



NEWSLETTER

Cave Exploration Group

South Australia

C/O SOUTH AUSTRALIAN MUSEUM NORTH TERRACE ADELAIDE

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LOOKING ACROSS THE LAKE, LAKE CAVE, TANTANOOLA, S.A.

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EDITORIAL

There are rumours in the air, straws in the wind and breezes in the squeezes which suggest that in the near future, CEGSA will be provided with a new Research Centre at Naracoorte. This is exciting news for the Group, and especially so for those members who over the years, have worked so hard on palaeontology, geology, surveying, mapping and exploring in the caves Reserve area.

It is sincerely hoped this building will be a very substantial structure, as it will have to last a long time. In fact, before its useful life is over, it is possible the-National Trust will declare it a building of great historical importance and slap an 'A' classification on it. This is not as far fetched as it sounds, when you consider the extent of the fossil deposits in the Victoria Cave. It is conservatively estimated there are 3,000 cubic metres of fossil bearing silt in the Fossil Chamber alone. Assuming a removal rate of one cubic metre per month (and we are nowhere near this rate) it would take 250 years to completely remove. Since October 1969 when this chamber was discovered, two more chambers have been found, and named Ossuary-I and Ossuary-II. These are appreciably further from the entrance than the Fossil Chamber and access to them is restricted by several squeezes.

So far, very little work has been done in these two chambers, they are unsurveyed and unmapped, and no attempt has been made to probe the depth of silt. However, in silt area and richness of surface deposits, they are at least equal to the Fossil Chamber in size and importance. How many years can we conservatively estimate it will take to remove these deposits? Another 100?

In four years, CEGSA has discovered three fossil deposits of world importance in one cave. Over the next 50 years or so, it is surely reasonable to expect further deposits will be found somewhere in the reserve. Here then are the reasons for the hope expressed above, that the Research Centre will be a building of substantial design and construction, and no thought given to planned obsolescence!

Did you see the Sunday Mail for 12th August, 1973? CEGSA could not have received better publicity even if we had been given a free hand. Under a banner headline "SEA OF BONES" on page 1 no less, and continued on a double centre page spread, was a potted history of the Fossil Chamber, Victoria Cave, since it was discovered four years ago by CEGSA. This is the first time the importance of this discovery to CEGSA, Australia and the World has hit the headlines. Maybe now more attention will be paid to cave preservation. Who knows how many other priceless relics of Australia's past lie behind cave entrances blocked by rubble, fencing wire, posts, old bottles, bedsteads, oil drums, sheep carcasses etc. etc?

Whilst we are wallowing in the euphoria engendered by all this interest and publicity, what about making a start on the long planned and discussed paper on the palaeontology, geology and topography of the Victoria Cave and its environs?

Now a plea for caution. The correct procedure when any fossil material is found, during caving activities, is to record and report the find. The deposit should not be disturbed in any way, and if sited in a vulnerable position, it should be protected by any available material, such as loose rock. On no account should any of the deposit be removed, as this could result in specimens being damaged and would certainly mean valuable associations with other material, both fossil and sedimentary, being lost. This plea has been prompted by a recent occurrence, when a fossil bone was removed from one of the inner reaches of the Victoria Cave. It now lies on the worktable in the bone room, its previous location unrecorded and its usefulness as a specimen degraded by a thoughtless action.

E.H. Bailey

ITS' THAT TIME OF THE YEAR AGAIN ALREADY SO SOON

Imagine a beautifully presented four course meal of soup - seafood entree - a good selection for the main course, backed up by smorgasbord salad - pushed down by sweets and topped off with cheese and coffee. All this, in pleasant surroundings, is pretty competitively priced by today's standards at \$4.75 a head.

When we throw in at absolutely no extra charge the one and only genuine original often copied but never bettered annual CEGSA photo competition, not to mention the leather medal presentations, (leather medal? SHhhh - I told you not to mention that!!!) then it is patently obvious that you will forgo whatever other engagements you might have on Saturday 8th December, so that you can come to the dinner they are all talking about, politely of course -

THE 1973 CEGSA ANNUAL DINNER

Eagle on the Hill - Hotel, Mt. Barker Road,
at 7 p.m. Saturday 8th December.

Only sixty seats available so reserve yours early, and at least by Friday 23rd, November. Full payment to accompany reservation please. Slides and photos must be lodged on or before 28th November.

Application form enclosed

TRIP REPORT: NARACOORTE 6TH-8TH OCTOBER – G. GARTRELL

In evidence at Naracoorte on the October long-weekend were a small group of CEGSA people, supplemented by a small group of our brethren from the Flinders University Geology Club, and as far as we can make out, about four or five different bands of scouts.

The Flinders people took all sorts of levels all over the place near S102, checked out Fox Cave, and departed on Sunday night. Amazing that the contents of one car can seem to overflow the entire Hut.

We knew of two of the scout parties beforehand. The others were more of a surprise - if such things can still surprise us these days. Some of these people were reasonably careful. Others were downright thoughtless. Some scouts were observed trying to stand on formation in Wombat Cave so that others could photograph them. They were suitably roared at, but some hides seem pretty thick, and more positive action may be necessary if we want these caves to last. With all objectivity one can only say that the upsurge in caving within scouting circles is a real headache for CEGSA. Adequately trained leaders are too few to manage the large numbers scouts always congregate in, and under all normal circumstances, such populous caving parties are not in the best interests of the cave. As human beings and individuals scouts are no better and no worse than the rest of us, but collectively they must recognize that they are a destructive force and a problem. All caving activities present this aspect to some extent, but CEGSA attempts to minimise it. Unless the scouts can do likewise they must inevitably find our manner change from lukewarm to hostile. To us the caves are not just "another activity". The caves come first. I would urge the Scout Association to "play down" its emphasis on caving as a recreation, and encourage instead anyone who has a genuine keen interest in caving to join CEGSA, which is, after all, an "open" society. No scout should go anywhere near Wombat Cave until he knows enough to keep his head down and watch where he puts his feet. If he wants to see "pretties" he can visit a Tourist Cave. The Group has designated Beekeepers Cave and Smoke Cave at Naracoorte as suitable training caves for scouts. These caves are less likely to be damaged by thoughtlessness, but even then are still not immune to it. Certain areas of other caves are just going to need gating. It is not something we want to do, but something which all responsible and thoughtful cavers and scouts will realize is necessary. The scouts may force this on themselves.

To return to the trip. CEGSA's contribution to the weekend was more sorting of bones in the fossil dig, and a marathon effort by just about everybody, with the jackhammer again proving its worth as we tunnelled our way beyond the "wedding cake" down through the "8-inch" squeeze on our way towards the flowstone floor in the Victoria Cave. Another trip like that should see us about ready to begin the big job of excavating a fifteen foot long bypass tunnel through solid rock.

As a reward for all the digging in the day time a small trip went into a small cave within a small distance of a small building late at night. This small party made a small diversion into a small tunnel shown on the map and found a small hole from whence issued a moderate breeze. A return visit next day to survey the scene of the great discovery found copious quantities of air issuing forth, no doubt as a result of the impending thunderstorms. For security reasons will not say more at this stage other than that this could be one of the most significant Naracoorte digs of all time. Lots of hammer and chisel work, though, and probably another gate.

SINKHOLE AT SELICKS HILL

A minor sinkhole has been located west of the Sellicks Hill cave and about 100 yards from the roadway. It is about 3' deep and 15' diameter with some limestone outcropping around the edges. It would be very promising but for the garbage which the owner has chucked into it i.e. logs, wire and limestone rocks. The manager of the property, Mr. Brian Holmes, has given permission for CEGSA to excavate provided that the garbage is replaced afterwards. I would suggest however that any such excavation be delayed for some time as the kind gentleman has informed me that this seasons dead lambs are now in residence!

J.W. DeGRAAF

TRIP REPORT - CARRICKALINGA 1/7/73

J. DeGRAAF, M. METH, P. HOCKNELL, and T. BURK.

After a traditionally late start and a stiff hike of perhaps 2 miles the party finally reached the cave and entered at 2.00 p.m. Two 30 foot pitches were descended using ladders. The lower pitch being somewhat narrower proved to be easier without the ladder especially on the way up.

On reaching the bottom Max and Peter squeezed off in different directions with little success. Both found that the cave, which resembles a large flattener at about 85°, continued downwards but with somewhat less than human dimensions.

The cave has some poor quality formation including two small rimstone pools but most of it is stained a dark brown. A small dig was observed to have penetrated only about 2 feet into the clay filled seam.

J.W. DeGRAAF

WHO SAID YOU CAN'T SEE IN THE DARK? - G. GARTRELL

Like most cavers you would have imagined, at one time or another that there was no place in the universe darker than the innermost recesses of your favourite cave, unless of course you are a Tasmanian or New Zealander and like to count glow-worms.

What you may not have realized though, is that, like glow-worms, you glow in the dark. A glow-worm consumes chemical energy and radiates light, while all living people consume chemical energy and radiate heat in the form of infra-red radiation. The cave surroundings are particularly constant in temperature and usually 17°C or more cooler than you are, so that you radiate much more energy than you receive, and you get the impression that the cave is cold.

Next consider a candle burning in the cave, and compare the brightness of the flame directly radiating light with the faint flicker of reflected light from the cave walls. Consider too a bar of red-hot iron glowing in a blacksmiths forge. You cannot see much detail in the bar because the light comes from within. Surface reflections and light and shade, which give you the information about shape, are no longer dominant or significant. Now scale the brightness of the candle down to the red-hot bar, and the candle light on the cave walls would drop to a dull sensation, barely visible if at all. Finally change the radiation from red, or visible light, to infra-red radiation, which is just the same except for a longer wavelength, but is commonly regarded as invisible, and scale the intensity down again, as you substitute your own infra-red radiating corporeal presence for the glowing iron bar.

Last of all, next time you are down in a cave, switch your limits out, wait for the after-image to fade from your retina, and then have a good look around you. Hold your hand up and wave it in front of your face. Get somebody else to wave their hand in front of your face. There would seem to be a better than even chance that you will be able to make out the shape of the hand and arm. Similarly you should be able to see other people close to you. If so, you have some infra-red vision.

Lest you should jump to conclusions, I hasten to add that jumping is dangerous in a cave, especially in the dark, and more likely to be to your conclusion. No, it does not mean you can throw away your smelly carbide lamp, nor even your spare torch or candle, for at infra-red wavelengths you are doing well when you can see the arm or person.

As for the rest, stalagmites, walls, bumps, all look just the same as a hole in the

Corollary: If all your lights do fail, you might improve your chances of finding your way out of the cave, by removing all your clothes and engaging in vigorous physical exertion, thus generating what we all know as a "healthy glow" which should light the way out nicely.

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Photo Competition

Entries are now called for the 1973 CEGSA photograph competition. There will be a limit of 10 slides per person, and no limit on the number of prints submitted. Print size, monochrome or colour, should preferably be 10" x 8" or larger.

Slides may be taken anywhere, but may not have won a prize previously. Three categories will be considered for slides, namely :

Best Cave photo.

Best Caving Action photo

Best Caving Personality

Print Categories will depend on the number and variety of entries submitted.

"NIFE" MINERS LIGHT

For those people who own a "NIFE" cell miners light, and have been experiencing problems with the unit not holding a charge, the specific gravity of the electrolyte should be checked. The specific gravity should be between 1.16 and 1.2. If for any reason the specific gravity falls below 1.16, the electrolyte should be changed.

The electrolyte is made of caustic potash (KOH) and lithium hydroxide (LiOH). The quantities are as follows :-

153 grams KOH

12 grams LiOH

500 millilitres distilled water

All ingredients are quite easily obtained and the mixture can be made up at home with care. Contact with the skin should be avoided. Any splashes should be washed off with warm water as soon as possible.

B. Dunn

WEDDING BELLS!

Jim Hopkins and Carol Bowers are getting wed at 6.00 p.m., Saturday November 10th, 1973 at the Nunyara Chapel, 5 Burnell Drive, Belair. All CEGSA members are cordially invited to attend the ceremony. You will be required to dress suitably for the occasion, even Jim is investing in a new trog suit in a delicate shade of cave clay red, so don't let the side down!

SUBTERRANEAN "TASMAZIAN"

G. GARTRELL

During a private visit to Tasmania (dubbed Tasmazian by the littlest Gartrell) the Gartrell family dropped in on the hospitable Goedes to see how Tasmazian Cavers survive in the great South Land. Before we knew it we found ourselves on a day trip up the Florentine Valley in thick mist which rolled back occasionally to afford us a nice view of the tree tops some hundreds of feet above.

On with the overalls and through the icicles to see one of these famous Tasmanian Caves.

There it was! Twenty feet long, or was it thirty? Three or four feet wide. Not good enough, so in South Australian tradition dug a hole and doubled!! the size of this mighty hole. Explored the new extension in $3\frac{3}{4}$ seconds and then had lunch. Tasmanians say it is the smallest extension ever discovered in Tasmania and they may be right, but we have our suspicions. Do you believe Exit Cave really exists? We're not so sure.

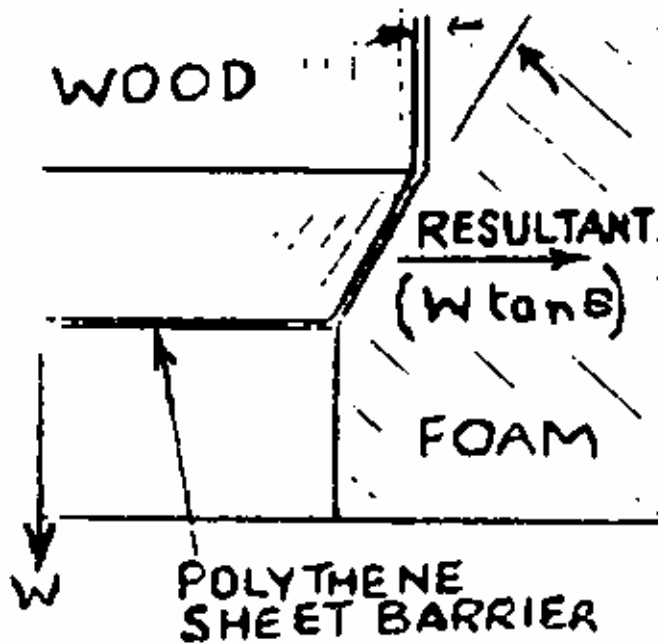
Apart from this, took in all of Tasmanians Tourist Caves which are each different, each very impressive, and should be obligatory for all South Aussies.

Perhaps someone can shed some light on one mystery. In Waitomo, New Zealand, one is expected to keep quiet to stop the glow-worms from switching off in protest. At Gunns Plains, Tasmania, Mr. Wing, the guide, demonstrated convincingly that his glow-worms switch on when he calls to them. More of a "Whooooop" than a "Cooeee" and very professional from long years of practice calling in his dairy cows, but it really works. It just shows that even glow-worms turn.

IS POLYURETHANE FOAM STRONG ENOUGH TO SUPPORT FOSSILISED BONE?

Concern has been expressed as to the strength of a free-blown polyurethane foam when used to encapsulate fossilised bone. In particular, is the foam adequate to support the specimen during the critical phase when it is first lifted clear of the silt and turned over to allow completion of the encapsulation?

To provide an answer, a trial encapsulation was made, using a piece of wood to represent a specimen. Only the first stage of the encapsulation procedure was done, this left the lower face of the wooden specimen exposed. A screw was inserted in this face to allow the specimen to be loaded. A generous chamfer on the lower corner of the specimen resulted in the horizontal component of this load producing a hoop stress in the polyurethane, see sketch.



The maximum load placed on the specimen was 57kg. At this loading, no movement or sign of failure in the foam could be seen.

The dummy specimen was quite small being only 9 cm in diameter. To give a measure of confidence when much larger specimens were required to be encapsulated, the equivalent density of a specimen measuring, 50 cm in diameter and having the same thickness as the small specimen (4.24 cm) was calculated. The limiting factors used in this calculation were that the hoop stress in the foam must not exceed that imposed by a 57kg load, and the wall thickness of the foam remained the same at 2½ cm. From these calculations this larger

specimen would need to have a density equivalent to that for cast iron to produce a similar hoop stress in the foam.

It should be noted that for these experiments, no intermediate layer of silt separated the specimen from the foam, and in actual practice, this layer would always be present (1). Therefore, the limitation on loading would in effect be the maximum shear stress which could be borne by the silt. The fact that this limitation is sufficiently high for large specimens to be safely recovered, has been repeatedly demonstrated by the well established technique of using Plaster of Paris as the encapsulate.

It is acknowledged that the shear strength of a fabric reinforced plaster is far higher than that for a polyurethane foam, but evidence so far gained, both in practice and in the above experiment, show that the strength of the foam is more than adequate to cater for any loads imposed by this type of application.

E.H. BAILEY

1. BAILEY E.H On site encapsulation of fossils to aid their safe removal. CEGSA NEWSLETTER NOV 1972-JAN 1973.

CAVE EXPLORATION GROUP OF SOUTH AUSTRALIA.

Programme for November 1973 to February 1974

November

10th – 11th	Glenelg River (L) R. Pailthorpe	Digging trip
Wed. 14th	Committee Meeting 8 p.m.	12 McLachlan Street, Glenelg North
17th - 18th	Curramulka (L) I. Lewis	Corra-Lynn surveying Town Cave digging
Wed. 28th	General Meeting 8 pm Museum Lecture Room	Speaker – Grant Gartrell: A Comparison of Kangaroo Island and S.W. Western Aust. Caves

December

1st – 2nd	Naracoorte (L) B. Dunn	Search and Rescue.
Sat. 8th	CEGSA Dinner	Eagle-on-the-Hill (See advert. This newsletter)
Wed. 12th	Committee Meeting 8 p.m.	4 Parsons Road, Reynella
Sun. 16th	Sellicks Hill (L) J. Foulds	Caving and surface digging

NO GENERAL MEETING in DECEMBER

25th onwards	Naracoorte (contact G. Gartrell)	Digging, caving and swimming
29th onwards	Nullarbor (L) I. Lewis	Diving and caving “Chance of a lifetime”

January

Wed. 23rd	General Meeting 8 pm Museum Lecture Room	Members' past trip slides.
26th - 28th	Lower South East (L) I. Lewis	Surveying and Digging

February

9th – 10th	Naracoorte (L) I. Lewis	Surveying and exploration. Naracoorte members are strongly urged to attend
Wed. 13th	Committee Meeting 8 p.m.	45 Marlborough Street, Brighton
Wed. 27th	A.G.M. 8 pm Museum Lecture Room	Think about your new Committee <u>now</u> .

CONTACT LIST

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J. Foulds	174 Anzac Highway, Plympton	(W) 434162
R. Pailthorpe	50 Yeronga Ave, Kensington Park	(H) 314152

SEARCH AND RESCUE

B. Dunn	as above	
D. Hawke	43 Semaphore Road, Semaphore	(H) 49070
G. Gartrell	as above	