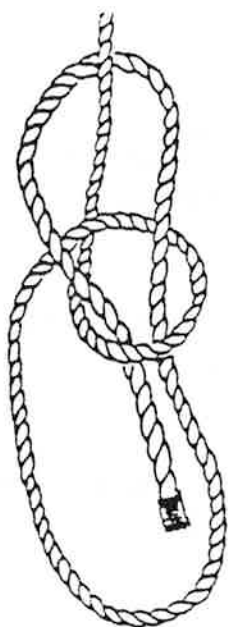


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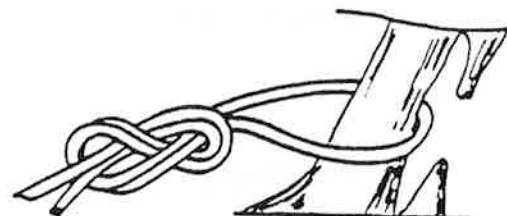
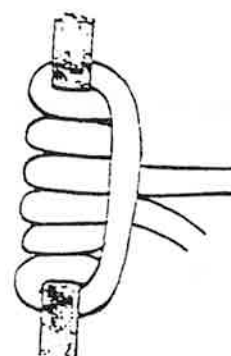
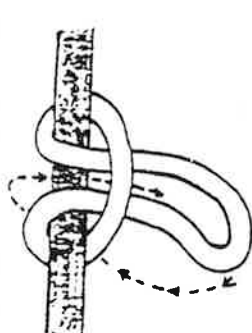


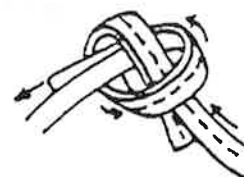
FIGURE 8 LOOP



PRUSIK KNOT



DOUBLE FISHERMAN'S BEND



TAPE KNOT

THE QUARTERLY NEWSLETTER OF THE FLINDERS UNIVERSITY
SPELEOLOGICAL SOCIETY INCORPORATED.

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MAPPING THE DECADENT WAY AT NARACOORTE.

BEEKEEPER'S TRIP REPORT.

DATE; I've forgotten.

Friday afternoon: started the weekend with a fun hour spent waiting outside AN House (with sleeping bag and resigned look) for Guy and Pam to show up. Eventually we headed off about 6.30, stopping at Nairne, Coonalpyn, but not Padthaway, and arrived at Naracoorte Caravan Park about 11pm, where Shane and Debbie had arrived from Melbourne several hours before.

Saturday: The early part of the morning was spent inspecting Naracoorte Shopping Centre, the caravan park, and Shane and Debbie's expense account boots (bloody corporate geologists...) The caravan park is, by the way, highly luxurious and is recommended if the group is (a) small, and (b) too busy or lazy to prepare for a proper camping trip.

We finally got into Beekeepers just before midday, to be greeted by millions of mosquitos, blowflies and other disgusting little bugs. The first couple of hours were spent showing

Shane and Debbie around the main parts of the cave. After a quick lunch of cheese, biscuits and disgusting little bugs, the group split into two in order to actually do some work. Pam, myself and two blowflies proceeded to the end of the second main chamber, Pam collected tree root samples from various sites while I held the bottles and devised a sample labelling system which could set Biology back 50 years.

Meanwhile, Shane was elected chief mapper since he (a) had the fanciest clipboard and (b) knew what he was doing.

He, Debbie, Guy and another blowfly decided to do a point to point map from the cave entrance to the sampling sites, so that we could try to identify the trees we were sampling. With Pam and I assisting for the last stretch we managed to complete the map, exterminate one of the blowflies and get out of the cave by 6pm.

In the evening we decided to throw any last pretence of roughing it to the winds and had a smorgasbord dinner at the hotel named after some prominent

Naracoorte identity who I can't recall. Afterwards we returned to our cabin where everyone soon passed out, except for Shane who stayed up into the small hours plotting the day's results. (This excessive enthusiasm is something Shane should watch out for - he'll find himself writing a Ph.D if he's not careful).

Sunday: Since Shane and Debbie had to leave early our activities were confined to returning to the cave site and locating the ground position of the tree root samples. Fears that we would not be able to identify the species were soon dispelled and we are now 99.9999% certain that the trees are Radita Pines.

All in all, it was an excellent trip. mapping being a much more pleasant passtime than I had expected. I currently have the map (if anyone wants to see it) and hope to include a copy in the next edition. Work on identifying the fungi on the tree roots has begun but has been held up by Pam's tendency to work too much. Special thanks to Shane and Debbie for providing their expertise and company.

Jenny Laidlaw

CAVING WITH THE POSSUMS AT NARACOORTE.

CAVING SKILLS WEEKEND.

The intention was to leave Adelaide at around five and get to NCCP at about 9pm, but intentions are only set so we can blame Mavis for hiding the essential camping equipment, (the leftover port from fair day, five blocks of chocolate, wine glass and map of Padthaway). We eventually left at seven foregoing the shower but looking forward to caving in warm caves after the coldness of Yagby.

We set up camp and I decided that I might try and circulate a rumor about a 9am start. To substantiate this I even decided that I should go to bed early, well, before midnight, hoping that others might do the same. That was an ill fated hope as people kept setting up tents at all am hours and by 9am one group hadn't even bothered to arrive. When they did they mumbled something about going to the Debutants Ball in Padthaway and playing cricket at 9am in the morning on the main drag waiting for the new bits that were missing from the engine seeing it had over-heated sometime round midnight. Somebody else got up at six am and made a lentil soup for lunch, and his name was not Neil.

Then there was this other person who watched Keven and I make freshly brewed coffee in a billy and strain it through a tea strainer only to then pull out his op shop special coffee percolator and ask if anybody wanted coffee. I decided that I'd go and have a shower.

Nine o'clock did roll round and the rumor became fact with Rick climbing up a tree to tie a ladder off, and the others sitting around listening to John's intro into caving gear. After this it was decided that we should try for the peace and quiet of a few caves and do what we came here to do, teach people about caves and caving.

I elected, by general fascistic methods, to go down into Appledore taking Rick and three novices with me. The idea may have been to feed them to the giant cave crickets that live there but I should have known from the smell of Appledore that possums had

taken it over as their piece of prime real estate. All it needed was a few sacks of Chick peas and Lentils and I would have been back at home in the shed at Nairne. Decided that Appledore was best left to Leunigs philosophy on renting by birds and that Wombat was a better idea.

Trundled over there to find that John had done a demonstration of rigging the red carpet way. Anyway, climbed down the ladder - all four rungs of it - and had a good look at Wombat. Ages since I'd been in there and was surprised with the extent of decoration.

Meanwhile, back at Stick-Tomato, Matt, Richard, Paul and Debbie collected samples of water for testing, climbed up and down ladders talked about rigging and who knows what else - Chaos theory? Lunch was had, the soup was terrific. Mind you the fact that it was served by a waiter with a scarf tied around his hair, dressed in dusty trousers covered by a sarong made me wonder if Mavis had taken to dressing up again so as to confuse members as to Mavis' whereabouts. At any rate, this waiter was often to be found looking at the five bottles of port during the evening.

The afternoon was spent in Cathedral, not singing 'By the Waters of Babylon' in three part harmony with violin accompaniment. This fact came about by Paul not bringing his violin. In fact most people spent their time practicing laddering, abseiling, rigging and I'm sure that singing in or out of harmony didn't even enter the realms of consciousness.

The group from the Padthaway Debutants Ball arrived looking overjoyed that the preceding hours of socializing in a small country town with a cricket bat were over. To celebrate this event they elected to go down Wombat and leave the cricket bat behind. I noticed that no debutants were with them as they entered the cave. I left them to meditate on the surface. Now certain types of Mushrooms are found in pine forests.... The season was wrong.

The days activities ended at 4.30 pm with a walk over to Specimen

Cave. The evening meal was put together with the help of a couple of possums who seemed to insist that Cheryl was a tasty morsel. Cheryl didn't agree at all and decided that possums, although cute and furry creatures, should be sent to Alpha Centuri to finishing school with particular emphasis on table manners. I still think that possums make great pets it's just that they are not cats. Whoever heard of Barnavis Parvis Domesticus!

The port tasting began in earnest. The only problem was that I had forgotten the firing order of an Audi so I couldn't tell people if they had guessed the correct combination of name and number. I noted that bottles number three and five were the first to be finished. They were Benjamin and Morris. The most expensive, number one, was a Portuguese port, Crofts, and I noted that it was the last to be drunk. The only chocolate that came home was the cooking chocolate. I just may have to get the waiter with the sarong to make mousse up with it.

Richard and myself showed slides of different types of cave formation as well as slides from numerous trips, ranging from the recent Yagby trip to last year's Nullarbor expedition. This last section of the show produced suitable material for the front cover of *Fussi*. The slide of one ex-member, who was supposed to be at N'coorte for this weekend, sitting in the "docks" springs to mind.

Sunday arrived and it was a delayed start (can't imagine why....). Spent time in S102 and Beekeepers, (yep, we were looking for the one and only Speleotherm. Someone has removed it [theory], as we couldn't find it). Mind you we had the waiter with us as well as the owner of the Op Shop Coffee Pot.

Despite this the sun shone over a late lunch, camping fees were paid, Cheryl said good bye to the possums and I noticed Guy looking earnestly at a map of the area so as to avoid going anywhere near Padthaway. The waiter changed clothes.

C. Buswell



A.S.F. COUNCIL MEETING

JINDABYNE JANUARY 1990.

Preamble

My expectations of this event were: travelling for a couple of days either way to get there and back in some state resembling that of a sane human being, two days of conferencing and, if one was lucky, a couple of days caving thrown in for good measure. On top of this I was there to represent Fuss and speak for our membership status to be upgraded.

The agenda promised some interesting discussions, particularly around the safety Guidelines and the restructuring of the ASF. I looked forward to the final draft of the Safety Guidelines knowing that they had generated lots of discussion, most of it constructive. I also figured that my involvement in things political would be of use in the discussion on the restructuring of the ASF, participatory democracy and all that.

My reservations about the meeting arose from not knowing the internal politics of the ASF. Why for instance had SSS not joined the ASF and what is stopping them from doing so now? Their membership, it seemed, did not rest on whether it was too expensive. My other reservation was my lack of knowledge concerning the history of the activities of the Federation. Why, given the issues facing the ASF in terms of Cave Management alone, hadn't the Federation set up a few paid positions and a central office. I had promised myself that I'd talk to Kevin Mott from CEGSA about it all before I left but time ran out.

I left Adelaide with Peter Krachenbuehl (Krunchy), on the Thursday for the Saturday meeting. Peter proved to be an excellent travelling companion and had, as it turned out, had similar misgivings about the whole process.

Arrived Friday around six pm, after a hot day of travelling from Shepparton, spent the later half of the evening in Jindabyne's Indian Restaurant which turned out to be Italian. General socializing amongst the speleos,

including Andy Spate, who gave an outline of the types of waves associated with earth quakes, quite topical at the time as the Newcastle Quake had just occurred. Andy is the ASF Librarian as well as being the NSW Karst Investigations Officer with NPWS. He spent most of the Council meeting fighting bush fires, as at the time he was in charge of Kosci National Park.

Who's who in the ASF

Saturday, 9am start. Lots of reports from the executive and ASF Commissions. There are nine people on the executive, eleven commissions plus six Ad Hoc committees. To my knowledge S.A. is not represented, via specific individuals, on any of the above. Kevin Mott used to be a Vice President but has resigned due to work commitments. Ann McLaren is currently the only woman involved at the commission level of organization. There are no women on the executive.¹ This is something that the ASF should work on.

In terms of representation, each State, except W.A., was represented on either a state basis, (Victorian Speleo Association, VSA; NSW Speleo Council) or on a Club level. In all, 19 out of 24 Member Clubs were represented at the meeting. Three of seventeen Associate clubs were represented,² one of them being FUSS.

I found it great to meet up with SUSS members, having communicated

¹ Mind you the gender balance in Fuss fluctuates a fair amount. Since 1983 there have been predominately five women, most of whom at one stage or another were or are on the Fuss executive. At the beginning of this year Fuss lost four women members but it seems that we have regained them. In fact in terms of new members this year women have outnumbered men. Total new members = 7. Females = 4, males = 3. Total fuss members, including inactive, social misfits = 34. Total females = 11; total males = 23. Gender balance on the executive = 3:4.

² Dunne C., 34th ASF Council Meeting Jindabyne January 1990 Australian Caver No. 123, p14.

via the uni computer network for a couple of years. In particular, Pat Larkin, who last year spent a lot of time working on the legal side of the Mt. Etna case. Similarly to meet with Ian Mann the Newsletter Manager. (Fuss prints the ASF newsletter, *Australian caver*). Peter Berrill, President of Central Queensland Speleos (CQSS), a vice Pres of ASF and another of the people in the front line of the Mt. Etna case. John Dunkley, Past Pres of ASF, currently ASF's International Relations Officer and as he heads up the Commission on Cave and Karst Management, seems to be writing heaps of material on cave classification systems and management strategies. The ASF treasurer, Brendan Ferrari who not only takes Fuss membership fees but is a pretty good bet for BMW bike spares. Lloyd Robinson is Pres of the outfit and has spent a lot of time on the Nullarbor in the Sixties looking and researching.³ There was also Peter Mathews, who is the Editor of the *Australian Karst Index* and desperately needs all Fuss members to buy a copy of it, so as to reduce stocks by a few more. (Copies cost \$25.00 each and they're jam-packed with heaps of info about caves all over OZ, buy a copy as a birthday present. See Clare.)

Summaries of the Reports.

Of the reports presented the following are the most interesting.

Conservation Commission:

Tasmania: Virtually the entire Ida Bay karst area, including Exit Cave and Benders Quarry is now in the World Heritage Area. However only a few WHAs are going to be nominated for National Park status. (protection is only assured when the area is a National Park). Benders Quarry is operating within a restricted area corresponding to already exposed work areas while the Mines Dept. and Parks, Wildlife and Heritage, (PW&H), undertake a study of the effects on local karst and look at alternatives, cost, compensation value, etc. These reviews

³ See Caves of the Nullarbor, Dunkley J.

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are to be finished by March, 1990. The main thrust of the Mines Dept. study relates to direct effects of quarrying on Exit cave and ignores surrounding karst, assuming that karst has no direct connection with Exit cave. Thus, according to Arthur Clarke, Conservation Convenor, any quarry expansion will compromise the Karst area.⁴

Queensland:

Currently there are four areas of concern: Mt. Etna, Fanning River, Undarra Lava Tunnels and the Mitchell - Palmer Area.

Due to CQC blasting Speaking Tube Cave it seems unlikely that any further environmental damage via quarrying will occur at Mt. Etna.⁵ Craig Hardy stressed that the emphasis from the ASF membership should be on encouraging the Goss Gov't to enlarge the National Park area to include the area currently under scientific reserve status and to protect the remnant vegetation types surrounding Etna and Limestone Ridge.

Fanning River is a Karst area to the West of Townsville. North Australian Cement (sister company to Central Queensland Cement) has leases or proposed leases over part of the area. It may consider quarrying the area in about fifteen years time when their existing quarry at Calcium is depleted.⁶ Documentation of the area is far from complete, however Rope Ladder cave contains a coral reef fossilized in situ. Various maternity sites are documented including the second largest *Miniopterus Australis* site.

Undarra Lava Tunnels are southwest of Chillagoe and are apparently the longest system of lava tubes in the

world. The flow from the Undarra crater is about 100km long. According to Hardy the entire flow area requires investigation. A submission for National Estate listing and the formulation of a management plan are on the agenda for this area.⁷

The Mitchell - Palmer karst area is at the base of Cape York and is in the proposed Cape York wilderness investigation area. Limited exploration to date has identified aboriginal sites as well as important bat sites. Currently there is a need to collect data on the area so as to evaluate its importance.⁸

Cave Safety Commission

Anne McLaren presented the final draft of the Cave Safety Guidelines. (That was the document that we spent hours over at a couple of meetings last year). They were accepted by the council. Ann also requested that reports of any caving accidents be reported to the ASF Cave Safety commission. She mentioned that two accidents had occurred this year but that details were sketchy.

The ASF Restructure.

How democratic is the ASF? What sort of democratic process should emerge? Representative, participatory, anarchical syndicalist collective? Why is the NSW faction the strongest when it appears to be the most unorganized? Was Chris Dunne groomed for the job of ASF secretary by taking minutes of the NSW Spelo Council for a few years? Are they all a bunch of running dog lackies of the imperialist war mongers? Does the absence of the W.A. faction mean the setting up of the W.A. Secessionist Party? A purge! Would the use of Third World political tactics help reform the ASF? Will the S.A. representatives present overthrow the President of the ASF? Will Cegsa succeed in setting an independent rate for the newsletter? What will Tassy do? Or, drum roll, will nothing ever change?

These were some of the questions that ran through my mind as I tried in vain to keep awake during what must have been one of the most disappointing discussions, in terms of philosophical issues, on restructuring of an organization that I've been involved in. Yep, there are serious problems within the ASF, but they are nothing compared to that of the NUS⁹, the ALP, the NPA¹⁰ or the Sandinista's. So where do we begin?

There are a couple of levels to this discussion. Firstly, the issue of structure and voting rights and secondly what is it that the ASF does/should be doing as an organization representing the interests of cavers and safeguarding karst heritage at the same time.

The only paper discussed was a paper written by Lloyd Mill, *ASF: Renovation and Renewal*. It dealt with the issue of what sort of bureaucracy should run the ASF, size of executive, voting rights, the place of the NSW Speleo Council in the ASF hierarchy. The issues it raised revolve around whether ASF should have a club/state/national structure of organization or maintain the club/national structure, which it sort of has currently (VSA being the odd one out here, club/VSA/ASF, everybody else is club/ASF).

Secondly, what sort of voting system should operate? Should it be one club one vote, or one vote per 10 members of each club, or one vote per each state organization, or 2 votes per full member organisations and one vote per Associate member or one vote per head?

The issue here revolves around representative democracy. Large clubs like SUSS get pissed off when they get outvoted by smaller clubs with half their membership. On a state level the South Australians get pissed off due to the NSW dominated vote. S.A. gets one vote (now two since Fuss became a full member) and NSW gets 18 votes because of the large number of clubs in

⁴ Clarke A., Report From A Clarke Conservation Convenor to the 34th ASF Council Meeting, January 1990.

⁵ Peter Berrill mentioned that CQC blasted on the June long week end 1989 but they have not done anything since, including taking out the blasted material.

⁶ Hardy, C., Conservation Report - North East Australia, to the 34th ASF Council Meeting January 1990. p.2.

⁷ Ibid.p.3.

⁸ Ibid.p.3.

⁹ National Union of Students!

¹⁰ The New Peoples Army. Philippines.

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the state.

The Jindabyne council meeting decided on a one representative per fifteen members system for clubs, although clubs will be allowed a minimum of six members. So if Fuss had 37 full members we would get 2 votes at ASF meetings. This does not solve the issue of NSW domination within the ASF; but then maybe it is a red herring anyway, as clubs are still free to air their opinions via commissions, ad hoc committees, directly to the executive, and to operate as autonomous bodies. What it does mean is that, if S.A. wanted to change the Ethics Code for example, they would have a hard time doing it on the conference floor if they did not have the support of the Eastern States.

This begs the issue of the fact that each state faces a different set of circumstances, i.e., how close to populated areas caves are, the type of caves available, vertical, diveable etc, and the number of caving groups within the state. Which brings me to the second issue raised: that of the role and function of the ASF.

Evalt Crabb's paper on *Some comment on the Future of the ASF*, circulated, but not discussed at the conference, points out that a conflict of interest exists between the aims and objectives of the organization and its members. Further, that, in some cases, the ASF has not been active in regards to some of its aims.¹¹

This conflict of interest is best seen in the objective of safeguarding karst heritage. In terms of environmental philosophy, recreational cavers are part of the conservation problem. That is, they are causing a lot of damage. Yet, as Crabb points out, the advantage of ASF membership is that it offers exclusive access to restricted access caves and areas to a minority of recreational cavers.¹² Thus, there is a conflict between people and groups who are concerned with the protection of caves and those who "just want to go caving".

Crabb's paper raises issues

¹¹ Crabb, p.

¹² Ibid. p 1.

concerning the effectiveness of the commissions and the failure of the ASF to get things done. It is a voluntary organization but it appears that this excuse is not the main cause of its lack of performance.¹³ Crabb wonders at the role of the ASF in dealing with cave management authorities as this seems to have been taken up by the Australian Cave Management Association (ACMA).¹⁴ He raises a hypothetical situation, asking what sort of response would the ASF have if cave management authorities decided to seek a form of accreditation of trip leaders against parameters which are not club based.

Conclusion

I have tried in the above to give a bit of background information on the ASF, who's who and how the organization runs. I have also attempted to outline the contents of some of the reports presented at the meeting, as well as describe some of the underlying philosophical concerns present. As you can gather, our national organization has serious problems, but they are solvable with a bit of thought and lots of energy. The Perth Conference will see the culmination of the discussion on the restructuring process. We, as a full members of the ASF, have a responsibility to think about that process and foster a positive solution to some of its ills. So get some of that revolutionary fervour together, maintain the rage, and remember that if you want any of the papers from the council meeting let me know and I'll give you a copy of them.

Clare Buswell, ASF Liaison Officer.



¹³ Ibid. p 2.

¹⁴ The ACMA grew out of the ASF Commission on cave management.

SATURDAY IN PADTHAWAY

On Friday the 9th of March Jenny, Guy and Cheryl set forth from Adelaide, unaware they had an appointment with destiny. The trip began normally, only about an hour late. The unsuspecting trio drove for Naracoorte, quietly wondering what we would discover we needed when we woke on Saturday. How could we have known? It was a caving trip! Who would have thought we would need something (anything!) to do?

The hour approached. We dined, sumptuously as usual, from the a la carte menu Chez Coonalpyn. Keith was successfully negotiated and Padthaway was our next landmark. Little did we suspect how much a landmark it would be.

Five miles short of Padthaway, It Happened! Dun Dah! Daahh! We didn't notice at the time.

But soon, it was obvious we were losing speed. "Not a worry", thought Guy, "Spark plug's come loose. Fix it when we get there." Oh foolish yokel. Oh ignorant wally. The charge light came on. The power died. The Guy cursed. The Flying Brick flew no more!

We entered Padthaway quietly. We had little choice. As we rolled to a stop in the street of Padthaway and wondered if there was civilisation nearby, the night burst into song: "Advance Australia Fair". Still we wondered. Was this a Country Party meeting? Were the intrepid spellbangers doomed? Has Guy removed all his "Job for Sharkbait" stickers?

Guy opened the engine cover. Steam poured out. "Whew, its only boiled. Hmnn, funny that. I thought the steam came from the radiator at the front of the engine when it boiled, not from the back of the engine where there is this burst rubber pipe oh dear oh dear."

cont. p. 10

An extremely Low Maintenance Expedition Light

by P. Ackroyd

From Australian Caver 121.

While the Oldham electric miner's caplamp is almost universally used by Australian cavers at their usual weekend caving haunts, the expedition light adopted by most cavers who visit remote areas is the Petzl remote generator carbide light with electric back-up - the Petzl 'Kaboom', so named because of the noise made when ignited.

The advantages of the 'Kaboom' are:

- (1) In common with all carbide lights, the duration of the light is limited only by the supply of carbide and water. The Petzl 'Kaboom' runs for about four hours per fill of water and eight hours per charge of carbide.
- (2) It is relatively easy to run due to a large diameter jet and piezo-electric ignition. (1)
- (3) Because the jet is vertical, the 'Kaboom' is less likely to burn critical bits of rigging than some other carbide lamps.

The disadvantages are:

- (1) Because the unit is screwed directly to the hard hat, the Petzl user has one hard hat for normal (electric) caving, and another, with jet and electric back-up attached, for expedition use.
- (2) The Petzl remote generator requires some modifications, primarily to the water filler, to make it suitable for crawls and deep river work. The usual method is to braze in a tube to the simple screwtop water filler cap, then attach a long length of plastic hose, taped to the acetylene supply hose, up to the caver's helmet.
- (3) Naked flames in constricted spaces usually mean someone or something gets burnt.
- (4) All carbide generators require some maintenance in the cave, and plenty once outside. Jets need to be cleared, filters washed, old carbide disposed of and mud flushed from the water reservoir.
- (5) On waterfall pitches carbide lights are less than ideal. The caver may well discover the delights of prusiking a waterfall pitch in the dark!

(6) Because even the best maintained carbide lights are still a little temperamental, the push caver can sometimes be in an extremely delicate situation only to find the position made much worse by being unexpectedly plunged into darkness. At least one death in a cave has been partly blamed on the propensity of a carbide light to self-extinguish at the worst possible moment (Knutson, 1987).

(7) The Petzl 'Kaboom' costs quite a bit of money - about the same as an Oldham miner's caplamp.

(8) Because airlines treat carbide as a restricted substance, supplies of carbide need to be secured in advance.

So, a caver with ideas of exploring caves in the more remote areas of the country, or the world, needs to pay for an additional hard hat and the equivalent (in cost) of another Oldham miner's light. Then, with some further work on the newly acquired generator, a light with good all-round illumination (but without the narrow beam able to pick out the features at the bottom of shafts or top of avens) is available.

Caving in Tasmania's Junee-Florentine areas on carbide during Easter 1983 encouraged review of all the above facts. Carbide light in large caves like Growling Swallet [JF-36] left one guessing at what was on the other side of the chamber, while in Khazad-Dun [JF-4] the thrill of the trip was marred by concern over keeping flames lit while in waterfalls. Coupled with this caving activity was the fact that I was renovating a terrace house at the time and learning of the magical goods available to the modern plumber.

By late 1983 the first 'Sewer Light' had been created. It consisted of Oldham parts from the caplamp down to the cable protector, after which it turned into a short length of PVC 40 mm sewer pipe with one glued end and one threaded end, and containing three 'D' cells. Voltage therefore was 4.5 V. This prototype served me well as a lightweight caplamp for Victoria's

Western District, and in 1965 for Anne-A-Kananda [MA-X9] on the north-east ridge of Mt Anne, Tasmania.

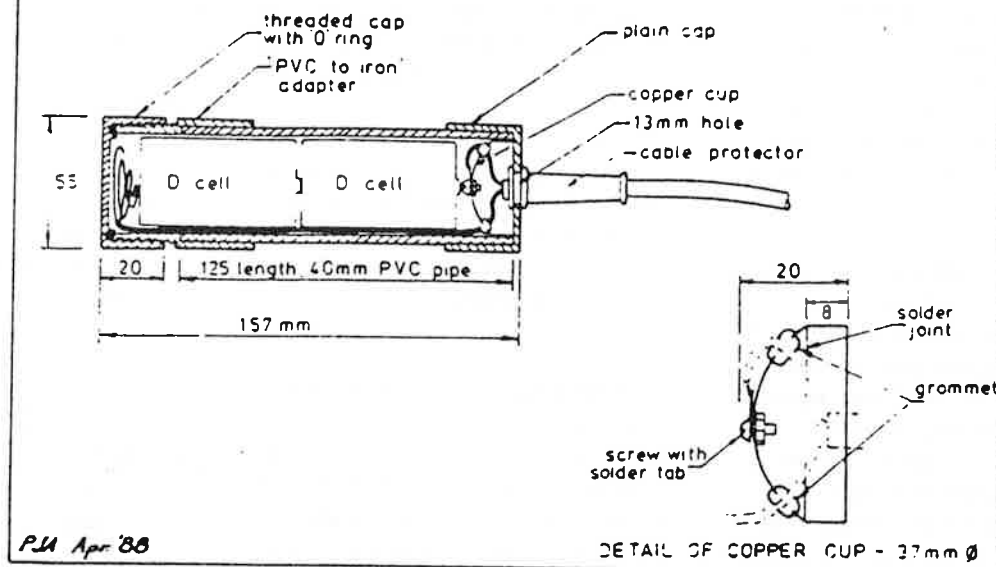
However the first really wet cave in which it was used revealed a problem. The battery compartment was almost, but not quite, waterproof.

Two refinements were incorporated into the Mark II when it came into existence in mid 1986. The screw cap had an 'O' ring (available as a standard item from plumbers' suppliers) and the globe and reflector were changed over to the prefocussed type, allowing the use of a wider range of globes. This second refinement lead directly to the Mark III, illustrated next page. The remaining problem with the Mark II was that three 'D' cells were required for its operation, but 'D' cells come in blister packs of two, so there was always an extra 'D' cell floating about.

The supply of pre-focussed halogen globes in various voltages is now quite good. Eveready market their range of 'Energizer' halogen globes for the use with 2, 3, 4 or 5 'D' cells (HPR-52, 53, 36 and 51 respectively). Purchasing and installing an HPR-52 globe was easy. Cutting one battery length (60.5 mm) from Mark II and fitting a new end cap would have been fairly simple also, but having acquired another caplamp and cable set in May 1987, I made up an entire new light, just for fun.

One or other of these two lights has been used extensively in Tasmania, mostly in the caves of the Junee-Florentine area. The two cell unit has also been used as a diving light six metres underwater with no problems.

Upon seeing the light and recognising its component parts, Alex Kariko of VSA dubbed it the 'Sewer Light', a name that has stuck.



Characteristics

(1) Two cell unit. In the two cell configuration, two Duracell 'D' cells drive a 2.8V, 0.85 A, halogen main globe and a 2.3V, 0.3A, emergency globe. Due to the high current demand, Duracell batteries (or equivalent alkaline cells) are the type capable of supplying the required current. The best performance is given by fresh batteries which are used for about 4 hours at a stretch. Used in this way the light will require new batteries after about 12 hours of in-cave time. If used continuously, the batteries will need to be replaced after about 10 hours. Spare batteries are best carried in the cave inside a second piece of PVC pipe with an 'O' ring screw cap. Insert the batteries backwards in this and at the changeover simply tip the old batteries directly into the caving pack, then pour the new batteries into the light. They will then automatically be facing the correct direction without being touched by grotty mud-covered hands.

Light output of the two cell version is about the same as the Ni-Cad driven FX-2 light from the UK, but without the need to worry about how the thing can be charged in a remote location. The 'Sewer Light' is also a lighter unit than the FX-2 and is a shade more compact.

(2) Three cell unit. The three cell unit matches the output of the standard

Oldham caplamp. With an HPR-53 Halogen main globe, the current drain is 0.85 A. A standard Oldham emergency globe serves the same function in this unit.

Using a 4 to 6 hour duty cycle, Duracell batteries will give full beam light for 15 hours and usable light for 5 hours more. If used continuously, the battery life is reduced to about 12 hours.

(3) Batteries. Duracell or equivalent are available world wide, although, if you prefer (as I do) to take them with you (thus ensuring they are as fresh as possible) there are no problems with air line officials over prescribed luggage - dry cell batteries are OK.

It has been suggested that rechargeable Ni-Cad batteries could be substituted for Duracells, and so they can. However the move would be retrograde because the recharging problem crops up again, and also a primary (ie, non-rechargeable) cell has about twice the life of a fully charged Ni-Cad. Ni-Cad batteries have one more problem - they die very, very quickly. There is virtually no warning. Primary cells deliver usable current (especially to a halogen globe which is more tolerant of low voltage) for some considerable time after the globe begins to 'yellow out'.

Hints on Manufacturing

The general arrangement shown in the illustration is only one of many possible variations on the same theme, but, for what it's worth, here are a few hints on how to manufacture it.

The length of a 'D' cell is 60.5 mm. Therefore, if a 3 cell light is desired, simply add 60.5 mm to the dimensions of the PVC tube and go to it. The best screw cap seems to be the RKS version. Humes also make one with an 'O' ring, but it is not as neat a fit. The PVC-to-iron adapter is a standard plastic plumbing component, as is the plain end cap. The rubber cable protector is the standard Oldham component, available separately if desired from the distributor for around \$2.00.

The purpose of the copper cup is two fold. Firstly it creates space to allow the wires to be taken to the positive and negative terminals, and secondly it allows enough room for the Oldham cable to be brought into the battery container and locked off to prevent 'pull-out' problems. I use a very tight cable tie for this purpose. Once everything is checked for fit up and accuracy, the copper cup is pushed into the tube and the plain cap glued on using proprietary PVC cement. Once the glue has set, the cable protector is sealed using high strength

silicone to create a truly waterproof seal. The batteries are then pushed down alongside the negative cable, the contact spring is put into place and the 'O' ring end cap screwed on to make a seal. The 'O' ring should have a thin smear of silicone grease on it for a good seal.

The copper cup itself is most easily made by cutting a 40 mm disc out of a sheet of copper then belting the hell out of it with a ball-pein hammer on a yielding surface. An 8 mm annulus is then soldered to it to make the cup so that it is exactly 37mm in diameter, the internal diameter of the PVC pipe. (Note that a strong plastic container with an outside diameter of around 35-37mm can be trimmed to fulfil this purpose.) The method used

to strap the unit to the waist in either a vertical or horizontal configuration usually involves the use of a couple of stainless steel hose clamps.

The economics of the 'Sewer Light' At first sight it may appear to be prohibitively expensive to run. Some quick computations show that it may in fact rival the Oldham lead acid battery for economy.

In 1988 dollars, a replacement lead acid battery (T-2) costs \$120. A blister pack of 2 Duracell 'D' cells costs \$3.96, say \$4.00. Therefore, for a 3 cell 'Sewer Light' two weekends' caving (15 hours underground) would cost \$6 with no further costs for chargers or hassles with remembering

to charge overnight. A typical caver's battery lasts 4 years, costing therefore \$30/year (in 1988 dollars). As the 'Sewer Light' costs \$6 for two weekends caving, the break-even point is about 10 weekends' caving per year. I would suggest that the majority of cavers do this number of trips a year or less, and for them a primary cell light could be an excellent, trouble free choice.

KNUTSON, Steve (Ed) 1987, NSS News 44 (11) Part II American Caving Accidents, Nov 1987:392.

(1) Works like the auto ignition on gas stoves

SATURDAY IN PADTHAWAY

With eyes as sharp as ever, Jenny spied an automotive repair shop. It was across the road. Metaphorical light bulbs flashed. Neurons ground away. Two and two were put together several times and we said "Maybe the guy who runs the shop is the local Country Party candidate, and will be still at the meeting and able to replace our water pipe tonight".

Exercising our spellolinguistic skills we communicated with a local taking her young home from the meeting. Yes! The man who ran the shop was organising the meeting. We went to the hall. The celebrations over, there was much sweeping, confusion and cries of "Jack, have you seen George? Bill says a guy here wants to see him about a van". George was our man. George was an avid sportsman. George had gone duck-shooting.

Next morning, we woke. By a democratic process, Jenny was selected to get us coffee. Jenny got her revenge on democracy. Jenny took half an hour.

Thus refreshed, we told the garage man what had happened. He began to look at the van. Throughout the day, our fortunes fluctuated.

First, George checked the oil. Ever seen a dry dip-stick? Next, George turned the engine over. By hand. "Hmm, no compression", said George, "Looks bad". Oil was restored to the van. "Wonder if a pull start will get oil around the piston and restore compression?". So we tried it. And it did! The van purred healthily up to the garage. We wondered if we could get to Naracoorte in time for the morning cave.

George poked about a little more. "Hmm, gaskets leaking. That's why the compression came back so quickly. Need a new gasket. Don't think I've got one of those". George disappears for a while. "No, sorry, sold the last two days ago. Maybe someone in Naracoorte will have one. Maybe". We wondered if we could get to Adelaide in time for work.

We left George with the van and explored Padthaway. Soon, we were

ensconced in the local deli, drinking tea and reading postcards. We couldn't agree on the best card. Jenny preferred the "Having a good time in Padthaway" card, with a beautiful beach scene as the picture. My favourite described Adelaide as "Australia's first capital to host a Formula 1 Grand Prix, and soon to have an exciting new casino". They don't sell many postcards in Padthaway.

It being a lovely day we lunched in the local park, cheerfully collecting our picnic gear from the back of the van while the engine is being dissected in the front. When we finished lunch, the van was ready, the plastic damaged and we resumed our journey, much surprised at how much fun we'd had in Padthaway.

POSTSCRIPT:

Jenny nearly visited Padthaway again. On the way back, we played "Animal, Vegetable and Mineral". When it was her turn, Jenny tried to make us guess "Polling Booth". Jenny nearly got let off in Padthaway.

G. Smith





B SAFE

STITCH PLATE AND ABSEIL DEVICES

The manufacturers pamphlet which appeared in the Nov 1989 issue of FUSSI provided us with much technical information and reinforces my belief that it is an excellent mechanical belay device. It is well suited to the task, light, thoroughly tested by the manufacturer, and as a safety line belay, operating on a tight safety line, fits well with our laddering techniques.

I suggest however it is not suitable for abseiling or lowering, as the heat created during a descent will be absorbed by the relatively small mass of the plate, and could possibly cause rope damage. Abseil devices are generally much larger and have a greater capacity to absorb and dissipate the heat build-up.

The advice I offer is, belay with a stitch plate, lower or abseil with an abseil device, the extra weight you have to carry is well compensated with additional safety when using the correct equipment.



Abseil equipment selection is often left to personal preference, let's explore some of the range. Minimal additional equipment may be purchased to provide a recognised abseil technique, the Krab Brake, Piton Brake and French Crossed Krabs are techniques which incur modest cost but require practice or an uncontrolled descent could occur. Specialised equipment, for simplicity is divided into two main types, the Figure 8 Group, and the 'In Line' Group.

Figure 8's include the standard size produced by Cassin, etc., the Harpoon-with or without horns and the DMM. The In Line group includes the Rappel Rack, the Whaletail and the Petzl Stop descender.

The Figure 8 group is popular but has limitations, it introduces spin to the rope, the smaller versions get very hot during a descent and are unsuitable for long descents as it is difficult to maintain control. The in line devices are preferred, they minimise spin, have good heat dissipating qualities and in most cases provided variable friction.

Personally I prefer the Whaletail, which is the rescue modified version produced by Spelean. If a long descent, a descent from a pack or a descent carrying equipment is to be undertaken, then an in-line variable friction device must be used.

Purchasing equipment should be given some consideration, talk to someone with experience, the shop salesperson is not always the best source of advice. Lightweight equipment has some merit in rock climbing but when we are dealing with wet and dirt laden ropes our needs are different.

Finally workshops in our S.R.T. skills will be held throughout the year, try and attend, practice as many skills as possible, remember the real test is not when things are going smoothly, it's when you're sorting out problems in dark confined spaces.

See you on all fools day after the Phil Collins concert hanging around the quarry.

Yours Aye,
John Callison

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FREEZING BOLLARDS AT YAGBY.

Members present: Clare Buswell, (leader), Heiko Maurer, Matt Merrick, Rick Jeuken, Volker Stroehrer; and Chris Dunne, Ann McLaren and Robert (Rabbit) Wray from the Highland Caving Group.

Caves visited: Y8 (Bathhouse), Y9 (Innstable), Y10 (Old Inn), Y12 (Coppermine), Castle Cave, Jillabennan, CP5 (Devils Hole), CP6 (River Cave).

Wednesday, 3rd. Due to the fantastic heat on the plains (reputed to have reached 47.2° C at selected vineyards in the Rutherglen area), people arrived early from all parts of the compass after having driven in the cool of the night, and set up camp at Cottrill's cottage.

Thursday, 4th. Met with Neil Kell in the morning and discussed our programme. Walked up to the Jillabennan show cave. Checked out the limestone and flora on the way. Spent the afternoon in locating Y12 and exploring Yarrangobilly Gorge as far as Y13 (Trickett's Cave). HCG arrived that evening.

Friday, 5th. Got essential supplies for the weekend from Tumut in the morning. In the afternoon we went into Old Inn cave, then split into two groups. One went on to Y12, the other stayed to talk to Neil Kell who came up to visit us at Cottrill's.

Saturday, 6th. Drove to the watertank on Cooleman Plains road and left cars there. Then went on a 12 km walk, starting down the western edge of the plain. First stop, CP5 (Devils Hole). This is an unstable vertical inflow cave of about 10m depth and aptly named. One follows the water down to a cramped chamber blocked by a waterfall. The way on is through the waterfall. At the bottom is a large, 'dry' passage ending in a low narrow crawl following the stream, as yet unexplored but promising; no formation noticed. Several sinkholes in the area were noted. We turned eastward to CP6 (River Cave). The way in follows an old, dry inflow stream bed until the new stream is reached joining from the right. This was explored. There is a sump downstream which was easily dived by three members of the party (there is a dry impenetrable bypass) and is an excellent introduction

to this feature rarely encountered in S.A. (What about Mt. Gambier and the Flinders Ranges? - *ed*). The sump is about 1m long and has a guiding rope for security. A second sump is not passable during anything but severe drought conditions or by using SCUBA gear. Length of cave is about 200m with some formation. Looked at the experiment set up by Andy Spate? to monitor the solution rate of various limestone tablets in the streamway in the cave. Returned to the cars via Blue Waterholes camping area.

Chris gave an excellent running commentary on the geography, history (visited the impressive Colamine Homestead) and karst of the area. Several members had religious experiences during the trek in the wilderness: Matt became a convert to the church of the holy Dandelion (until a wind god severely tested his mettle), while Heiko had his faith in the Rubber Thong cult restored. Several people claimed to have seen the Easter Bunny and Clare continued her sexual titillation of the native flora.

Sunday, 7th. Weather had deteriorated by the morning and stayed wet, drab and cool until Tuesday. Some visited Y10, Y9 & Y12; others looked at 'Leak in the Creek' (Y112). Quiet day. HCG left for 'sunny' Sydney in the afternoon.

Monday, 8th. Toured Jillabennan show cave - a very impressive cave, offering everything you'd expect to see in a commercial cave. Then the traditional visit to the Thermal Pool.

Tuesday, 9th. More supplies were procured in the morning. Castle Cave, visited in the afternoon, is reached via a pleasant walk up the Yarrangobilly gorge from the Caves House area, and used to be a show cave at the start of the century. It is an easy, walk-in cave and offers splendid decoration. For contrast, we spent three hours in Innstable Cave. Volker left in the afternoon for Melbourne.

Wednesday, 10th. Tackled one of the more adventurous caves, Bathhouse (Y8), in the morning. The cave is aptly named and would present quite a challenge (if not downright impossible in parts) if the flowrate was up in the inflowing creek. The creek has cut quite an underground canyon about one

to four feet wide and up to thirty feet high, making for exciting (and relatively safe) chimmneying (rope and ladder are recommended for all but the foolhardy). The walls are continuously washed clean and offer excellent grip. Did a quick reconnoitre of the stream passage as far as was practicable, but left much still to be explored. Found the squeeze into the upper level but decided that it was better left for a later visit (Yes, we did get through, but the bruises were evident for weeks afterwards!). An exciting cave with much to offer in the way of sporting challenges.

As a reward, and by way of contrast, those that had not yet visited Coppermine (Y12) did so in the afternoon. This is an outflow cave with a wide creekbed and consequent easy walking if you can stand the cold! Outflow means that the water has been travelling underground and has consequently not had the chance to warm up. The water is every bit as cold as I remembered but the formation also more degraded, though still offering a bright canopy of flowstone and stalactites.

A swim in the Yarrangobilly river revived the frozen appendages.

Conclusion: The temperature in the caves is noticeably lower than those in S.A., but of itself does not necessitate thermal clothing if one keeps active. However, the wet caves call out for wet suits, and the walk-in caves do require warm clothing, as one is not then engaged in warming exercise. The water also poses a problem for the lights and a good, waterproof, electric light, preferably helmet mounted, is recommended. Peter Wray had with him a prototype of the 'Sewer light' as per AC118, and it seems like an excellent choice, being relatively low cost and lighter than the 'Oldams' wet cell type while throwing a very bright, albeit narrow, beam of light. It uses ordinary 'D' cell batteries and I would commend the club to investigate making some up for use of the club and members. Our other equipment stood up to the task very well, although no notably vertical caves were attempted. I would recommend that the club buy a lead for the ladders.

H. Maurer

TROG DELIGHTS

Here is a news flask: There has been a dramatic fall off in sales of wine, said the Fuss resident virologist, wino and equipment officer, Senör H. Maurer. He was heard to slur, "this problem hash come about because of the takeover of the organization by the Port faction at the last Narracoorte shindig - SPLITTERS". He seemed to be very upset by this state of affairs and despite begging members not to come round and ask for the dry white in the middle of the night (unless carrying chocolate) suggested that they buy the long flat red instead. This had not helped to clear the remaining bottles (or even the contents). Herr Maurer stated that he was seriously considering floating the remaining stock to Punyelroo cave.....

WINE FOR SALE:

\$5/bottle: Ring Clare on 3886371.

FOR SALE

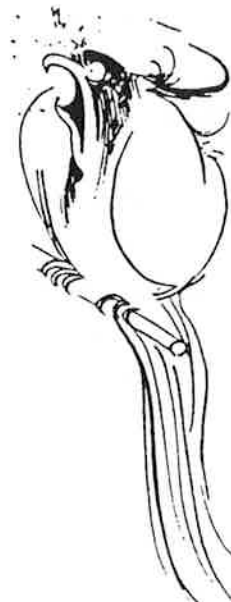
Copies of the **Australian Karst Index**. Better reading than Hawking's *A Short History of Time* and a thousand times more enjoyable than *Ethel the Aardvark goes Quantity Surveying*. \$25.00 per copy. Ring Clare on 3886-371.

LIBRARY INFORMATION.

The Fuss library is expanding by (small) leaps and (short) bounds. A copy of the Australian Speleo Abstracts was recently purchased and a copy of the papers from ASF Tropicon Conference should arrive soon. The library is currently housed in Clare's Office, Rm 308 SSS. It is open every day from 9am-5pm. Books are available for loan on a monthly basis. If books are not returned then the librarian will make sure that your life will become the subject of hot gossip and major scandal in the Student Newspaper, Empire Times. You think I'm kidding? No, the librarian is one of its editors!

WANTED

A home for a very handsome Bantam Rooster. Beautiful plumage, good singing voice, (alto), makes an excellent alarm clock, or a splendid Sunday roast. The Chook's eviction has come about due to the repossession of the house by an Alsation Rottweiler cross puppy. (*I promised I wouldn't laugh, but I have to ask what has this got to do with caving? Perhaps he could possibly be used to test for foul air* - Ed) Ring Pam Storer for the entire sordid story.



MAVIS. THE GIBBON

CAVE LEEUWIN

18th Biennial Conference of the Australian Speleological Federation Inc.

Cave Leeuwin is to be held at Margaret River, W.A. from 30 December 1990 to 5 January 1991 inclusive. The theme is recreational caving.

Due to the fact that the Conference is being held in the middle of a tourist region during the height of the tourist season, the public will be invited to observe proceedings.

Multi to single star hotel accommodation is available along with guest houses, caravan/camping grounds and lodges. However, 20 four berth rooms (\$12.00/night) have been reserved at the local backpackers as well as 3 four berth caravans (\$30/night). These reservations can only be held for a limited time so early confirmation is sought.

A call for papers is issued. Papers must be either typed double spaced or preferably on computer disc - any word processing format. Hand written text is NOT acceptable (so making hand written manuscripts a collector's item, are we?). Due to the desire of CAVE LEEUWIN to pre-publish Conference Proceedings, the

deadline for Abstracts is 1 July 1990 with completed papers due no later than 1 October 1990. CAVE LEEUWIN IS INAUGURATING POSTER SESSIONS also. Individual and societies are encouraged to present a POSTER - even if they are not attending. The posters will be on display for the duration of the Conference and may reflect any speleological or environmental theme. Remember that the Conference will be open, so posters will have maximum public exposure - they need to be educated in cave conservation etc., just the same as we do. So get your thinking caps on - present a poster on pet projects, theories, achievement/s, equipment or environmental concerns. Tourists from all States and overseas visit this region of W.A. so if your message has an environmental theme it may help your cause.

For those attending the conference but not participating in the formal proceedings, short excursions should be available on a collective or drive yourself basis. More details later.

PROPOSED SCHEDULE

Sun. Dec 30	Registration	Excursions
	Evening <i>Ice Breaker Barbecue</i>	
Mon. Dec 31	Committee meeting	Poster Session
	Evening <i>New Years Eve Party</i>	
Tue. Jan 1	Official Opening	Papers
Wed. Jan 2	Papers	
Thurs. Jan 3	Papers (half day) Poster Session	Speleo Sports
	Evening <i>Display of Competition Photographs</i>	
Fri. Jan 4	Papers	
	Evening <i>Caver's Dinner</i> Presentation of Awards	
Sat. Jan. 5	Committee Meeting	End of Conference.

Margaret River is a pleasant tourist town found midway along the Leeuwin-Naturaliste Ridge. It is famous for its magnificent Karri trees, caves, surfing, fishing, bushwalking, and for those inclined, wine tasting. Enquiries to Cave Leeuwin P.O. Box 120 Nedlands WA 6006. Or to Clare Buswell C/o of Clubs and Societies. Flinders University.

First Semester Programme

- Sunday, 8/4 10.30am **Murray River Trip.** Meet at Nairne at 9am.
Bring picnic lunch, canoe, overalls.
- Tuesday, 17/4 7pm **Annual General Meeting.** Talk on Cave
Systems Geology, Hydrology. Lee Coshell.

APRIL 13 -16 EASTER.
April 13-30 Mid Semester Break

- Wednesday, 25 /4 7.30pm Cegsa Meeting. Neville Pledge talking on the
fossils of Corra-Lynn from a Cavers point of
view: identification, etc.
- Friday - Monday, 20-23/4 **Flinders Ranges.** Leaders. Guy, Clare, Matt.
- Tuesday, 1/5 **General Meeting.** Talk on **cave safety**,
John Callison.
- Sat-Sun, 12-13/5 **CAVING SKILLS WEEKEND PART 2** cave
Search/rescue weekend Corra-Lynn.
- Sunday, 27/5 10am **Abseiling Clinic.** Onkaparinga Gorge
(Weather permitting).
- Sunday, 3/6 **Caving Dinner *extraordinaire*** and
General Meeting. Henley Beach.
- Sunday, 15-16/6 8.30am **Corra-Lynn Cave.**
- Tuesday, 4/7 7pm **General Meeting.** Cave photography.
David Catcheside.

_____ **16/6 - 23/7 Mid-year Break** _____
(Exams etc)

- July 6th - 16th **Nullarbour Trip.** Old Homestead, Thampana.
(Tentative at this stage.)
-

CAVE LEEUWIN

ACCOMMODATION BOOKING FORM

BACKPACKER'S

Hostel-type accommodation close to the Conference venue. Twenty 4 berth rooms have been 'reserved' at a cost of \$12 per head per night. These reservations cannot be held until the end of the year without confirmation and ultimately deposits. So - book early, preferably NOW.

CARAVAN PARK

There is also a caravan park close to the venue. Three 4 berth on-site caravans have been 'reserved' that will cost \$30 per night (for 4 persons). As with the Backpacker's, these reservations cannot be held indefinitely without confirmation. Tent sites are available for \$4.50 per head per night.

HOTELS

There are hotels and there are hotels. Some cost a lot while others cost a lot more than a lot. Prices range from \$65 to \$125 per night for those that can afford such outlays to well beyond \$125 for those who feel that they have comfortably 'arrived'. See below for booking.

I wish to book the following accommodation;

BACKPACKER'S

\$12 per head per night

Number of berths wanted - place number in box

CARAVAN PARK

Three 4 berth on-site
vans 'reserved'
\$30 per night, .

Place number of berths wanted in box

Do you mind sharing with others? Y/N

Tent sites

\$4.50 per head per night

Place number of people

and

number of tents in boxes

HOTELS

I require hotel accommodation for people at \$65 per night

\$125 per night

more than \$125 per night

I and people will be staying with friends/relations while attending the Conference.

I and people already have our accommodation organised.