

CEGSA NEWS

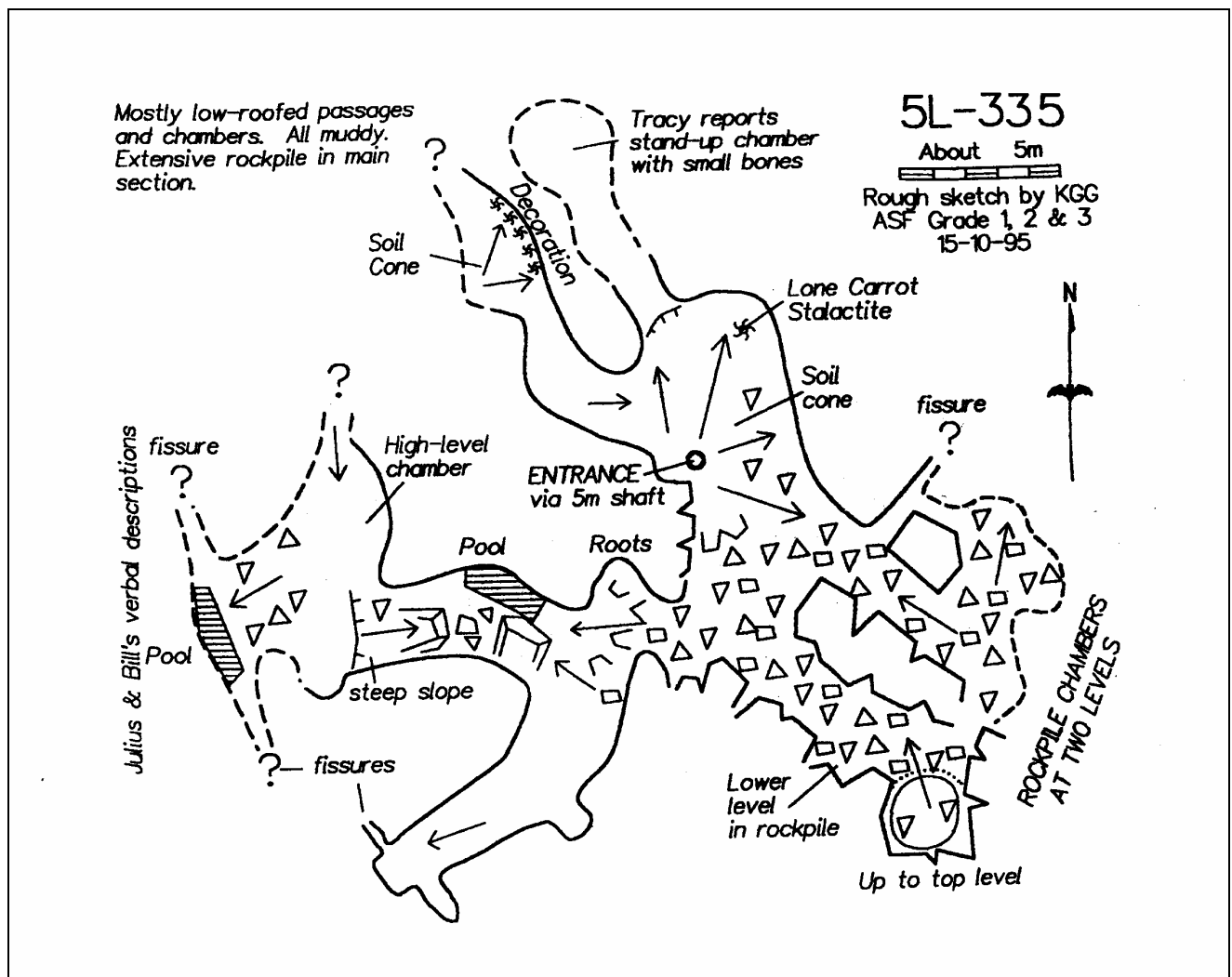


Newsletter of the Cave Exploration Group of South Australia Inc.

Volume 41 Number 1

Issue 161

February 1996



CAVE EXPLORATION GROUP SOUTH AUSTRALIA Inc.

PO 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.

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	to be filled	(h)	(w)
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FRONT COVER

Map of 5L335, a new cave near Mt. Burr cave, sketched by Ken Grimes.
(see article in this issue of CEGSA NEWS Ed!)

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The deadline for copy or background material for Volume 41 Number 2 (Issue 162) must reach the Editor by Wednesday 24 April 1996. Material not meeting this deadline may be retained for possible use in a following issue.

The views expressed in this Newsletter are those of individual authors and not necessarily those of the Cave Exploration Group (South Australia) Inc. nor its Committee.

EDITORIAL

Happy New Year and welcome to another issue of the CEGSA Newsletter. Welcome to our new Committee, office bearers and representatives for this year. Thanks go to the last years Committee, office bearers and representatives (many of whom are standing again this year).

With change all around us, it was inevitable that we would see some further changes with the Newsletter. You will probably have noticed by now the changes to the front cover layout including the name and an issue number. There is no Programme included as part of this Newsletter.

Another change which took effect from the Annual general meeting was that of editor. Athol Jackson has taken on the role of publication officer for this year. Congratulations Athol. After five years as editor I felt that it was time for a change. I am filling in for Athol and editing this issue as a Clayton's editor - the editor you have when your not having an editor! I wish to thank all those members who have contributed articles to the Newsletter over past five years and made it such a success. I wish to remind everyone that it is your Newsletter and that it's success depends on your contribution. So start sending those articles to Athol.

The supply of articles for inclusion in the Newsletter last year was good enough to cause several issues to be larger than usual. The response was so overwhelming that the task of editing was actually quite enjoyable. Then came the Annual Report (from Hell) which seemed to suffer from some kind of time warp, probably due to the holiday season. The 1995 Annual Report, as with most, tends to be left to the last moment (as far the majority of contributors were concerned!). It is quite amazing that it was actually produced in time for the Annual General Meeting. Nothing like a good challenge. Hey Athol?

The November general meeting saw Stan Flavel making a guest appearance all the way from Fiji. While Neville Pledge discussed the recently issued permits to collect fossils in caves on National Parks (see article in this issue).

CEGSA's membership continues to grow with the addition of two new family members. Late last year saw the arrival of Alexander to Gary Woodcock and Jeanette Chapman. While earlier this year (in time for the January general meeting) saw the arrival of Bryce to Peter and Janine Kraehenbuehl. Congratulation to both families.

The International Society for Speleological Art recently organised a major art exhibition in the village of Cheddar, in the heart of the South of England's finest caving area. This exhibition included works from artists such as David Bellamy, Robin Gray (who's comics have appeared in recent issues of the Newsletter) and our very own June MacLucas. Congratulations June and all the best for your future exhibition of "Inside Earth - caves beneath the Nullarbor" in Broken Hill.

Mark Thiselton



Cartoon by: *Robin Gray*

TRIP REPORTS

MULLAMULLANG CAVE, TRIP REPORT OF HUGH SANGSTER, January 1966

From notebook of E H (Hugh) Sangster, written while on the trip.

Much of the text is as written by Hugh, comments in brackets by Max Meth, Jun 1993.

26 December 1965 to 14 Jan 1966

Features visited 6N2 6N3 5N4 6N17 6N37 6N39 6N201 5N266 6N518

26 December 1965 Sunday

Arrived at Broadview scout hall.

27 December 1965 Monday

ABC interviewed leaders. Bus loaded and left Broadview 0720 arrived at Ceduna 2327 and camped west of town past fruit check near the sea.

28 December 1965 Tuesday

Swim in sea by camp then later at Ceduna Jetty then headed west at 1145. Arrived at Koonalda Cave 2155.

29 December 1965 Wednesday

Explored Koonalda Cave (5N4)

30 December 1965 Thursday

Left Koonalda 0845 petrol 5/6 per gallon. At 0930 arrived at a signposted blowhole about 33 miles from WA border. A very nice hole. (This is on the unsealed original Eyre Highway and is unnamed blowhole 5N266 which is 4.2m deep). We left at 0940 and crossed the border at 1040.

Left Eucla at 1115 passed Chowilla (6N17) at 1222 and reached Abrakurrie (6N3) at 1225 where we stopped for lunch. We explored the cave then left for Weebubbie (6N2) arriving at 1700. Explored cave and had tea at 2400.

31 December 1965 Friday

Left Weebubbie 0830 and arrived at Mundrabilla at 1155 and lunch. Left at 1330 after refilling fridge with freon. Arrived Madura 1520. Petrol 5/6 showers 2/-. Road from Eucla to Madura very wavy. Road in SA better in better condition than in WA.

Set off at 1800. At 1910 a depression seen to west of track. 1930 24 miles north of Eyre Highway. Turned south then west. (This was probably an attempt by Hugh to help locate the depression, however there are no turns to the south on the way to Mullamullang, perhaps they got lost?). It must be unnamed doline 6N201 which lies 200m south of the main access track to N37).

The track seems very much longer than necessary. Arrived Mullamullang (6N37) 1955.

1 January 1966 Saturday

Went for a walk with 4 other bods, (Fred Aslin, Norm Hocknell, David Staniforth & Fred Sanders) at 240° from the doline on a reciprocal course to that taken by Mullamullang. Found 1 small hole in limestone and a larger hole, wombat? 3 miles out. (These were not described by the writer and have not been reported by anyone in the intervening years).

Also saw a doline like depression and an isolated stand of mallee about 2 miles out. (This is unnamed doline 6N518 which is 2.2km @222° from N37. It is a solution doline 60x50x1m deep. Although I have a report of another unnumbered doline further out).

Temperature 106 in the shade.

2 January 1966 Sunday

I was in the second sherpa party, which left at 1145 to travel to the Y junction ("Camp One"). With a 33lb (15kg) pack including 2 gallons (9L) of water. Easy going till Oasis valley thence rocky. (This is evidently Hugh's first trip into the cave.) White lake reached after travelling down a perilous rockpile, down which I slipped.

After lunch at 1430 I carried a heavier pack of 45lb (20.5kg). We reached the "Drop Off" at 1700, left the packs and headed out. (Considering the time, the party wisely decided not to go the extra 400m to Camp One). Out of cave at 2345.

3 January 1966 Monday

At 1400 explored 2 passages in south doline. The first and most southern passage led to rockfall to the north. The second led to the south under a rockfall and against the native rock. (This is the "Refrigerator Blowhole"). Dave Staniforth, Norm Hocknell and I followed a small streambed with a shovel for about 20 feet. It did not prove economical to pursue, although a very slight breeze blew into one passage about 3 feet high and roaring of wind was heard. We began digging it at 1640 and returned at 2230.

4 January 1966 Tuesday

Left for Firestick area in a Valiant (car) to search for dolines, but no luck. Stopped at Kestrel No 1 (6N40) to take photos, but did not locate any other dolines.

5 January 1966 Wednesday

Spent more time in the south doline until 1100. At 1400 walked to Joes Cave 6N39 with Tony Butterfield, Tony Taussig and Danila Zavadlav. (Joes cave is 8km @205 from 6N37 and it lies close to the line of the trend that N37 is taking, although N37 does not extend south from its doline. 6N39 is about 200m long and heads SSE from its doline).

We met Fred Sanders and John Bennett about 3.5 miles out (5.6km) and continued on often sighting very fit looking dingoes which use the entrance of the cave as a den.

We spent half an hour in a low tunnel from which a breeze blew. It took 2 hours to walk back to camp.

6 January 1966 Thursday

Went for trip into 'Camp 1' with Tony Dillon. Reached the drop off on the way out at 2035. (Probably bad planning for a sherpa trip to reach camp one so late). On the way back to White Lake I fell, hurting my right shoulder and hand. I was very weary but reached the surface at 0140. (This was Hugh's second fall, and I was not surprised that he took no further part in any caving activity).

7, 8 January 1966 Friday Saturday

Hot and dusty day which I spent sleeping. Hand was causing me trouble. And I spent the next day on phone duty.

9, 10 January 1966 Sunday Monday

Underground party withdrew from cave and camp packed. I went on a bird photography trip with a lens borrowed from Bill Rouse. Left Mullamullang at 1430 and camped the night at Moodini Bluff, east of Madura.

11 January 1966 Tuesday

Had a swim at Eucla near the old telegraph station. Unsuccessful attempt to drive to cliffs 19 miles west of Nullarbor.

12 January 1966 Wednesday

Drove in to the head of the Great Australian Bight.

13 & 14 January 1966 Thursday Friday

Drove back to Adelaide arriving at 1345 at Broadview scout hall.

Max Meth, June 1993.

NULLARBOR, Trip Report, April/May 1995 (continued)

For part 1 of this report refer to: CEGSA Newsletter 40(3) 65-71).

Readers are also referred to Newsletter 40(4) pp86-93 for an account of the trip by June MacLucas.

Party: Max Meth, George MacLucas, June MacLucas, Frank Hankinson (CEGSA)
Ken Boland, Glenn Baddeley, Erica Maggs (VSA)
Dawn Greaves, Rob Klok (WASSG).

Features: listed in the order visited:

WA Joes cave 6N39, cave N872, rh N1320, rh N1321, Walpet cave N38, Kestrel 1 cavern N40, cave N1322, doline N1323, doline N518, Kestrel 2 cavern N42, Spider Sink N41, (X133), doline N1324, doline N342, Erosion Cave N36, Bobobogal doline 35, Firestick cave N70, (X135), doline N69, X35 Dingo Donga cave N160, Lindsay Hall cave N700, rh N1329, doline N1325, (X242), Plane cave N1289, (1290), bh N1326, Nurina cave N46, doline N1327, Noonaera rh N870, Windabijee rh N869.

Monday 1 May 1995

First stop was Joes Cave 6N39. This has a large doline 82x60m and 12m deep. It has a flat silt floor which slopes down to the southwest corner where the main cave entrance is. The doline walls are generally rubble slopes, but cliffs occur on the south side and NE corner.

Small cave 6N872 is located at the NW corner of the doline. Here Joes Cave doline wall is merely a sloping rocky slope. The cave is about 7m long. Tag.

At the north-east corner of Joes Cave doline, are cliffs about 4m high, and in a very minor gully is rockhole 6N1320 that Dennis had mentioned. It measures 1.9 x 1.2m and undercuts 1.1m on the east side. It was full of water. There is actually a second rockhole 8m away. Map and Tag.

Ken Boland went walking and on a hilltop about 200m NE of Joes Cave he found a rockhole 6N1321. This is a significant rockhole, and I am surprised that Dennis did not mention it. There is a rock pavement area 15x15m with 2 rockholes. One is a shallow rock floored basin 3.1x1.7m @075 and 0.25m deep, with 0.2m depth of water. The other is a major water supply and was brimming with water. It is 1.8x1.2m with 0.65m depth of water, the bottom being mud. They are only 0.5m apart.

There is a named rockhole somewhere in the vicinity referred to by A J (Gus) Luck ¹ in 1888. This is Andoyee rockhole, but Gus did not give a description, nor a precise location, "We had been out 7 months. We concentrated on the selection and survey of a town site where it was expected the Trans Australian railway line would go. This was placed some 15 to 18 miles North-East of Andoyee, a rockhole North-East of Madura".

¹ *The Outback Trail, by August Jules (Gus) LUCK. I have so far been unable to locate any other information on the railway survey referred to by Luck.*

Next we looked at nearby Walpet Cave 6N38. The doline wall above the cave entrance is prone to splitting into flakes typically 0.3 to 1m thick. These flakes collapse onto the entrance, and have almost completely barred access to the cave.

Next stop was to look down into the doline of Kestrel Number 1 cavern 6N40. Dennis Nash had told us of a cave he had recently found 300m west. It was found when a new NS fence was put up. This runs about 400m west of N40. The new cave is 6N1322 and it has a blowhole entrance in 1.5m deep depression measuring 12x12m. The blowhole is 1.3x0.8m and 2.6m deep. A smaller blowhole is 0.9x0.4m also drops into a low dusty cave, about 50m long with generally less than 1m headroom. located. Tag.

Back at camp, Glenn and Erica left for home.

Tuesday 2 May 1995

Rob and Dawn arrived early in the morning.

I walked 2km SW towards doline 6N518. There is an elongated claypan that heads in this direction for at least 3km, and has a ridge of high ground on both sides. In the centre of this claypan, about 300m before N518 is another doline. This is 6N1323 and it is a clay sided depression 50x40m and 0.5m deep. The mallee clump at N518 bears 220°. Tag on small cairn.

Doline 6N518 is 300m further SW and it has 2 clumps of mallee trees, one on the south side and one at the NE corner. The doline has a rocky rim and measures 80x70m and is 1m deep with a central flat area of 60x50m and a low spot on the north side where water ponds after rain. It is located within a larger depression 310x200m 0.4m deep. On the S side of the depression is a rock pavement area 30x30m with very minor solution pitting. Map and tag.

Wednesday 3 May 1995

The day started with a look at Kestrel Number 2 cave 6N42. No one was brave enough to attempt a descent.

At Spider Sink 6N41 we examined the phreatic passages. These have a good breeze but are blocked by rubble.

We drove north up the new fence from N1322 to look for Kaleuna rockhole NX133. This had been noted by Turner in 1885. We did not locate it.

However about 6.5km north we found doline 6N1324, about 40m west of the fence and 600m north of a gate on an EW track. The doline measures 19x16m and is 0.6m deep and has much exposed white coloured limestone. A hole on the west side appears to extend to the west. Tag.

Thursday 4 May 1995

Today we drove to a new camp site at Firestick cave.

On the way we stopped at doline 6N342. This is 130m E of the main road from Madura to Loongana. The doline is 57x39m and 3.1m deep. The north part has a flat silt floor area of 17x14m. The south part is a jumble of broken rock, and has a hole with a breeze on the east side. This descends at least 3m but is too tight for entry. Tag.

Friday 5 May 1995

Early I went for a walk south and SE of camp, looking for Cargolee Rockhole 6NX135, which I did not find. I eventually ended up about 2km north of camp at doline 6N69. This is a 50m wide 6m deep doline with a flat silt floor and no cave.

Bobobogal doline 6N35. At NE corner of this there is a 3m long overhang which contains a hole that descends 5m below the doline floor and leads south for about 5m in rockpile.

A look at Firestick Cave 6N70, and we explored some of the phreatic tunnels. These have dry bat guano in them, which fills the air. The breeze does soon carry the dust away, toward anyone fortunate enough to be behind you. And on the way out of the cave, it pays to go first.

Saturday 6 May 1995

Today we shifted camp again, this time to Dingo Donga Cave 6N160.

On the way I checked feature 6NX35. This proved to be a rock pavement with no rockhole. This is despite the presence of two rocks with orange coloured lichen, which often indicate the presence of a rockhole.

Dingo Donga cave was reached and I had time to draw a map of the doline. There is actually 2 entrances. The main doline overhangs on all sides and measures 41x30m @030° and is 7.5m deep at the deepest point on the south side. The floor is basically flat and consists of silt, but near the edges, limestone blocks have fallen from the roof. At the SE corner, these blocks give walk in access.

A blowhole entrance is located 8.2m from the southern most point of the doline lip. This is located in its own depression 16x9.5x1.3m and the blowhole measures 1.4x0.7m and descends 7.2m to the floor of the main cave. Surface map and Tag.

Sunday 7 May 1995

We drove to Moonera Station to see the property owner Mr. Ross Wood. On the way, others of the party stopped off to look at Lindsay Hall cave 6N700. Tag.

We asked Ross what he knew of Plane Cave, which is located only 2½km west of Dingo Donga Cave. Ross knew of it, but did not know its history. In fact it used to be known as SCADDANS CAVE, until it was recently rediscovered by Plane Caving group from Perth. They somehow assumed that they were the first to see it, but it was known of in 1952 and probably way back to 1890 as well, which is when nearby Scaddans Well was sunk. In the cave there are the names of some earlier cave explorers, scratched on the wall with a burnt stick. These marks were noticed by Ken Boland. They are, "W Bonsey, C Ridley, M Davies and Mai Maies, the last being very unclear, and other marks now unreadable. I am not aware of who these people are.

At this stage, I did not know the precise location of Plane (Scaddans) Cave, so Robert, Dawn and I set off to find it. We drove west along the EW fence that runs north of its suspected position, and then walked south to find it.

Along the fence we first noted 2 karst features. Rockhole 6N1329 which is located 40m south of the fence. This is 2 rockholes 0.5m apart, both filled with silt. They measure 0.6x0.5m and 0.3x0.25m. Tag.

400m further west is Doline 6N1325 located 60m south of the fence. This is a soil sided depression 36x36m and 0.5m deep with no rock exposed.

On our walk to locate Plane Cave we were also looking for a rockhole 6NX242 that is shown on the map. We did not locate it, but in hindsight, I believe it may be mis-plotted by about 2km, and that rockhole 6N1329 that we found is actually X242. We certainly looked at the location given by the map, and there was no rockhole anywhere near it.

Toward late afternoon we had not found Plane Cave, so Robert walked back to the car to return to camp. Dawn and I decided to keep looking and walk back directly to camp, which we could see about 3km away on the far side of a very broad claypan.

As the sun got low on the horizon I noticed a few Fairy Martins (swallows) flying around. I guessed they were returning to roost in Plane Cave so I tried to determine which way they were flying. This proved impossible as they darted about in all directions, but by walking to and fro, it became evident that there were more in one particular direction, and besides, I had nothing much else to do. I noticed that as the sun was about to set, the air filled with Fairy Martins. It was then a simple matter to walk towards the densest mass of the birds, and so I found the cave, which proved to be about 300m from where I had been standing. Here there were about 2000 birds² flying about, in a dense mass above the entrance. This was Plane cave 6N1289. I called to Dawn, but from about 500m away she too had seen the birds and was already heading towards me.

I don't think I ever will forget the sight of this wheeling mass of Fairy Martins. By About half an hour after sun down there were no longer any swallows outside of the cave, although daylight continued for over an hour.

The entrance is rather pretty, a doline that overhangs on the east side, with a walk in on the west. There were 2 or 3 white patches among the otherwise orange coloured rocks. These were evidently the favourite roosts of kestrels, although none were seen that day. Can you believe it, it was now pretty dark and we had no torches, so we walked back to camp in the gathering gloom.

Monday 8 May 1995

First thing in the morning I explored the entrance area of Dingo Donga Cave. On the south side of the doline, on the surface rock pavement there are 3 small rockholes, the largest measuring 0.4x0.36m and 0.45m deep.

Inside the cave the main passage heads south. In the roof is the blowhole entrance that is the second entrance into the cave. In addition there are 6 roof domes nearby in the ceiling that rise varying distances, but typically about 2m.. These could eventually possibly form new blowhole entrances to the cave.

About 50m into the cave, and in the totally dark zone, there is a further roof dome. This one is about 2m in diameter, and it rises about 10m.

It seems to me that these blowholes play a significant role in determining where the collapse dolines actually occur. It can not be mere coincidence that these domes occur in association with collapse dolines. I presume therefore, that the Dingo Donga doline formed in an area where there were other roof domes, perhaps a few had formed blowholes that reached the surface. These are now destroyed by the collapse. My assumption is that they originally formed a weakness in the rock span of the cave roof, and this weakness led to the collapse that formed the doline.

Later in the morning the whole party walked over to Plane Cave. This is located on top of a very prominent ridge that runs NE-SW. The hill top is covered with scattered mallee scrub with open areas of salt bush. There is a depression 73x32m @070 that is 1.6m deep. This has a bare rock area 30x26m. The doline measures 21x14.5m @010 and 11m deep, overhanging on the east and south sides. A steep walk in exists on the west side, where a streamway enters. Surface map and tag.

Attempts by both Frank and Max to locate Crash doline 6N1290 reported by Plane Caving was not successful. We evidently do not have the correct location information. In the process a blowhole 6N1326 was discovered about 3km SE of Dingo Donga cave. In an area where practically all the trees are myall the blowhole is situated near an isolated clump of mallee in a claypan. There is a depression 44 x 29m @150 which is 0.6m deep and which contains a rock pavement area 38 x 24m. There are 3 blowholes in a line all opening into the same small chamber that is 1.5 x 1.5m. The centre blowhole is the largest 0.95 x 0.8 x 2.3m @080. Tag.

²

A guess but I doubt if there were any less than this.

Tuesday 9 May 1995

Drive south to the Eyre highway then east to Madura motel. We stopped at old Madura station before proceeding south to Nurina cave 6N46.

Denis Nash had told me of a doline that he had found years before. So instead of visiting Nurina Cave (again), I walked west along the 1896 telegraph track. The doline 6N1327 was found at 1600 paces west of the main NS track and about 70m north of the telegraph track. The doline measures 28x24m @070 and is 1.3m deep with rocky walls on the N & E sides. There is a strong breeze which issues from between phreatic type sculpted rock. Map and tag.

We drove to the site of the Noonaera ruins on the coast south of Mundrabilla Homestead, arriving there at dusk. The campsite is in scrub on the north side of a salt lake that extends along the shore behind the coastal sand dunes.

The ruins are also on the north side of this lake about 400m west. They are a stone building. This area was used from the 1870's onwards as a port facility for Mundrabilla Station. Stores from Albany were unloaded from ships, and wool was dispatched from there.

In 1841 E J Eyre ³ walked along the coast here. He did not name this place, nor refer to it in any particular way, but in his journal for the 26 & 27 March 1841 he said:

"During the morning we had passed along an extensive dried up salt swamp behind the coast ridge. The level bank of the higher ground of the inland cliffs which had been visible at 10 or 12 miles, could no longer be seen. We occasionally passed large sheets of oolitic limestone, in which were deep holes that would most likely retain water after rains, but which were now quite dry".

Wednesday 10 May 1995

In the area south east of the ruins are at least 10 rockholes about half of which were holding water. These are known as Noonaera rockhole 6N870. They are generally shallow basins less than 0.2m deep and they tend to have elongated channels, that have formed along cracks in the limestone pavement. One for instance is a basin 1.7x1.5m and 0.25m deep that is situated half way along a channel 17m long and 1.3m wide. The channel is only 0.15m deep.

The main rockhole is 8x4m and 0.4m deep and it was full of water. Map and tag. Nearby, a 'well' has been dug completely through the limestone pavement rock into consolidated rubble below. This was evidently an attempt to get a more permanent water supply. It had no water in it.

On the way back to the highway, 11km north of camp is Windabijee rockhole 6N869 on a pavement area 10x7m, located east of the track on a very major bend. There are 2 rockholes, neither holding any water. The larger rockhole is 2x1.1x1m. Tag.

Drove back to Ceduna, stopping to look at the cliffs at a parking bay.

Max Meth - Nov 1995.

³

Edward John EYRE, 1845, *Journals of expeditions into Central Australia*, T & W Boone, London.

LOWER SOUTH EAST, Trip Report, 14 and 15 October 1995

5L34 Morgans cave

This cave is used for wild cave tours lead by the rangers at Tantanoola Caves. It is well known locally and has suffered badly from graffiti. Apart from that it is an excellent example of a slightly mazy joint-controlled horizontal phreatic system. The major passages are typically 1-2 metres wide and 3-6 metres high, with long roof blades visually dividing them into parallel passages in those areas that are shown as a single wide passage on the map. Towards the northwest end there is a set of sub-parallel passages that connects via diagonals or by wall holes where the passages 'touch' each other. I pontificated to Bill and some of the others about what a good example it was of a phreatic system (developed below the water-table by slow moving groundwater) with the cross section shapes controlled by the vertical joints and the horizontal bedding in combination with varying levels of the water surface. I also commented that few of the Southeast caves show vadose stream features. Shortly afterwards, in one of the side passages I noticed a 'keyhole' style of cross-section such as is typically associated with vadose incision of a prior phreatic tube. This had a gently meandering shallow trench in the floor of the wider cylindrical tube. Whether this really is from a vadose stream that flowed on the floor and cut down into it is debatable. One possibly could get the same effect by simply lowering the water table without having an actual flow along the passage. The pools in the north western section are now all dried up, the only water we saw was at the southeast end. At the far end of one of the small side passages I found a signature which looked like *Alex Reinecke 14 March 1889* neatly scratched in small letters on a little patch of smoked wall - makes a change from the foot-high red-letter boasting in the main passage.

5L18 Tindales Cave

We had a key to this one, so I finally saw the inside of it. The vertical entrance, down an irregular solution tube, leads to a single joint-controlled passage. Mostly easy walking with roof domes. The walls show many horizontal notches and a pronounced undercut at floor level. The latter is probably due to solution below an old water table, but the higher ones might be controlled by soluble beds. Halfway along the cave a large stalagmite boss fills the passage and forces a climb and descent - this is now completely covered in mud and barely recognisable as a speleothem. The cave is well decorated, though with significant breakage and mud marking. Care is needed in the eastern areas to avoid adding mud to those areas that are still clean - look before you crawl!

5L19 Engelbrecht Cave

The water level was 13.3m on the scale. Lower than usual.

5L339 New cave on the border

This one was found during the Vulcon field trips (by whom?). A small collapse doline with rubbish leads to a single long joint-controlled passage with some local areas of rockpile. In places it has several levels along the same line, occasionally splits into two parallel passages. There are some solution slots along the walls, and examples of phreatic sponge work. Moonmilk is common throughout, and of good quality. Apart from the rubbish and graffiti near the entrance there was little damage, however the soft moonmilk had suffered from people brushing against it and poking their fingers into it to if it really WAS soft. The rock is bryozoan limestone of the Gambier Formation.

5L174 Stafford Road Cave

I can add little to the excellent description in Peter Horne's book. The cave was not breathing when we were there. There was a sheet of blowflies on the floor beneath the entrance shaft - dead, moribund and active. The last woke up and followed us through the cave. A still faintly odorous kangaroo further in may have attracted them and presumably their poor little wings couldn't manage the 14m climb back out. We also saw wetas. The surface topography looks rather like an old dune field but the cave is mainly in Gambier Limestone.

5L335 new cave near Mt. Burr Cave

Kevin Mott told us of a new solution pipe that had opened up near the Mt. Burr Cave. Miles Pierce had spotted it during the Vulcon post-conference tour. Kevin had tied the new shaft to the back entrance to Mt. Burr Cave and given us a map showing its location, so we found it without any difficulty. The vertical shaft is a typical solution pipe 5 metres deep and about 1.5 metres across at the top but like many such pipes, it narrowed to a tight squeeze at the bottom. The two CEGSA 'heavies' (Chris & Paul) therefore 'volunteered' to stay on top and let the rest of us have the fun. As I squeezed

down in gravity-assisted mode I wondered about possible problems in exiting so they rigged a pulley system while they waited. As it happened most of us managed to exit without really needing the hoist, but the pulley was useful for a couple of the 'thicker' ones.

Within the cave we found ourselves on a soil cone derived from the shaft. There was a solitary, pale carrot-shaped stalactite here hanging from an earthy ceiling; one wonders how long it will survive visitation. There were also the bones of a dead kangaroo - was he the one that triggered the collapse of the soil column in the pipe? To the northwest two crawly passages go off. The high-level one leads to the side of another soil cone, and a set of stalactites (about the only decoration we saw in the cave). The passage seems to continue beyond this but we did not push this as we were worried that we would knock soil down onto the stalactites. Tracy explored the other passage, which goes off at mid-level and leads to a stand-up chamber which she said had some small bones.

To the Southeast from the entrance was a crawly rockpile area with two superimposed levels and rather confusing. At a couple of points we could see down into narrow fissures in bedrock. A crawl through rockpile to the west led to a small chamber with roots, and two passages. At this point we got into original solutional passage in solid rock. We also met with a pool, possibly at the regional watertable. Beyond the pool to the west was a loose slope leading up to a high-level, low-roofed chamber. Julius and Bill explored this area and reported a squeeze upwards to the north and that to the west it dropped down again to another pool with narrow fissures to continuing. The southwest passage from the root chamber was a short muddy crawl to an end at a tight fissure.

The cave is a mix of collapse chambers and original solution passages at the lower levels. It is all very muddy. The walls are coated with mud and only in a few places did we see clean rock. Decoration was limited to some good stals in one passage and the carrot near the entrance.

The map is a compass-assisted sketch done on site (see front cover of this edition of CEGSA NEWS.....Ed!). All distances were estimated, and some areas were sketched from verbal descriptions by the others while the rockpile area was mainly done from memory as I did not feel like into it with the notebook.

The cave deserves a proper survey. Total explored passage length would be about 80m, with some difficult leads still to go. When superimposed on the map of Mt. Burr Cave it became apparent that the western-most pool area was fairly close to the eastern end of Mt. Burr Cave and that Tracy's chamber is close to an unnamed and poorly explored cave to the north. It would be worth re-entering that cave to see if a connection is possible; she may even have been standing in its far chamber!

Exploration team was Ken Grimes, Marie Choi, Ken ?, Tracy Colhoun, Bill Binks, Jules Gheude. Surface backup by Chris Hales and Paul Harper.

Ken Grimes.

VARIETY OF CAVES AT BUCHAN, 25th - 29th January 1996

Party: George MacLucas, June MacLucas (CEGSA)
Jude Matthews and Spot Matthews (VSA)

Caves: M30 A & B, B5, M3, B2, B6, EB21, EB66, EB65, and M56.

I first heard of the Buchan Caves around a camp fire on a Nullarbor trip in 1994. Tales told by Ken Boland and Peter Ackroyd. I heard the caves were tight and muddy with vertical pitches, some of which are gated. I was never tempted to go until I met Jude Matthews of VSA at the opening of the "INSIDE EARTH" exhibition when it opened at St. Frances Pastoral Centre Gallery, Lonsdale Street, Melbourne, on 12th September 1995.

Jude and "Spot", alias Wayne Matthews, had driven nearly 300 kilometres from Moe, eastern Victoria, especially to attend the opening. While at the opening Jude extended a warm invitation to come and see the variety of caves at Buchan. A few months later arrangements were made for the long weekend in January 1996. We were to stay at Homeleigh, a co-operative caver's hut in Buchan.

We packed and left after the CEGSA General Meeting, leaving at 12.15am Thursday 25th in the pouring rain. We hoped to reach Melbourne by lunch time to avoid the peak traffic. Jude had sent us a detailed map to follow through the city which took us only half an hour to travel through Melbourne and reach the eastern outer highways and on our way to Buchan.

Buchan is a picturesque township set amongst rolling hills of farm country located on the Bruthen-Buchan Road, 32 km from Nowa Nowa which is on the Princes Highway approx. 350 km East of Melbourne. Or 18 hours (with 2 hours for sleep on the side of the road) from Adelaide.

We met Jude and Spot late Thursday night. Jude handed us a few notes on the history and geology of the area with a list of possible caves to visit. I had read a few items I had found in the records on Buchan before I left Adelaide and had asked a few CEGSA members if they had been there. George and I had no idea that the area was so honeycombed with a variety of karst features.

Homeleigh was also a surprise, an old hotel built about 100 years ago. It was spacious with a large verandah almost completely around the wooden building. Three stoves and three refrigerators in the kitchen were in full use this weekend, as our party of four, plus six or more VSA Cavers also included 40 Chinese guests of 11 families that filled the many rooms. The chatter and delightful smell of food filled the kitchen to over brimming point. The Chinese families from Melbourne had been invited by Lou Williams, a long time member of VSA, to come and see the show caves.

Very briefly according to Jude's notes and others found in the records. The Buchan area was originally inhabited by aboriginal tribes who called it Buckan-Munjie, (the place of holes). The district was settled by pastoralists about 1837 but it was not until 1889 that a survey of any of the caves was undertaken. In that year James Stirling, a geologist of the Mines Department, published a description of Duke, O'Rourke, Dickson Caves, Spring Creek, Wilson Creek and Murrindal caves. It was recommended that the Buchan caves be developed along the lines of the Jenolan Caves in New South Wales.

James Stirling's successors in cave exploration in this area included Frank Moon, John Flynn ('Flynn of the Inland') and Don McRae. Moon the most outstanding of the explorers often carried out many of his explorations alone, lowering himself down on ropes to explore underground passages and streams. He discovered Fairy Cave in 1907 and a few years later along with Flynn, the local minister and H Brown the local Constable, they entered the then dangerous but spectacular Royal Cave, originally found by F J Wilson. Under Moon's direction new entrances were tunnelled, the caves illuminated, various natural features protected and the caves were opened to the public.

From this reading I gather that the Buchan Caves formed in a limestone and mudstone complex known as the Buchan Group. The limestone is the oldest of three main subunits about 180-210 m thick that overlies lavas called the Snowy River Volcanics. Extensive volcanic activity 400 million years ago called the Devonian period poured its lavas and hot ash down two separate valleys, representing the courses of the ancestral Murrindal-Snowy River to the east, and Buchan-Timbarra River to the west.

About 380 million years ago the volcanic activity ceased and shallow seas came in over eastern Victoria when dolomite, a calcium-magnesium carbonate was formed.

Eventually the dolomite decreased and gave way to normal limestone, and marine life. These limestones together with the dolomite at their base are known as the Buchan Caves Limestone.

The amount of lime later decreased in proportion to muddy sediment, so that two formations were deposited. A limestone component is now preserved as outcrop on the hills about Murrindal, to within 3 or 4 km of Buchan. Between the two there is an interweaving of the limestones and mudstones. This slightly younger limestone is called Murrindal Limestone. The mudstone and calcareous mudstone is known as the Taravale Formation. The Mudstone and Limestone are collectively called the Buchan Group of sediments.

Then 350 million years ago, south eastern Australia was again subjected to a period of folding, in which the earth's crust was crumpled. Land emerged from the sea and mountains ranges arose. At this time the then comparatively young Snowy River Volcanics and the overlying limestones and mudstones were thrown into a series of large folds many kilometres across. The crust was broken into large blocks some of which escaped obliteration when the land surface was subsequently worn down.

This series of events accounts for the different types of limestone in the Buchan area creating a variety of caves that Jude and Spot were determine to demonstrate to us within the next few days.

We set off for our first cave on Friday 26th. Dickson's B (M30). We were amazed at how close all the caves were. After several trips out to the Nullarbor it seemed wonderful that caves could be reached so easily. As you enter this cave, the main chamber is quite impressive with two large openings high up in the wall letting in light giving a sublime and picturesque feel to the interior. This chamber was dry but other areas of the cave were damp and muddy. We climbed up to a higher level that didn't seem to extend very far.

We then went around the corner to Dickson's A (M30) Cave. This cave is not normally visited because its home to a colony of Bent Wing Bats. High in the ceiling of one of the chambers you can see embedded rubbish. An old rusty iron bed and a motorbike, dumped by their owners down a hole and then filled in with dirt. Quite a disturbing image, extruding from the ceiling like some alien being.

We returned to the car to start our packed lunch but was told usually most cavers return to Homeleigh and enjoy a more leisurely lunch. Several hours later we were taken to Fairy Cave, (B5) for an unscheduled private tour, as Jude and Spot are members of The Friends of Buchan Caves and were anxious to show us the extensive work carried out by them and other members over the last few years.

This is the only way to see a show cave. We took several hours taking photographs and enjoying the spectacular sight at our leisure. This cave is about 500 metres long with a diverse range of decorations. It also has a few examples of the rarer decoration, Cave Shields. Plates of calcite which grow from a floor or wall through hydrostatic pressure, appearing to weave its way horizontally between other decoration.

After leaving Fairy Cave we went out to see (M3), Shades of Death Cave discovered by E Henham, a local farmer in 1900 and explored by Moon in 1905. This cave is privately owned by a cooperative group of share holders that include Kim and John Van Dyk, who also manage the cave. Once again we set off on our own private tour with Jude and Spot. This is a wonderful highly decorative show cave of about 120 metres with a twisting turning staircase that ends in a large chamber called The Vault. Here we climbed the barrier and explored for some time the passages and chambers of the rest of the cave. This cave is by no means ended as there are many potential areas yet to be explored.

After this we drove to a paddock called The Potholes. An area littered with pothole caves almost invisible to the eye. We only had the time to look at the entrance to these caves. Exponential Pot (M125), pot hole type with pitches of 25 metres. A gated pristine highly decorative cave needing specially trained guides. Baby Pierre (M12), pothole type, with at least 3 pitches of 30, 16 and 18 metres. Baby Berger (M14), pothole type, with pitches 7 and 33 metres. Hades Cave (M92), pothole type with multiple pitches of 15 metres. It was at Hades Cave a few months ago that an 18 year old youth had to be rescued after a fall down a 8 metre pitch where drainage water from heavy rain was rapidly filling the cave. Kim and John Van Dyk took a major part in the 15 hour rescue.

By this time it was getting late in the day and these caves and others in the area would take quite a while to set up with descending gear, so we returned to Homeleigh to prepare our evening meal and gather around talking to other cavers that were also staying there. Here the conversation was totally around VSA politics and it was interesting to hear the ups and downs of another caving organization that is not too much different from our own.

Next day, Saturday 27th Jude and Spot took us to privately owned Horseshoe Cave (EB21) We were joined by Neil Benton from VSA who was also staying at Homeleigh. We picked up the owner Melva Woodgate from her house. I was fascinated, they still round up the cattle by horses, have 20 working dogs and a wonderful secluded garden.

After a rough trip through steep paddocks we had to go back and pick up Spot and Neil, as they had to abandon their vehicle because of the difficult terrain. Horseshoe Cave is approx., 150 metres in length and is of Buchan Caves Limestone. This was Melva's second time down in 20 years and she appeared quite excited by the event. Evidence of severe flooding was clearly visible on the walls. We followed the stream passage to a largish chamber, then down through more passage where the stream enters an extensive rockfall. We were told this was as far as we should go as the rockfall was very unstable and waiting for an accident to happen.

After thanking Melva and promising to return next year to paint in Horseshoe Cave we drove to have a quick look at Wilson Cave EB4. This cave has several entrances and one is used for beginners to abseil from. At this point we drove back to Homeleigh for lunch.

With lunch over we went into the Buchan Reserve and to Moon Cave (B2) with Buchan Cave Guide George Bradford who is also the Caretaker of Homeleigh and his small son Dillon, Mike McRob VSA member from Sale and Neil Benton, Jude, Spot, George and myself. A gated horizontal entrance passage leads to a meandering, not very healthy streamway, that leads to a submerged area. As none of us were geared up for this, which apparently can be extremely cold and unpleasant, we decided to go no further.

After this cave, Spot was determine to show us The Citadel Rocks (or The Pyramids), three large pinnacles on top of a large cliff like hill where the Murrindal River flows underground. A beautiful setting but with a dark history, as it was somewhere near here that the whites in the district tired of Aboriginal attacks, rounded up all the Aboriginals in the area and took them to the Slaughter Camp Cliffs on the Murrindal and shot them. The bodies were dumped in the river which ran red with their blood for weeks after.

We decided to walk around the hill by following the river but was barred by cliffs, so sat on the rocks in the middle of the river catching the last of the late afternoon sun, when some of us cooled off with a short swim. This was as Spot said, a special and beautiful area. We then returned to Homeleigh to juggle for space in the kitchen.

Later that night a party of seven (Jude, Spot, George, June, Mick McRob, Eric and Michael Lenser) were all taken for a special 3 hour tour of Royal Cave (B6.) discovered in 1910 by F.J. Wilson. Its approx., 520 metres of Buchan Limestone and has two main levels. This is a magnificently decorated cave and when reading Cave Hunting - A Wonderful Discovery by Constable Hercules Brown, reprinted in Nargun Vol. 25 No. 7, Feb 1993, he was one of the original explorers on the first trip in this cave and it gives you some insight as to how it must have looked when stumbling through for the first time. Apparently this was originally a very dangerous and difficult cave with many obstacles to overcome. Quite different to the now pleasant meandering down corridors and stairways.

Next day 27th we went to a pot hole area. Our first cave in this area was Lamppost (EB66) just opposite Horseshoe Cave and totally different. This is a small cave with quite a lot of decoration.

We then walked a small distance down the hill to Forget-me-not Cave (EB65). This has a slippery pitch of about 8 metres of which I found difficult to step over. I found a fairly tight side passage that led to the same area. I found this cave very muddy and slippery and took a while to adjust to the conditions. I prefer dry caves where one takes a step and you stay there, instead of hurling down a slippery passage. Return to Homeleigh for lunch.

After lunch we returned to the pothole area and went into Oolite Cave (M56). This cave has a guardian in the form of a 7 foot old brown snake, nicknamed Granddad. He lives at the entrance under a Blackberry bush. The entrance is a slippery 9 metre pitch with several other pitches of 7, 9 and 12 metres of which we aborted. This cave was totally different than any of the others we have seen. The limestone has opened up with large holes resembling the skeletonize form of a dinosaur. This cave shows a distinct difference in limestone levels.

We spent the evening at Kim and John Van Dyk's watching a video of the rescue a few months earlier of a youth from Hades Cave.

Monday Morning we reluctantly packed and said our good-byes. We plan to return to Buchan next year for a 4 weeks stay at Homeleigh, perhaps that will give us the time to look further at the many caves Buchan has to offer. I will be taking my easel, paints and drawing gear underground in the hope of capturing some of the beauty and differences in the Buchan Caves.

June MacLucas, February 1996.

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TECHNICAL and OTHER ARTICLES

MEMBERSHIP

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1996 MEMBERSHIP FEES

1996 Membership fees are now overdue. Please pay them if you have not already done so, as only financial members can vote on CEGSA issues. This will also ensure that you continue to receive your copy of CEGSA NEWS. The fees for 1996 are as follows;

Full	\$50.00
Country Full	\$45.00
Associate (No ASF M/ship)	\$35.00
Long Term Associate	\$45.00

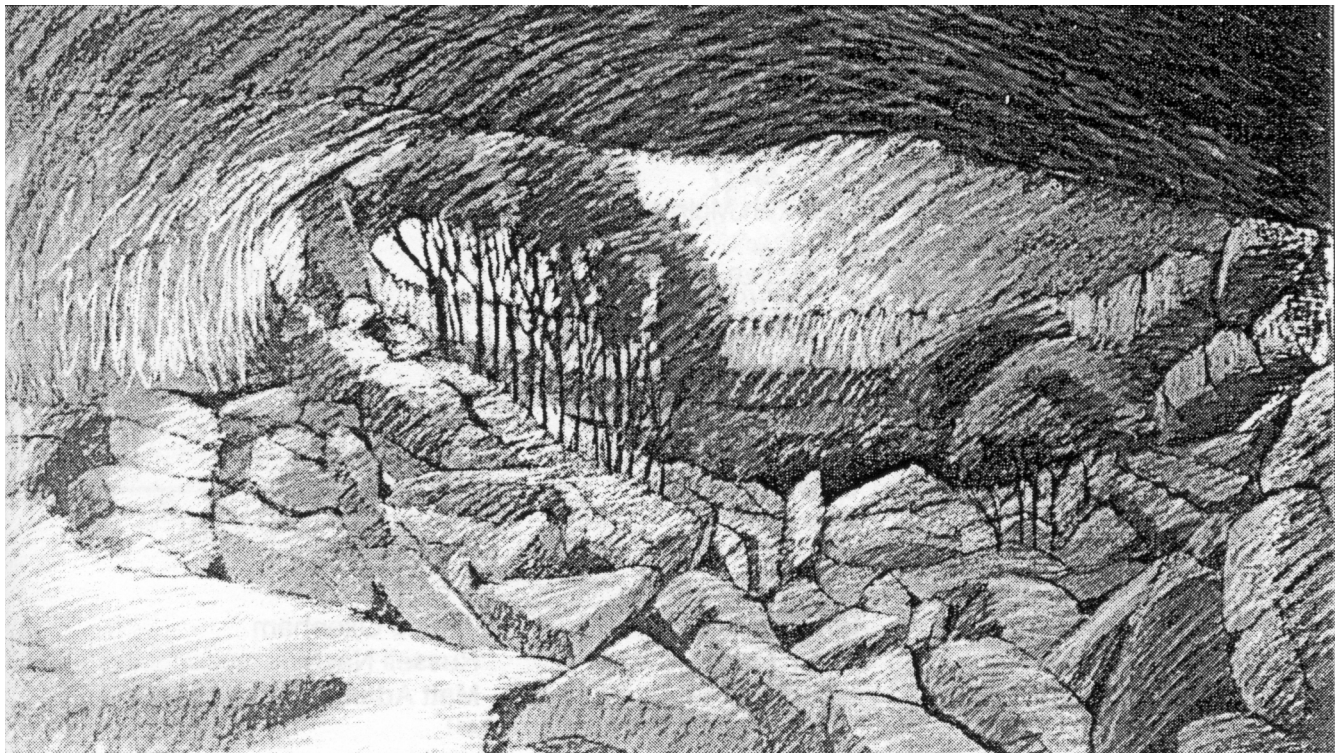
Full Membership includes \$8.00 ASF Levy and Insurance Levy of \$7.00.

Associate Membership includes \$7 Insurance Levy.

INSIDE EARTH - CAVES BENEATH THE NULLARBOR

The final Inside Earth - caves beneath the Nullarbor Art Exhibition will open from 14 March to 14 April 1996. It will be opened by Elery Hamilton-Smith (of CEGSA and VSA) at the Broken Hill City Art Gallery (the largest regional gallery in NSW).

This exhibition will include works from the following June MacLucas (paintings, pastels and drawings), Ken Boland, Kevin Mott, Elery Hamilton-Smith, Rob Klok, Norm Poulter and Nicholas Birks (photographs).



FOX CAVE MAP, 5U22, CEG120

This map is the result of several years work over the period of 1989-1992 by both the Scout Caving Group and CEGSA involving in excess of fifteen days surveying. (copy of map on following pages.....Ed!)

The Fox cave project started as a photo-monitoring exercise to determine the impact of the newly developed *Adventure Tour* of Fox Cave 5U22 at Naracoorte.

After being shown the proposed route by the then Senior Guide at Naracoorte, Jo Bauer, and determining some likely photo points, it became apparent that the cave would also need a more accurate map to allow more reliable relocation of any points used.

An assessment trip was conducted in May of 1989, with some preliminary photos taken, and then the metric survey of the cave was started.

The priority of this survey was to delineate the route used for the adventure tour, and to provide baseline maps of the cave so any photo points could be mapped out accurately at a later stage.

Many trips and survey teams later, the *Adventure Tour Route* was completed and this map 5U22-CEG120 was produced at an original scale of 1:500. This map was produced specifically for the Department of the Environment and Natural Resources-National Parks and Wildlife section at Naracoorte for the interest and education of the clients attending these tours.

The metric survey is still not complete for the cave, there are many more hours of underground work to be done, so for now an imperial scale map will have to suffice.

A map such as this involves many people and although on the map shows the survey team leaders, there is never enough room to put everyone's name on the map sheet..

To the following members, thanks for your time and efforts on the map so far, a club map can only ever be a team result.

Photo monitoring site selection;

CEGSA members;

Grant Gartrell
Max Meth
Guy Smith

Mark Sefton
Ron Lee
Deborah McIntyre

Karin Sefton
Nigel Dobson
Jo Bauer.

The Survey Teams;

CEGSA members;

Mac MacDonald
Paul Harper
Adrian Mott
Mark Thiselton

Julie Mac Donald
Chris Hales
Brian Rivett
Ron Simms.

David McIntyre
Lance Hoey
Tim Miles

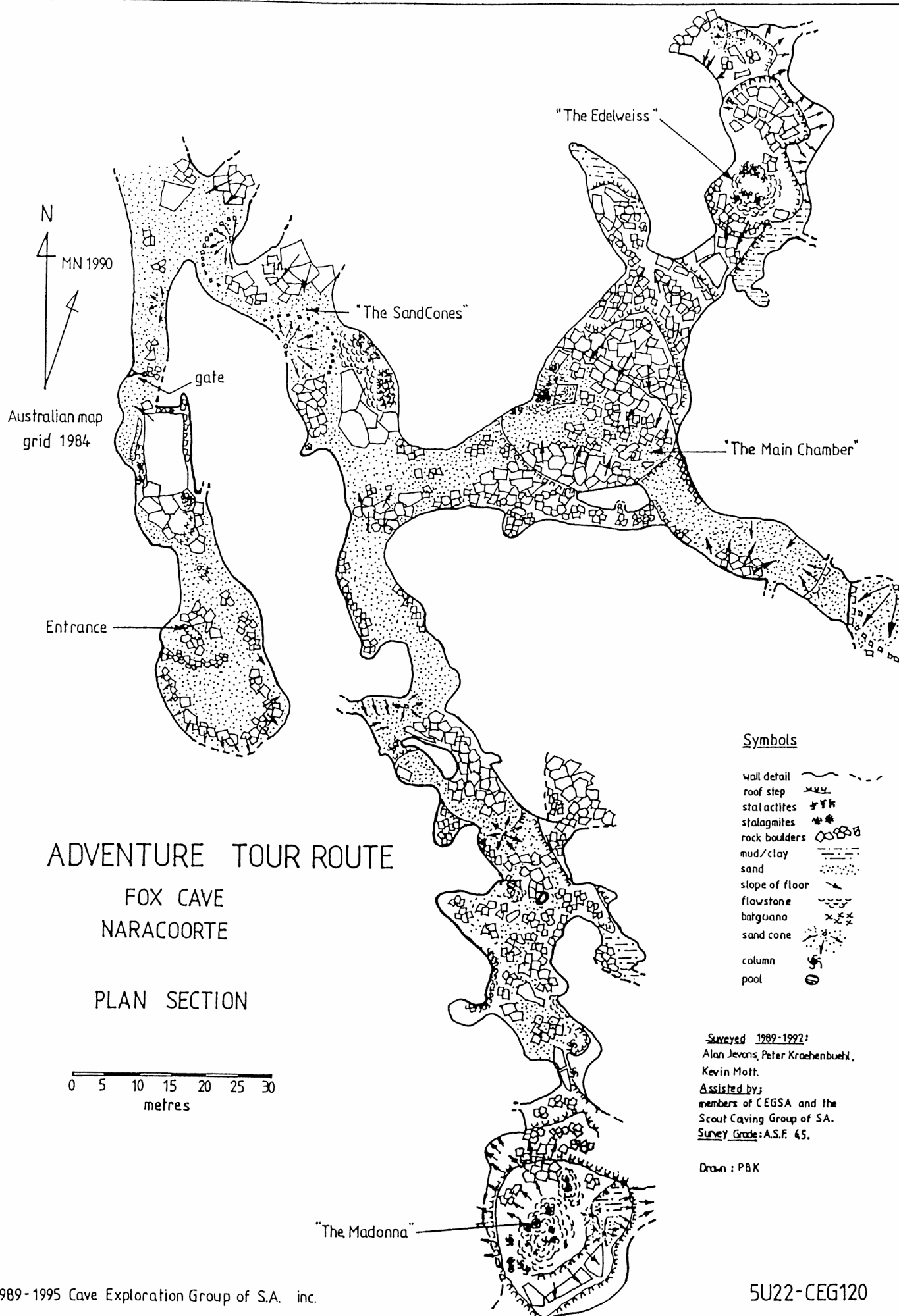
Scout Caving Group members;

Di Amato
Desiree Novak
Simon Kendrick

Ian Richards
Peter Taylor
Ivan Riley

Janine Oxenham
Russell Nash
Matt Adams.

Peter Kraehenbuehl.



FOSSIL COLLECTING IN NATIONAL PARKS CAVES

Cavers often encounter fossils or other biological specimens during their underground activities. This was realised when CEGSA was formed in the mid 1950.s. Because several founding/early members were university students or soon to be employed by the SA Museum, they inserted a clause to affect that any fossil or modern biological material encountered and collected should be given to the SA Museum.

This arrangement held for many years until the various cave reserves came under the control of the National Parks. Under their by-laws, no animal, plant or rock specimen may be collected from a Park without a permit for the express purpose of clearly defined research project, on completion of which said specimens are supposed to be forwarded to the Museum.

This leads to a dilemma regarding fossil bones that might be encountered during exploration or surveying of new areas, where, to follow those regulations the bones would bring work to a stand still, or alternatively removal of objects would bring work to a standstill, or alternatively removal of the objects would bring down the ire of the local NPWS authority.

Consequently, I have negotiated with the National Parks to reach a workable system for the future. This arrangement is a compromise, and how well it works will depend on you.

In a nutshell, CEGSA has been issued with several “open” permits, valid for a year in the name of the Curator of Fossils (i.e. me). Official trip leaders are delegated to act on my behalf to collect endangered specimens on an ad hoc basis. One of these permits should be obtained beforehand and carried by the trip leader to show to the relevant Ranger in Charge of the particular Park being visited. He should be informed in advance of the intention to explore/survey in new areas where bones might occur. If bones are encountered they should be left unless they cannot be avoided or will be damaged by the passage of cavers. Even then, in most cases it would be preferable to shift the bones carefully to a nearby but out-of-the way locality within the cave, and report the find to the Ranger and the Museum, with a sketch and/or photograph if possible.

If the bone must be collected, the fact must be reported to the Ranger and the specimen deposited with the Museum as soon as possible.

NOT ALL bones in such situations need be collected, since many are fragmentary or non-diagnostic or unidentifiable to a species level. Specimens that should be removed are the identifiable elements - skulls, jaws or teeth - although limb bones of birds can also be diagnostic.

Not all bones will be fossils. Remains of the “recent” intruders into the cave (i.e. up to several hundred years old) tend to have a greasy appearance (if they still smell, I don’t want to know!) but there is no hard and fast rule to determine this. This is a case of “better safe than sorry” and any skull material should be collected, since recent remains may give us information about pre-settlement faunas. There is no need to collect sheep or rabbit bones.

Bones

The average mammal skeleton has more than 200 bones. However, many of these (e.g. ribs and many vertebrae) are not very informative and many others (foot and hand, ankle and wrist) are small and easily overlooked. The best bones to identify an animal (at least a mammal) are, in order of priority, the skull, jaws (upper and lower), and cheek teeth (i.e. including incisors). Nevertheless, some animals are so distinctive that limb bones and even toe bones are quite characteristic.

Remember: except in the case of desiccated carcasses, horny material such as sheep’ horns and claw sheaths will soon decay and not be preserved. People often misinterpret the lower incisors of kangaroos as “claws”.

There are a number of ways to differentiate between marsupial and placental skulls (or jaws), but the most obvious way is probably based on teeth.

Our marsupials typically have four pairs of similar molar teeth, with one to three premolars of different shape, the number depending on the species. Canine teeth may be absent. There are

three pairs of incisors in the skulls of kangaroos and possums etc. And one pair of lower incisors, but four pairs of upper and three lowers in the dasyurids (carnivorous marsupials) and bandicoots, but these tiny generally fall out and are lost.

In contrast, the placental mammals you could encounter typically have three pairs of molars and a variable number of premolars. However, in sheep, cows, horses and rabbits the premolars begin to look like the molars and rodents have none. The incisors are also highly variable in number or even presence.

Collecting

Fossil bones are fragile, since the cave environment tends to remove the strengthening organic component to leave a mineral framework. In wet areas, the latter can also be weakened as the calcium component dissolves away. Collection therefore should be regarded as a last resort and undertaken only if a protective container (such as a lunch box) is available to carry out the specimen.

Appropriate packing is also important. A variety of materials can be used, depending on circumstances, such as aluminium foil first wrapped closely around the bone, then scrunched up as packing to absorb the shock. The indispensable toilet paper may be used to wrap the specimen, building up a reasonable thickness - say 6 layers. Crumpled newspaper is best used for shock absorbing. In some circumstances the bone might best be packed in the silt from around it - all within your lunch box or other container. This has the advantage of possibly yielding small bones and teeth that may also be present. The disadvantage is the greatly increased weight, so I would suggest this only for skulls. Larger and more complex specimens, such as large skulls or skeletons, should not be collected, but sketched and/or photographed for assessment by an expert, such as me or Rod Wells, so that appropriate excavation measures can be taken.

Remember, when in doubt, look and record, but don't touch!

Neville Pledge.

CAVING FOOTWEAR WARNING

To the tune of Nancy Sinatra's famous song;

"Some boots are made for walking,
And that's just what they should do.,
But if you take them caving,
You'll end up in the pooh".

On a recent trip to Sellicks cave, a potentially hazardous situation occurred. Some people were wearing fairly expensive boots with lace hooks to permit rapid tying up of laces, instead of the varieties using eyelets. These hooks sit proud of the boot flap.

While using the steel wire ladders however, these hooks often get hooked tightly onto the wire uprights, thereby effectively locking the boot on the rung. In some places it was fairly difficult for the caver involved to bend over double and free the boot. In fact several people had to rely on someone following them up the ladder and freeing the offending boot when this occurred.

It might pay trip leaders to check the LTMs (Lace Tying Mechanisms for those familiar with TLAs, - Three Letter Acronyms) of the cavers in their party.

Bart Jansen.

SOME INTERESTING COMPARISONS OF SEVERAL MOUNT GAMBIER

Way back in the late 1970s, long before I approached the Cave Divers Association of Australia (CDAA) to formally inaugurate its "Research Group" (the brain-child of Peter Stace) in March 1983, a few of us had been independently undertaking various forms of research and exploration work in the waterfilled caves and cenotes ("sinkholes") which are to be found around the Lower South East of South Australia in an effort to document these fascinating phenomena. Very little was known at that time about the true size and shape of these karst features, and often what we did know came from one or two quick dives with knots on guidelines and approximate compass bearings. However, our rough sketches were better than nothing, and during the next ten years or so, dedicated members of the Research Group and the South Australian Underwater Speleological Society (which formed three years later) were able to produce much better maps of many of our most popular and impressive waterfilled features.

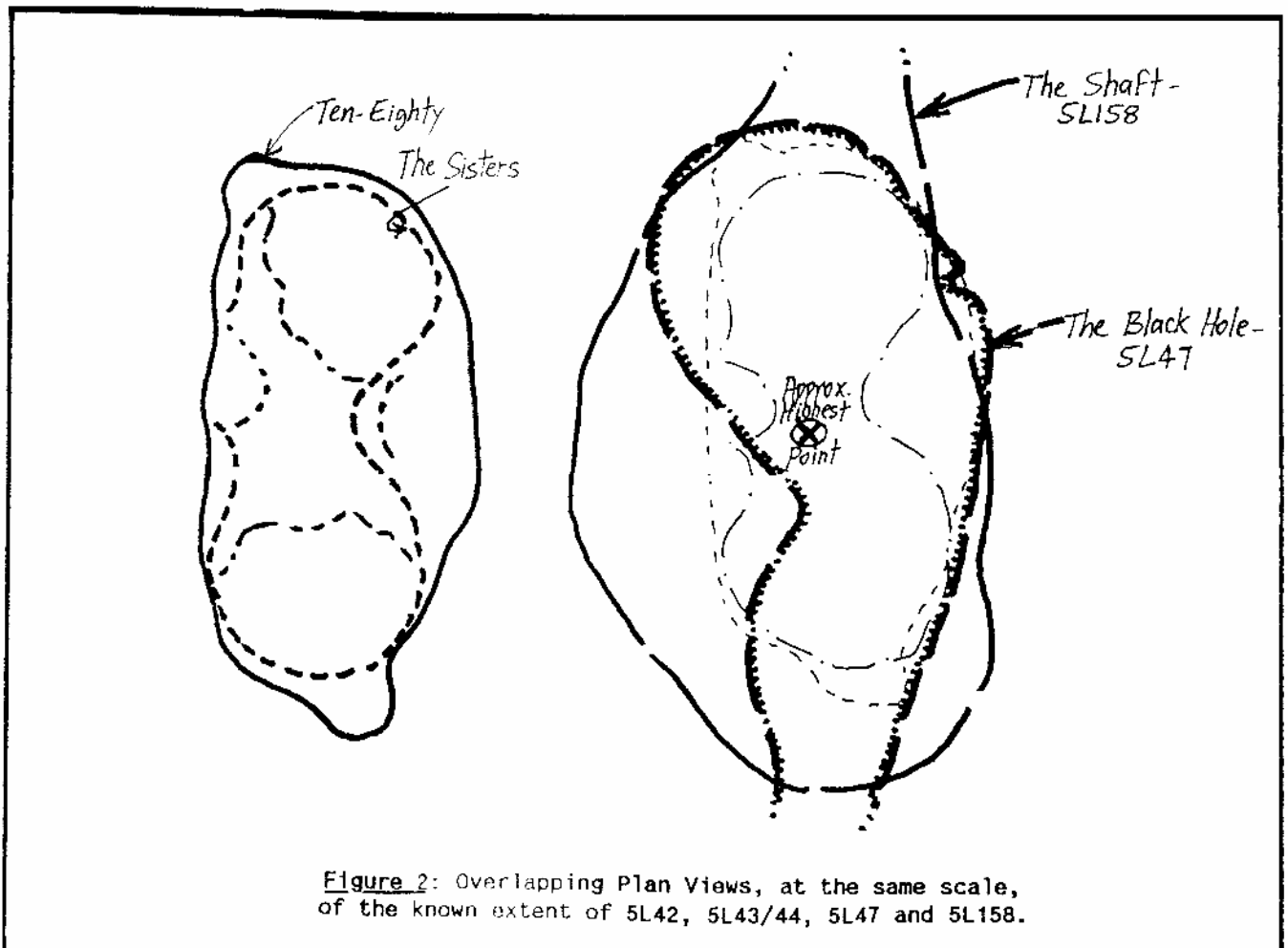
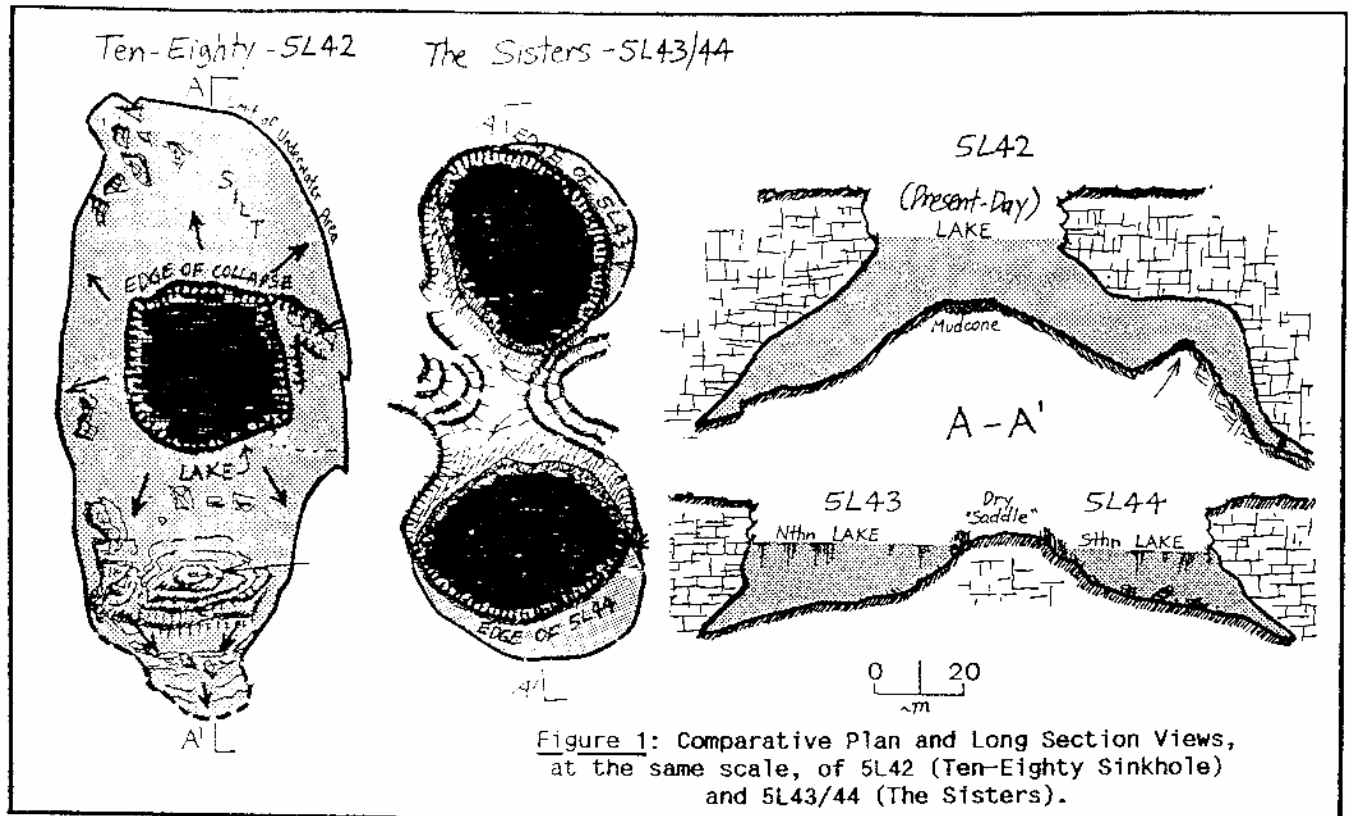
One of the first things that stood out while we were compiling these early maps was the fact that a large number of sinkholes appeared to be amazingly similar in general form and dimensions, something which was not at all obvious to land-lubbers who looked down into their watery depths from ground level. This observation was confirmed when detailed mapping was undertaken years later ... in cavity diameter and depth, as well as wall slope-angle and the extent of undercutting, many of these features turned out to be very similar, a fact which is readily apparent when they are seen at comparative scales (e.g. Horne 1983/84; Grimes, Hamilton-Smith & Spate 1995).

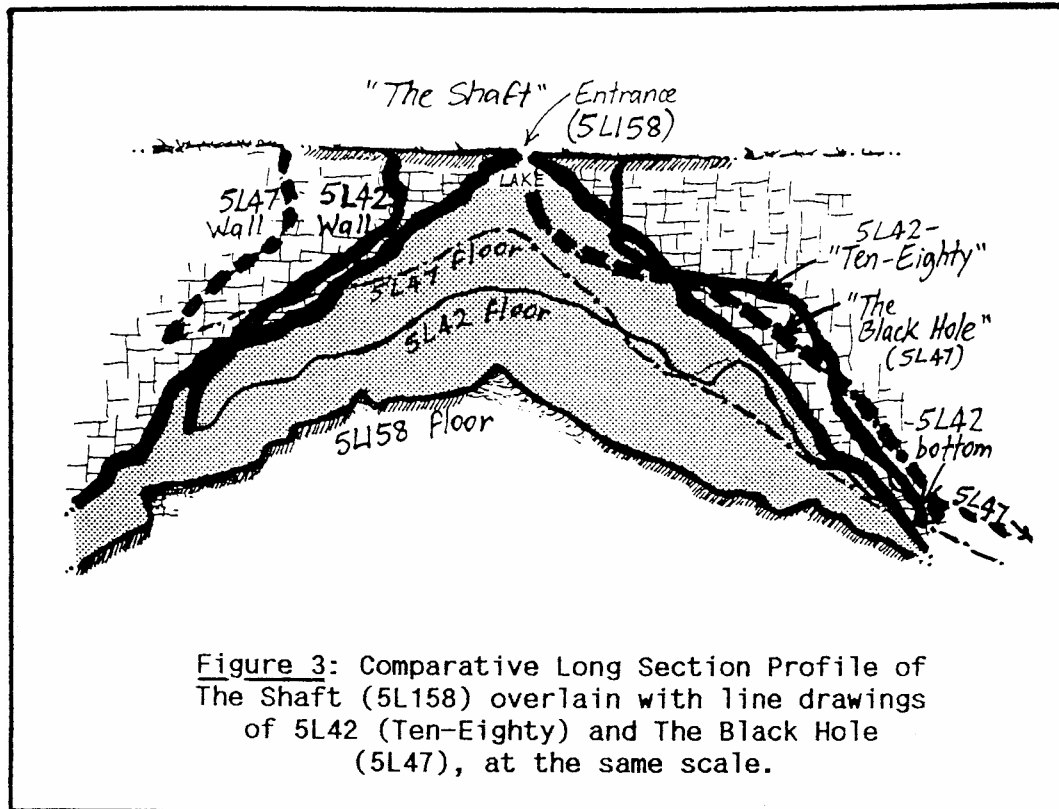
Having put sketches of every major karst feature in one place via my recently-published "Lower South East Cave Reference Book", I was prompted to share some of these mysteries with other speleologically-minded types in the hope that their expertise in karst morphology and general geological dynamics will be brought to bear to help cavers to get some idea of what is really going on beneath our feet! For the moment, I'll restrict my discussion to nine of the more significant sinkholes of the region because of the interesting aspects which I want to identify. These features are 5L42 (Ten-Eighty), 5L43/44 (The Sisters) and 5L47 (The Black Hole) - all on the property known as Barnoolut Estate and within sight of each other; 5L158 (The Shaft), further to the south, near Allendale East; 5L7 (One Tree/Wurwurkooloo), 5L9 (Little Blue Lake) and 5L14 (Ela Elap), which are located perhaps a dozen stone-throws from each other a few kilometres to the south-east of the Barnoolut sinkholes; and 5L40 (Hells Hole) in the Caroline Forest, further east again.

Let's look at the Barnoolut area first. This property has many sinkholes and caves which range in size from tiny fissures to some of the largest waterfilled caverns in this country, including Ten-Eighty, The Black Hole and the much smaller Bullock Hole (which is another popular cave-diving site). When I first saw The Sisters nearby, I was astounded with the coincidence factor that "two sinkholes" could form side by side and take on the appearance of being "mirror-images" of each other. It occurred to me a number of years ago (possibly from a casual conversation with someone) that The Sisters might actually have once been a single cavern which had collapsed unevenly rather than centrally like Ten-Eighty and the others, and when Ten-Eighty and The Sisters are compared in both plan view and side profile drawings, it is easy to see that this is indeed probably the case (Figure 1).

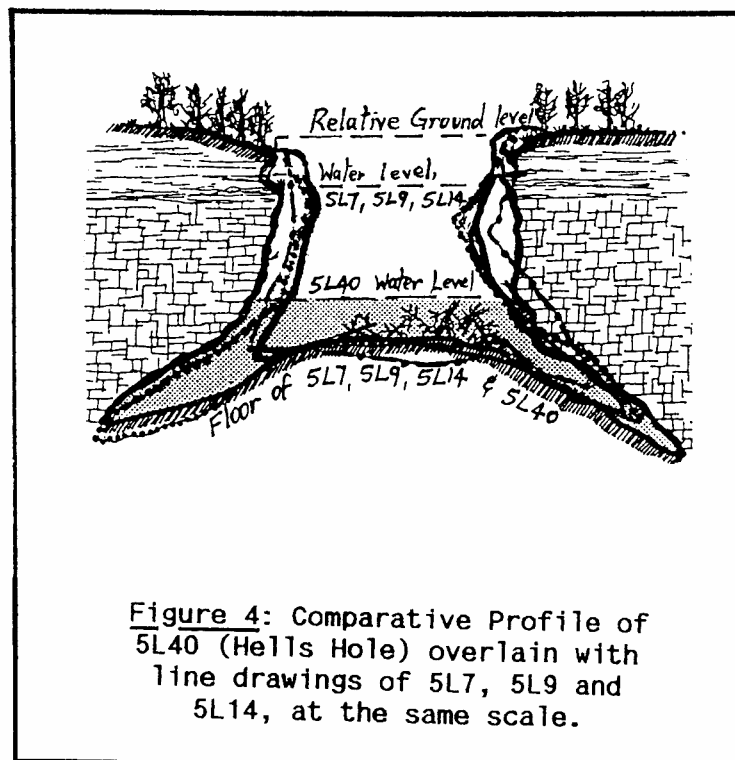
Drawn to scale in an overlapping plan-view sketch, the two sinkholes which make up The Sisters are seen to fit very neatly into the known boundaries of Ten-Eighty; their shallower nature probably resulted from the way the ceiling collapsed many thousands of years ago.

Furthermore, if the boundaries of the mighty Shaft and The Black Hole are also added to this sketch (using the shallowest or highest points in each sinkhole as a common reference point), they are surprisingly found to have similar limits (Figure 2) and in fact, The Black Hole is seen to be nearly the SAME SIZE as The Shaft. This shows how small The Shaft really is (or how BIG the OTHER features are, depending on your point of view!).





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Likewise, when a profile drawing of The Shaft is overlain with line drawings of the floor and ceiling profiles of Ten-Eighty and The Black Hole (again so that their shallowest/highest areas are used as a common reference point), The Shaft can be seen to be a "younger cousin" of the others which only looks different because its ceiling has not yet completely collapsed through to the surface ... the floor depth is greater because it hasn't been cluttered with boulders from a major ceiling collapse. The Black Hole is just a bit shallower around its periphery because of its large entrance collapse, and Ten-Eighty is shallower again for similar reasons (Figure 3).

The slope angles of the walls and the cavern widths of these three features from around 20-25m below ground level are also remarkably similar; therefore, by extrapolating the wall slopes of 5L42 and 5L47 back to the surface as they could have appeared tens or hundreds of thousands of years ago, before they broke through to the surface, we can see that there were most probably other "Shafts" in this region while Diprotodons, rather than today's Baa-Baas, were wandering around the plain!

Diverting for a moment from the central theme of this article, an interesting aspect worth discussing is the existence of The Shaft's tiny 0.8m diameter roof window at the apex of the cavern. This feature raises separate questions about which phenomenon occurs first in such cases - the clay-pots, assisting in the formation of a cave below via vadose solution or whatever; or the caverns, thus providing a cavity for tree roots to enter and subsequently create a clay-filled tube (my preferred theory). Quite a few other deep caverns in this region are also only accessible via such roof windows or vertical chimney-like solution tubes, so The Shaft certainly isn't a "one-off" freak; if any reader has a better theory I would like to hear from them!

Interestingly, when this type of comparison between sinkholes is made with some of the other significant features nearby, a different structure seems to be found. Unlike 5L42, 5L43/44, 5L47 and 5L158, the sinkholes known as One Tree, Little Blue Lake and Ela Elap have much deeper, more vertical walls before they begin to "bell out" perhaps 10-20m further down. This would seem to indicate that their original underground caverns might have been born quite a bit deeper underground - a theory which seems to be further supported by the fact that their profiles, when drawn over a map of 5L40 (which is very similar in shape and size as well, even though it is quite a long way away) are also remarkably similar (Figure 4). Such differences, if they are actually real and not just artifacts of my wishful statistical manipulation, could assist all manner of scientific enquiry in the future when it comes to understanding the nature of the limestone and general geology to the south of Mount Gambier. Perhaps these questions will even help us to eventually explain why the water in Ela Elap is so damn COLD (11 degrees C) compared with One Tree (15 degrees), even though these two near-identical features are on the same property!

One could go on about such comparisons for a long time, but I'll finish this article now with this tantalizing thought (for those who have actually visited the features described in this article, anyway!)... the next time your terrified family stares goggle-eyed into Hells Hole's forbidding maw, you can gleefully explain that this awesome natural feature is actually what the Little Blue Lake would look like if it was empty!

Oh, to be able to hop into a time machine!...

Peter Horne, November 1995.

References

- GRIMES, K. G., HAMILTON-SMITH, E., & SPATE, A. P., 1995: South East Karst Province of South Australia. Australian Caves & Karst Management Association, page 53.
- HORNE, P., 1984: Sinkholes of the Lower South East of South Australia. Proceedings of the 14th Biennial Conference, Australian Speleological Federation, Adelaide 1973: 123-132.
- HORNE, P., 1985: The Australian Cave Diving Scene. Conference Paper for the National Speleological Society Cave Diving Section's 26th Cave Diving Workshop held in Branford, Florida USA, 28th December 1985.

CONSTITUTION AND RULES MOTION

Motions to alter the Constitution and Rules of the CAVE EXPLORATION GROUP (SOUTH AUSTRALIA) Inc. to be moved at the General Meeting to be held at 7:30pm on the 26th March 1996 at the South Australian Museum, North Terrace Adelaide.

Constitution Clause 3(a)(i): which specifies conversion criteria from Associate to Full Membership.

Currently: (i) who are over 18 years of age and complete 50 hours as a member of an active caving party in not less than three(3) calendar months of Associate membership and satisfy such other requirements as shall be determined by the Committee, or

Proposed: "(i) who are over 18 years of age and have completed 50 hours as a member of an active caving party and satisfy such other requirements as shall be determined by the Committee, or"

Reason: This Clause can then be used for experienced cavers to enter CEGSA as Full Members. Usually the Committee requirements would include training during Associate membership. These requirements have been at the "whim" of the Committee, but are being formalized.

Constitution Clause 3(a)(ii) and (iii)

Currently: (ii) satisfy the criteria laid down by the South Australian Speleological Council for a Competent Caver, or

Proposed: "delete Clause (ii) and re-number (iii) to (ii)."

Reason: no such criteria exists nor are any being proposed.

Constitution Clause 3(a) { at end }

Currently: All applicants must own an approved helmet, be proposed and seconded by financial Members, and be elected by secret ballot at a meeting of the Committee.

Proposed: "All applicants must be proposed and seconded by financial Members, and be elected at a meeting of the Committee."

Reason: a helmet is a requirement of safe caving practice. One does not need to be OWNED by a member. Also, some members may NEVER go caving! A secret ballot is not required; is difficult to execute at a private meeting; and discourages frank discussions. The Committee do not want to use a secret ballot. They need to know what objections any member may have so that the objections can be eliminated e.g. by training.

Constitution Clauses 4(a) and 4(g): change "four Committee members" to "five Committee members".

Reason: Committee meetings have a quorum of 4 (out of 6 elected members). Too many Committee members have other commitments. Ideally, Members should not accept Committee positions if they expect to be unable to attend meetings but sometimes the unforeseen happens. It is considered better to increase the Committee numbers than decrease the quorum.

Constitution Clause 4(i)

Currently: In the event of an elected member of Committee vacating their position a by-election of which notice has been given as for an EGM shall be held at the next GM and the elected Member or Affiliate shall hold office until their successor is appointed. The conditions for nominees and nominations shall be those applying at an AGM.

Proposed: "If a Committee position becomes vacant, the position can be filled by a Committee nominee. The next GM must ratify the appointment of the nominee. The nominee must satisfy the conditions applying at an AGM."

Reason: it costs about \$40 to send notice of a by-election unless the notice is sent out with a Newsletter. It usually takes 2 to 4 months to elect a replacement Committee member. the main reason being that the Committee is not usually told of the vacancy but left to work on without the missing member.

The next GM still votes on the election but the group can function continuously.

Constitution Clause 4(j): new.

Proposed: "If a Committee member fails to attend any Committee meeting for at least three months then the Committee can declare the position vacant."

Reason: Committee members are elected to discuss matters that cannot be dealt with by Officer Bearers. If members are not present, then the orderly working of the group breaks down (no quorum). If someone wants to contribute to the functioning of CEGSA then they can accept the position of an Office Bearer.

Rules Clauses 10(a) to 10(c) of TRIPS:

Currently: 10(a) All caving trips sanctioned by an official Group meeting are to be known as official trips and shall be put under the control of an appointed leader who shall submit a written report of the trip to Committee.

10(b) All non-official trips for which any property of the Group is hired or borrowed by a member shall be subject to the Constitution and Rules of the Group and shall submit a written report to Committee within six weeks of the trip.

10(c) Only official trips may be advertised in the official programme of the Group.

Proposed: "10(a) All caving trips attended by CEGSA members shall be under the control of a leader appointed by the organisation conducting the trip and shall be entered into the CEGSA Log Book of Trips and Activities prior to the activity.

10(b) When a member attends a caving trip that has been entered in the CEGSA Log Book of Trips and Activities, a written trip report must be submitted to the Committee within three months of the completion of the trip. Responsibility for submission of the report shall belong to the person submitting the entry to the CEGSA Log Book.

10(c) delete. Re-number 10(d) to 10(c)."

Reason: Because of possible insurance effects, it is advisable to remove the concept of "official" or "sanctioned" caving trips. The proposed "CEGSA Log Book" will enable members attending trips lead by other clubs to be covered by insurance, even when the other club is not insured.

The current Rules are not clear on how to handle the advertising of an "external" trip. It appears that CEGSA must grant the trip "official" status and appoint a CEGSA leader to take control of the other organisation's trip!

The current Rules give no time limit to the submission of trip reports for "official" trips but insist on a six-week deadline for "non-official" trips!

Committee anticipates that the CEGSA Log Book would be looked after by the Trip Coordinator who will bring it to all meetings. Note that any trip not logged could be deemed as not attended by anyone as a CEGSA member and therefore not covered by our insurance.

Graham Pilkington

PHOTOGRAPHIC COMPETITION, December 1995.

The 1995 CEGSA end-of-year 'do' – a combined BBQ and photographic competition on the 1st of December – was hailed as a most successful evening.

Twelve photographers submitted 100 pictures (52 slides and 48 prints). The judges (John Meikle, Clare Buswell and Floortje Costain) were impressed by the standard of entries, awarding the following prizes:

Special Effects	– First Prize	– Chris Hales
	– Special Commendation	– June MacLucas
Delicate Decorations	– First Prize	– Athol Jackson
	– Special Commendation	– Peter Kraehenbuehl
Large Formations	– First Prize	– Peter Kraehenbuehl
Squeezes	– First Prize	– Stuart Deer
Chambers & Caverns	– First Prize	– Chris Hales (judges' choice for best picture)
	– Special Commendations	– Janine Kraehenbuehl & Athol Jackson
Cave Fauna	– First Prize	– June MacLucas
Ropes & Ladders	– First Prize	– Simon Kendrick
People	– First Prize	– Peter Kraehenbuehl
	– Special Commendation	– Athol Jackson
Humour	– First Prize	– Peter Kraehenbuehl
	– Special Commendation	– Marie Choi

The photographs were displayed on the evening and a vote by those present gave the Best Picture award to Athol Jackson for his photo of an exhausted caver.

We would like to extend our thanks to:

- Photographic Wholesalers for supplying the Best Picture trophy
- All the entrants
- The three judges
- John Meikle for hosting the evening
- Fern Raintree for organising the competition.

Fern Raintree.