CAVE EXPLORATION GROUP SOUTH AUSTRALIA Inc.

PO Box 144 Rundle Mall, Adelaide, 5000

Volume 40 Number 3

August 1995

NEWSLETTER

CAVE EXPLORATION GROUP SOUTH AUSTRALIA Inc.

P.O. Box 144, Rundle Mall, Adelaide , South Australia, 5000.

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

1995 Committee

President	Janine Kraehenbuehl	(h) 278 4531	(w) 278 5477
Secretary	Simon Kendrick	(h) 369 1087	(w) 223 5544
Trip Coordinator	Suzanne Charlesworth	(h) 085 36 3816	(w)
Visitor Liaison	Eddie Rubessa	(h) 336 4775	(w) 341 1595
Speaker Coordinator	Fern Raintree	(h) 388 6441	(w) 212 6030
Committee member	Athol Jackson	(h) 337 8759	(w)

1995 Office Bearers

Treasurer	June MacLucas	(h) 261 4180	(w)
Assistant Secretary	Ian Charlesworth	(h) 085 36 3816	(w)
Land Owner Liaison	Gary Woodcock	(h) 263 5826	(w) 226 4296
Training	David Trehearne	(h) 356 3992	(w)
Safety	Peter Kraehenbuehl	(h) 278 4531	(w) 264 1955
Publication	Mark Thiselton	(h) 374 2592	(w) 230 2376
Librarian and Records	George MacLucas	(h) 261 4180	(w)
Quartermaster	Rob Dayman	(h) 379 6281	(w)
Special Projects Coordinator	Simon Kendrick	(h) 369 1087	(w) 223 5544
Public Officer and Membership	Graham Pilkington	(h) 396 3044	(w) 396 3044
Museum Representative	Neville Pledge	(h) 272 5483	(w) 223 8896

Representatives

Australian Speleological Federation	Kevin Mott	(h) 087 23 1461	(w) 087 35 1660
S.A. Speleological Council	Graham Pilkington	(h) 396 3044	(w) 396 3044
(two positions)	Athol Jackson	(h) 337 8759	(w)
Caving Leadership Standards Working Group	Peter Kraehenbuehl	(h) 278 4531	(w)

Front Cover The passage near the Bore Pipe within Punyelroo cave 5M1

CONTENTS

Volume 40 Number 3 August 1995

The deadline for copy or background material for Volume 40 Number 4 must reach the Editor by Wednesday 25th October, 1995. Material not meeting this deadline may be retained for possible use in a following issue.

EDITORIAL

Welcome to another edition of the CEGSA Newsletter and what an edition it has turned out to be! I have been so over whelmed with articles to cause this edition to be even bigger and better than normal. But wait there's more good news! I have also received sufficient articles to commence editing the next edition of the Newsletter! Wow! This has to be the best response to the Newsletter that I have seen in the five years that I have been editor! And to think that I missed the July and August general meetings! I would like to thank all those authors for contributing articles for the Newsletter. In particular Max Meth deserves a big thank you for all the work that he performs for CEGSA, not only articles for the Newsletter but work with the Nullarbor Records. thanks Max. To all future authors, don't let this sudden surge in response put you off! Please continue to contribute articles for future editions of the Newsletter.

June MacLucas has recently shown her Art Exhibit "Inside Earth - Caves Beneath the Nullarbor" at the Riddoch Art Gallery in Mount Gambier. June managed to gain some sponsorship to assist her and included Rossi Boots, Safaris 4X4 Centre, Eden Photographics and the Mount Gambier Saw Works. June intends to display the Art Exhibit in Melbourne from 11 September to 1 October 1995 and Broken Hill from 14 March to 14 April 1996. Congratulations June.

The May general meeting saw Alan Jevons discussing the new ASF Cave Leadership Scheme. It was great to have Alan at the meeting to discuss various aspects of this new scheme and how he saw it being implemented within CEGSA. Thanks Alan.

S102 Cave 5U47 has suffered from a collapse causing part of the cave to be very unstable and blocked off. This area has been taped off by Kevin Mott. It is advised that no one goes near this area in question for at least one year.

Narrina cave 5F11 continues to be closed for access due to the land owners request. The South Australian Speleological Council (SASC) and the Cave Divers Association of Australia (CDAA) are apparently looking into regaining access.

Alan Jevons also discussed at the May general meeting the motions that were being put forward at the Extra-Ordinary General Meeting on 28 June 1995. Thanks Alan.

The following motions were accepted at the Extra-Ordinary General Meeting in June:

2. that Rule 1(h): "All Full Members and Affiliates Members shall pay in addition to their Annual Subscription a levy equal to the Australian Speleological Federation per member levy." be amended to read: "All Members pay an Australian Speleological Federation levy appropriate to their membership status.".
3. that Clause 10(c) of the Constitution: "The motion shall require a 60% majority of those Members and Affiliates present to be carried." (referring to proposing of rules) be amended to read: "The motion shall require a 60% majority, both of the vote and of those Members and Affiliates present, to be carried.".
4. that Clause 11(c) of the Constitution: "The motion shall require a 75% majority of those Members and Affiliates present to be carried." (referring to changing the constitution) be amended to read: "The motion shall require a 75% majority, both of the vote and of those Members and Affiliates present, to be carried.".

Due to the lateness of the June Meeting the Cavers Quiz night has been postponed until further notice.

Simon Kendrick displayed and discussed a variety of caving equipment during the July meeting. Additional information and advise was provided by other experienced cavers present at the meeting. Thanks Simon.

Peter Horne has unexpectedly returned to Adelaide after his brief journey interstate. Welcome back Peter.

Mark Thiselton

TRIP REPORTS

Nullarbor 3 to 19 January 1953

This report was originally written by Keith Quartermaine 1968 with additions in 1972 in a typed book of 122 pages entitled "The Woodall Expedition - January 1953". Max Meth has rewritten this trip report with more recent details to produce this version. References to the original book are made throughout this report, so please do not go searching through the CEGSA Newsletters for them. Ed!

Party (page 29): Harry Woodall, Allan and Dorothy Miles, Bruce Thompson, Laurie Smith, John Love, Arthur (Snow) Wyndham McBride, and Rita and Keith Quartermaine.

Features: in order visited: (all in Western Australia)
6N19 598 2 169 17 3 592 590 589 588 587 586 132 133 192 193 641 640 530 62 342 791 (660) x96 x97 57 (47) 191 x432 x433 48 75 1108 1109

in numerical order:
6N2 3 17 19 (47) 48 57 62 75 132 133 169 191 192 193 342 530 586 587 588 589 590 592 598 640 641 (660) 791 1108 1109 x96 x97 x432 x433

() indicates searched for but not located.

Monday 19 January 1953. (page 36) The Quartermaines and the rest of the group met at Eucla and stayed the night in the old telegraph station building. (page 23) Roy and son Harvey Gurney lived in another building at old Eucla. Not in ruins then but "the sand drift outside was almost up to the eaves of the roof in one place so that it was a fairly easy matter to walk up the drift straight onto the roof of the station. (page 25)

Tuesday 20 January 1953. (page 36) At 11.55am all set off north for Eucla Pass and its short stretch of bitumen. We headed north from the highway and took the second turn left. Looked at a blowhole 6N19 (QW99) and a rockhole 6N598 (RH40) then passed over a fence whose wires were down (Tyre Gate) and at 1.30pm arrived safely at Weebubbie cave. The Prefect was parked near the climb path and the rope was thrown down as an aid to climbing. The cave entrance was at the south of the sink hole. [actually at the north west corner - the top of the climb path is on the south side of the doline. The present top 2 ladders did not exist in 1953] A wooden ladder with 7 rungs had been placed here. Camp overnight at Weebubbie.

Wednesday 21 January 1953. (page 48) We followed the (Tyre Gate) fence north to the Abrakurrie road and 6.5 miles (10.5km) west we crossed another fence. After 4 miles (6.4km) a small blowhole was noticed north of the track. This was found to be blind and of no further interest. [This is Toolganna rockhole 6N169 (QW113)] Chowilla Landslip 6N17 (QW83) was estimated as 75x70x30 yards and here we turned south. The sinkhole leading to Abrakurrie cave 6N3 (QW84) is about 200x60 yards. A quick map of the cave (page 50) was drawn. This shows the main passage to be 1500 ft long. [It is closer to 1200 ft long] Back at Chowilla we headed west again and after 3 miles arrived at a rockhole. This is shown on old maps as Chidella 6N592 (RH37). The rockhole was hidden under a pile of stones. Dead rabbits polluting water. A further 3 miles brought us to Tookana rockhole 6N590 (RH89) some 80 yards north of the road. Six miles west of Tookana we came to Wileura 6N589 (RH42), a group of 5 rockholes, all dry. Six miles beyond Wileura, Cherinaggi rockhole 6N588 (RH43) was reached with an old 44 gallon drum nearby. We passed 2 more small dry rockholes 6N587 (QW418) and 6N586 (QW419) before reaching the NE fence corner of Mundrabilla station and heading south to the top of Mundrabilla Pass where we camped. Mr Hogarth, manager of Mundrabilla came up to meet us. He gave us a list of 6 caves known to him, but I lost the location of the last 2.

1	South of west boundary gate [Witches cave 6N193 (QW15)]
2	Through gate north of Wether Paddock [Snake Pit 6N133 (QW17)]
3	Wether Paddock near north gate [Webbs cave 6N132 (QW16)]
4	Off Forrest road [Native cave 6N192 (QW420)]
5,6	no details recorded

Mr Hogarth provided the following information:

- Original Settlers:- Kennedy and McGill, the graves of Kennedy and McGill's wife are at the bottom of the gorge, overlooking the homestead.

- Mundrabilla:- name means 'dusty ground'. However I (MKQ) wonder if this is correct as Munderra means ECHO and Billa means SEA and apparently, in a gorge to the west it is possible to hear 'sea noises' echoed off the cliff. [It is impossible to hear the sea from this distance of 30km, any sound heard being that of wind as it rises over the escarpment.]

- Caves:- No 3 cave is referred to as Wether Paddock cave, had been pointed out by Harry Webb.

- Earthquake:- one occurred about 30 years previously had rocked the area and cracked plaster in the homestead kitchen. It was evidently not recorded in Perth.

Thursday 22 January 1953. (page 61) We looked at the 2 graves. The date of August 18, 1879 on Mrs McGill's headstone was a surprise as this wasn't long after John Forrest's trip. We set off for Webbs Cave 6N132 with Tom Lyle and Mr Hogarth.

Friday 23 January 1953. (page 69) At 8.00am we were on the road, but instead of turning off to Webbs Cave some 200 yards before the gate, we went through and bore right for a short distance. Snake Pit 6N133 is in the centre of a bare expanse of limestone. The top 5 ft of a wooden ladder was sticking out of a 4 foot diameter circular opening. The first down killed a snake thus providing an obvious name for the hole. We travelled east to Native cave 6N192 Next we travelled south on the outside of the west boundary fence and saw what looked like exposed limestone about 400 yards inside the fence. We walked across and found that it was the opening to a cave. A quick reconnaissance showed that the cave had merit. Our tall tales back at camp of the weird things we had seen produced the name of Witches cave.

Saturday 24 January 1953. (page 77) At 8.30am we set off back to Witches cave 6N193. There were actually 3 sinkholes, one, 6N641 connected under a bridge of rock. Further west was the sinkhole 6N640 and in this was a small opening, but we did not explore it. To the east some 200 yards Bruce located a 3 inch hole in the earth 6N530.

Sunday 25 January 1953. (page 83) At 8.45am we headed west to Madura. At the Motel we headed south toward the coast. The road became sandy and at 11 miles the Prefect got well and truly stuck in the sand. The truck radiator began to boil in the heavy going, and the clutch cable on Bruce's bike broke. Bruce and John reconnoitred ahead on John's bike, leaving us in 106 degree temperature. It was a stinking hot day to put it mildly. In due course they returned, pushing John's bike. The clutch cable had also snapped. And the road ahead did not improve for the several miles they travelled. All hands turned out to push Snows truck and my Prefect back to solid ground. After the radiators had cooled enough to refill and the bike clutch cables were repaired we returned north and pulled into Madura No 1 cave from the list of Mr Mackie of a year ago. It is known as Madura or Mereguda cave 6N62. I proceeded to survey it fairly accurately by tape and compass. We camped beside the cave.

Monday 26 January 1953. (page 86) After lunch we returned to the Madura Motel which at that time was at the old Madura Homestead (now in ruins). We camped near the top of Madura Pass.

Tuesday 27 January 1953. (page 91) We set off north at 8.35 am and at 15 miles (24km) noticed a sinkhole 6N342 (QW424) which was 150 yards east of the road. It was about 70 ft in diameter and 8 ft deep, but had no cave opening. After another 11 miles we arrived at Laundry Rockhole 6N791 (RH34b). This has one large depression with 3 rockholes. All contained water but were polluted by dead rabbits. Two miles east brought us to No 2 bore. According to Mr Mackie there is supposed to be a cave near here, but despite scouting by motor bikes we never found it. [The cave 6N660 is a mere 14m long and was found on 6 May 1993 on a CEGSA trip. It lies 80m south of the track midway between Laundry rockhole and No 2 bore]. A small blowhole 6Nx96 (QW425) was found about 500 yards South east, however this came to a dead end with no cave. [This is not in CEGSA Records and has not been sighted since] From No 2 bore we went south for 3.7 miles (6.0km) where Mr Mackie had left a piece of 3 by 2 squared timber stuck in the ground. There was supposed to be a cave 6Nx97 (QW426) located to the west. We could not find it. [This too is not in CEGSA Records as it remains not found. Recently Dennis Nash told me about a cave that lies east of the track about the right distance south of the bore] A further 6.8 miles south we saw Mr Mackies next sign, a beer box by the side of the road. Here Mr Mackies track led off to the east. We followed it for 2 miles before camping the night.

Wednesday 28 January 1953. (page 96) The boys were out on their bikes fairly early and located a fairly big sinkhole on the other side of the ridge about a mile away. The overhang was on its south side and it promised to be a good cave. In fact the first chamber under the overhang looked promising. However a little lower we reached a blank wall that was pockmarked with holes in honeycomb formation. Naturally enough, Beerbox cave 6N57 (QW400) was named from Mr Mackies Beer Box marker. This was Mr Mackies No 4 cave. We returned to the highway and headed west. We paused at Moonera tank for 4 hours to help repair a travellers car. The bracket holding their coil spring had broken. At about 9.00pm we camped a short distance south west of Cocklebiddy underground tank among a few sheltering bushes.

Thursday 29 January 1953. (page 101) With daylight we saw we had camped in an old brush yard. I later found out that it used to be the Carlisle's goat yard. Snow did some walking and found a blowhole which he thought worth further investigation. This was deferred. [This is Snows Cave 6N191 (QW267), 3km from the camp site] After lunch we set off looking for Mr Mackies No 11 cave. This must be Murra-el-elevyn cave 6N47. But there was a problem. The location description was that we had to follow the old east west road. And according to the 300 chain map, the old road passed south of the (current Eyre) highway by a half mile or so. However the fact that Cocklebiddy Tank showed on the map as NORTH of the highway whereas actually it was SOUTH placed some doubt on the map. [Cocklebiddy tank IS north of the highway] Actually I guess the Old Coach Road went through Cocklebiddy Rockhole and this is south of the highway and is probably the track mapped. [John Carlisle confirmed with me that Keith was correct about the Old Coach Road passing through Cocklebiddy Rockhole] However we did not want the Old Coach Road anyway, we were looking for the old east-west road. We headed west along the present Eyre Highway and 2.5 miles west of the tank a track led off south west, so we took it. This was the old east-west road but we did not realise it at the time. We stopped after half a mile and searched [for Murra-el-elevyn cave]. All we found was 6Nx432 (QW427) a blowhole of sorts which blew strongly but only from a number of small fissures at the bottom of the main hole. The main cave was located by us in January 1955 when I was travelling with Harry Wheeler. Following our failure we went to Snows cave 6N191. This was about 500 yards south of the highway and only 400 yards from the turn off of the old east-west road. It was about 2 ft in diameter and blowing strongly. It went down about 15 ft and so we put it on the list for next day.

Friday 30 January 1953. (page 105) By 9.00am we were at Snows cave, now it was sucking strongly. The cave was not extensive, containing 2 chambers of 20 and 40 ft diameter. At 4.20pm we set off to a new camp site at Cocklebiddy cave. First we drove north west along what I know as Carlisle's road to Rawlinna. We travelled 25 miles before returning to the highway. Allan noted one promising blowhole 6Nx433 (QW428) near the track but it was not explored fully. The hole descended in a sort of spiral and could be climbed easily. At 6.45pm we arrived at our camp site.

Saturday 31 January 1953. (page 110) In the morning we explored Cocklebiddy cave 6N48 (QW79). At the 232 mile peg which was at the east end of the 90 mile straight we pulled off the road into a gravel pit. This was to become the site of Caiguna Motel. Our mission was to find Caiguna rockhole which was marked on the map in the vicinity. Bruce and I set off on a motor bike west along the telegraph line route in search of the rockhole. All we found was a blowhole of sorts 6N75 (QW72) with a snake dozing in it. Caiguna rockhole 6N1091 (QW58) was not located by me until 1966. It turned out to be half a mile south of the highway. Next we attempted to locate Baxters Memorial. The best jumping off place seemed to be from Cardanumbi underground tank on the old east-west road some miles to the south. According to the map there was a track to Cardanumbi from the telegraph line from a point a few miles east of where we were. This telegraph line came straight from Balladonia to here with the Eyre Highway parallelling it about 50 yards to the north. East of here the telegraph line continues its straight path to Madura, but the Eyre Highway diverged to the north with numerous bends and does not meet the line again until east of Madura. We followed the track along the telegraph line for 6.5 miles (10.5km) where we reached a cross road. We set up a camp here. This proved to be overrun with bull-ants. Our scouts reported that they had found Cardanumbi tank 2.5 miles south so we left Bull-ant camp to the bull-ants. We camped just east of the tank near the old east-west road. The tank was dry and the walls cracked.

Sunday 1 February 1953. (page 115) At 8.15 we pushed off due south in the estimated direction of Baxter. After 5 miles trees halted the truck and we proceeded on foot. We did see a few blowhole collapses 6N1108 (QW249) & 6N1109 (QW250) on our walk but made no inspection. After 2 hours 20 minutes walking we came to the original telegraph line. Harry, Allan and John walked south to the cliffs while the rest loafed under the shade of trees.

Monday 2 February 1953. We left for home actually arriving the next day.

Max Meth

Punyelroo Cave - A Potted History

It seems to me that the more I find out about the history of Punyelroo Cave, the more interesting it becomes. In a short period of time I managed to uncover aboriginal legends and explorations of the cave from 1881 to present. However, I feel that I have hardly scratched the surface of the information that is surely available, but with time and perhaps a little bit of feedback from readers of this article, I may be able to widen my search and supplement this article at a future date. I have organised this potted history into three parts; aboriginal legends, early explorations and the last hundred years.

Aboriginal Legends

I discovered three legends that relate to the cave. One is a Dreamtime story and the other two potentiate the myth that a passage exists between Punyelroo Cave and Overland Corner some 75km distant as the crow flies (180km by river).

- "Long before the advent of white man, a crow and a goanna had a big fight. Winning by the means of *ngoree* (magic), the bird chased his opponent into a hole in the river cliffs, and blocked it with stones; for the country belongs to the crow and not the goanna. Long afterwards, however, the lizard reappeared, and, making a search, the crow found a 'big feller' hole through which he had escaped: the mouth of Punyelroo Cave." [1]
- A story recounted in 1890. "... a young warrior of the Cowirra tribe ... with the enemy in close pursuit ... swam across the corner from Overland Corner (to Heinicke's Cliff) and entered a cave. Knowing that it was useless to return, he crawled and crawled along, hoping to find another outlet. In three days he reached the open air again coming out at the well-known Punyelroo Cave, only too pleased to find himself well away from his pursuers." [2]
- The last story was told by an anthropologist Norman B. Tindale in the 1930's (?) and goes something like this: "It seems that a stranger made off with an Overland Corner tribesman's woman and set off down river as fast as he could go. The tribesman made after him, not by water, however, but along the passage between the caves. Out he came at Swan Reach in double-quick time to head off the wife-stealer. They fought a fearful battle and the tribesman got his wife back. He must have been so pleased he set off right away for home and left his spears behind (...the red gum logs)." [3]

Although there is no known passage that goes any significant distance towards Overland Corner, two red gum logs do exist, and it is always possible that there was a small entrance on the top of the cliffs that is now closed (the cave is not far beneath the surface as the traffic on the road above can be heard in places). It is noteworthy that the logs, which are surely too heavy to have been carried by man 150m into the cave, must be of significant age because they are at least one metre higher than the level of any recorded flood.

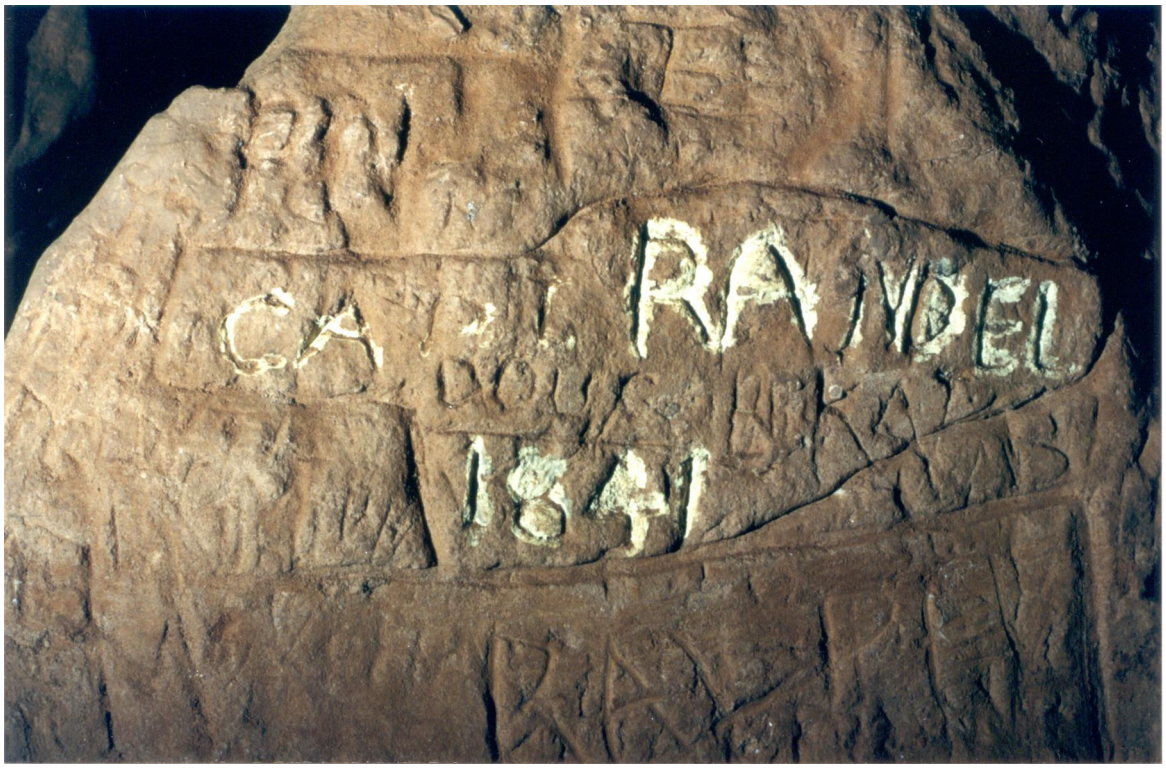
The entrance to Punyelroo cave 5M1

Early Explorations

I am sure that the very large entrance of Punyelroo Cave must have been noted by early white explorers and settlers. I would also imagine that the cave entrance would at least feature on the earliest river charts and perhaps be noted in the journals of the early river explorers. However, I have yet to find this information and so far my research has revealed only an excursion to the cave in 1881.

· I thought that the following article in the Adelaide Observer (1881) would be worth recounting in full. "Excursion to Punyeroo Caves. The Ruby (Capt. A. E. Randell) left Mannum on Sat. 21st Ult. (says our Mannum correspondent) on an excursion to the above-mentioned caves, which are situated opposite Punyeroo Station about sixty miles upstream from Mannum. The steamer started soon after the arrival of the Adelaide coach with about twenty ladies and gentlemen on board and arrived at her destination about 8 o'clock next morning. After breakfast the party started to explore the caves which lie about three-quarters of a mile from the river on the opposite side of a large lagoon. About 2 hours were spent in examining and explaining, and some of the younger members of the party penetrated the caves fully a mile. So intricate and numerous are the different passages that two of the party, in endeavouring to return to the entrance got astray, and were for a considerable time completely lost. The caves do not seem to have ever been thoroughly explored. Some of the residents in the vicinity have been in between two and three miles without discovering the end. Some of the natives maintain that they run across about eighty miles to the river again, and that there is another entrance in the cliffs somewhere below Overland Corner. At 2 o'clock p.m. the steamer started on her return to Mannum which was reached a little before 8, the boat doing ten miles per hour, which is considered pretty smart work for a river steamer. The excursionists seemed to thoroughly enjoy the trip, and no accident of any kind occurred." [4]

This account describes the cave(s) to be "about three-quarters of a mile from the river on the opposite side of a large lagoon", the remoteness of the main channel means that it may be unreasonable to expect to find river-explorer references to the cave prior to 1881. Nevertheless, early river charts will have to be inspected carefully. I checked the spelling of the cave in this article which is different from the modern usage; how this came to be I do not know.



Randell's Rock showing the words "Capt. Randel 1841" carved upon it.

Near the end of the northern branch of the cave, at what is now known as Randell's Rock, there is a deep inscription with a name and a date. There are also many other inscriptions and 'graffiti' of various ages in the vicinity of the rock. An article in *The South Australian Naturalist* (1938) refers to this rock "as Randell's Rock because a certain R. E. (sic) Randell had carved his name on it in 1881" [5], the date is consistent with the above article in the Adelaide Observer but the initials are not; perhaps the author referred to another article. Confusion may also have arisen as there was more than one Randall around in the 1880's. However, an inspection of the rock today shows that a "Capt. Randel" carved his name and the rock bears the date of 1841. The inscription does not appear to have been modified in any way and the mis-spelling of Randell could be due to the lack of space near the edge of the rock where the last letter was simply omitted (?). Could this be an inscription by W. R. Randell, the first Captain and builder of a steam-powered boat on the River Murray? W. R. Randell was noted for his river explorations in 1853 on the *Lady Augusta* and the *Mary Ann* but the date on the rock precedes this period by 12 years. Only further research will reveal the answer to the puzzle.

In The Last Hundred Years

There have been countless visits to the cave in the last hundred years, by local residents, by archaeologists, geologists and cavers. The cave also became known as Swan Reach Cave.

Of note, an article in *The South Australian Naturalist* (1938) [5] provides a description of the cave, a survey and photographs. This article brings together the geology and refers to some archaeological work. The 1:1200 survey by Messrs. Aitchison and Nairne was carried out using a miners dial and cloth tape in the main passage and using a light 4-inch theodolite for levelling.

At the time of the survey, the roof and walls were very damp and the innermost parts of the cave were decidedly wet. The air near the end was saturated with moisture and the temperature was 72°F (22°C). Heaps of bat guano were plentiful, but the bats had vacated for a considerable time. Also, the soft earth in the first 150m of cave was considerably marked by the tracks of beetles, much as it is today.

A quick scan of the South Australian Cave Reference Book [6] shows that there was a lot of surveying activity in 1963 by R. W. Davis *et al.* who produced 1:240 and 1:600 maps. There have been other attempts to complete the survey and in 1985 [7] the cave was thought to be 80% mapped (more likely 60% !).

Conclusion

Punyelroo Cave (Punyeroo Cave or Swan Reach Cave) is a major cave feature on the River Murray. It has attracted human interest for centuries as evidenced by legend and continues to attract modern attention ... and hopefully the dig will go to Overland Corner.

References

1. Barrett, C. (1944), Australian Caves Cliffs and Waterfalls, p32-34.
2. Woolmer, G. (1974), Riverland Aborigines of the Past. Aboriginal History of the Barmera Region, p16.
3. Baker, R., Baker, M. and Reschke, W. (1976), Murray River Pilot, p26.
4. Anon. (1881), Adelaide Observer, **32** (1), No. 2071, Saturday. June 11th, p1007.
5. Parkin, L. W. (1938) "A Limestone Cave at Swan Reach. River Murray, South Australia", The South Australian Naturalist, **19** (2), October 31st, p6-9.
6. Lewis, I. D. (1976) South Australian Cave Reference Book, CEGSA Occasional Paper Number 5, p60 and p110.
7. Matthews, P. G., Editor, (1985) Australian Karst Index, ASF inc. Section 5-18.

Thanks to Stan Flavel and Peter Horne for pointing me in the right direction.

Steve Milner

The Punyelroo Cave Survey 1988-1993

It was at a CEGSA meeting in the latter part of 1987, that I first heard of Punyelroo Cave (5M1, formerly numbered S-17). Reputedly about a kilometre long, the cave had been surveyed on three previous occasions, in 1937, by the University Nature Society, again in 1963 by R. Davies *et al*., and then for a third time (CEG 1160, undated). None of these surveys included the side passages. Peter Horne had just completed a traverse through the cave and suggested that finishing the cave off would make a good project for someone. Newly arrived in South Australia and looking for a project of my own, I decided to give it a go.

The entrance to Punyelroo cave is situated on the eastern bank of the river Murray, just south of Swan Reach. The cave can be divided into four main sections, each a simple passage with numerous 'side passages' nearly all of which are too narrow to penetrate for more than a couple of meters. The first section, is the 150m walking passage from the entrance, past a large log, to the main junction where a second log is located. From here, the second section branches to the north. The northern branch is walking or stooping-sized throughout , except for the very end, beyond the chamber which follows Randell's Rock. There are several significant side passages throughout this section. Just to the east of the second log, the cave divides again, just a few meters beyond the second log. The north-eastern branch had been surveyed by Chris Hales, Jack Haywood and others in the latter part of 1985,; their survey has been incorporated into the version produced here. The fourth section, the eastern branch, was the last to be tackled in this project, An apparent 'side passage' towards the end of the eastern passage ends at a 'dig' (Steve and Nigel's Dig) and is probably the main 'way on'.

No attempt is made here to interpret the geology of the cave, I leave that to those better equipped to do so.

The Survey Trips

In all, there were 11 survey trips into the cave. Many of the participants were inexperienced at surveying, or were even complete novices, so some trips resulted in only a small amount of mapping being achieved. Nevertheless, the cave proved a useful training ground for several new CEGSA members. The following is based on my memory and the survey notes. My apologies if I have omitted to acknowledge anyone's contribution.

3 January 1988. Max Meth, Max's cousin Craig and myself surveyed 60m along the main branch to the north, from the second log to a side passage heading west. We surveyed half of this side passage before it got too tight for me, then continued along the northern branch for a further 60m. Several question marks were encountered along the way, but all were too tight for anyone in the party.

16 January 1988. Max Meth and friend completed mapping the western side passage begun on the previous trip, and then headed off to do a bit of touristing around the cave. Meanwhile, my wife Karin, Nerida Abbott, a friend from work, and I surveyed a complex area on the right hand side of the northern branch (all references to left and right hand sides are from a perspective of travelling into the cave). It was Nerida's first (and last!) caving trip. This complex area is essentially a number of interconnecting chambers and crawls among a rock collapse. Three tiny passages at the end were all impenetrable.

17 October 1988. Karin and I surveyed along the northern branch, all the way to the bore-pipe. It was only Karin's second surveying trip but we still managed 250m of mapping.

23 October 1988. Karin and I continued where we left off last time, The left hand passage, just before the bore-pipe, ended at a two and a half meter climb down into a small chamber with water at the far end. The level of this water apparently rises and falls with the level of the Murray. On this occasion, much of the floor of this chamber was dry, although on subsequent trips, the chamber was found to be half flooded. We continued with the main passage and two more side passages on the right hand side, finishing for the day at a roomy chamber. Each of the three side passages surveyed on this day had looked promising at first, but petered out after no more than 50m with no apparent way on - even for a midget caver.

5 November 1988. This was intended to be a training trip for several new CEGSA members and was attended by Graham Pilkington, Gareth Evans, myself, and a two of three others whose names escape me. I spent the time filling in cross sections from previous surveys while Pilko led the 'Trainees' down a side passage on the right hand side, just before the second log. The exercise came to a premature end when Pilko got excited about a 'dig' at the end of the passage. The dig is still there if anyone else ever gets a similar urge.

1 January 1990. For reasons which now escape me, it was over a year before we returned to Punyelroo. This time I was accompanied by Adam Duffin, an ex-British caving friend of mine from my South African caving days. We surveyed the entrance passage, from the edge of the river Murray to the second log, and then proceeded to the chamber where Karin and I had finished surveying two trips previously. We mapped around the chamber and then on to Randell's rock, leaving the side passage on the right for another day.

6 May 1990. This was mainly a recreational trip, attended by Karin, our son Murray (a day short of six weeks old and on his first caving trip), plus Graham, Roger and Siona Pilkington. The side passage that Adam and I had left on the previous trip was surveyed, and then I checked several apparent discrepancies between our survey and the previous undated survey. A worrying feature of the current project was that there were differences of up to forty degrees in passage direction between the two surveys. Repeated compass readings from both ends of the various '"trouble spots" showed that it was the earlier survey that was always in error - even though a miners dial had been used on that occasion. As far as I can tell, the errors probably arose as a result of failure to fully unlock the compass needle of the miners dial for each reading. Frequently, where an error in the old series was noted, the compass reading had been the same as the previous one!! Just because a survey is said to be of ASF grade five or six or whatever, doesn't guarantee its accuracy.

Murray enjoyed his caving lunch at Randells Rock. In fact the only time he grizzled on the whole trip was when I had to do a hands and knees crawl along one section. Ever tried to crawl on your hands and knees while using one arm to support an infant in a sling? Don't bother!

24 June 1990. Steve Milner and I surveyed from Randell's Rock to the end. The final section, which trends east, is crawly in places and at first sight may appear to be just another side passage, but this is only because of the extensive collapse which has taken place in this section, filling most of the passage and blocking the main way on. We looked carefully, but could see no sign of any passage heading in a northerly direction from the chamber that immediately follows Randells Rock. Next we returned to the second log and surveyed a little way up the eastern passage to where the north-eastern branch, previously surveyed by Chris Hales and Jack Haywood, takes off.

There followed a long absence of two and a half years from Punyelroo, during which time the Nullarbor 1991 expedition was run, and increasing amounts of my time were spent as a novice parent. Eventually I decided it was time to finish the bloody thing off; a couple more trips should do it.

11 October 1992. Steve, Joanne Laffa (of CAVEX) and I continued surveying the eastern branch towards where a significant side passage entered from the right. Given the relative sizes of this "side passage', and the far eastern end of the cave, the former is probably the main 'way on' (it drafts too!). Joanne was going on a Pilko trip to the Nullarbor a few weeks hence, and wanted to learn how to map caves. So she did the note-taking, the best way to learn.

22 November 1992. Two teams returned to knock off the survey. Steve, and Nigel Dobson-Keeffe began at the eastern end of the cave surveying back, while Joanne, John Miekle and I continued along the eastern branch from where we had left off last time, then up the right hand passage. By the time we had reached the letterbox, Nigel and Steve had caught us up. We surveyed to a junction. Nigel and Steve continued surveying, following along the left hand wall, while Joanne, John and I kept to the right. A few meters along this side branch, a one meter long half ton pear-shaped boulder sat suspended in the ceiling, pointing down like the Sword of Damocles. As far as I could see, it was held on by little more than ytivarg. Joanne sensibly refused to crawl underneath it so I gave it a gentle poke with one finger. We then crawled over the boulder, and completed a short loop.

Soon after, Steve and Nigel returned, having surveyed to the start of a crawly section, which ended at a promising dig. We decided to draw the line here, a convenient point for a permanent survey station. I leave the crawl to the dig, and what might lie beyond, to others - a project for the future. The survey up to this point was complete, ready for drawing up and publication - or so I thought.

4 April 1993. A week after the previous trip, Joanne moved to the Eastern States, taking one of the surveying notebooks with her. Neither have been seen or heard of since! So, several months later, having given up all hope of getting the notebook back, I returned, this time on my own, and resurveyed everything Steve and Nigel had done on the previous trip, plus the section in the Eastern branch that Steve, Joanne and I had mapped earlier. Solo surveying is surprisingly easy, there are no distractions, and I managed a couple of hundred metres in 2-3 hours. You just tie the end of the tape to the end of a well-weighted caving bag, position it carefully, then crawl of with the other end of the tape. Take the tape reading, the bearing and inclination to the bag, then haul it towards you. Easy, as long as the bag doesn't move before it's supposed to, and as long as you have a good strong spare light to illuminate the bag from 10-15 meters away.

The Survey

The survey was conducted to ASF grade 5-3 throughout. The surveyed length of the cave is 1996 m, but this does not include the passage leading to Steve and Nigel's Dig (which has already progressed for 10 m and is still going) a total of 10-20m unsurveyed. So the cave may be legitimately considered to be just over 2 km in length. I have not bothered to redo the long section through the main part of the cave; the current version kept in CEGSA records is perfectly adequate. Rather, I have endeavoured to put in plenty of passage cross sections, which I believe to be a more useful exercise. Nor have I put in much in the way of floor detail. Only the largest boulders are shown, and then, only in a schematic fashion. Basically, the whole of the cave floor is covered with small to medium-sized rocks and sand.

Where passages are less than one meter across, the passage widths have been exaggerated on the map, as much for ease of drawing as anything else. This applies mostly to small side passages which go for only a few meters.

No cave should ever be considered 'finished' and certainly not this one. While a few of the multitude of narrow side passages may well yield more cave with a bit of determined hammering by thin cavers, the best prospects are at either end of the cave. Steve and Nigel's Dig is currently low and flat, but is easy digging, and takes a slight breeze. Another likely way on is past the boulder choke at the far end of the passage beyond Randell's Rock. This is a formidable task, however, and as there is no obvious breeze to indicate which way to dig, this is probably a job for only the most dedicated (stupid?). Finally (so Chris Hales tells me) in the 'final' chamber at the end of the survey of the north-eastern passage, there is a small hole in the floor which drops down to a squalid muddy little flattener. It might be worth a push/dig by vertically and nutritionally challenged cavers; if so, I would recommend going towards the end of the dry season.

Since I have the floor, I am now going to indulge myself by adding a few personal thoughts on surveying in general. In tackling a cave survey and just as importantly, the drawing up of the map, we should always keep the user in mind, the caver who wants to navigate through the cave, who wants to know where the best prospects for future finds are or who wants to understand better the formation and other geological aspects of the cave. It is not necessary for a cave map to be particularly artistic, or detailed, or even super accurate in depicting passage widths, or chamber outlines etc. Rather, the map should first and foremost be easy to read (even if this means fudging the position of walls etc a fraction) and should include important information such as side passages etc, no matter how apparently insignificant, features which are unusual in the context of the cave (eg. small water bodies in an otherwise dry cave, decoration in a sparsely decorated area) and major features. What constitutes a major feature will also depend on the context of the cave.

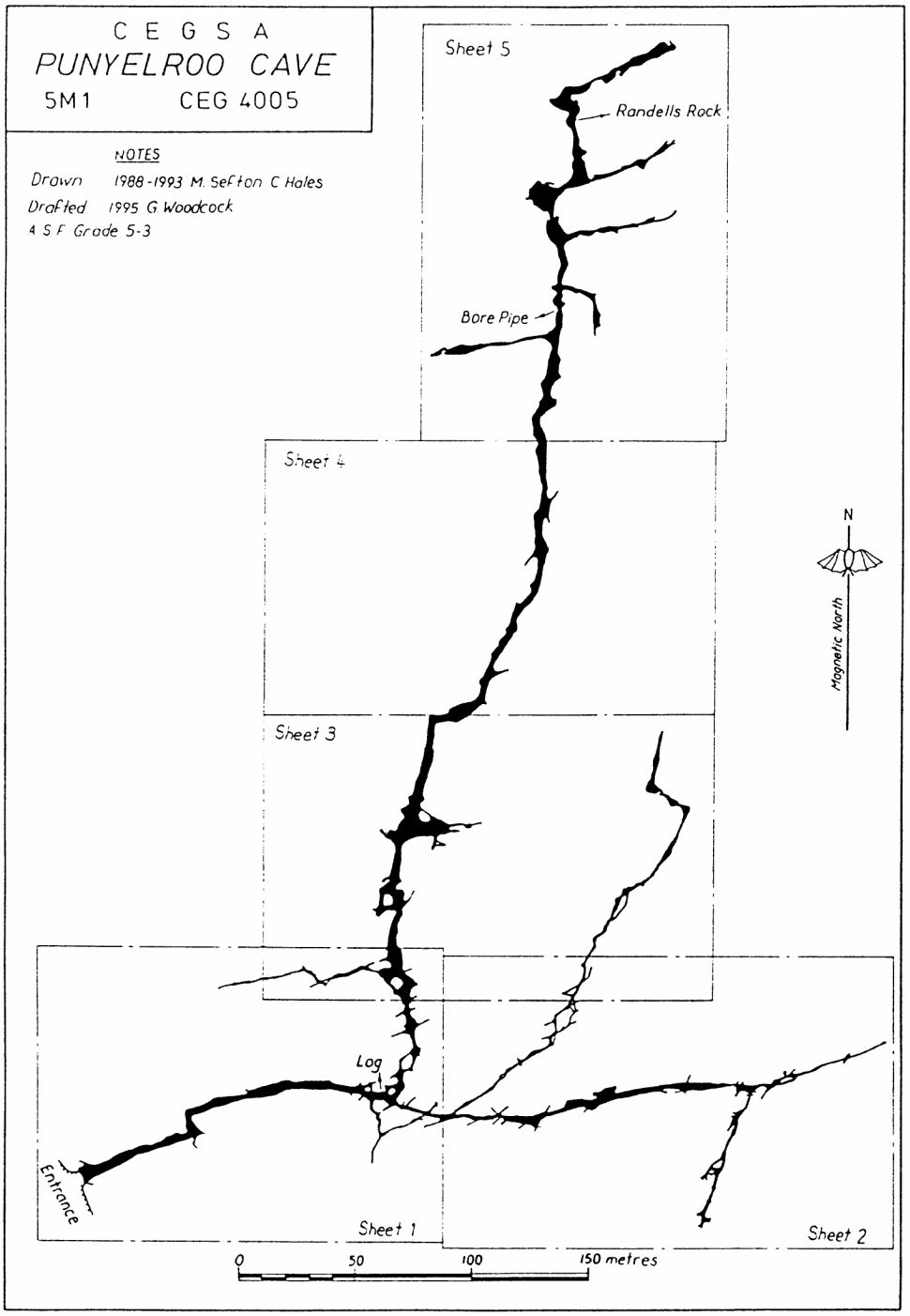
Of course, we should always strive for accuracy along main traverses or around the walls of large chambers, especially if the user wants to know where passages are in relation to each other or to other caves for that matter. Nevertheless, all too often surveyors concentrate on accuracy of instrument readings and measuring the widths of simple passages where it is not really needed, while paying insufficient attention to wall detail, side passages, potential question marks etc. An extreme example of this was a cave (Ghaub cave) a group of us resurveyed in Namibia in 1986. The cave, which had been surveyed 18 years previously, included a complex network of tunnels approximately one meter wide, and occupying a patch of limestone 20m wide and 2-300m long. The early survey showed them as a single 20m wide passage!!! I was told that the two surveyors in charge of producing the original survey were both professional surveyors who were each trying to outdo the other in reading their compasses to three decimal places, so much so, that they forgot about trying to show the cave as it really was. Maybe the story is apocryphal, in any case the final map was worse than useless because it was totally misleading. Our own resurvey which was done to grade four, still gave excellent loop closures and showed that the network of tunnels was developed exactly along the strike.

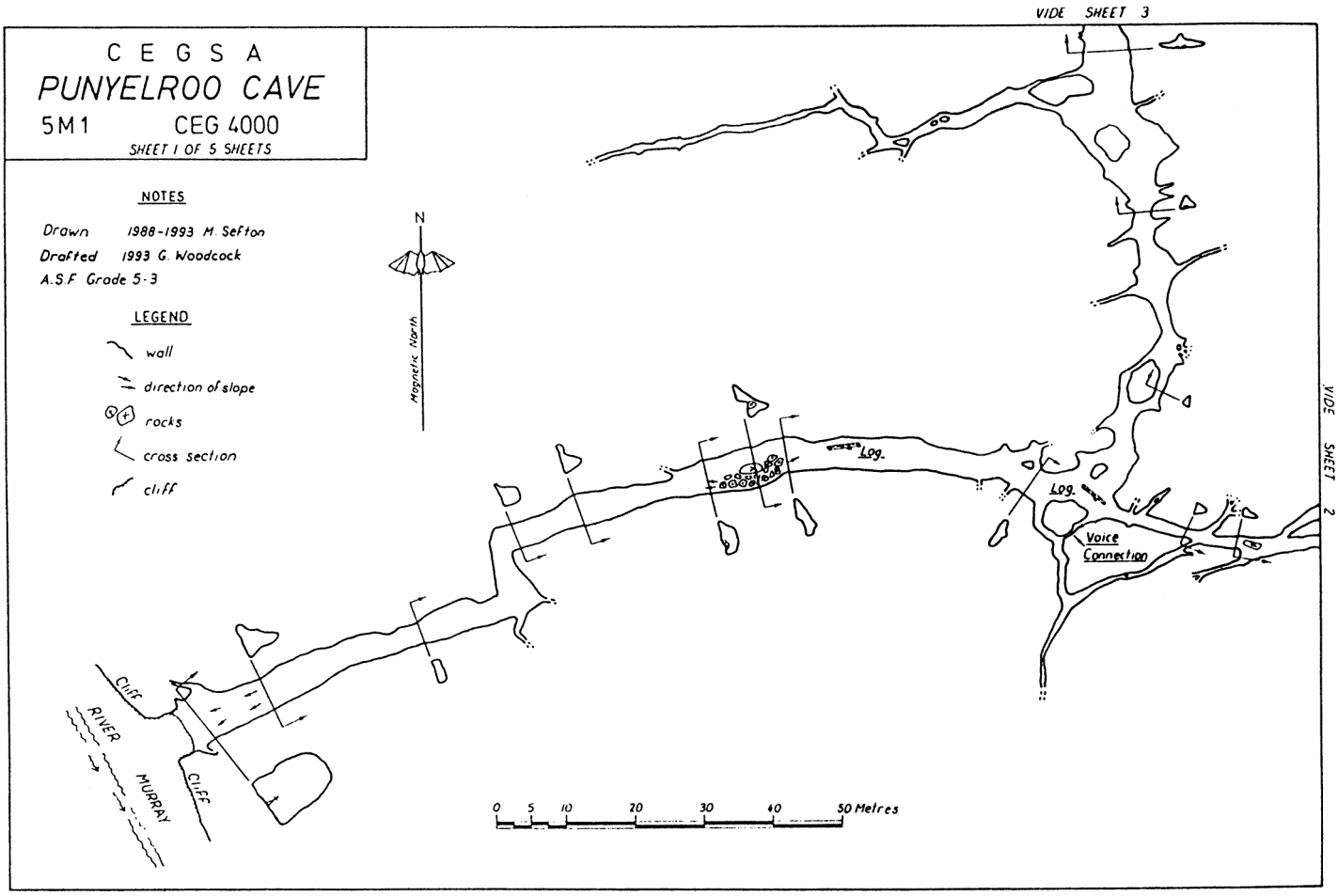
I am always a strong believer in the principal that you should not start a surveying project unless you intend to finish it yourself. I have seen too many instances where cavers do a miners dial or theodolite traverse through a cave, put in a few 'permanent' stations (which all too often disappear with time) and then leave the rest to 'future generations'. More often than not, such traverses are never used and turn out to be a waste of time and effort for everyone involved. This does not mean that such traverses are pointless, just that they should be done in collaboration with whoever is coordinating the survey as a whole. At least four total traverses have been surveyed through Punyelroo cave in the past. Not one of them was of any use in producing this map.

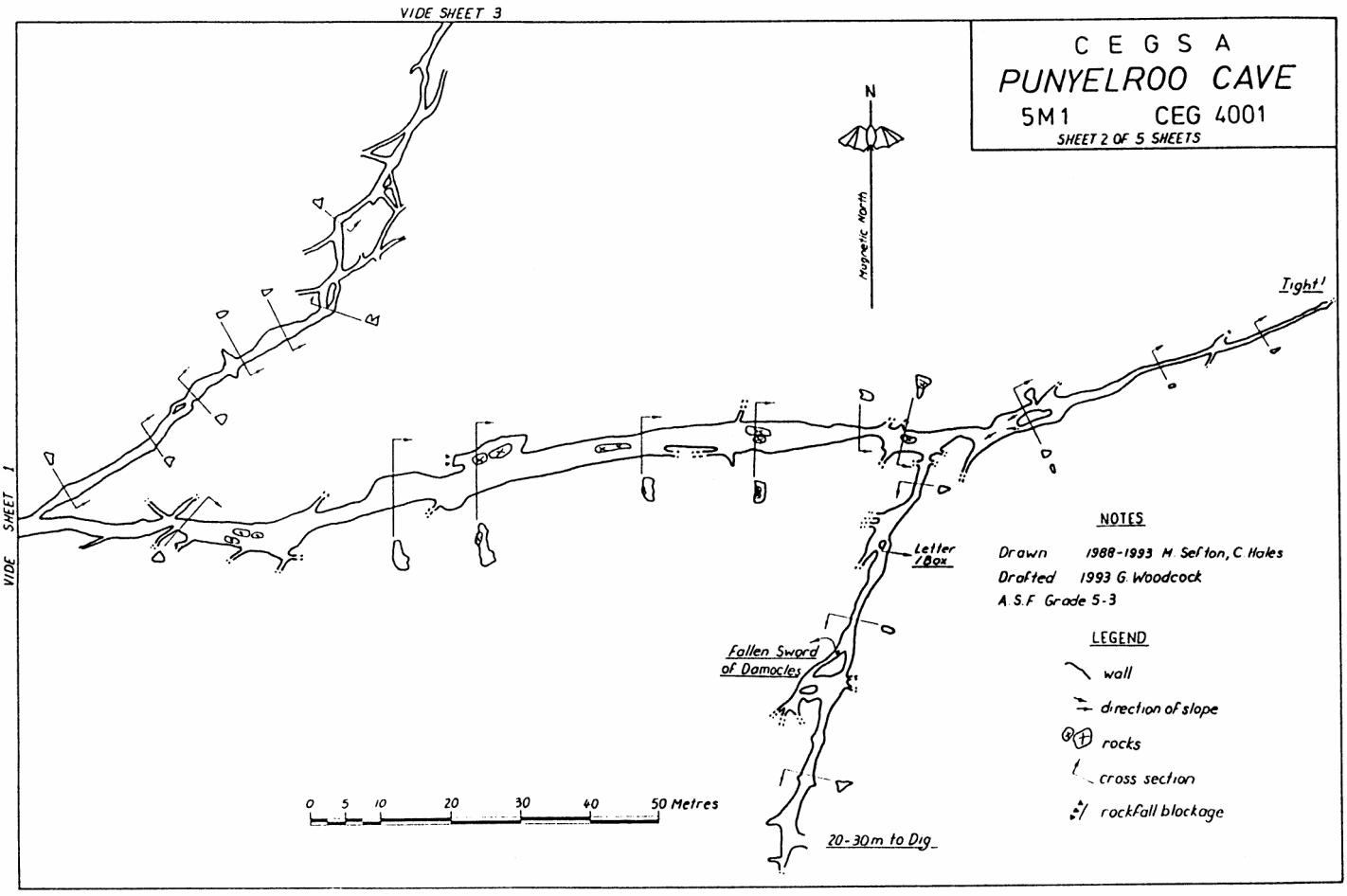
What about training people to survey caves? Find them a cave or bit of cave, give them the notebook, graph paper or whatever, and put them in charge (remembering to look over their shoulder from time to time). Learning from experience and from your own mistakes is still the best way.

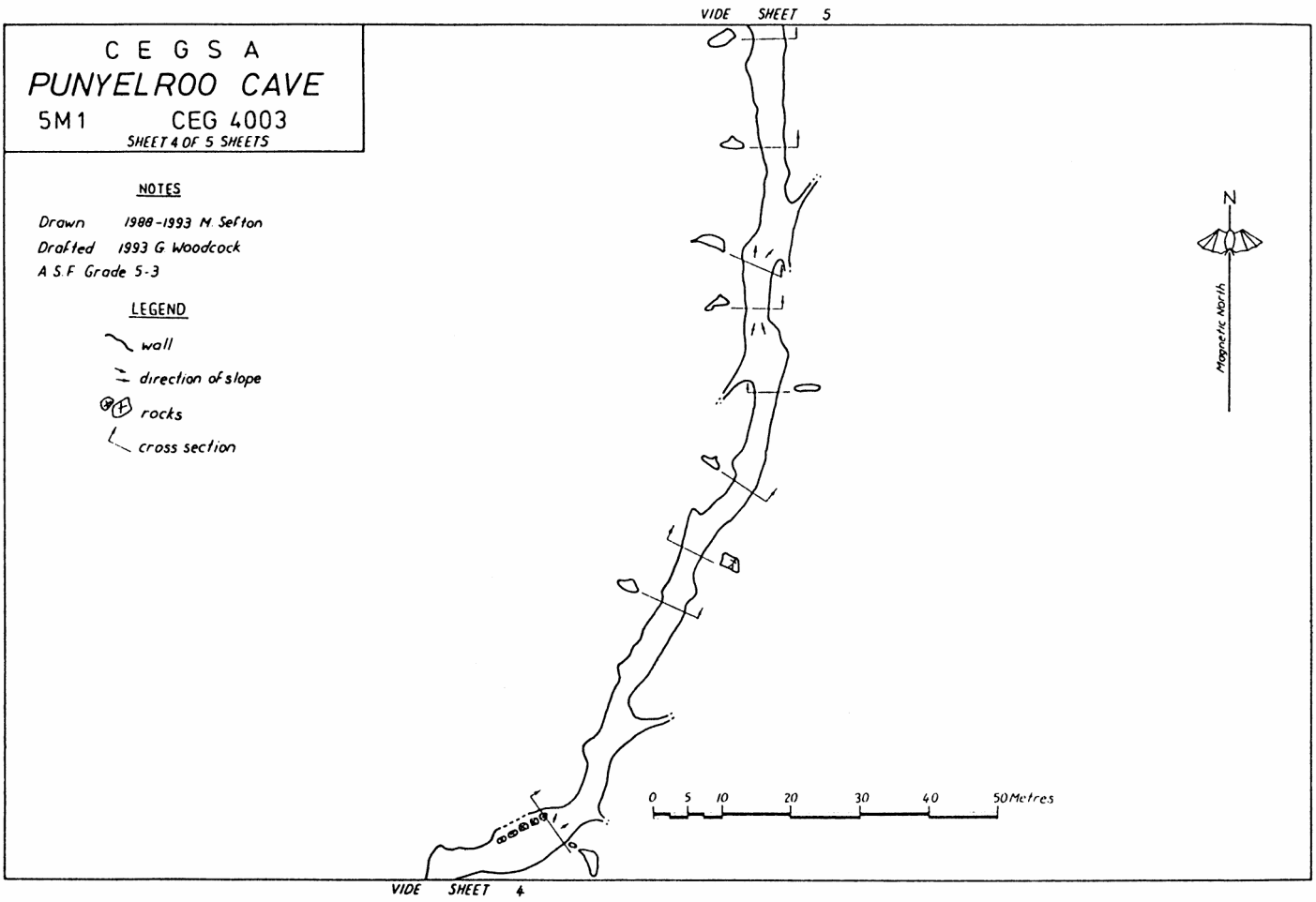
Finally, when a survey is complete, the map (but not necessarily the location) should be published in a club newsletter or some similar publication, unless there are very good conservation reasons for keeping all or part of a map restricted. Why bust a gut for goodness knows how long to produce a map, unless it is going to be used? It is hardly surprising that CEGSA members are reluctant to help with surveying when they seldom see the fruits of their labours, which sometimes do little more than gather dust in CEGSA records.

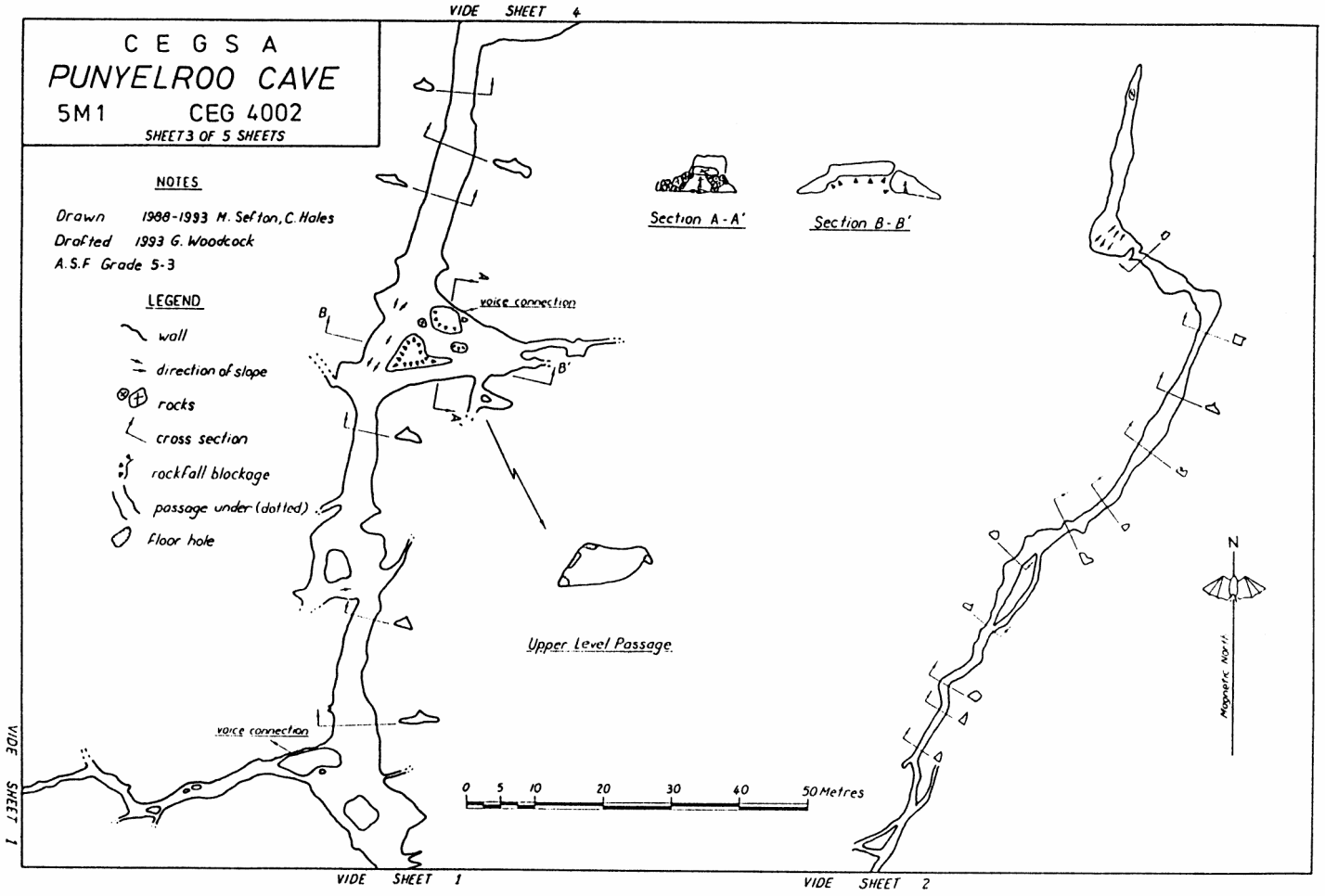
Mark Sefton

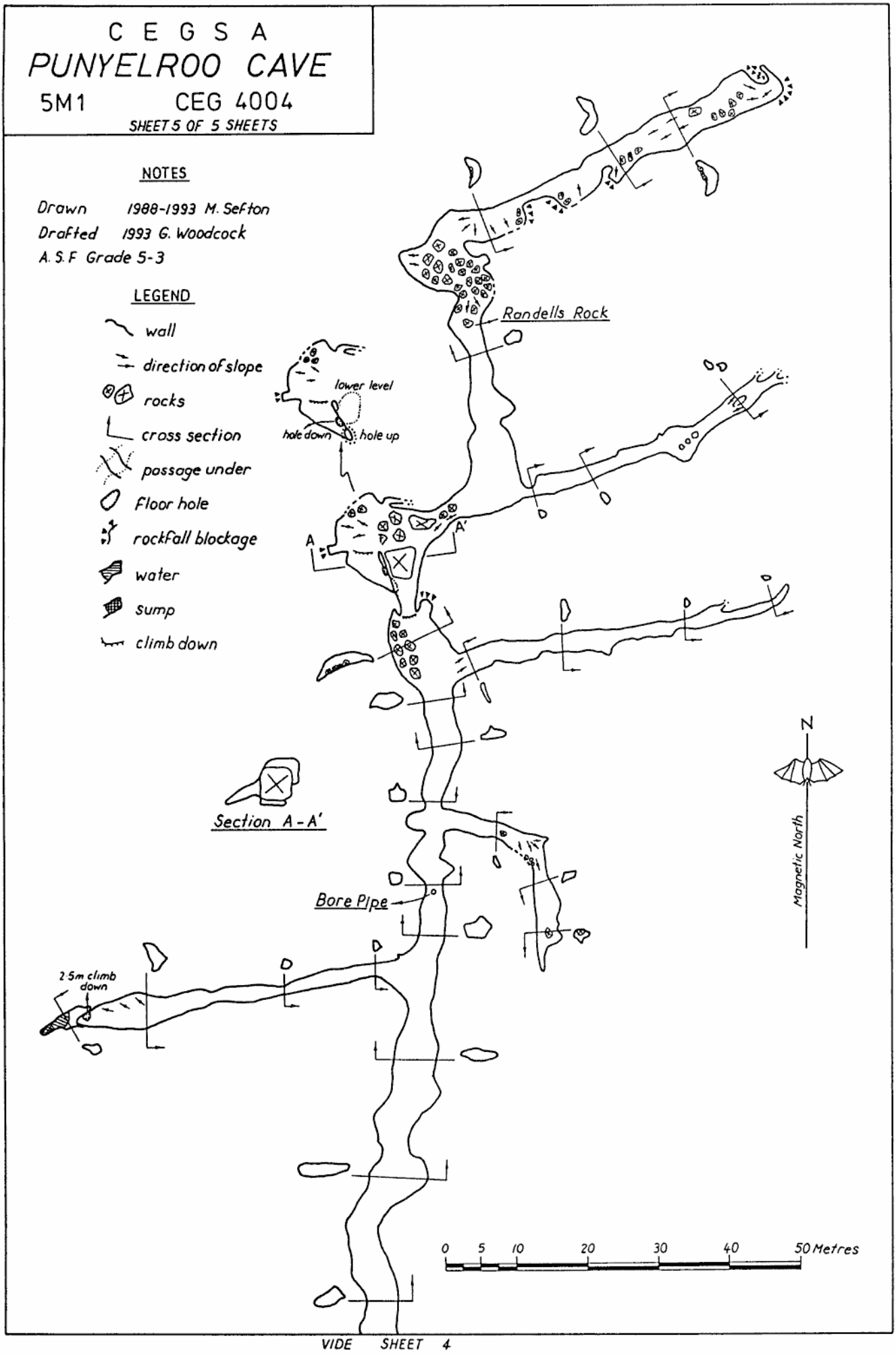



C E G S A
PUNYELROO CAVE
5M1 CEG 4000
SHEET 1 OF 5 SHEETS
NOTES
Drawn 1988-1993 M. Sefton
Drafted 1993 G. Woodcock
A.S.F Grade 5-3
LEGEND
wall
direction of slope
rocks
cross section
cliff
N
Magnetic North
VIDE SHEET 3
VIDE SHEET 2
Log
Log
Voice Connection
Cliff
RIVER MURRAY
CLIFF
0 5 10 20 30 40 50 Metres


VIDE SHEET 3
VIDE SHEET 1
C E G S A
PUNYELROO CAVE
5M1 CEG 4001
SHEET 2 OF 5 SHEETS
N
Magnetic North
Tight!
Letter Box
Fallen Sword of Damocles
20-30m to Dig
NOTES
Drawn 1988-1993 M. Sefton, C. Hales
Drafted 1993 G. Woodcock
A.S.F Grade 5-3
LEGEND
wall
direction of slope
rocks
cross section
rockfall blockage
0 5 10 20 30 40 50 Metres


C E G S A
PUNYELROO CAVE
5M1 CEG 4003
SHEET 4 OF 5 SHEETS
NOTES
Drawn 1988-1993 M. Sefton
Drafted 1993 G. Woodcock
A.S.F. Grade 5-3
LEGEND
wall
direction of slope
rocks
cross section
VIDE SHEET 5
VIDE SHEET 4
N
Magnetic North
0 5 10 20 30 40 50 Metres


C E G S A
PUNYELROO CAVE
5M1 CEG 4002
SHEET 3 OF 5 SHEETS
NOTES
Drawn 1988-1993 M. Sefton, C. Hales
Drafted 1993 G. Woodcock
A.S.F. Grade 5-3
LEGEND
wall
direction of slope
rocks
cross section
rockfall blockage
passage under (dotted)
floor hole
VIDE SHEET 4
Section A-A'
Section B-B'
voice connection
B
B'
Upper Level Passage
voice connection
VIDE SHEET 1
VIDE SHEET 1
VIDE SHEET 2
N
Magnetic North
0 5 10 20 30 40 50 Metres


C E G S A
PUNYELROO CAVE
5M1 CEG 4004
SHEET 5 OF 5 SHEETS
NOTES
Drawn 1988-1993 M. Sefton
Drafted 1993 G. Woodcock
A. S. F Grade 5-3
LEGEND
wall
direction of slope
rocks
cross section
passage under
Floor hole
rockfall blockage
water
sump
climb down
Randells Rock
lower level
hole down
hole up
A
A'
Section A - A'
Bore Pipe
2·5m climb down
N
Magnetic North
0 5 10 20 30 40 50 Metres
VIDE SHEET 4

Nullarbor

14 April to 10 May 1995 (Part I - 14 to 30 Apr 1995)

Party: CEGSA - Max Meth, Graham Pilkington, George MacLucas, June MacLucas, Frank Hankinson
WASG - Ann-Marie Meredith, Steve Brooks, Michael Sanders, Ian Collette, Rob Foulbs
VSA - Ken Boland
WASSG - Dawn Greaves, Rob Klok
Germany - Manfred Walter, Sabine Muller

Features: listed in the order visited:
SA 5N8, 9, 120, 1328 (all on the Nullarbor National Park)
WA 6N1301, 83, 1302 to 1304, 1215, 1305, 1306, 1206, 1307 to 1312, 723, 1313, 1314 (X152), 206, 745, 1315, 1198, 483, 1316, 1190, 132, 701, 613, 612, 1317, 1318, 43, 1319, X483, 37, X33, X476, 39, 872, 1320, 1321, 38, 40, 1322, 1323, 518, 42, 41 (X133), 1324, 342, 36, 35, 70, 69, X35, 160, 700, 1329, 1325 (X242), 1289 (1290), 1326, 46, 1327, 870, 869.

in numerical order:
N8, 9, 35 to 43, 46, 69, 70, 83, 120, 132, 160, 206, 342, 483, 518, 612, 613, 700, 701, 723, 745, 869, 870, 872, 1190, 1198, 1206, 1215, 1289 (1290), 1301 to 1329, X33, X35, (X133) (X152) (X242), X477, X483.

Saturday 15 April 1995. It had been arranged with National Parks staff in Ceduna that we map Bottleneck cave. The last minute exit of Mark Sefton from the trip caused much disruption to our plans. The five WASG members from Perth drove to Nullarbor to help.

We started mapping the rather small Murrawijinie Number 2 and 3 caves 5N8 & 5N9. These 2 caves were finished but the work took a lot longer than anticipated. Both caves were also tagged.

Insufficient time was left to complete Bottleneck cave 5N120. However one passage was mapped. This contained the collection of bones in a streamway that National Parks were interested in. The bones probably include kangaroo and have evidently been washed into the cave, but it is not known how old they are.

A fragment of an old newspaper, the "THE COUNTRY ???" was found, dated 1932 but no month given. This was probably left on a Jack Thomson Trip in 1932, and it thus confirms that the cave was known of in 1932. Tag.

Grays Well 5N1328. This is marked by a monument 10m south of the Eyre highway about 800m west of the Nullarbor Motel. I believe that it is sited on a natural blowhole, although there is no direct proof. In 1880 J W Jones[1] wrote, "Gray's well, about three- quarters of a mile south (of Robert's well), is only 24 feet deep, in hard crystalline limestone, at which depth it was abandoned."

Jones was searching for places to bore for water, he "looked about for the deepest natural pipe in the hard rock." As a blowhole having passed, "through the hardest stratum of rock... with a little enlargement can be used for the well shaft." This was to reduce the work of the 'Diamond drill' in boring operations. The drill was not used until a well had been sunk through the hard strata of rock near the surface. Eventually Jones sank 8 bores in his search for water the first being at Albala Karoo.

1 James W Jones, Chief Surveyor for the South Australian Government visited the Nullarbor in April, May and July 1880. His report dated 19 October 1880 is titled EXAMINATION OF COUNTRY NORTH-EAST OF EUCLA. in Parliamentary papers South Australia, Number 191 of 1880.

The volume of air issuing from Nullarbor blowholes has fascinated visitors to the Nullarbor since the earliest times. There is often quite a loud noise caused by the air as it issues from blowholes. And to add to the enigma, often these blowholes are only 1 or 2 metres deep, and it seems quite impossible that such small cavities can be the source of such powerful breezes.

Indeed, in 1880 Jones had something to say about blowholes, "there were many... without the escape of air. I think invariably this blowing only occurs when there are other large cavities in the immediate locality." Although he then contradicted himself by adding that blowholes generally only had "fissures and small passages at bottom." He incorrectly associated the reversal of air flow in blowholes with the direction of surface wind, thus "with the wind in a certain direction, there was a strong current of air escaping. and on the next day, with a change of wind, the air was passing downwards into the hole."

A year earlier, in 1879 R Tate[2] correctly deduced that the airflow was caused by temperature change but he did not ascribe the correct mechanism. "The air in the passages and caverns in the anterior part of the plateau acquires a higher temperature during the day than that on the face of the sea cliffs. In consequence of which an in-draught is caused towards the hotter region."

This may be the origin of the misconception that the breezes in blowholes are in some way connected to the sea cliffs.

The cause of airflow in Nullarbor blowholes (and caves) is not related to the cliffs or to the sea. It occurs when there is a difference in pressure between the air outside to that of the air within the blowhole. On the Nullarbor, which has an essentially flat surface, and is close to sea level, the 2 main causes of pressure changes are:-

* Everyday, heating by the sun causes the outside air to become less dense and therefore exert less pressure than air within. At night cooling outside reverses the process.
* By the steady passage of high and low pressure cells across the continent.

Blowholes connect to air cavities within the limestone. These cavities are either negotiable sized passages, or holes down to only a cm in diameter, or even simply due to the porous nature of the stone. And although the cavities may be small, they extend widely, and so have a large total volume. This acts as a reservoir of air, which tends to maintain its air at a constant temperature (and therefore pressure).

Sunday 16 April 1995. Travelling up to Old Homestead cave there was a problem with the trailer. We waited at the intersection of the graded and old road to Forrest, about 10km south of the cave, while the other vehicle returned to look for a part that had fallen off. While waiting, we noticed a blowhole 48m west of the track. This is Intersection Blowhole 6N1301. In a depression 13x12x0.4m @125 is a blowhole 0.5x0.45x2.8m @140. There used to be a shepherds hut at this intersection, but all that remains now are a couple of old sheets of corrugated iron some distance away. Tag.

Monday 17 April 1995. Surveying in the north cave of Old Homestead cave 6N83. My team was working in the 'Hall of Mirrors', about 1km from the entrance. Graham's team mapped lower-level tunnels under RDFNG.

Inevitably, both teams found some new passages.

Tuesday 18 April 1995. Walk SW to doline 6N1302. This is a shallow depression about 8x8m and only 0.3m deep.

2 Professor Ralph Tate of Adelaide University who visited the Nullarbor in February-March 1879 reported in 'THE NATURAL HISTORY OF THE COUNTRY AROUND THE HEAD OF THE GREAT AUSTRALIAN BIGHT' in Transactions Philosophical Society Adelaide for 1879 pp94-128.

Further west is Lady Fair cave 6N1303. A depression 8x8x1m @170 has a blowhole 0.7x0.3m @135 that is 2m deep. The cave heads east for 6m. The name is from a song that Ian was humming when he located the cave, the first line goes, "Hello, hello, who's your lady fair." Map and tag.

About 300m south is blowhole 6N1304. In a depression 5.5x4.5x0.6m @010 is a blowhole 0.8x0.53 @101 that is 2m deep. This has an awkward inclined entrance shaft. A passage at least 3m long heads @310 but is blocked with rubble. Tag.

We continued walking west to meet the main road about 800m S of the One Mile Cairn. North of the cairn we looked without success on the east side of the track for blowhole 31. This is one of a group of blowholes seen by Russel Bridge in 1991 during a surface Survey. But no data was collected for any of the blowholes seen.

Further north we stopped at blowhole 6N1215. The original blowhole is too small for any possible entry being only 0.23 x 0.17m. Two additional blowholes in the doline were noted. These measure 0.6 x 0.4m and 0.5 x 0.4m but are blocked with silt at 0.3m depth.

Graham's team mapped tunnels close to the entrance in the 'Officers Mess'. There is a possibility that a connection to the south cave will be found somewhere in this area.

Wednesday 19 April 1995. Max and Graham walked ESE of the shed looking for blowholes. At 1.1km is blowhole 6N1305 in a depression 4.5x2.5x0.5m @100. The blowhole is 0.6x0.6m @130 and 3.0m deep. Bearing to shed 286. Map and tag.

Cave 6N1306 is located 129m @058 from N1305. In a depression 9.5x7.5x0.45m @075 is a blowhole 0.73x0.45m @020 which is 4.2m deep but free-climbable. A 5m long cave heads east. Map and tag.

We walked past silt floored doline 6N1206 to cave 6N1307. This was feature H seen by Graham on 26.9.93. In a depression 9x8x1.3m @020 is a blowhole 1x0.65m @030 that is 2.1m deep. The cave is 5m long. Map and tag.

A mere 20m away @128 is blowhole 6N1308. This was feature G from 26.9.93. In a depression 6x5x0.35m @140 is a blowhole 0.5x0.45m @025 that is 3.0m deep. At the bottom a passage heads @140 for 2m. Also, at 1m depth there is a wide flattener extending for about 2m. Map and tag.

Doline 6N1309 is feature F of 26.9.93 and is located 200m @146 from a notable acacia tree. The doline is 20x8x0.3m @150. The N end has a rock slab area with a shallow rockhole like basin measuring 0.45 x 0.4 x0.2m. Tag.

Cave 6N1310 is feature E of 26.9.93. This has a depression 4x3.5x0.6m @020 in which is a blowhole 0.4x0.36 @160 which is 2.4m deep. This drops into a roomy chamber of 4x2.5m @040. A passage at the south end heads west for 3m. Map and tag.

Thursday 20 April 1995. More surveying in the Hall of Mirrors. A connection to a major tunnel to the north was found. It had been assumed that we would find a connection, and in fact a second one was also found, and further west there ought to be at least one more.

Friday 21 April 1995. Michael Ian Max and drove to search for blowhole 31 that we had failed to find on Tuesday. This was located 12m west of the track. There was no depression surrounding the blowhole, only a rock slab 3 x 1.5m at ground level with rabbit diggings under it. Burrow Blowhole, 6N1311 is located immediately west of the rock slab. It is 0.8 x 0.7m @170 and blocked by silt at 0.7m depth. Map and tag.

About 300m north along the track then 200m west is cave 6N1312. This was blowhole 32 of Russel Bridge. Here there was a shallow depression 19 x 10m @070 about 0.3m deep with a sloping rock pavement area 8 x 5m. The blowhole entrance is near the north edge of the pavement area. It measures 0.7x0.5m @040 and is 2.1m deep. The cave heads east and is 14m long. Map and tag.

1km north and 27m west of the track is blowhole 6N723. This was previously reported as a doline. There are in fact 2 blowholes 2.1m apart. The larger is 0.4x0.3x0.6m and the smaller 0.3x0.2x0.3m and both have a breeze issuing. Tag.

1.4km north we stopped at a point where the track had become indistinct. This is the original track to Forrest from Mundrabilla. When Old Homestead cave was found, the track was realigned past the entrance doline and the portion north of One Mile cairn was evidently abandoned. While walking ahead trying to locate the track we found a shallow depression with breeze issuing from several places.

This proved to be a cave with about 20m of passage. It is Unlucky For Some cave 6N1313, the name being suggested by the number, not because of any bad luck. The doline measures 11 x 7 x 1.5m and the cave is unusual for the locality in that the entrance is not a blowhole, but merely a doline of collapsed rock. In one sense it is a mini Old Homestead cave, but only 6m deep. The entrance is a squeeze under a boulder. Map and tag.

Doline 6N1314 is located about 500m east of N1313. It is a shallow doline 10 x 5 x 0.3m with air issuing from cracks in the clay floor.

Saturday 22 April 1995. Explored tunnel in doline of 6N83. Just before descending into the main 'south cave', a rockpile passage extends north, and under the central saddle of rock. It emerges in the north doline 2 metres short of being under the overhang of the 'north cave'.

So Old Homestead Cave is effectively two separate caves. They fail to join by a distance of about two metres. However a portion of the 'north cave' does extend under the overhang of the 'south cave' doline. That is to say, on a plan map, the 2 caves overlap. As such, the two parts can be considered as one cave.

We also looked at the first 300m of the South cave up to the Terminal Rockpile.

After lunch we returned to 6N1313.

Sunday 23 April 1995. After breakfast we attempted to locate blowhole 33 (NX152). This is another of the group seen by Russel Bridge in 1991. It is supposedly 750m @305 from N83 and this would make it the closest blowhole to Old Homestead cave. However we failed to locate it.

Drive to Thampanna Cave 6N206. Ken, Frank, Glenn, Erica, June and George were in the cave, as were two visiting cavers from Germany, Manfred and Sabine. After a short walk failed to locate Hurricane Hole 6N483, the WA people and Graham left for home.

Fairly soon June and George returned to camp and we drove to Goat cave 6N745. 400m SW is a group of 14 depressions that have been dug by wombats. In about half of these, the wombats have dug beneath a caprock shelf that is about 1m below ground. The resulting passages are (small) negotiable caves. But I would suggest waiting for the tenants to leave before attempting to survey any. None of these 'caves' had a breeze. The group is now numbered as 6N1315 (previously NX76). Tag.

Monday 24 April 1995. About 150m west of camp is the clay sided doline 6N1198.

I walked to locate Hurricane Hole 6N483. This is 1.4km SE of Thampanna cave on the east face of a low rise and marked with a cairn of rocks. There is a shallow depression 25 x 6m @150 which is about 0.3m deep and a strong breeze issues from between several boulders. A deeper hole in the centre is blocked with rocks. Map and tag.

About 300m @110 is a prominent hill top, on top of which is rockhole 6N1316. It is 1.2 x 0.8 x 0.8m but despite recent rain held no water at all. Tag.

Tuesday 25 April 1995. Goat cave and 6N1315 again.

Our water supplies were running low so we decided to get some from Thampanna rockhole 6N1190. The water was level with the surrounding rock pavement.

Wednesday 26 April 1995. Manfred Sabine and Max went to Hurricane Hole.

In the afternoon June did a painting in Webbs cave 6N132. Max stopped to look at blowhole 6N701. This is 1x0.7m @000. It is blocked by hard clay at 0.6m depth. Water has created a channel on the east side that descends further. Tag.

Thursday 27 April 1995. Rockhole 6N613 had 2cm of water in it, and about 90m west a very small doline was noted.

At the large rockhole 6N612 that is located on the ridge top, the main rockhole was dry. It is 1m deep with silt floor. There was water in two of the smaller rockholes.

Friday 28 April 1995. In the morning light rain cooled enthusiasm for doing things. In the afternoon Hurricane Hole was visited. From the bottom of the hole a passage can be seen heading north for about 5 metres and descending at an angle of 45 degrees. The cave heads north, parallel to the slight ridge that it is on. It should be noted that 800m north, in the direction the cave is heading, is the main east passage of Thampanna cave.

Saturday 29 April 1995. We left camp and headed north along the fence that is 1km west. At 10km we headed west on the northern boundary fence of Mundrabilla station. 3.3km along this is rockhole 6N1317 about 50m north of the fence. The main rockhole is 0.9 x 0.9m. There are 2 smaller rockholes as well.

We continued west for 19km and turned north at the NS fence which is the Boundary of Madura Plains Station. A wide shallow doline 6N1318 is visible about 100m NE of this point. It measures about 300x100m @015. Only on its west side is there exposed bedrock with the total depth being 4m. The doline is oriented at 015 along a valley that heads NNW for over 1km. This valley can be followed north and NNW for about 3km to Parritappa doline. Tag.

Parritappa doline 6N43 is about 500m west of the NS boundary fence. It measures about 150x60m @145. The maximum depth of 10m occurs at the base of vertical cliffs at the north end. From here the cliffs extend 30m along the west wall, all the other doline walls are covered by a rubble slope. At the south end of the doline a 50m long streamway enters. The doline has a flat silt floor with the north end 3m deeper than the south.

An overhang cave at the extreme north end of the doline is 8m long. And there is a small phreatic cave at the south end of the cliff. Tag.

Halfway along the west side of the doline is a rockhole 6N1319. This is the first rockhole that I have seen, that is located within a doline. It is located about half way up the side of the doline. It was full of water and measured 0.6 x 0.4 x 0.25m undercutting on the west side.

All previous rockholes that I have seen have been located at Plain level, and on rock pavement sheets. This one intrigued me because in his book 'Pimpernal Baxter', Keith Quartermaine mentioned such a doline. On 22 Jan 1955 he was talking to the manager of Mundrabilla station, a Mr Mackie, who gave him a list of caves that he knew of. Keith's description of one was, "A large sinkhole NE of Moodini at which Mr Hogarth had watered cattle from a rockhole presumably in a gorge in the side of the sinkhole."

Up to now I knew of no such doline. But the rockhole in Parritappa fitted the description. It is 37km NNE of Moodini.

Later in this trip I was to find a second such doline.

We drove SW past Spider tank (old Number 30 tank). Note that for many years now, the tanks on Madura Plains Station have all been named, and their numbers have been discarded (but the numbers are still shown on the current maps. The paddocks bear the same name as the bore/tank that it contains. Thus Parritappa cave is in Parritappa paddock and tank (old number 32 tank), Mullamullang cave is in Mullamullang paddock and tank (old number 19 tank), the Kestrel caves are in Kestrel paddock which has 2 bores, Kestrel bore (old number 28 bore) and Spider bore (old number 30 bore).

Just near the turn off to the Kestrel caves I noticed a shallow clay depression 6NX483 on the north side of the track.

We camped at Mullamullang cave 6N37.

Sunday 30 April 1995. There is another shallow clay depression 6NX33 on the north side of the track 200m before reaching the campsite.

Mullamullang cave 6N37. The map in the book MULLAMULLANG CAVE EXPEDITIONS 1966, shows a passage in the north doline that heads south and the note 'connects with other end of entrance'. I know of no one who has made this connection. The existence of the connection was reported by Ted Anderson.[3] Ted was leader of the expedition when cavers first found the cave on 9 Jan 1964. In his trip report Ted writes:

On this trip I investigated this alleged connection.

First was the south doline. Max, Ken and George went to the deepest point of the south doline, which is at the base of a cliff 10.5m high. An overhang cave here extends for 5m and at the back, a hole opens into a cave. This cave serves as a water course for water entering the SW corner of the doline at a fairly major gully. Water borne silt and rubble has blocked any passage that may once have headed south. Instead the cave heads north, and descends steadily. Although side passages are all blocked, a strong breeze blows through the cave, and this is evidence that it connects to the main cave. Though why the breeze should flow through this rather obscure and lengthy passage and not out of the main cave entrance is a mystery. After all the main cave entrance is rather large.

On this day we could not find the actual connection. Debris washed in has evidently blocked the passage, but air certainly still goes through. We did reach a chamber of about 12 by 7m with up to 3m of head room. On one side this had an inclined floor of black flowstone. And at the base of this are low passages with rubble floors, all with breezes. One of these may be the connection to the main cave.

Second was the passage in the north doline. On the 4th May, before leaving camp Max, Lance, Dawn and Rob located the passage. This led to a fairly well decorated area with plenty of black flowstone. The cave led south, but was soon blocked. It ended in low passages similar to the ones seen in the south doline.

It would appear that 31 years has been an insufficient time for cavers to explore this portion of the cave. If any reader has information on this connection I would like to hear from them.

In the late afternoon June George and Max drove to Madura motel to pick up Lance who was arriving by bus from Adelaide at three in the morning. On the way we noticed a shallow doline NX476 about 50m west of the NS fence 4km south of Joes cave.

3 Edward (Ted) G Anderson "NULLARBOR EXPEDITIONS 1963-64" in HELICTITE, July 1964, page 128. "..the foot of a low cliff at the south side (of the doline). Here shallow undercutting provides access to a passage which was extended under the doline by digging, to emerge on the eastern side of the cave at the bottom of the main entrance chamber."

In the motel we met Dennis Nash, co-manager of Madura Plains Station. He told us about a cave he had found earlier in the year when putting up a new fence. This is 6N1322 and is located about 300m due west of Kestrel number 1 Cavern. Dennis had shown the cave to Miles Pearce and Lloyd Robinson only a few days earlier. Miles had estimated the cave as being 50m long.

Dennis mentioned that he had seen a rockhole in the Joes Cave doline. This was the only the second such rockhole that I had ever heard of.

Both these features were put on our trip agenda.

To be continued (Part 2 - 1 to 10 May 1995)

Max Meth *- June 1995*

Nullarbor

14 to 23 April 1995

Party: Graham Pilkington and, Max Meth (CEGSA) Ann-Marie Meradith, Steve Brooks, Michael Sanders, Ian Collette, Rob Foulbs (to 19th) (WASG)

Features: SA 5N8 9 120 all on the Nullarbor National Park
WA 6N83 1301-1314

14 April 1995. I arrived at Ceduna on the bus. Fortunately Max's place is just around the corner from the depot. Ray Graham (Max's cousin on sojourn at Ceduna) gave us a lift out to Nullarbor Roadhouse as though it was a joy-ride down to the local store instead of a round trip of 650km. The WASG members of our trip were to meet us there late evening. We camped by the road out to the Murrawijinie caves to wait, but after midnight decided to wait asleep.

15 April 1995. They arrived within minutes of us closing our eyes, could not see us, and made their own bed by the main highway. We breakfasted together. Since WASG were carrying the food supplies for the trip we couldn't have done much else!

A few minutes drive out to the Murrawijinies.

Graham, Ann-Marie and Rob completed the survey of N8 started by Max and Graham last year. This involved some main chamber wall detail and most of the lower levels on the NW.

The others surveyed N9 then moved out to N120 were they completed the survey of the entrance chamber and one of the side tunnels. After tea, Graham, Ann-Marie and Ian took a ladder to the internal N120 drop to continue the exploration where I had to stop due to lack of gear when I was with Brett Purdon (CAVEX) on the Army reconnaissance trip last year. A big disappointment. The 4m drop was into a hanging-wall chamber with the breeze issuing from a clogged hole at the end of a small passage along the wall. A decorated void inside the rockpile was located but did not appear to lead anywhere - ingress was OK given time but egress seemed dubious!

16 April 1995. On to Old Homestead Cave. A blowhole(BH) was found near the junction 10km south of OHC.

17 April 1995. Max, Ian, Rob and Michael went to Hall Of Mirrors about 1km into the North cave where they began exploration and surveying. The area was named in 1991 from the fact that whichever way you looked you saw the same thing - [nearly] identical tunnels leading off.

Graham, Ann-Marie and Steve went to the tunnels below RDFNG to continue that survey. 55m was completed with the tunnels continuing. Since the others had not used my survey method before, this time was used as a "shake-down" to create a team, by the end we began to work effectively so we kept this team for the rest of the trip. On the way back a check traverse was made along the main run to eliminate loop errors found in the 1991 Expedition survey.

18 April 1995. Max, Ian and Rob went to the BH area 2km N of camp.

Graham, Ann-Marie, Steve and Michael began a survey of the Kitchen Cupboard which comes off the Mesa at the start of the Officers Mess. This is the "entrance end" of the Gentlemans Mess, cut off from the Gentlemans Mess proper by the Mesa collapse. The area is very well decorated with wall-to-wall calcite flowstone, flakes and dry rimstone pools.

19 April 1995. Max and Graham went walkabout to the BHs SE of camp. See Max's report for details.

Ann-Marie, Steve, Michael and Rob went to Forrest. Rob caught the train to Perth; I bet that you didn't know it was loose! They talked with new managers of the Airport and the manager's plans for the place. Because they had never been down to the Eyre highway they were very unsure of which track to take without wandering about the desert so the WASG guided them down the track to Mundrabilla. They called in at OHC on the way.

20 April 1995. Max, Ian and Michael returned to the Hall Of Mirrors completing a total of 60m of survey. They found the Hall Of Horrors on the next level down - apparently named from the difficulty of surveying it. They also located two connections to the Bird Runner tunnel (that was named in 1991 from the survey prefix code - BB). Most of their time was consumed investigating the complex and trying to the complete the suspected BB tie.

Graham, Ann-Marie and Steve continued the Kitchen Cupboard survey. The main traverse ended in breezing holes only 30m from the cave entrance rockpile! The direction of air movement is sympathetic with a direct connection to the outside.

21 April 1995. Max, Ian and Michael went to the BHs 2km N of camp.

Graham, Ann-Marie and Steve completed the Kitchen Cupboard survey which totalled 260m. After a quick tour of the Officers Mess to look at what all the fuss was about, we started Gentlemans Mess survey proper in the hope of locating more of what we had just visited.

22 April 1995. Max, Ian and Michael went back to the N1313 area, the major find of the previous day. After a bit more effort, "Unlucky For Some Cave" is now a 25m long cave on two levels. It is not the typical BH with tubes off the bottom but an inclined entrance from below a slot between rock slabs. The name comes from the cave number but the tight entrance prevented Max from exploring after all his work in finding the cave! Michael produced a map of the cave.

Graham, Ann-Marie and Steve continued the Gentlemans Mess survey. Being the last survey trip of the Trip we pushed on until 1am, getting 150m from the start with a total of 175m of survey (we left all side tunnels).

The Old Homestead Cave survey length was increased by 550m during the Trip, bringing the total mapped length up to 24.6 km. There are at least 2km of known but unmapped tunnel left with many going leads.

23 April 1995. Moved to N206 to drop Max off with a VSA led trip. Max Graham and Steve looked for Hurricane Hole but only eliminated a patch of land from contention. Graham & Steve left for Ceduna, the others for Perth.

Graham Pilkington

Drama at Naracoorte

8 to 10 April 1995

Party: Ruth Lawrence (Leader), Ron Simms, Ray Gibbons (CEGSA), Heather Caswell (VSA), Simon Badcock, Braden Pierson, Chris Grivell, Tanya Ford and 33 students from the Adelaide University Geography Department.

Features: 5U1, 5U4-6, 5U7, 5U8/9, 5U47, 5U49, 5U50, 5U51, 5U63.

Caving and karst interpretation was the focus of this Geography field trip with a difference. The 33 students were allocated into groups of 8 or 9 and each group rotated between the following activities: a tour of Victoria Fossil cave 5U1 and Blanche cave 5U4 -6; caving in Blackberry cave 5U8/9 with the Naracoorte Cave Conservation Park Rangers; a tour of some of the surface karst features; a surface surveying exercise; and a cave surveying exercise. In addition, optional caving was planned for Saturday and Sunday evenings.

Both the surface and cave surveying was done in the Mosquito creek area - aim being to relate cave levels to the present land surface and water table levels. 5U49 and 5U63 were mapped, and a start was made on 5U50. The U50 map was not completed due to incident of note.

The optional caving exercise on Saturday evening proved to be very popular. Twenty people wanted to visit S102 cave 5U47. About 6 hours were taken to get everyone in and out of the cave, thanks to the devoted efforts of Ray Gibbons, who, along with Heather Caswell, stayed on the surface the whole time assisting people in and out of the cave. They must have been totally numb after 6 hours in the c - c - cold and rain! The following morning, there was nothing particular for Ray, Ron and Heather to do, so I suggested they go and investigate S102 for themselves, since neither Ray nor Heather had ever been in there before.

So the three went off to enjoy themselves - Ray and Heather went caving and Ron stayed at the surface. The next I knew was that Ron arrived back at camp for lunch by himself. he told me that they were an hour overdue and that he needed some extra gear to go and look for them. He then set off with Simon Badcock (a PhD student with rock climbing background) and Robyn McBeath to see if they had surfaced.. they hadn't. Robyn then instigated a full - scale search and rescue operation.

At this stage I thought that one of two things had happened: either there had been further rock collapse and one or both had been injured by it; or that they had gone through the crawl area after which collapse had occurred and they were trapped beyond with no way out. As it turned out, neither was the case - they had just become disorientated and decided to do the sensible thing and wait until help came. Ron has detailed the rest of the drama in his report.

Anyway, the students had a couple of hours of unplanned free time while we waited for the two errant cavers who were scheduled to help with the afternoons activities. The following morning, after the entire party had visited Blanche cave and we were all together, I interviewed Ray, Heather, Ron and Robyn about what went right and what went wrong during the whole episode.

There is no better lesson to be learned about cave safety than the on - the - spot drama with all the players present. And yes they did complete the surface and cave surveys of the Mosquito creek area with quite enlightening results.

Ruth Lawrence

Observation of the Structural Integrity of S102 Cave (5U47)

9th and 10th April 1995

After I reported to the April General Meeting of the Cave Exploration Group of South Australia that the cave registered as 5U47 was unstable and should be closed for public safety, the Acting Chairman of CEGSA, requested that I submit a report on the condition of 5U47 during my next visit to the area on the 13th May. Unfortunately this was not possible, as access through the rock pile into the second chamber was blocked by a major rock and soil collapse.

Mr. Kevin Mott with several others, entered this cave on about the 30th or 31st April to check on the reported instability around the rock pile and the first major sand cone after the rock pile. The group was unable to pass through due to a collapse that had occurred between the 10th and 30th April. I believe that Kevin Mott has flagged this section off with red tape and is recommending that no attempt to access through this collapse be made for twelve months.

From my last visit into this cave on the 9th and 10th April, my observations on the rock pile and the sand cone were:-

Rock Pile
The horizontal crawl along the right hand edge of the lower section appeared in a stable condition.
The passage from the corner where it starts to ascend up to this section has over the past few years been enlarged by;
(a) Persons deliberately removing protruding rock for easier access,
(b) Accidentally dislodgment of soil and rock,
(c) Natural collapse and re-settling after being used by cavers.

This ascending crawl through t his section had been considerably enlarged, allowing a comparatively easy passage to the upper section. Immediately below the top of the rock pile has opened up into a small dome shaped chamber with a large rock wedged above.
In this section, the soil surrounding the rocks is soft and friable. Several years ago, the top of the rock was uncovered. Now the majority of it is covered with a sand cone mixed with rocks and has almost reached the entrance into the rock pile.
This sand cone would have to be considered as active.

Sand Cone
This sand cone is located approximately 35-40m into the main long chamber, originated through the a small hole in the roof and close to the cave wall. Six years ago, this was causing only a minor fill in the cave. Unfortunately, both inexperienced and experienced cavers are using the cone to slide or toboggan down the slopes which has only helped to increase its size.
By early 1992, the cone had enlarged to the point where it was filling approximately 75-80% of this section of the cave and significant cracks were appearing in the roof structure around the opening. By late 1993 several sections of the roof block had slipped, but hadn't fallen out.
I didn't visit this cave during 1994, but by April 1995, several large sections of the roof structure had collapsed revealing a large gaping cavity behind it.

Directing a torch beam into this cavity did not reveal its full extent. It was impossible to estimate the size of the cavity, but it would have exceeded an area of 15 cubic metres, with what appears to be a solid (limestone) roof. The sand cone has grown to point where approximately 80-90% of the cross section of the cave is now filled.

The dramatic collapse and enlargement of this roof section could possibly be contributed to the abnormal dry weather that has been experienced in this area over the passed two years.

While waiting for my group to pass through the rock maze into the cave, several small falls of sand descended out of the cavity.

Conclusion

It is possible that access through the rock pile may be permanently blocked due to the activity of the sand cone immediately above it. Also the sand cone in the main passageway would have grown to the point where it also would be filling the chamber from wall to wall.

Access in the future could be through the large sand cone breaking through to the surface. The surface location should be marked as a safety consideration. Assistance could be given to the land owner if he decided to fence that section off as a public relation exercise.

Follow Up Inspection

On 11th June 1995 while installing research equipment at the first lake, Drs. R. Lawrence and P. Gell (Geology Dept., Uni. of Adelaide) and F. Stadter (Mines Dept., Naracoorte) made a visual check of the rock pile to assess the extent of the collapse. They reported that a large boulder has fallen down to the bottom crawl-way effectively blocking the opening. A large amount of smaller rock was lying behind the large boulder.

Their opinion is that it is highly unlikely that access will be possible through the rock pile using the collapsed pathway due to the position of the large boulder and the fill in behind it.

Ron Simms

Naracoorte Karst System - Vegetation Survey

13th to 15th of May 1995

Party: Ray Gibbens, Ruth Lawrence and Ron Simms.

Features: 5U1, U7, U11, U14, U26, U27, U34, U38, U39, U46, U48, U66, U81, U82, U102 and U120.

Purpose: To record the vegetation within a 10m radius of the cave entrance.
To determine if there is a connection between the cave cricket population size and the diversity of flora surrounding the cave entrance.

We arrived late Friday night to find the cave camping ground empty and were faced with the unusual dilemma of selecting a camp site. After pitching our tents in what we thought was a sheltered corner away from the near gale force wind it then changed direction, buffeting our tents throughout the night.

Saturday morning was cold, wet and windy as we travelled to the caves, U81 and U82. Surveying the vegetation was relatively simple for these caves as they are located in an open pasture. To avoid some heavy rain showers we checked inside the caves for cave crickets. Although no crickets were found, two skulls of an extinct member of the POTOROIDAE Family were discovered. They were removed for identification at the South Australian Museum.

Dodging the rain, we travelled to U108 and after a friendly and informative talk with the owner, continued onto the cave. This is one of the cuddly type where you are in close contact with the cave for most of the time. As we started to exit, a heavy shower of rain compelled us to spend extra time trying to shape our bodies to fit the contours of the cave. In the afternoon we investigated the vegetation surrounding the twin entrances of U26 and U27 before descending into the cave. Surprisingly we found that the majority of this cave has still to be mapped and it is an ideal one to teach new cave surveyors. The day was completed by checking the vegetation around U89 which wasn't difficult to identify, being either Bridal Creeper or Peppercorn trees.

Sunday morning the alarm clocks started before dawn. Nice as they sound, the birds, especially the magpies and a couple of kookaburras were not appreciated that early. The weather had improved with more sky and sun showing although still without any warmth.

Walking along a fence line we located a doline in the natural bush which is definitely a plug-filled solution tube. If it is ever dug out, it should provide interesting fossil material. Finally on locating U66, we found a Marino ewe lying on the ground unable to get up and in a very weak condition. After examining the vegetation surrounding the entrance, I diverted to a nearby farm, to inform the owner of the ewe. Half an hour later after talking about the weather, plants, native birds and history of the location, I was shown several dolines on his property. While I was on the P.R. exercise, Ruth and Ray were diligently examining the vegetation surrounding U14 in the pine forest.

To complete the morning, a short drive found us at U47. The journey along the fire-breaks had its moments with several grey kangaroos dashing out in front of us. The "highlight" was spotting a large white object in the forest. It was a dead, very swollen steer, dumped there with the use of a tractor. While at the cave, a perfumed breeze was a constant reminder of the steer.

In the afternoon, we travelled to the southern caves U38, U39 and U46 and again some P.R. work with the property owner was successful. Although he expressed that he didn't like people going into these caves, we gained permission due to the research work we are undertaking.

Monday morning we were away early surveying U125 and U7 before moving on to the old entrance at U1 and then to U48. A quick look through U10 to see the newly designed "self guided" cave tour was interesting, but it is disappointing to see some acts of vandalism to the lights which create a safety problem for other tourists. We continued through into U11 and conducted a cave cricket survey which yield very low numbers. This could be contributed to the extremely dry conditions found where the crickets usually live. Also it is disappointing to see what destruction has occurred to several beautiful sections of living formation through thoughtless action of people walking randomly over it in the name of tourism.

During the weekend we examined and recorded the vegetation surrounding 16 caves, entering into 7, to check the vegetation in the entrance area and cricket population.

While talking with the owners of one cave, we found who the owners were of U80 and U81 and visited them on the way back to Adelaide, making arrangements for future research visits. One aspect discovered in this research is the high number of caves which are not mapped or only mapped to Grade 1 or 2.

In the process of talking with the property owners, we noted that they keep a good watch on their own and the neighbours properties and strange vehicles or people walking about are rarely missed. Another aspect which is disturbing is the extent the pest weeds are is encroaching through the vegetation, especially the weed known as Bridal Creeper.

The return journey to Adelaide was smooth and fast and I soon discovered that the driver didn't have a lead foot, but she did possess a titanium one!

Ron Simms

TECHNICAL and OTHER ARTICLES

Membership

New Associate Members:

Pamela ALVARO 9503 (h) 370-8431
156 Piccadilly Road PICCADILLY SA 5151

Jules GHEUDE 9504 (h) 255-6873
25 Fietcher Road ELIZABETH EAST SA 5112

Ian RICHARDS 9506 (h) 322-2894 (w) 237-6151
8 Knights Bridge Court HAPPY VALLEY SA 5159

Transfer to Full Membership:

Anne-Marie HUBYCZ 9419 (h) 266-0512
9 Nepal Street HILLCREST SA 5086

New Full Member:

Peter WATCHMAN 9505 (h) 322-7443 (w) 371-0099
38 Regency Road HAPPY VALLEY SA 5159

Change of Address or Phone Number:

Fern RAINTREE 8708 (h) 388 6441 (w) 212 6030
PO Box 770 NAIRNE SA 5252

Mark THISELTON 8801 (h) 374 25 92 (w) 230 2376
62 Penang Ave COLONEL LIGHT GARDENS SA 5041

Clare BUSWELL 9002 (h) 353-6108 (w) 201-2614
52 Main Street HENLEY BEACH SA 5022

Dave EGEL 9418 (h) 326-2697
2 Garland Court NOARLUNGA DOWNS SA 5168

General Meeting Format

It was decided at the July general meeting to change the format of our general meetings to allow guest speakers more time for their presentations. In future the meetings will alternate with one month being business orientated and the following entertainment orientated. It is hoped that this new format to allow more time for the topic of the evening, more time for discussion over drinks and nibbles and finally an earlier close. It is planned to have no guest speaker at our business meetings. This decision has resulted in changes to the programme. Please check your Programme.

Karst Studies Seminar

The third in a series of informal seminars on karst studies will be held at Naracoorte, South Australia, from 12-15 February 1996. Entries fees have been set at $80, which cavers administrative costs and includes a regional guidebook. Accommodation has been arranged at Wongary Host Farm (28 places only) at a cost of $150 per person. Naracoorte also has a selection of hotels, motels and camping grounds to suit all budgets.
Papers will be presented on Tuesday 13 and Thursday 15 February 1996. A field trip has been arranged to take in the vast array of karst features available in the Naracoorte area on Wednesday 14 February 1996.
Further details may be gained by contacting Ken Grimes on (055) 73 4503 or Elery Hamilton-Smith on (03) 9489 7785

Sellicks Hill Quarry Cave (5A20) - An Update

The Sellicks Hill Team, Clare Buswell, Grant Gartrell, Mark Sefton, Alan Jevons and Peter Horne have been hard at work coordinating and preparing our submissions to the Environment, Resources and Development Committee (ERDC) of the SA Parliament.

The ERDC commenced hearings with a visit to the quarry in late May and then the following groups presented to the committee:

31/5/95	Southern Quarries Pty Ltd - Mr. David Salkeld, General Manager
	Professor David Stapledon - Consultant Geologist for the quarry
7/6/95	Dept. Environment & Natural Resources
	ASF
14/6/95	SA Museum
	Environment, Legal Community Advisory Service (ELCAS)
	Conservation Council of SA
7/7/95	Dept. Mines & Energy SA
	Dept. Industrial Affairs
	Southern Quarries Pty Ltd- Mr. David Salkeld, General Manager
	Olliver Geological Services Pty Ltd - Consultant Geologists for the quarry

In total we have made four submissions to the committee, being three written submission and the presentation of 7th June. The Sellicks Hill fighting fund, funded the attendance of Dr. Armstrong Osborne, Sydney University and Ms Willow Forsyth, Westpac Bank also from Sydney to appear on our behalf. The ASF funded the attendance of Patrick Larkin, Senior Vice President and Dr. Grant Gartrell completed the presentation team.

Grant submitted a paper and spoke regarding the cave discovery and exploration (Sep-Nov91), all the negotiations and discussions with Southern Quarries Pty Ltd and Mines and Energy SA up to the blast (Dec 10,94). Highlighting several issues dealing with the 'Quarries Confidential Agreements' and the proposed contract, the promises and continued intent, by all parties, to allow access again. He then pointed out that since the blast, through the Independent Inquiry we have discovered that they had been planning the blast for at least 4-6 weeks and that he had had a number of discussions with both the quarry and MESA during that period and they gave no indication of there intention. This was a crucial point which the Committee reiterated in questioning Grant, that the cavers had been misled by the quarry and a government department.

Dr Osborne presented a case from the scientific perspective giving facts and details and drawing comparisons with other caves in Australia. He referred to the governments Independent Inquiry Report (Messrs Grimes & Moore) and the transcript of the Inquiry Jan. 94, in supporting our case. The significant question the Committee asked of Dr Armstrong was "How long do you believe the quarry will need to be disrupted to allow for scientific assessment of the cave ?" Dr. Osborne replied that approximately two weeks, in cave research, initially to gather data. This may not have to disrupt quarry operations as this depends on where they are blasting and the frequency of blasting.

If we recall the governments press release of 11 Mar. 94, they referred to figures of $8-14m to quarantine the cave area and up to $40m to close the quarry down. Ms. Forsyth handles a significant Mining default loan portfolio for Westpac Bank and presented a case to assist the committee in deliberating about the economics. Her presentation concluded that the upper limit for closing the quarry completely was $8m and that to quarantine the cave area was upper limit $2.3m. A significant order of magnitude in difference, to the figures used by the government.

Unfortunately, time ran against us (the committee started late) and Patrick was only given five minutes to sum up the case. He did this well, getting across the message that the Game Keeper should be separate to the Poacher. The Committee invited further written submission from the cavers.

The Sellicks Team then took there fingers to the keyboard and produced a final written submission, we included a paper written on Tourism Assessment of Sellicks Hill Quarry Cave, we commissioned from Ernst Holland, Karst Manager, Jenolan Caves Trust. We obtained copies of Cave & Karst Acts from the USA and other Australian states and ensured that we had covered and answered the Committee's Terms of Reference. The submission was completed around 2am early one Sunday morning, ready for delivery to the ERDC. Patrick also submitted a paper dealing with the government processes, the legal questions and how this failed and should be altered to ensure this doesn't happen in the future.

I attended all the hearings and have seen some of the other submissions and the quality of the work and the presenters for the ASF is beyond reproach. Comments have also filtered back via politicians and others that the committee was also very impressed. I sincerely thank all those who committed there time and energy. The future of karst and caves in this state HAS CHANGED. The government departments will no longer treat them lightly, nor the caving fraternity.

The Committee has finished the hearings on Sellicks and the latest news is that they will report to Parliament in late September. Once their report has been tabled in Parliament, we will be able to obtain a copy, and the respective Ministers and Government departments will be given three months to respond.

So, with the Fighting Fund now drained, it is time to take a well earned rest, but the ERDC report will be the beginning of the next phase.

Alan Jevons
President, SA Speleological Council

ERDC: Dorothy Kotz MP (Lib) Chair, Hon Mike Elliott MLC (Dem), Annette Hurley MP (Lab), Hon. Terry Roberts MLC (Lab), Hon Caroline Schaefer MLC (Lib), Ivan Venning MP (Lib/Ind).

Records Update

Good news - CEGSA has received an update on Nullarbor Records by Max Meth as well as an update on the Lower South East by Kevin Mott.

The Nullarbor data has been processed and placed on our computer for quick and easy access. Some 200 pages of information is available. Thanks Max for answering our request for information to be handed in for CEGSA Record files so promptly.

Kevin Mott has provided CEGSA Records with 50 copies of cave maps from the microfilm masters of the Lower South East and Glenelg River. This information has been placed in their individual files. He has also given CEGSA a copy of the preliminary drawing of L339, the latest surveyed cave in this area. Kevin has also handed in an update on the almost completed survey map of Monbulla/Wrecked Car cave L5/21. Kevin continues to pass on all cave information he collects from the media.

Peter Horne's publication of the *Lower South East Cave Reference Book* has been photocopied by Peter at cost and placed in their individual files.

Neville Pledge has handed in two large monographs. One of *Henshke Fossil Cave, Naracoorte*. The other on *Curramulka Local Fauna*. Both of these articles have been written by Neville.

There is still a lot of information not filtering through to the records. Please make an effort to update CEGSA files. Preliminary sketches, notes, or whatever, all information is relevant and gratefully accepted on behalf of all members.

George MacLucas

PROGRAMME

August		
26+27		
September		
2+3		
9+10		
16+17		
23+24		
27	***General Meeting*** -	
30/		
October		
/1-2 LWE		
7+8		
14+15		
21+22		
25	***General Meeting*** - The 1965/66 Mullamullang Expedition	Athol Jackson et al
28+29		
November		
4+5		
11+12		
18+19		
22	***General Meeting*** -	
25+26		
December		
1	Christmas Break Up Party	
2+3		
9+10		
16+17		
23+24		

23 Sept - 8 Oct	Nullarbor - Survey Old Homestead Cave	Graham Pilkington

Check with the Trip Liaison Officer, Suzanne Charlesworth, Ph (085) 36 3816 for any additions or alterations.