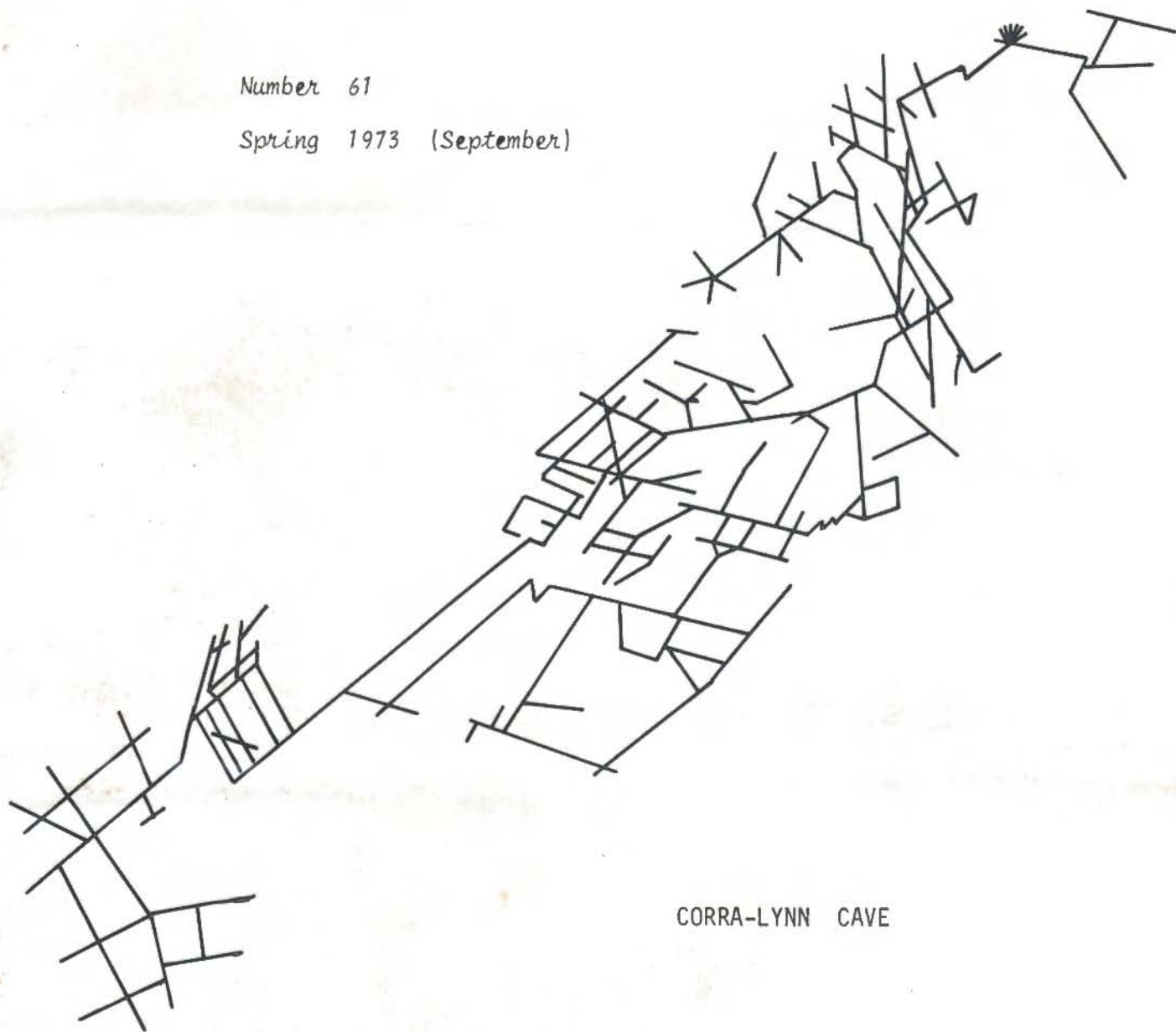


ASF NEWSLETTER

AUSTRALIAN SPELEOLOGICAL FEDERATION

Number 61

Spring 1973 (September)



CORRA-LYNN CAVE

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ASF NEWSLETTER

Number 61,
Spring 1973

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EDITORIAL

In this issue is a report on a further public inspection of Bungonia, a truly remarkable feat of organization by SSS with the support of all NSW clubs, a further attempt to save our caves by widening public knowledge and thereby concern for the future of underground Australia.

In the last issue we reported on the findings of the NSW State Pollution Control Commission and subsequently accepted by the NSW Government, granting in substantial part the extensions to the Bungonia mining lease sought by Australian Portland Cement Manufacturing Ltd. Machinations of big business (and despite its name this is a foreign controlled group) become evident as once again it is asked whether APCM(A) ever really intended to mine at Church Creek near Colong Caves, which created a furore several years ago. Was Colong just a red herring giving them a lever to get what they really wanted, Bungonia? If so, they seriously underestimated strength of the opposition on both scores.

Another problem which will increasingly be of concern to us as more of the public try caving is that of over-use. Just as this issue goes to press, legislation is before Parliament in NSW creating a new form of public reserve designed to provide for intensive, specialised short-term recreation needs. Bungonia is proposed for this purpose. Let us hope that such a fate does not result in effective loss of the caves through sheer wearing out. Better that, however, than see them quarried away.

Speaking of over-use, a late letter from Ian Lewis mentions that CEGSA will not be using Camp One in Mullamullang again. Isn't it about time that clubs tried to consciously minimise use of this superb cave, and press for its proper preservation for all time? The CEGSA move is an excellent first step. Finally a very late note from Andrew Grahame says that Federal funds to save Texas have been refused.

Forthcoming Federation Activities

GATING OF TUGLOW CAVE - At the request of the National Parks and Wildlife Service, NSW, member societies of ASF in Nsw have agreed to assist with the gating of Tuglow Cave on the weekend of October 13-14, 1973. All societies are asked to ensure that a few members come along to this important and worthwhile task. There should be ample time for inspection of the cave.

YARRANGOBILLY SEMINAR - The recently formed Yarrangobilly Research Group has arranged a seminar on speleological work at Yarrangobilly. Venue is Physics Lecture Room 8, Australian National University, Canberra. The session will kick off about lunchtime Saturday, 20 October and will continue on Sunday. Canberra contact is John Brush, 149 Mugga Way, Redhill 2603.

ASF COMMITTEE MEETING - The next Committee Meeting of the Australian Speleological Federation will be held in Melbourne on 26-28 January, 1974, exact venue to be advised. A preliminary Agenda has been circulated and the Secretary requests that further items be advised no later than 12 November, 1973.

SEMINAR ON CAVES AND KARST OF NEW GUINEA - To be held probably in mid-1974 in Sydney, organized jointly by the Australian Speleological Federation and the Speleological Research Council Ltd. Further details later.

TENTH BIENNIAL CONVENTION ("DECAVECON"?) - UQSS advise that the next ASF Convention will be held at the University of Queensland in Brisbane after Xmas 1974. More details soon. The Organizing Committee has requested that anyone with suggestions generally on the organization of this Convention contact them immediately (address as for UQSS, see inside cover).

Address Changes

NOTE: for technical reasons, material for next issue must reach me by Nov. 1. Short notes can be held until Nov. 20 at the latest - ed.

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Note re HELICTITE

During NIBICON and shortly thereafter, I collected some money from various people for back issues of "Helictite", the Australasian Journal of Cave Research. A good many people have not received their copies and until recently there was little I could do other than pass complaints along to those responsible. However, in August, 1973, agreement was reached that publication of the journal would pass to the Speleological Research Council Ltd from 1974. In the circumstances, as I have now a small supply of back issues, I am prepared myself to forward orders already paid for. To date the following have been dealt with: Ken Grimes, Warwick Counsell, John Taylor, Richard Daniel, Harvey Cohen. Bob Mannell, Peter Dykes. Would other unsatisfied customers please drop me a line stating how much they paid, and for what precisely.

- John R. Dunkley

Further Note on GHAR PARAU

Further to the review on page 19 of this issue of the book Ghar Parau, I negotiated with the Sydney distributors a 15% discount, post free, off the retail price of \$9-75. To obtain a copy, it is necessary that you identify yourself as a member of an ASF society, and forward your cheque for \$8-20 to Collier-MacMillan Australia, 76-84 Bay Street, BROADWAY, NSW 2007. Orders will be despatched by return post. Stocks are expected from England at the end of October. Mark your order for the attention of Jan Garvan.

NUIGINI SPELEOLOGICAL RESEARCH EXPEDITION 1973

by Andrew Pavey

. . . Australian and New Zealand cavers are looking further and further afield for promising and challenging cave systems. There are few areas in the world more promising than Nuigini and much hard field work will be required before the ultimate goal . . .

In August 1973 a 26-strong team of the "cream" of Australian and New Zealand vertical cavers formed an expedition to the Muller Ranges in the north west corner of the Southern Highlands district in Papua-Nuigini, with the aim of finding the "deepest cave in the world". A helicopter recce earlier this year and an attempt by a ground party revealed both the vast potential of the area and the severe access difficulties through virgin, and therefore trackless country.

The group had originally intended to explore the Lavani Valley (once referred to as 'Shangri-La' by the popular press) however BP geologists working in the area told them of a far more interesting plateau further north which looked like 'Swiss Cheese' and was surrounded by a 1000 metre cliff of limestone at the base of which were numerous resurgences.

Thus after over one year's organization and training both in Australia and Nuigini, a forward party of three cavers (Co-Leaders Kevan Wilde and Van Watson, with John Cater) led a 10-carrier group out of the village of Kelabo in July to cross the Muller Range (3 - 4000m asl.) to the abandoned village of Geroro and then out tracks into a clearing identified from air photos. This took eight days and they were not really certain of their position in the thick jungle and featureless country until well into the seventh day.

The main party collected from all over Australia and New Zealand on 4th August in Sydney, flew to PNG led by remaining co-leader Julia James, collected nearly 800kg of sea freight at Port Moresby, chartered a DC3 and a Twin Otter to the Highlands. Ground transport (trucks and tractors) were then used to ferry the group from Tari to Koroba and on to Kelabo.

The majority of food and rope was air dropped into the base camp clearing and the main party took four days to complete what was considered by them to be one of the hardest walks they had ever done. On arrival at base camp most were shattered. Even more so when they found that they were at 2900m and had passed over three points as high as 3200m to get there.

A magnificent grass hut had been built at base (called Uliwapo) and this became the centre of operations for a day or so whilst the 76 air drops (out of 80) were sorted out.

After careful consideration of the air photos the group split up into several parties. One of these went up into the region west of Uliwapo where the air photos showed many large (200m deep and up to 1km across) dolines taking water. Unfortunately 4 days exploration and track cutting resulted in only one 30m deep cave - most of the dolines were choked with mud or rubble. The potential of this area looked greatest as the expected gradient towards the resurgences would be greatest, but this did not turn out to be the case.

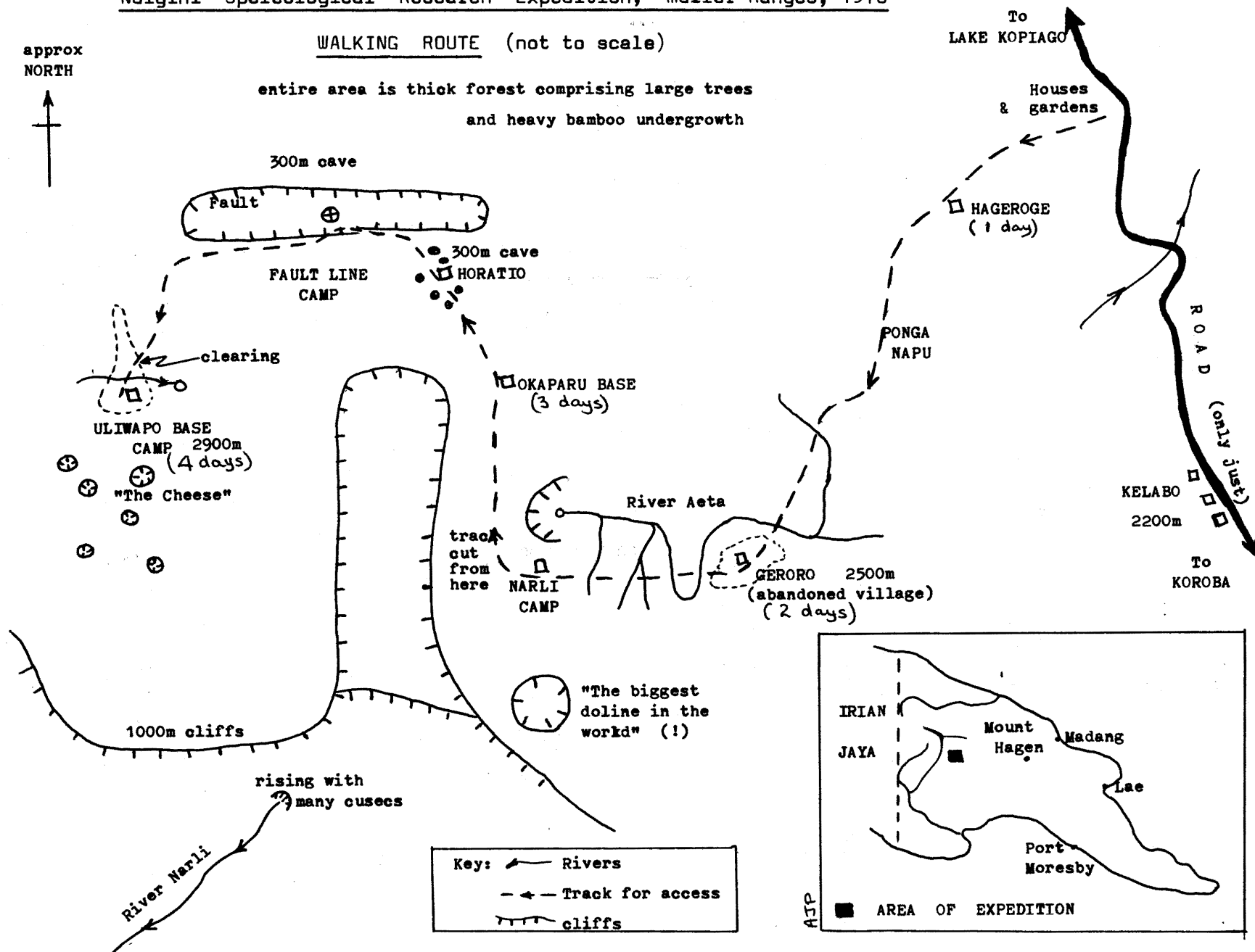
One large party of 'walking wounded' types remained around Uliwapo and explored a couple of small horizontal caves containing streams at the bottom of collapse dolines, also taking photos of the expedition dinghy setting forth across lakes and the like. A third division of the group went back along the main access track about $\frac{1}{2}$ day walk to Fault Line and Horatio camps. It was in this area that the large, deep caves were found. In just one day several promising shafts were located just tens of metres off the main track. One of these, Uli Guria (MR105) contained as its third pitch a 140 metres shaft! By the end of the first week in the area, therefore, most of the real 'heavies' in vertical caving were in camp at Fault Line or Horatio to push the goers. Uli Guria eventually went to about 310m (1029ft) (subject to more accurate survey computation) with very little horizontal development ("just a damn great elevator shaft!"). MR108, within

Nuigini Speleological Research Expedition, Muller Ranges, 1973

WALKING ROUTE (not to scale)

approx
NORTH

entire area is thick forest comprising large trees
and heavy bamboo undergrowth



CAVES OF AUSTRALIA :

No 8 ; CORRA - LYNN CAVE

by Ian Lewis

Somehow or other this cave, more than 3½ miles long, was overlooked in the list, published earlier this year in ASF Newsletter, of the longest 65 caves in Australia

Corra-Lynn Cave has been the enigmatic "shadow" of organized South Australian caving since CEGSA's inception. As recently as 2 years ago, in the 1971/2 CEGSA Annual Report, it was described thus . . . "The cave is regarded by CEGSA as essentially a training cave, although further extensions are inevitable as usual . . . ". Further quotable quotes regularly applied are " . . . this continually expanding surveyor's nightmare . . . " and even more frequently, following attempts at full-blown push-type exploration (CEGSA patented rabbit-burrow style) : "Next time, we will . . . ". Finally a most regular performance occurs at the entrance when battered looking trogs with haggard faces and bulging eyeballs emerge pulling their hair and shredding their beards (male or female?!) jabbering "Where does it end?". It was recently suggested that someone "have a little dig to find out" - with 157 digs registered on the presently mapped areas the suggestion was treated with what it deserved!

The cave has been known for at least 60 years but no-one as yet has researched its local history. It is located almost exactly 400 feet above sea level at the top of a hill which forms part of a spine of what could be termed a low range which extends for about 40 miles (70km) down the length of Yorke Peninsula, which itself separates the 2 large South Australian gulfs, Spencer and St Vincent. The entrance is a doline about 40 metres in diameter and 12 meters deep which the accompanying line diagram reveals is surrounded by cave. There are a few other caves in the area, but none remotely resembles Corra-Lynn, nor approaches anything near its 5.6km length. The nearest and best-known is the notorious Town Cave, about which a paragraph appears later in this report.

Everyone who belongs to CEGSA and hundreds (perhaps even thousands) of people who don't, have visited the cave in its 60 years of official existence. A quick browse through CEGSA's reports reveals voluminous quantities of the typical Corra-Lynn visit: "We went down along up along down up along down up along twiddly-om-pom, came out when we happened to wander past the entrance, and went home". This is the only S.A. cave that behaves in this way, and the implications of the trip reports are obvious - firstly, that there was, in general, very little interest in making an effort to find ends, and secondly, that the cave is indeed a maze of bizarre proportions.

One of CEGSA's most respected and widely-known stalwarts, Bob Sexton, made a serious attempt to map the cave in 1960/61 and for a short while probably succeeded in having all the known cave mapped to Grade 6. However it wasn't long before the Grant Gartrells of the Group found that leaning on the walls at almost any point you'd care to indicate produced VAST new maze extensions, and some inspired guesswork from Sexton's maps very soon doubled the cave length.

Since then, and up until last year, no survey work of any moment was done until Max Meth and Graham Pilkington decided to start hanging the system together. The need arose when successive digging trips broke into 1000m. (3000ft ±) of new cave, with the accustomed n² digs, roofholes,

floorholes, side passages etc. Some dial surveys were done, adequate to determine certain major passage relationships, so they could both return to their spelean forte, digging (note: The Group's inspiration is The Spook of Wizard of Id fame . . . dig dig dig chop chop scrape scrape** This year however is the year of surveying. A rigorous mapping programme, initiated by Ian Lewis has now been in progress for 4 months, with the short-term aim of recording every last existing passage within, say, 12 months to provide a reliable data bank for the systematic digging teams of Max Meth and Denis Burke. The many maps being currently turned out at last give a good idea of where the cave goes and how far; the 157 digs exist at practically every end or corner of the passages detailed in the line diagram, which is the first such composite map in existence (and also the first with North at the top of the page!!). Two points should be remembered - first, that the Line Diagram is schematic only although bearings and distances are fairly accurate, and second, that while there is 5.6km of cave, it is all confined to an area less than 450m X 150m. The explanation is simply that there exist 3 more-or-less distinct and recognisable levels, although they often all come together at one of the 13 major crevasses indicated or the many lesser ones.

A reasonably regular system can be discerned in the southern half of the cave, albeit a complex one, but the northern end is at present a wild ramble resembling spaghetti out of control (imagine that!) starting from Rams Horns and wandering north through Bushwalkers. The preparation of the Line Diagram revealed something suspected before, that the cave, despite all its rambling, is confined to 2 seemingly existent, seemingly parallel "joints" (for want of a better word) running almost due north-east/south-west. Evidence for this can be observed now and then in the many lateral tunnels that "end" at this hypothetical limit. However at present strenuous efforts aimed at pushing past this presumed limit appear to be having success - examples are the cryptically named Guzoff North One and Two digs.

The cave is almost designed for a Street Directory style of mapping and this indeed represents the state of the existing maps (all done this year). The system appears to be working well at this stage and will be retained until Grade 6 surveys catch up with the flat-out Grade 3 (hand-compass and tape) binge of the current short-term policy mentioned earlier.

Other features of general interest and of curiosity need to be mentioned in this treatise to complete the picture. The cave contains only about 15 stalactites, all less than one foot long, except the BIG STALACTITE - a titan of 2 ft in diameter but only 6 feet long, now forming a type of bridge across the passage after toppling over aeons ago. Copious quantities of aragonite crystals have been observed, although these are only in the less well trogged regions. It is reasonable to assume that 60 years of touri souveniring have desecrated the original displays. Salt formation can be found in some remote regions in the lowest level, and flowstone every now and then appears - usually where someone wants to push a vital dig.

A feature of the cave is its prolific array of roof and floorholes, usually of elliptic shape and often accessible; they appear to be a foreshortened version of the major crevasses although convincing arguments could be made against this supposition. An example of their abundance can be seen in the Gravity Cavity run east of the Octopus Chamber, where 6 can be found in the short distance of 25 metres, all of which are accessible and which lead to further passages.

RELATIONSHIP OF CORRA-LYNN CAVE TO TOWN CAVE

For years, rumours have connected the two caves, which are 1.5km apart, quite obviously ignoring the 120 metres (350ft according to the military survey sheet) difference in height between the main levels of each. The Town Cave entrance drops 30m (100ft) sheer down a natural shaft to water level, where the cave develops laterally in older limestone than Corra-Lynn Cave, though both are in PreCambrian rock.

Town Cave is S.A.'s gutbuster grovel, where everything is wet, grotty and painfully hard. No trip for initiates, its 500ft of crawlways require "Iron-man" cavers, and to complete a tour of all tunnels would require 15 hours. However, I can safely say that no human would last that long, and it has never been done!! The 150ft Pearl Chamber run reads as follows: 45° mud slope, left angle bend flattener over wet gravel (head sideways), back-breaker squeeze upwards, sideways flowstone squeeze (4ft long, no use of arms, bend knees forwards, head sideways and tilted up), chest-crusher

ABBREVIATION CODE

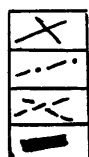
- B.S. - The Big Stalactite
- C.C. - Crystal Chamber
- D.E. - Dicks Extension
- R. - Rope Crevasse
- R.H. - Rams Horns
- E. - ENTRANCE
- T.T. - Taylors Tombs
- C. - The Cauldron
- G.C. - Grand Central
- D. - The Drumstone
- B.B. - Bandicoot Bypass
- L.B. - Limestone Bridge
- H.T.H. - Hawaiian Tub Hill

S C A L E

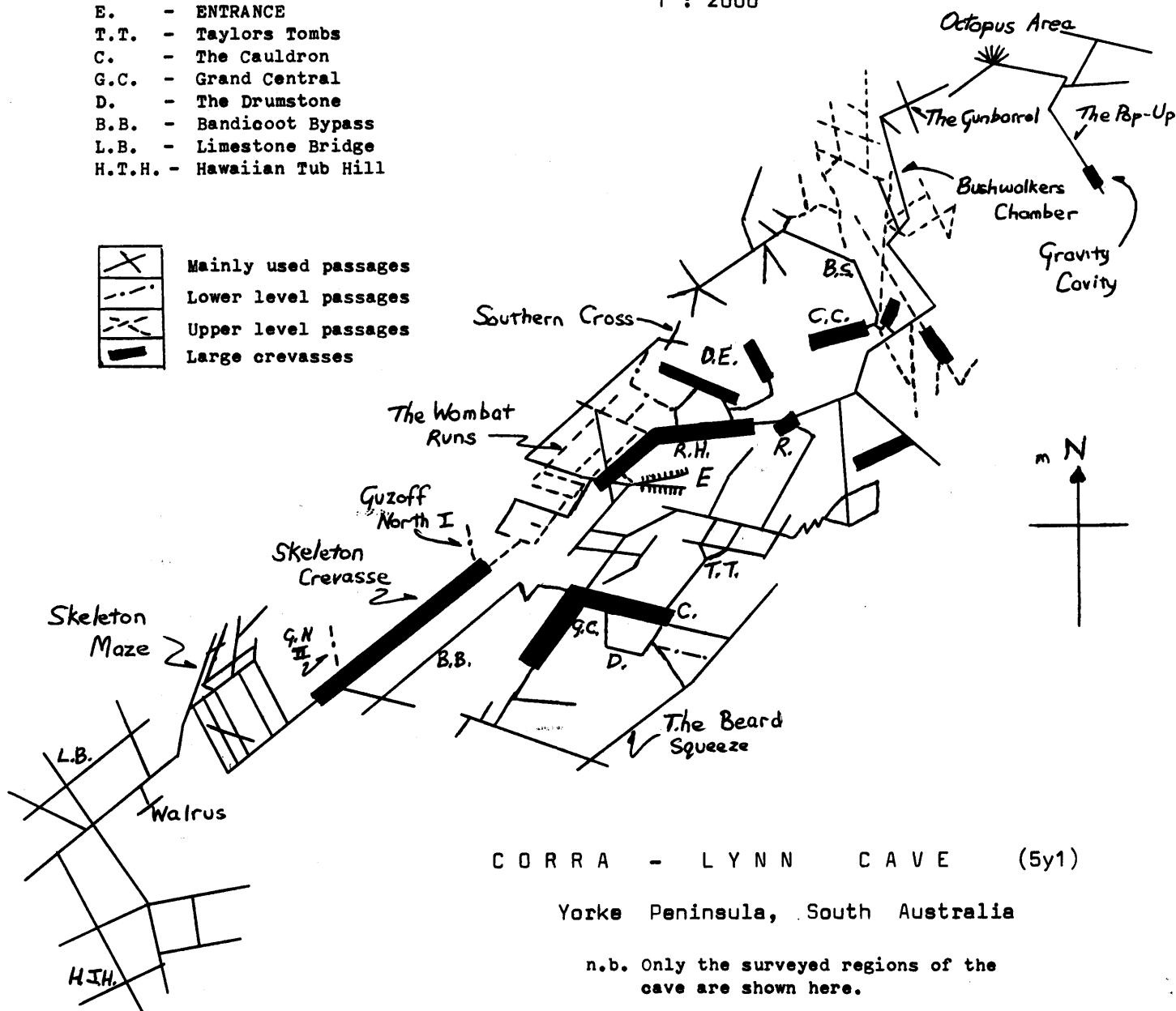
0 20 40 60 80 100 metres

1 cm = 20 m.

1 : 2000



- Mainly used passages
- Lower level passages
- Upper level passages
- Large crevasses



CORRA - LYNN CAVE (5y1)

Yorke Peninsula, South Australia

n.b. Only the surveyed regions of the cave are shown here.

Total length to date: 5.6km (3½ miles)

Line Diagram by Ian Lewis 020773

letterbox (45° down), sloping mud slit (15ft, no hand holds, no foot holds, undercut - try getting up again!), cave pearl chamber, roof hole 7 ft up in overhang, greasy floor-hole straddle (splits width), minuscule gunbarrel and others. At the end is a lake 2 ft in diameter and 20 ft deep, down a sheer circular floorhole. The other passages have their own delights. At the end of the bash there is always the 100ft climb back up!

The surveys in each cave show that there is in actual fact close to 70 vertical metres of limestone to be negotiated through hitherto undiscovered cave to connect them both, as well as the distance factor. It hardly need be stated that if a connection were ever found, the result would be many miles of passages. However, despite very recent information which revealed the existence of 2 other caves almost directly in line between Town Cave and Corra-Lynn (they were shaft entrances now filled in and location lost), and hence the possibility of tracing a system, the chances must be rated as very, very low. Maybe 5 years of constant pushing, digging, surveying and evidence sifting would see these chances rise considerably, and it is this optimistic "reasoning" that encourages CEGSA wombats to keep burrowing. Maybe one day we will even overhaul Mullamullang!

- - - -

NUIGINI EXPEDITION

(cont. from page 5)

30 metres of Camp Horatio contained an entrance pitch of 90 metres (5m diameter) and continued down two more pitches to a tight muddy crawl and another pitch but then became too tight.

The stream from Fault Line camp emptied into a massive doline on the Fault Line and at the bottom of this another cave (Sunrise Cave when translated from the local Huri name) went down fairly steeply to a large chamber, then tailed off to a mud choke, length about 1 km and depth about 320 metres, making it the 4th deepest in the southern hemisphere if the figure remains after accurate reduction of the survey.

The River Aeta sinking was investigated on the way out. There were 400 cusecs (yes, 400) going over a 30 m drop, thus explaining why it could be heard from 1km away! The cave was explored for perhaps 150m before a long deep pool stopped progress. Bolting around this would require power equipment and a lot of patience and it was left for the up-and-coming tigers of the future. The resurgence for this monster is presumably on the River Narli, many miles to the south-west (see map)

A small group returned after 1 week in the area and sent back an additional 18 native carriers to bring out the main party and gear. The trip ended officially on 2 September, 1973 when a small party returned to Sydney leaving nearly half the party roaming around PNG climbing mountains looking at caves and generally enjoying the scenery.

The trip must be considered quite successful - in all some 30-40 caves were found and explored with two deeper than 300 metres. The world and Southern Hemisphere (1174m - 3850ft and 497m - 1629ft respectively, the latter Bibima Cave in PNG) were not broken but the potential is there and many dolines were not even entered, still more were passed on the walk in and similarly not investigated. Sponsorship for the trip totalled some \$5000 in food and equipment and came from a number of companies. Total budget was of the order of \$10,000.

More details of the trip, including maps, photographs etc. will be available in the official expedition Report, to be published shortly by the Speleological Research Council (SRC) Ltd.

SPACE-FILLER

It is 3.40am as I type this space filler, and for the second early morning running, radio 2CH ("The Easy Listening Station") is giving a spiel on the investment prospects in Australia's growing softwood industry. Marulan Forestry Ltd, in fact. Hello, is this APCM(A) or SPCM diversifying their other Marulan/Bungonia operations? Escaping the conservationists by the back door, perhaps? Just a thought. Not such easy listening really. Maybe they are going to revegetate those mullock heaps with pine trees, in the Oberon/Boyd Plateau/Eden style. (why advertise it at 3.40am, huh?)

FIRST AUSTRALASIAN CONFERENCE ON CAVE TOURISM

by John Dunkley

The First Australasian Conference on Cave Tourism, sponsored by the Australian Speleological Federation with financial assistance from the N.S.W. Department of Tourism, was held at Jenolan Caves House, NSW, on July 10-13, 1973. This was attended by approximately forty speleologists and representatives from Tourist and National Parks organisations in all states, the Northern Territory and ACT.

Matters of interest to tourist cave operators and administrators were discussed from steam cleaning of the Orient Cave, Jenolan to a proposal for a three day seminar for cave guides at the College of Advanced Education, Canberra.

Of particular interest was the declared belief that the demand for recreational areas in Australia will certainly greatly increase in the near future, and that careful planning for this increase should be undertaken at the present time. Caves must play a vital role in this planning, with Western Australia and Tasmania playing the major roles as the states with the highest potential for future developments.

It was suggested that a follow-up Conference could be held in Tasmania in 1975.

EXPERIENCES IN CAVE MANAGEMENT OF THE N.S.W. DEPARTMENT OF TOURISM

ECONOMIC GEOGRAPHY OF TOURISM

CAVE LIGHTING

CAVE TOURISM AROUND THE WORLD

CAVE TOURISM AND SPELEOLOGICAL EXPLORATION

CAVE TOURISM AND SCIENTIFIC RESEARCH

SELF-GUIDED TOURS AT YARRANGOBILLY

PROPOSED STATE RECREATION RESERVES
IN N.S.W.

CAVE TOURISM AND CONSERVATION

STEAM CLEANING

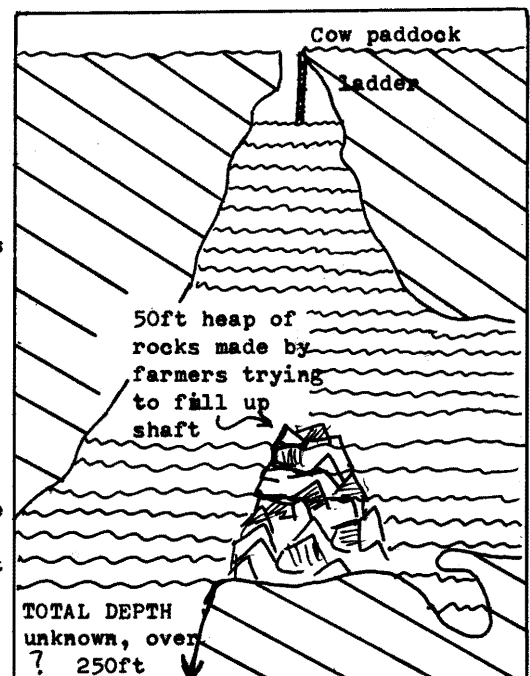
The Proceedings of the Conference will be published by A.S.F. and are expected to be available within a month or so.

FOUR DROWN IN S.A. CAVE

(from newspapers & Fred Aslin letters)

Four Sydney skindivers were drowned in The Shaft, a large cave near Mount Gambier, SA, filled to within 15ft of the roof with water. A shaft of light penetrates 200ft into the cave at times. The crystal clear water and huge dimensions give divers the exhilaration of weightlessness and total loss of sense of direction, and an estimated 1000 of them have tried it since 1965. It is said to be one of the most spectacular fresh water dives in the world.

On Monday May 28, 1973, 4 Sydney skindivers disappeared without trace in The Shaft. Fred Aslin, our ASF Newsletter correspondent in Mt Gambier, gave evidence at a Coroners Inquest. There was talk of 'poisoned gas' cylinders but the real problem was that the divers caught nitrogen narcosis AND THEY DID NOT HAVE A SHOT LINE TO THE SURFACE. It is only a year since that same stupid mistake took the lives of three divers in another cave near Mt Gambier.



"KEEP BUNGONIA GORGEOUS" Weekend, 25-26 August, 1973

*by Ben Nurse,
PRESIDENT, SSS*

After the success of a similar weekend last year and also the unsatisfactory findings of the State Pollution Control Commission, it was decided by the Bungonia Committee and the SSS to hold another public inspection of Bungonia Caves Reserve. As it was felt that a greater number of people would attend it was decided to bring in other interested groups to help in the various activities of the weekend. The anticipated labour force to run a weekend like this is over 120.

As a consequence we were able to get the direct and active support of UNSWSS, BMSC, MSS, MUSIG, ISS and St George Caving Team. The weekend was given the blessing of the Bungonia Caves Trust who also gave us permission to charge admission to the Reserve.

PUBLICITY

Publicity for the weekend consisted of a poster and a leaflet sent to over 200 groups and persons about 4 weeks before the weekend. A further detailed leaflet was sent out two weeks before the weekend. About \$400 was spent on advertising the weekend through six newspapers for three weeks before the date. The following are some details of the weekend:

THE GATE

The donation charged for entry to the Reserve was 50 cents for adults and 10 cents for children, which enabled the public access to the information centre, guided tours of the gorge, efflux, Mt Ayre spur, cave entrances and admittance to the Concert and Film evening, as well as free information brochures concerning the area. A total of \$661.70 was collected at the gate from 1593 people. About 200 people were already in the Reserve and under six years were not charged. It was calculated that over 2000 people visited the Reserve. This part of the organization was handled by SSS.

THE INFORMATION CENTRE

The Information Centre was set up near the turn-off to Adams Lookout. It contained a model of the landform and the quarry, maps of the caves, photos of the area and caves and numerous other items of interest. This centre was manned for the full weekend by Greg Middleton, Warwick Counsell and Mary Gaudron. The centre was well patronised and served to great advantage supplying technical information regarding the various aspects of the mining leases to many people including a numbers of VIPs who were not fully aware of the problems of this conservation issue.

TICKET SELLING

Attached to this tent was a ticket selling centre where not only were tickets sold to the various guided cave tours but post cards, Bungonia Caves books, Tee shirts, the Bungonia Committee and ational Trust submission, and car stickers. The profit from sale of post cards shirts and carⁿstickers reached \$100 with stocks of card and stickers still in stock. This section was handled by SSS.

HEADQUARTERS

Close by the information centre, the headquarters tent was situated where the operations for the weekend were controlled from. This was manned by SSS.

RADIO TENT

A short distance away, the radio tent was erected and it contained a multi-channel base transceiver that provided communications with twelve transceivers in the field. Full contact with all activities were maintained including people within caves. This was manned by SSS.

REFRESHMENTS

A refreshment centre was operated by SSS where cordials, coffee, tea, hot sausage sandwiches etc were sold. From a properly set up kiosk. A total profit of \$280-07 was made and proved to be an essential amenity for the weekend.

GRILL CAVE INSPECTION

The Grill Cave was open for inspection for the weekend. The cave was electrically lit and was set up and maintained by ISS and SSS. The actual cave was made safe for tourists by BMSC who also handled the guiding for the weekend. A total of 715 people were guided through the cave but as children under 10 were admitted free BMSC considered over 1000 people inspected the cave and \$299-40 was collected in fees.. The guides were well received and only 3 complaints were received from people who expected a cave similar to the Orient.

THE DRUM CAVE INSPECTION

The Drum Cave was opened for inspection and manned by SSS. A total of 24 persons were lowered down the cave over the Saturday and Sunday without incident. Most of the people had not been caving before. A total of \$60 was collected.

FOSSIL CAVE AND HOGANS HOLE INSPECTION

The Fossil Cave and Hogans Hole was opened as a self-guided inspection and was manned by the NSWITSS, about 16 guides were distributed through these caves to help visitors. 96 persons paid to go through the caves and most people took about 1½ hours to traverse. Yielded \$78 in fees.

CAVE ENTRANCES INSPECTIONS

Trips to cave entrances were also organised by NSWITSS. B31, B4, B5, B13 and B44 were visited and 500 people participated in this event.

GORGE, EFFLUX, MT AYRE SPUR WALKS

Gorge trips as well as trips to Mt Ayre spur and the efflux was organized by MUSIG, SSS & UNSWSS. In excess of 500 people walked through the gorge in parties of 25 up to 50. Ages ranged from 10 years to 72 years.

CONCERT AND FILM NIGHT

A concert and film night was held on Saturday evening and was attended by about 600 people. The programme consisted of folk singers, two films, a welcome by Councillor Reader, President of Mulwaree Shire Council, Mr G. Peterson, MLC for Illawarra who gave a short talk, and Warwick Counsell who gave a highly defamatory and table thumping speech. The concert was organized by MSS who set up the stage floodlighting and sound amplification. A candle lit track from the road to the concert area was complimented upon by many. Although the concert was free \$53 was collected in the form of donations.

TENTAGE AND TOILETS

The tentage and essential erection of toilets was carried out by the St George Caving Team who were so scared that they had done ~~ix~~ their job so well that they might be asked to do it next year.

SUMMARY

All in all the public inspection drew a considerable number of people to this area many of whom had not been there before. Many were quite vocal in their condemnation of the damage resulting from quarrying. A reasonable amount of publicity has resulted from the weekend which will enable this conservation issue to be kept to the notice of the public. The overall profit from the weekend will be in excess of \$800 and it was decided that this money would be paid to the Bungonia Committee. There are not many times that speleological societies have direct access to the public, but it was everyone's opinion that this weekend was a successful one in which the public was impressed by the members of the speleological movement.

THE NATIONAL ESTATE COMMITTEE OF ENQUIRY

by Warwick Counsell,
ASF Vice-President
& Chairman, Conservation Commission

A Task Force has been established to enquire into and advise the Australian Government on

- a) The nature and state of the National Estate;
- b) The measures presently being adopted;
- c) The measures which should be adopted;
- d) The role which the Australian Government could play in the preservation and enhancement of the National Estate;
- e) The manner in which the National Trusts of Australia and other appropriate conservation groups could be supported by public funds and the amount required in order that these bodies can immediately increase their effectiveness in arguing and working for the preservation and enhancement of the National Estate.

The concept of the National Estate is considered by the Enquiry to include, inter alia,

" . . . c) areas of special scientific interest, including caves and other geological formations."

Various people have communicated with me in an endeavour to find out what the Australian Speleological Federation is doing or will do.

It is fairly obvious that the "Encyclopaedia of Cave Conservation" being compiled at the moment would have provided a very sound basis for an A.S.F. submission. The second edition of Speleo Handbook had also been considered as a basis for such a submission, however both these publications will not be available in time. The deadline for submissions to the Task Force is now October 31, 1973.

The submission of A.S.F. will therefore concentrate on the extent of the National Estate in terms of caves. This will be achieved through Speleo Handbook first edition and other documents.

A.S.F. will submit a summary of cave conservation problems within Australia.

A.S.F. will submit the report of the ad hoc Committee on Conservation (see ASF Newsletter 60)

The A.S.F. Conservation Commission will deal generally with the other matters to be considered by the Task Force, however it cannot hope to do better than encourage individual societies to forward additional material to the Task Force.

The state of the National Estate, current protective measures, and proposals for the future can best be dealt with by individuals and by societies.

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MULLAMULLANG

(cont. from page 14)

6. It is worth recalling the experiences gained in underground camps in other long caves overseas. All the exploration in the last 15 years or so in Flint Ridge-Mammoth Cave (USA), the world's longest at 144 miles, was done without underground camping, although daily distances often came to 8 or 10 miles.

I want to propose a voluntary ban on underground camping in Mullamullang, on the grounds that it cannot be justified on any of the grounds of conservation, exploration necessity or work efficiency, or time savings, and it is leading to serious deterioration of a cave unique in this country. The ASF Newsletter would welcome your thoughts and opinions. Would your club be prepared to insist that its members and leaders support the idea? Is there someone out there who could write a more fully reasoned article on the pros and cons of underground camping? Who will start the ball rolling? Can I sell you a screed on the conservation of this cave? (see ad. at bottom of back cover).

A COMMENT ON UNDERGROUND CONDITIONS IN MULLAMULLANG CAVE

by Ian Lewis

Mullamullang, being the longest cave on the Australian mainland, and by far the largest on the Nullarbor Plain, attracts more attention from speleological groups than any of the others. Consequently, it has been visited by almost every caving expedition or trip to the Plain since its discovery, although the majority of these visits are just for pleasure, that is of the plain "tourist" variety,

A rough calculation suggests that 30 people per year (on average) visit the doline and enter the cave for some distance. It is fairly unlikely though that many of these visitors (who are speleos and "others") actually go into the cave much further than the end of the sandy passages or the Easter Extension, let alone to Camp One to sleep, or to the Dome. However, the cave is showing more evidence of human intrusion particularly in the further regions where the air movements are considerably less. Smells of cooking etc. from Camp One and the odour from many perspiring bodies combine to create an effect which can be noticed some distance either side of the camp, but a rather disturbing addition to this is the recognisable organic odour of rubbish and human waste, since these are expected to be dealt with in an effective way by the respective parties involved.

On the 1966 CEGSA Expedition which involved a 6-day camp at Camp One for 14 people (with double that number present at various times), the disposal problem of rubbish and human waste was dealt with in no uncertain manner, and practically no evidence of its existence in the disposal crevasse was left, except an enormous fill of boulders sealing it off. During the six years between that expedition and our own, the conditions have changed. Rubbish and spent carbide was found in unsealed drums around the "kitchen area" of the campsite although the rubbish was more or less collected in a pile. In the toilet area 150 feet away, the plastic bags containing solid human waste, although sealed, were visible at various places in the rock fill, and the smell around the immediate vicinity (fortunately not yet extending to the camp and kitchen area) suggested either that some visitors had not used the plastic bag system, or had not buried them sufficiently

Therefore, a change in attitudes and policy towards this system must be formulated and adopted NOW, before the conditions become intolerable and irreversible. Several suggestions follow:

1. That all rubbish and human waste be carried out from the cave, regardless of the length of stay at the campsite. This means a considerable effort on the part of a party organizer but represents only a small effort to the individual. The rewards are a habitable campsite for others and indeed the same party revisiting the site on subsequent expeditions. To those who balk at this advice, I suggest they restrict themselves to day trips only into the cave, rather than make things offensive for others through their own personal dislikes.
2. Allowance must be made, I suppose, for those who do not follow the suggestion made in 1. above, or for those who forget to bring the necessary items. Thus a new stockpile of plastic bags should be placed at the trench at Camp One or somewhere obvious to incoming parties.
3. A container of sanitary fluid suitable for washing hands should also be left there as no such article can be found at present.
4. Sufficient hyperchlorite of lime should be distributed over and through the upper level of the disposal trench rock fill to counteract the organic smell currently in evidence. Following this, I think another rock-rolling effort is needed to complete the process.
5. The notice at the camp disposal trench should be removed (as it is at present practically unreadable even to those who know what it says) and a sign stating the new instructions and capable of surviving for many years installed in its place. The new notice should be strongly worded so there is absolutely no doubt as to its importance to all who read it.

6. All spent carbide must be removed with the visiting party when it leaves the campsite and must not be buried in the cave on the way out. (for example in the Sandy Passages). Therefore tins etc. need to be taken in with the party for this purpose and a sign bringing this to the attention of intending campers would best be placed at the bottom of the entrance rockpile.

Two points arise here:

- a) There really should be no need for this advice since cavers ought to know already, but the amount of carbide lying around Camp One shows that this is not so. Thus preventative measures are needed.
- b) Care should be taken to ensure that the cave does not become full of sign posts, so that while they should not be discreet, they should be reasonably small.

On our visit in January 1972, 25 cavers went into Camp One for 3 days, at the end of which some left for the surface and home, while the remainder spent another three days camped at Easter Extension. Taking advantage of the large number of cavers available, I loaded several pounds of carbide etc. on to every person present so the place could be cleaned up. This is indicative of the amount of rubbish and spent carbide that had collected over the years, through other people not assuming their responsibility for camp cleanliness. The tables were scrubbed down as well as possible and the waste carbide drums emptied and left. It is a matter of debate as to whether the drums should remain there for lazy cavers to use or that they be removed to enforce the carrying out of the carbide. However, this may lead to the dumping of carbide anywhere underground so it may be best for the cave that they remain where they are. Lids for both were located and replaced.

This is the situation in Mullamullang at present. I am willing to get the ball rolling by cleaning up the disposal crevasse, providing plastic bags and washing facilities of a sort, and installing the notices during the coming expedition in January 1974. However, the efforts of all are necessary to preserve this section of the environment, since it has no way of preserving itself i.e. no natural breakdown processes to destroy the rubbish left behind. I appeal to everyone following us to consider others and behave responsibly in this matter.

ANOTHER ANGLE ON THE MULLAMULLANG PROBLEM

by John Dunkley

It is disturbing but, in view of the publicity, quite predictable that Mullamullang Cave is beginning to suffer from pollution. Mr Lewis's suggestions for a controlled usage and slowing of the deterioration of this magnificent cave are very much an overdue necessity. HOWEVER, THEY ARE BASED ON THE PREMISE THAT EXPLORATION OF THE CAVE REQUIRES UNDERGROUND CAMPING. Is this really so? Consider the facts:

1. It is noted in the Expedition Report of CEGSA ("Mullamullang Cave Expeditions 1966") that:
"Although the (waking) call was at 7am, work parties rarely departed before 11am. Fatigue must have contributed to this; we were probably all far more tired than we realized since so much effort went into our daily routine of existence . . . living in an unchanging environment and under artificial light for a week could be most enervating."
2. Camp I is about 2 miles from the cave entrance and the Dome about 3; this distance can be covered easily in 2 hours without packs by a competent party.
3. Experience has been that underground camps often result in only 5-6 man-hours of caving daily.
4. On the whole, the Nullarbor surface environment is more pleasant than underground; despite high summer temperatures at times, humidity is very low. The cave atmosphere is very humid and the temperature, for a cave, quite high (18°C, 80-90% r.h.)
5. There are definite problems involved in drinking the saline cave water, and it is nothing less than a miracle that the supply in Lake Cigalere is not seriously polluted from the crap pit which is only 200ft away. How long before someone is seriously debilitated from drinking this supply which is the source used for Camp I?

(CONTINUED AT BOTTOM OF PAGE 12)

D O W N U N D E R A L L O V E R

. . . News from around the societies

K S S have had a trip to Timor Caves, which they report are badly vandalised and polluted. The Kunderang Expedition 1973 is reported on in some detail. As usual the weather was highly variable and the country, though superbly scenic, is not getting any easier to walk around in. Walking trips went to Pinnacle Creek and elsewhere but the only new limestone visited was of poor quality. K1 and K4 were trogged and some fossils collected. Another trip went to Sebastopol where cleanup operations and possible digs were noted; one led to a small cavern.

M S S Have continued very active work at Abercrombie, where a theodolite traverse has been done, albeit rather slowly, naturally. Other recent trips went to Wyanbene, Bungonia and elsewhere. For a new idea, the Easter trip was to Byaduk Lava Caves in Western Victoria where a general look around was taken.

N U C C have again been active at Yarrangobilly and have surveyed and published maps of Y78, Y79 and Y80. More systematic mapping and tagging has continued at Mount Fairy, while trips are still going to Wyanbene, a detailed map of which was completed earlier this year.

S C S In his Annual Report, President John McCormack remarks that "surveying is now coming to the forefront in the club activities . . . our problem is we have too many caves and not enough enthusiastic workers to record the necessary information in our records. This state of affairs must urgently change." A start has been made in the July issue of Southern Caver which has maps of several small to medium caves and a report on the seldom visited Montagu karst and cave area. A major surveying effort was made at Mole Creek at Easter, attended by 23 cavers from no less than 6 clubs. Close interclub liaison enabled a great deal of surveying to be done including Shishkebab and a through traverse from Georgies Hall to Wet Cave, and other caving over the period resulted in laying of a reflectorised path through Eldorado \$, removal of rubbish from Kubla Khan, and the usual feast of photography.

S S S The June Journal has more information on postage stamps of speleological interest, including corrections to a previous article. The same issue contains a somewhat brief pithy account of what must have been quite a spectacular event - the descent by abseil of Bungonia Cahyon (270 metres). 8 pitches of from 10 to 60 metres were encountered on this feat. Communication was good due to echos and two members prusikked out without difficulty on the following day. The July Journal is given over almost entirely to a 28-page account by Greg Middleton of the Precipitous Bluff Expedition of the Southern Caving Society in January 1973.

T C C It's a sad state of affairs when one has to report that it is now necessary to dig in order to find new passage in Exit Cave, but even then no new discoveries were made. Still on Exit Cave, Andrew Skinner reports that active lobbying has continued on the proposal for a Scenic Reserve over Exit Cave, and that a local group in Dover is very interested in developing the first section of the cave for tourism. The July Speleo Spiel has an article on JF14 (Dwarrowdelf) accompanied by a map which illustrates the impossibility of drawing a plan of a predominantly vertical cave. A visit has been made to sea caves on Maria Island reported earlier this year by members of UQSS and by Tasmanian University students. Recent issues of Speleo Spiel have contained articles on Tasmanian Cave Fauna and on assorted developments in caving techniques, particularly vertical caving methods.

S U S S Spent Easter at Cooleman where considerable morphological mapping was carried out in part of the karst north of the Blue Water Hole in the New Year/Frustration and Clown Cave area. After many years SUSS has recently recommenced active exploration at Bungonia Caves and several long trips under Tony Austin are reported in recent issues of the Bulletin. At Jenolan, the work proceeds inexorably as usual, with a map of Bottomless Pit being published in the July issue.

U N S W S S have ranged widely, with visits to Jenolan, Cliefden, Wyanbene, Bungonia, Kempsey and elsewhere and the usual profusion of trip reports, maps etc. have appeared in Spar. At Jenolan, further exploration and surveying in Mammoth Cave has established that the furthest north point in the cave is not Great North Cavern but the much harder-to-reach Twiddle-om-Pom. Further details of recent cave diving work by UNSWSS are mentioned below.

U Q S S Major article in the May 1973 issue of Down Under is by Mike Bourke on the 1972-73 UQSS expedition to New Britain. This well written account expands on the brief note in ASF Newsletter no. 59. Exploration was stopped by a waterfall and by time, but the report concludes that there are still excellent prospects both in Ora Cave and elsewhere in the area, where there are thousands of dolines. Organizational and access problems are considerable, though, and the 6-member trip required 30 carriers for 12 days. Other UQSS trips reported are to Texas, Bunya Mountains and Wyberba.

V S A were again across in Tasmania for Easter where they helped survey Wet Cave - Georgies Hall and Shishkebab. Results were calculated on a desk computer by Miles Pierce who discusses the advantage in this method in Nargun for June. Another joint VSA/CEGSA Dinner was held at Naracoorte in July. At Buchan, further surveying has proceeded in M12, M118 and M124.

W A S G Activity has certainly picked up in WASG this year. The Western Caver is very much improved, now sporting the odd photo and lashings of maps and cave information. The Group is steadily documenting caves in Western Australia and is publishing new lists in almost every issue. In June a caving workshop, consisting of three seminars and follow-up practical weekend was held. Various aspects of speleology were discussed with particular emphasis on aspects related to the coastal limestones. Members have also been busy preparing a submission on the National Estate as regards caves in Western Australia. The main areas covered in detail have been the coastal limestones north and south of Perth - two large National Parks being proposed in essence. For further details on W.A. caving see next page.

RECENT CAVE DIVING BY UNSWSS

1. Woolly Rhinoceros, Mammoth Cave, Jenolan

The Woolly Rhinoceros is a legendary, fabled part of Mammoth Cave defined as lying upstream of Lower River. No real attempt had previously been made to force a way upstream but after a party spent some time digging gravels to lower the bed of the river, Ron Allum was able to squeeze through and follow the river for 45 feet. The gravel floor dropped continuously throughout this distance until an impassible horizontal squeeze was encountered at a depth of about 20ft. Further diving prospects in Lower River downstream and in Grinning Monster Lake are being assessed.

2. Frustration Lake, Wyanbene

Allan Grundy and Ron Allum followed the floor for approximately 30 metres from the edge of one lake to a depth of 6 metres. One small air pocket was found and no obvious continuation.

NEWS FROM WESTERN AUSTRALIA

by Kerry Williamson,
WASG

In the last couple of years a systematic attempt has been made to document Western Australia's caves thoroughly, and to date cave lists have been published for the following areas: South Coast, Margaret River, Cowaramup, Yallingup, Lower West Coast, Moora, East Moora and South Hill River. With each list also is published a list of references to the caves listed. More lists are in preparation for future issues of The Western Caver. Regional activities include:

ENEABBA In the Lake Arramall area several new discoveries have been made. A party surveying a side passage connected Arramall Cave (E22) with E32. The total surveyed passage length is now 1.8 km. A series of caves, karst pavements with solution pipes, and collapse dolines have been found west of River Cave (E23). These features have been tied in to River Cave survey entrance by a compass and tape traverse. Both River Cave and Arramall Cave take water from Lake Arramall. Members also visited the Stockyard Gully system further to the south. A very large volume of water was backed up behind the inflow (Stockyard Tunnel, E1) for quite a distance. Stockyard Tunnel, Cave and Bridge (E1, E2 and E3 respectively) were not entered as the water was too high. The dolines, caves and karst pavements further downstream were visited and a sound area knowledge obtained. A combined surface and underground survey is planned.

JURIEN BAY Drovers Cave (J2) was surveyed to CRG Grade 6

SOUTH HILL RIVER

In January two new caves were discovered and explored and one cave and parts of two others surveyed to Grade 5. Further caves have been revisited in the Nambung National Park in the South Hill River Nomenclature area. Reptation Cave (SH4) in particular was found to live up to its name as it contained a lot of dead but attractive speleothems. Several new solution pipes were also found. In one an excavation was soon stopped when a snake was uncovered. SH5 and Pretty Cave (SH9) were surveyed to CRG Grade 5. A new extension containing an interesting speleothem was discovered in Pretty Cave.

YALLINGUP Paleontological digging has continued in Yallingup Cave (YA1). Sea caves in the Bunker Bay area and "new" dolines, caves and a spring in the Canal Rocks area near YA3 and YA11 have been visited, described and positioned. Warrigal Cave (YA13) has been surveyed to Grade 5.

ELSEWHERE IN THE SOUTH-WEST

A twelve month series of bi-monthly checks of flow rates and chemistry of cave waters in the Cowaramup, Witchcliffe and Augusta areas was completed in April 1973. A long term exploratory dig in Giant Cave doline was continued - it is now following an air gap with a breeze. Digging also enabled entry to a new cave in the Witchcliffe area. However, on the third trip in, the rockpile through which entry was effected to the lower chambers had moved so much as to make further descents suicidal. It seems unlikely that any effort will be made to regain entry to this system as it is at present much easier to find new caves and extensions elsewhere. Bobs Hollow Resurgence Cave was further extended and Blackboy Hollow Cave relocated and explored. Between February and April some 8 caves and parts of another were surveyed to Grade 5 by WASG in the South West. On a sour note, a group of speleos was forced to leave the upstream main creek section of Calgardup Cave as "some filthy person had urinated there and the smell is oppressive". Calgardup Cave is located near a well used road and is unfortunately often visited by very casual "cavers". A large amount of its once plentiful speleothems has been destroyed.

The doline system leading from Mammoth Cave has been followed through the thick scrub, and the caves and dolines which had previously been undescribed were duly described. The stream in Mammoth Cave (an inflow cave) was dyed and positively traced to Conference Cave (one of the string of caves and dolines mentioned above). Two new dolines, one of which had a small cave, were found by looking on the surface above where Conference Cave stream flows into a rockpile. A cluster of solution pipes leading to a cave with much bone material was found nearby.

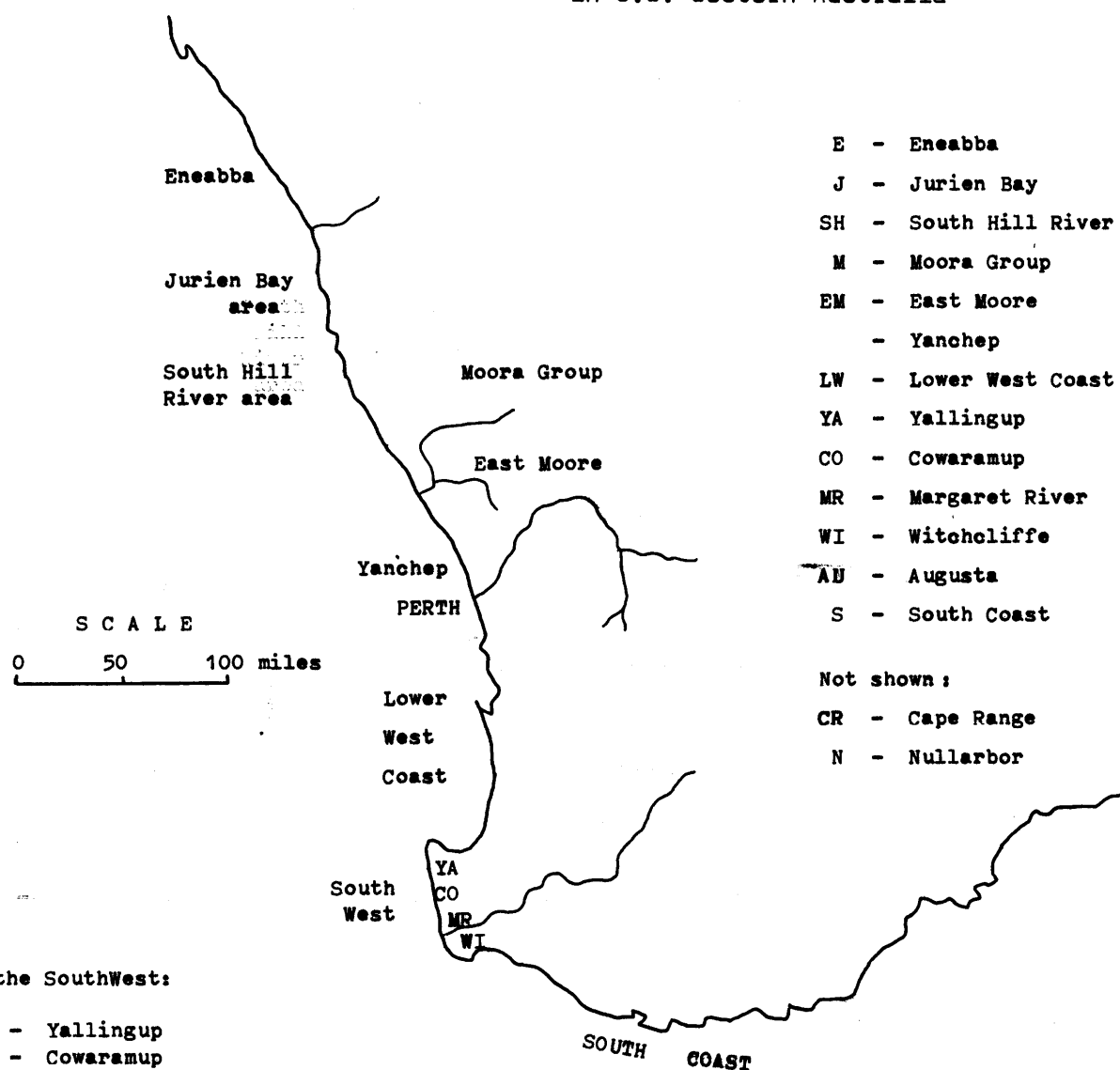
Its been a wet winter in W.A. and the flow rates are up quite a deal with yellowish-brown water coming out at the resurgences. A very tight twenty foot deep solution pipe west of Forrest Grove Road has been pushed and entry gained to a large cave which is still going. Only very skinny trogs can enter and leave the cave, exit being assisted by attaching the skinny trog to a rope on a pully by means of a jumar.

NULLARBOR

A four man trip to the Nullarbor over Easter collected insects and fossils for the W.A. Museum and guano associated minerals for the Government Chemical Laboratories (W.A.). There also a caving and surface investigation trip in May.

C A V E N O M E N C L A T U R E A R E A S

in S.W. Western Australia



R E V I E W S

by the Editor

GHAR PARAU by David Judson. Cassell & Co., London, 1973. 216pp, 32 photograph pp (16 in colour), maps, 8 appendices. Recommended retail price \$9-50

(NOTE: The Australian Distributors of this book, Collier-Macmillan have offered a 20% discount to all members of the A.S.F. though it is not clear at this stage how the discount is to be obtained. Will try to put note in December Newsletter)

This is at once an exciting and a disappointing book. Exciting in its pacy descriptions of the discovery and exploration of the deepest cave in Asia, perched 9000ft high on Kuh-I-Parau in southern Iran, on top of some 2000 odd metres (over 6000ft) of solid limestone, unplumbed. An excitement shared by the reader as initial exploration pushes the cave deeper and deeper, down pitch after pitch, until lack of equipment halts progress at the top of a short 26th pitch more than 700 metres down, with the cave apparently getting larger below. Return to England, another year's planning, thousands of dollars worth of donated equipment and supplies, the 4500 mile thrash back to Iran, back up the mountain. Disappointment, the ultimate crushing defeat. Descend the 26th pitch, only 7 metres, walk around the corner another 50 metres. The end, an impenetrable sump. All that work for want the previous year of a mere 7 metres more rope.

It would be a mistake, though, to judge this book from the expedition description alone, excellent as it is. It contains in addition the usual sage of planning, palavering, packing and pushing off. There are the customary appendices on medicine, photography, food, equipment and so on. Something like the classical style of mountaineering literature, and thereby something of an omen, for the new style of caving literature is a world removed from the Casteret of 10 or 20 years ago. There are 32 pages of photographs, including 16 in full colour. The one of Eroica pitch is absolutely superb but many of the others are not very inspiring and could surely have been bettered by a dozen Australian speleophotographers.

In the world's deepest cave stakes, Ghar Parau now takes 12th place at 751 metres (2463ft). But many books were written on Everest expeditions before the goal was finally won, and many more will be written on deep caves before yet a deeper is found. The explorer's task lies not merely in the record breaking but in the mapping of new territory, the accumulation of scientific knowledge and the process of eliminating things still left to be done. Like the mountaineers, the speleologist is becoming more selective and systematic in his search for new challenges. The book devotes a whole chapter to the "Search for the World's Deepest Cave". Europe is now too low, the United States too horizontal, Mexico and Canada well tramped, the Himalayas regrettably too young and immature in the limited areas so far checked. But there is still Iran, Peru, the Andes and, of course, there is New Guinea.

With the diffusion throughout the world of SRT caving, caves like Ghar Parau are now a one day job in and out for the new breed. But you still have to get to the cave and that is one of the useful things about this book - its practical advice. It makes entertaining reading for the armchair dilettante or the horizontal cavers, and of course it is a text for the budding explorer in places like New Guinea. All in all, this is a primer on the new age in speleological exploration, the remote deep caving expedition.

SURVIVAL IN THE COLD by Elery Hamilton-Smith & Roger Trowbridge. National Fitness Council of Victoria, May 1973. 24pp pamphlet

In an Editorial to the ASF Newsletter 45 for September 1969 (yes, I have been doing the job for far too long!), I remarked that many of our caves in Australia are remote, that the chances of a serious accident or death were considerably greater getting to and from the cave than in it. Even so, death by exposure is a possibility in Tasmania's caves at least AND IT CAN OCCUR VERY, VERY EASILY. This little booklet presents an excellent summary of causes, effects, treatment and prevention of hypothermia and frostbite and is commended to all cavers and bushwalkers not only for their own safety but to enable them to look after others. No price is given for the pamphlet so presumably it is freely obtainable from the publishers

LETTER TO THE EDITOR

The University of New South Wales,
School of Surveying,
30 August, 1973,

Dear John,

I believe that the following information, regarding integration of surveys at Jenolan Caves, may be of interest to many speleologists. I would therefore be grateful if you could find some space in the ASF Newsletter to print the following note:

INTEGRATION OF SURVEYS AT JENOLAN CAVES, N.S.W.

For many years I have expressed concern for the state of 'dis-integration' of surface and underground surveys in the Jenolan area. My reasons are numerous, but the main ones will suffice to demonstrate the advantages of integration:

1. By connecting surveys together, considerable important information about the relationships between caves and topographical and geological details is obtained.
2. When reduced to a single coordinate system the survey coordinates provide an unambiguous method of locating and cataloguing the caves.
3. A great deal of practical value is lost when a survey is left isolated and unconnected: except for its original purpose, the survey is of little further use; the results are often lost, or at least become senseless to all but the originator; repetition and duplication of work is unavoidable.
4. The most fundamental rule of survey practice requires that surveys are performed by working 'from the whole to the part'. This means that a control network of relatively higher accuracy is used to connect together the various detail surveys (usually of lesser accuracy), thus avoiding the many difficulties which arise due to propagation and accumulation of errors, when overall control is not present.

Of course, it has always been easy to talk about integration of surveys at Jenolan, but the difficulties of practical application have been virtually insurmountable. I have performed a number of reconnaissance surveys of the area in the past, and have always despaired of being able to provide adequate control, taking into account the difficult terrain and the limitations of conventional survey methods and available equipment and personnel resources. However, recently, most of these problems have become easily soluble, mainly due to the availability (and personal access to) electronic survey instruments.

Consequently, since early 1972, I have been working on a programme of establishing a network of relatively high precision control points throughout the Jenolan area. To date more than 25 major control points, and numerous intermediate and subsidiary points, have been established, including a good part of McKeowns Valley and the tourist caves. There is no reason why these should not be put to immediate use; indeed, I have concentrated on the placement of permanent marks, even though the connecting surveys may not be completed immediately, so that use of the control may proceed without delay. As the only purpose of this work is to provide an overall control network to which all detail surveys in the Jenolan area may be connected, I invite (indeed implore) anyone conducting surveys there to make use of the control data. I can provide recovery diagrams of all permanent marks, and in some instances give provisional coordinates (ultimately, when adequate connections to state trigonometric survey is completed, state 'Integrated Survey Grid' and national 'Australian Map Grid' coordinates will be published.

Perhaps I should emphasize that this work is being conducted by me on a personal basis, with the assistance of professional colleagues with no particular club affiliations. The project has the consent and support of the N.S.W. Department of Tourism and the University of N.S.W. School of Surveying. I will be happy to make the data available to anyone with a serious interest in the area.

Sincerely,

Edward G. Anderson,
Research Fellow