt Creek Cave</u>	Cave; Grotto	The District Council of Yankalilla
<u>Saltbush Gorge Cave</u>	Cave; Grotto	Out of Councils
<u>Sand Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Sand Funnel Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Sea Cave</u>	Cave; Grotto	Out of Councils
<u>Second Valley Springs Cave</u>	Cave; Grotto	The District Council of Yankalilla
<u>Sellicks Hill Cave</u>	Cave; Grotto	City of Onkaparinga
<u>Setons Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Silt Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Sleeping Cave</u>	Cave; Grotto	Wattle Range Council
<u>Sleezy Lizard Caves</u>	Cave; Grotto	The District Council of Karoonda East Murray
<u>Slit Cave</u>	Cave; Grotto	Wattle Range Council

Name	Feature Type	Local Government
<u>Smoke Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Snowflake Cave</u>	Cave; Grotto	Wattle Range Council
<u>Specimen Cave</u>	Cave; Grotto	Tatiara District Council
<u>Springs Cave</u>	Cave; Grotto	Wattle Range Council
<u>Standing Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Stick Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Stonecap Cave</u>	Cave; Grotto	Wattle Range Council
<u>Stonehaven Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Swamp Cave</u>	Cave; Grotto	Tatiara District Council
<u>Swamphole Cave</u>	Cave; Grotto	Wattle Range Council
<u>Swim-Through Cave</u>	Cave; Grotto	Wattle Range Council
<u>Talia Caves</u>	Cave; Grotto	The District Council of Elliston
<u>Talia Caves Road</u>	Road	The District Council of Elliston
<u>Talia Sea Cave</u>	Cave; Grotto	The District Council of Elliston
<u>Tankstand Cave</u>	Cave; Grotto	Wattle Range Council
<u>Tantanoola Cave</u>	Cave; Grotto	Wattle Range Council
<u>Tantanoola Caves Conservation Park</u>	Park (NPWS)	Wattle Range Council
<u>Tantanoola Lake Cave</u>	Cave; Grotto	Wattle Range Council
<u>Tantanoola Tourist Cave</u>	Cave; Grotto	Wattle Range Council
<u>Tapering Cave</u>	Cave; Grotto	The District Council of Karoonda East Murray
<u>Taylor Caves</u>	Cave; Grotto	Kangaroo Island Council
<u>Tea Tree Cave</u>	Cave; Grotto	The District Council of Grant
<u>The Cave Sandhills</u>	Dunes; Sandpatch	Kangaroo Island Council
<u>The Death Cave</u>	Cave; Grotto	Wattle Range Council
<u>Thunderdrum Cave</u>	Cave; Grotto	Out of Councils
<u>Tobacco Tree Cave</u>	Cave; Grotto	Mid Murray Council
<u>Tomato Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Tortoise Cave</u>	Cave; Grotto	Coorong District Council
<u>Town Cave</u>	Cave; Grotto	The District Council of Yorke Peninsula
<u>Town Hall Cave</u>	Cave; Grotto	Wattle Range Council
<u>Two Quid Cave</u>	Cave; Grotto	Out of Councils
<u>Umpherstone Cave</u>	Cave; Grotto	City of Mount Gambier
<u>V D C Cave</u>	Cave; Grotto	Tatiara District Council
<u>Victoria Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Victoria Fossil Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Victoria Quarry Cave</u>	Cave; Grotto	Tatiara District Council
<u>Walnut Cave</u>	Cave; Grotto	Wattle Range Council
<u>Wamitjatja Cave</u>	Cave; Grotto	Out of Councils
<u>Warbla Cave</u>	Cave; Grotto	Out of Councils
<u>Warraeena Cave</u>	Cave; Grotto	Out of Councils
<u>Weekes Cave</u>	Cave; Grotto	Out of Councils
<u>Well Cave</u>	Cave; Grotto	Wattle Range Council
<u>Well It Wasn't There Last Year Cave</u>	Cave; Grotto	Mid Murray Council
<u>West Bay Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>West Bay Hollow Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>Wet Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Whinkeys Cave</u>	Cave; Grotto	Kangaroo Island Council
<u>White Wells Cave</u>	Cave; Grotto	Out of Councils
<u>Wigunda Cave</u>	Cave; Grotto	Out of Councils
<u>Windmill Cave</u>	Cave; Grotto	The District Council of Yorke Peninsula
<u>Windmill Pipe Cave</u>	Cave; Grotto	Wattle Range Council
<u>Wire Cave</u>	Cave; Grotto	Tatiara District Council
<u>Woblaoola Cave</u>	Cave; Grotto	Naracoorte Lucindale Council
<u>Wombat Cave</u>	Cave; Grotto	Tatiara District Council
<u>Woodendinna Cave</u>	Cave; Grotto	Out of Councils
<u>Wooltana Cave</u>	Cave; Grotto	Out of Councils
<u>Woolwash Cave</u>	Cave; Grotto	Wattle Range Council
<u>Wrecked Car Cave</u>	Cave; Grotto	Wattle Range Council
<u>Wurwurkooloo Cave</u>	Cave; Grotto	The District Council of Grant
<u>Yamuti Cave</u>	Cave; Grotto	Out of Councils
<u>Yanggunha Adnya Cave</u>	Cave; Grotto	Out of Councils
<u>Yourambulla Caves</u>	Cave; Grotto	The Flinders Ranges Council

CALENDAR OF EVENTS

Date	Type of Event	Description	Contact
24/02/10	General Meeting	Royal Society Room, SA Museum, Adel. OZKARST, a GIS version of KIDSA	Graham Pilkington
27/02/10	Working Bee	Library and records	Graham Pilkington
06-08/ 03/10	Adelaide Cup WE Caving	Naracoorte (Beginners caving trip)	Marie Choi
09/03/10	Committee Meeting	Mark Seftons residence	Mark Sefton
13/03/10	Caving	Corra Lynn Cave (Portal Dig)	Graham Pilkington
24/03/10	General Meeting	Royal Society Room, SA Museum, Adel. Search and Rescue Session	Harry Harris
27/03/10	Working Bee	Library and records	Graham Pilkington
02-06/ 04/10	Easter Fun Caving & Exploration	Kangaroo Island	Grant Gartrell
07/04/10	Committee Meeting	TBA	Mark Sefton
28/04/10	General Meeting	Royal Society Room, SA Museum, Adel. Caving Video	Graham Pilkington
01/05/10	Working Bee	Library and records	Graham Pilkington
09/05/10	Caving & Photography	Corra Lynn Photographic Trip	Ian Lewis
12/05/10	Committee Meeting	TBA	Mark Sefton
12/05/10	CEGSA NEWS	Articles due	Athol Jackson
23/05/10	Fun Caving	Punyelroo and Gloop Caves	Mark Sefton
26/05/10	General Meeting	Royal Society Room, SA Museum, Adel. Ripping Yarns from CEGSA's History	Ian Lewis
29/05/10	Working Bee	Library and Records	Graham Pilkington
23/06/10	General Meeting	Royal Society Room, SA Museum, Adel. Photography follow up to Corra Lynn trip	Ian Lewis
	Training	Ad Hoc training	Tim Payne
	Caving	Ongoing Vic Fossil survey	Gary Woodcock
	Caving	Continuing Fleurieu Peninsula Exploration	Grant Gartrell

It is desirable that caving trips involving club members should, where possible, be registered as CEGSA Trips. To do this, the nature and timing of the trip must be nominated to the Trip Liaison Officer and/or minuted at a General Meeting of Members. 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 in a timely manner.