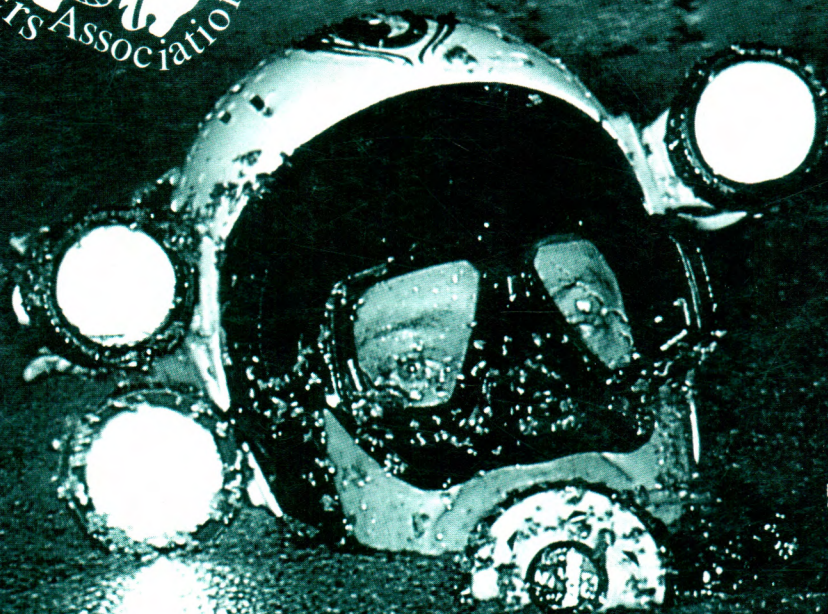




C.D.A.A. Newsletter

GUIDELINES

No: 61 - JUNE 1997



CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)

Print Post No. PP 381691/00020

Attention Members Announcing the **CDAА SPRING WORKSHOP**

Running over an entire weekend.

- Guest Speakers • Equipment Displays
- In Water Try Outs • Photo Competition
- BBQ Lunch • Full Sit Down Dinner

All followed by the AGM

September 13 & 14, 1997

Mount Gambier

Full Details Next Issue

"Part of what makes cave diving exciting and safe is the tradition of cave divers, usually an independent lot, joining forces to explore new systems and to push back the frontier.

From the beginning cave diving has made teamwork an integral part of exploration, equipment design and safety.

Continue that tradition and contact a CDAА Director.

There are many jobs that need your help."

Welcome to issue 61. Let me begin by thanking those who offered words of encouragement regarding Issue 60. I would also like to thank all those that contributed articles and comments. As Editor, it's good to get feedback, both positive and negative, in order for Guidelines to evolve. The success of Guidelines really does depend on your input. I would also like to thank those 'old faithful' members who assist in the time consuming process of packaging Guidelines for mailing. It is a tedious task which is completed without fuss by a dedicated team.

The face of the Directorate has again had a significant change with the news of Chris Brown's resignation and Ian Lewis's retirement. Both men have been active cave divers with significant achievements both in cave diving and in their contribution to the CDAА. Given Chris and Ian's history, I am sure they will both continue with the pursuit of their passion for cave diving. The Association gratefully acknowledge the efforts of Chris and Ian and wish them all the best in the future.

Earlier, I mentioned negative comments. My attention has been drawn to Peter Horne's article in Issue 60 where he profiled a pioneer of Australian cave diving, Peter Stace. In this article, two references to Peter Stace were misspelt. As Editor, I accept responsibility for this and apologise to both Peter Horne and Peter Stace. Due to tight time lines, it is sometimes difficult to pick up all errors during the proof reading process.

On a solemn note, the cave diving community is deeply saddened by the news of Rob Palmer's presumed death (see Cave Diving News this issue). Rob Palmer was a widely published author of several popular books on cave and technical diving, as well as over 200

magazine articles. He was a member of the Explorer's Club, an instructor for the British Cave Diving Group, founder of the Bahamas Blue Holes Foundation and a Director of TDI Europe. He was considered one of the world's top cave divers and a leading diving educator. Rob Palmer also contributed to cave diving in Australia. He was a participant on the Pannikin Plains expedition organised by Andrew Wight and made a significant impact on the revitalisation of sump diving in New South Wales by running sump diving courses at Jenolan in 1993 and 1995. His contribution to cave diving will be remembered for a long time and he will be sadly missed.

On a lighter note, the publication of the proposed constitution also has resulted in considerable feedback. As a result of this, the constitution has been amended and the revised version is published in this issue. A new constitution will be voted in at the next AGM so it is important we get it right. Remember that this is your opportunity to have an input into the new Constitution. Please read it and freely send in your comments.

I am also pleased to advise you of the addition to the editorial team of Sabine Schnittger. For the past few months, Sabine has been quietly sitting in the sidelines offering assistance when asked. I am sure that Guidelines and you the members will benefit with Sabine on the team.

In concluding, please note the change of my contact number in the directory page. Don't forget to send in your comments and articles. Safe cave diving.

Victor Kostiuk
Editor

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Front cover:
Howard Smith 'Pines Duckweed'
- photo by Robbert Westerdijk

CAVE DIVERS ASSOCIATION OF AUSTRALIA

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GUIDELINES is a newsletter of the Cave Divers Association of Australia. All articles for the following issue are to be sent to the Editor, Victor Kostiuik, P.O. Box 290, North Adelaide, S.A. 5006. All articles and submissions shall automatically constitute an expressed warranty by the contributor that the material is original. We assume no responsibility for unsolicited material. Articles and information may be reproduced without prior permission provided reprints are accredited to the authors and GUIDELINES. Private advertising for caving and diving equipment may be advertised free at the discretion of the Editor. Opinions expressed in GUIDELINES are those of the individual authors and are not necessarily those of the C.D.A.A.

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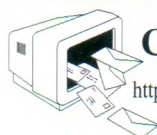
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CDAА WEB PAGE

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LETTERS TO THE EDITOR

23rd March, 1997

Dear Victor,

Re: Letter from Karen Kennedy (Guidelines #60) - Landowner Liaison Committee

I read with great interest Karen Kennedy's letter to the Editor in the last Guidelines. Her comments expressing her belief that members "...do not need to be managed or controlled..." is a welcome voice in the Association, and one I hope will have a greater say in it's future direction.

However, I really wish to raise the issue of the 'Landowner Liaison Committee' representation as detailed by Karen. To quote, this committee "...is NOT truly representative of the landowners, as many landowners chose not to be represented on the committee...". Karen goes on to list 10 sites that are not represented on this committee (Barnoolut & Port MacDonnell are just two).

My question is, if the Landowner Liaison Committee does not represent all sites then how, as members, is representation made to these individual landowners? I was always of the belief, and now it seems misguidedly so, that the Landowner Liaison Committee was our (the members') "voice" to the Landowners. If this representation is only to a segment of the sites to which the association has access, then does this not mean that the few members on the committee in effect decide the Landowner issues for all sites and if so, then who on this committee?

(This would be in line with Karen's observation of the disproportionate amount of influence the Landowner Liaison Committee has within the association!) Victor, as I think that all members should be aware of those who decide the issues which may affect us please pass this letter on to the National Directorate & Landowner Liaison Committee so their comments can be included in Guidelines.

Thank you

Richard Taylor CDAА #2291

Editor's Comment

A copy of both this and Karen Kennedy's letter (Guidelines #60) were presented to the CDAА/Landowner Liaison Committee for discussion at the Committee's meeting on 5/5/97.

19th March, 1997

Dear Victor,

Thank you very much for publishing my article re. Peter Stace in the last edition of Guidelines. Despite the minor "Editorial error" involving a misspelling

of Peter's surname (I've never seen the surname "Stayce" before!), I feel confident that the article served its purpose of advising our newer members of Peter's numerous contributions to Aussie cave diving!

It was also good to see my request that Guidelines should be more involved in reporting cave diving issues - so much stuff courtesy of the wonders of the Internet! Makes me jealous that so many interesting things are going on overseas!...

I recently wrote an article for the newsletter of the Cave Exploration Group of South Australia providing some interesting facts and comparisons about our major waterfilled sinkholes, and will forward this by separate mail so that you may utilise the hand-drawn diagrams, if you think it could be of use in Guidelines (I unfortunately have no way to scan these into my computer or transmit same to you ... thank goodness for Australia Post!). I really hope that this will generate discussion and prompt a few members' curiosities so that we can see a renewed surge of scientifically-useful research activity occurring once again.

Wishing you safe and happy cave diving as always,
Peter Horne Member #719

23rd March, 1997

Dear Victor,

I must firstly thank you for a very interesting issue of Guidelines (#60). The dive reviews from France & Austria gave a welcome international feel to the magazine and the Tank Cave Update & Jenolan Report (thanks Tim Payne & Greg Ryan) were most interesting recounts of some current Australian Cave Diving. I hope that future issues will continue to reflect this diverse view.

To assist I have attached a brief report on the body recovery undertaken in New Zealand which was listed in the 'News' section. This expedition was undertaken by three divers, Tim Cashman from New Zealand & David Apperley & myself from Sydney. I hope that the diving overshadows the 'recovery' as the Pearse is truly an exceptional site and offers opportunities for future exploration using advance diving technology. Maybe the success of the dives there will assist in helping the acceptance of mixed gas technology in the CDAА.

Best wishes,

Richard Taylor CDAА #2291

Editor's Comment

Article supplied will be published in next Guidelines.

CAVE DIVING NEWS

HELL'S HOLE CLEAN UP WEEKEND

A working bee has been organised for the long weekend of 7th, 8th and 9th June, 1997 to clean up Hell's Hole. If you have never done this abseil and dive before, this is a good opportunity to do it under supervision and to assist cleaning up this fascinating site. If you are interested, contact Gary Barclay.

ACCOMMODATION NO LONGER AVAILABLE AT NORMAN'S (ELA ELAP, ONETREE)

Please note that accommodation is no longer available at the Norman's property.

MEMBERSHIP RENEWAL

Enclosed in this issue is a 'Notice for Renewal of Membership'. In order to avoid disappointment and embarrassment booking sites with expired membership, renew your membership now. This will also ensure your financial status allows you to vote at the forthcoming AGM and most importantly spread the work load on the Records Officer.

WEEBUBBIE CAVE OPEN

Thanks to the efforts of the Directorate, Weebubbie Cave is again open. See site access page for details on how to apply for entry.

VETERAN CAVE DIVER ROB PALMER MISSING, PRESUMED DEAD

*Submitted by Greg Ryan
e-mail gregr@cs.su.oz.au*

On May 5th, 1997, Rob Palmer, veteran cave diver and technical diving pioneer, failed to return from an open circuit pleasure dive at a wall off Gifton Island in the Red Sea.

Palmer was diving with a fully equipped redundant system, back mounted independent doubles and a 70 cubic foot stage cylinder. Although diving with three companions, Palmer got into trouble immediately he entered the water, and never returned from his descent. A search was

immediately conducted but after 6 hours was discontinued and Rob is presumed dead.

The following account of his death was published on the 'Electronic Telegraph' - May 13 - submitted by Greg Ryan.

A British diver, internationally renowned for his exploration of deep sea cave systems, has died on a routine expedition in the Red Sea. Rod Palmer, 45, was diving with three companions off Hurghada, Egypt, when the accident happened.

He dived off the team boat but, instead of swimming over a reef, he immediately started to sink in the water. His friends swam hundreds of feet down in an attempt to rescue him. One broke the surface after reaching a depth of 210 feet. The other swam on to 325 feet before losing sight of him.

Tim Breen, one of Mr Palmer's companions, said he realised something had gone wrong the instant his friend hit the water. "He just dropped into the depths," said Mr Breen, 22, who has been diving off Hurghada for two years. "We swam down after him and tried to halt his descent and pull him back to the surface. He was falling at quite a rate and we were all having trouble keeping up with him." We have all been trained not to attempt to rescue someone unless we are in a position to do so without endangering our lives. At 70 or 80 metres, I pulled back. The other two went down further before coming up. "There was nothing we could do. We just had to watch Rob sink into the blackness."

Mr Breen said the group had stayed in the area for five hours, searching the surface. But he doubted Mr Palmer's body would ever be found in waters where depths of up to 4,000 feet have been measured. John Bantin, a friend and diving partner of Mr Palmer, was in the boat when the accident occurred. He said the reason for his death might never be discovered. "His buoyancy control device may have failed, he may have become disoriented and thought down was up, or he could have had a heart attack as he hit the water," he said. Mr Palmer was

one of the most celebrated figures in the world of cave diving and news of his death was broken to his friends in the sport at last weekend's National Cave Diving Group annual dinner.

His most adventurous dives were undertaken in the 1980s when he lived in Bristol, working as a schoolteacher. In 1982, he made a record 2,700 feet journey through the Blue Holes of Andros Island, off the

Bahamas. He filmed the dive and wrote of it in his book, Deep Into Blue Holes. He had also conducted record-breaking dives in underground cave systems, journeying 700 feet below Wookey Hole and Cheddar and into a lost network thought to extend 30 miles under the Mendip Hills. In recent years, Mr Palmer had given up his more dangerous expeditions and moved to the Bahamas with his wife. He was concentrating on teaching and writing.

IAN LEWIS - RETIRING AS STANDARDS DIRECTOR

I have finally decided to retire from my position and wanted to tell you all why. I have been in this position for 3 years this time round, and was Standards Director/National Testing Officer for quite a few years through the 1980's when the CDAA re-constructed its operations into the way it is today. I have held office in one level or another in the CDAA for many years (Editor, Vice President, National Director, in addition to Standards). That's a lot of time on the executive. For much of the time, to no-one's surprise, it has been a rocky and volatile time! Maybe that's partly due to my nature as I can be politically aggressive when the need arises, but it's also due to the nature of our organisation. The CDAA is made up of many strong individuals with equally strong opinions, which is the nature of adventurous specialists. When they group together, they can form powerful lobby groups, eg. The nitrox lobby, the instructor lobby, the research lobby, the constitutional lobby, the landowner relations lobby, etc etc etc. Given all these interests, the CDAA has done a remarkable job to survive over 20 years, and to develop and modernise. In fact, I think this is its greatest achievement. Collectively we have developed a fringe sport with a terrible initial public perception to a highly trained adventure activity with a safety record and image far more substantial than parachuting, hang-gliding, motor racing, mountain climbing etc. No-one would have thought 20 years ago that cave diving could establish itself so well, let alone survive and prosper.

I'm 45 years old and have spent exactly half my life in this sport, exploring, mapping, writing, instructing and administering. Although the last 3 years have been very intense, they have

prepared the way for a stable national leadership. The decision to install 5 directors instead of 3 was a response to a need for political stability. I initially thought this was not a good idea, but have reversed my opinion as this innovation has attracted a good balanced selection of candidates capable of representing different main groups. That is, there is now room for all viewpoints. The CDAA needs this stability in today's competitive, accountable and legalistic management environment. It may even be that high profile political operators are no longer needed, replaced now by capable administrators and more clearly defined procedures.

In this context, I have now chosen to stand down from the Standards Director's position and create the opportunity for a fresh face in the job, to take us 'towards 2000'. There are technical challenges coming, and I am not the best person to oversee these changes. There are now younger, keener, more technical members who can take over. Therefore it's a good time to stand aside, with some months to the next election.

So this is not a resignation, it's a retirement for me. I will continue to be a CDAA instructor as I enjoy teaching even more than cave diving. I will now concentrate on completing the rewrite of the old Cave Diving in Australia book, and plan to do some fun dives in the Mount for a change. I thank the CDAA and all my many friends for their support over the years, and wish my successor the very best for the future. And if the CDAA shows signs of fracturing, in the future, I will be ready to help. You can't turn away completely from a lifetime's interest.

Thank you,
Ian Lewis

The South Australian Underwater Speleological Society

The first decade - an overview

Peter Horne, Acting Projects Co-ordinator

Foreword

The South Australian Underwater Speleological Society (SAUSS) is a dedicated group of South Australian and Victorian-based cave divers, non-diving scientists and re-search assistants who pooled their resources in late 1986 to gain a better understanding of the waterfilled karst features of our State. SAUSS Inc. celebrated its 10th anniversary in October 1996 - a significant achievement in its own right, I believe, considering the nature of cave diving politics and research issues in this country. And, as the Society's founding Projects Coordinator, I am especially proud of the great support which diving and consultant members, and our associates, have put in during the past decade, resulting in the creation of some of the most accurate and detailed underwater cave research programs ever undertaken in Australia.

The introduction this year of computer-assisted drafting technology in underwater mapping

applications through Chris Murphy's management of his 'Bullock Hole' mapping project, and Adrian Richards' 'The Pines' study, were important 'first steps into the future' with regards to CAD usage for our Society. Such techniques will undoubtedly be invaluable in the future.

For such a small group with very limited resources, we have certainly achieved a great deal, and I would like to take this opportunity to personally extend my heartfelt thanks to everybody who helped to make the Society such a success.

Early in 1986, at a time of great conflict within the Australian cave diving community as a result of attempted political takeovers of the Cave Divers Association of Australia by certain individuals who had personal (some would suggest poor-quality) training and dive-shop agendas which threatened to compromise cave divers' access to many Mount Gambier diving sites, the idea came to me to create a formally-incorporated organisation which could protect the integrity of the research and survey work

which I and others had originally introduced into Australian cave diving both privately and via the CDAA's Research Group in March 1983. This meant that if the CDAA folded, there would be at least one other responsible organisation in existence to carry on such important work.

Discussing this idea with research scientists with whom I was acquainted via my private cave diving research work over the years - notably groundwater scientist Paul Harvey of the Engineering & Water Supply Department, Mines Department geophysicist Graham Pilkington, biologist Dr Keith Walker from the University of Adelaide and South Australian Museum representatives Wolfgang Zeidler (marine invertebrates) and Neville Pledge (palaeontology), and with the enthusiastic support of a number of other cave diving friends and speleological research associates (especially members of CEGSA - Cave Exploration Group of South Australia), I proceeded to set up the foundations for the Society which Dr Keith Walker finally suggested should be called the South Australian Underwater Speleological Society.

On 15 July 1986, I sent out the first draft of the Constitution and Rules for comment, and the Society held its first informal meeting in the student room of Divers International dive shop which existed at that time on Goodwood Road on Sunday, 10th August 1986. That first meeting finalised the name-change and Constitution and was attended by myself as both a caver and cave diver with an interest in underwater speleological research since 1976, Graham Pilkington and Paul Harvey, and cave divers Peter Girdler, Chris Hales, Jack Haywood, Greg Bulling, Anne Wilson, Peter Ginnane and David Cowan. The amended draft Constitution and Information Bulletin were sent out on October 8th 1986 and the inaugural Executive Committee was established, comprising myself as the Projects Co-ordinator, Peter Ginnane as Secretary/ Public Officer, Greg Bulling as Treasurer/Membership Officer, David Cowan as Publications Officer and Graham Pilkington as Records Officer. We held our first meeting at Dave's home on Monday 10th November, and I formally registered the Society with the Adelaide office of the Corporate Affairs Commission the following day. We were subsequently officially incorporated on 14 November 1986, registration number 10978P.

The first project discussed at that meeting was the mapping of Gouldens Hole to get us started and to keep out of the way of the CDAA's Little Blue Lake mapping group which was due to commence their own project in the near future. Greg Bulling

volunteered to be the project leader, and while we were planning that first study, Dr Rod Wells, a highly-experienced palaeontologist at Flinders University, advised me of his great desire to utilize our team of cave divers to undertake a very comprehensive sampling and mapping project in Fossil Cave (The Green Waterhole or 5L81) under the guidance of one of his students, Ms Cate Newton. I helped to set up this project team and acted as the project coordinator, so we thus began with two major studies running in tandem, involving many divers and other assistants who provided help in a number of important ways.

An enormous amount of effort went into the writing of various reports and articles etc for publication throughout the year, and the first (1986/1987) Annual Report - an 11-page, dark-blue, A5-sized, 200 GSM card-cover publication - also contained a detailed fold-out version of the Fossil Cave survey. During that first year we also established contact with the American NACD and more importantly, NSS-CDS cave diving agencies so we could exchange information, and in the case of the NSS-CDS this has been ongoing and very much valued.

In August 1988, I prepared the Project Report on the Society's Fossil Cave work (Project Number 1) and in October the Gouldens Hole study (Project Number 2) was also completed, with maps appearing in that year's Annual Report. The Australian Geographic Society also donated \$500 to the Society and landowner contacts were extensively made in 1988, including an introductory communication with CALM in Western Australia. Cave diver Tony Carlisle's fabulous underwater video skills also entered the scene at this time, demonstrating just how valuable videotapes could be in surveying and research work.

Three major projects were initiated and/or completed during 1989. The work involved the exploration and researching of the newly-discovered Iddlebidy Cave (Project Number 3, cave number 5L250) which was an exceptionally difficult access issue requiring extensive and protracted access negotiations between both ourselves and the CDAA, against the wishes of an irresponsible co-discoverer of the site, who threatened to blow up the entrance because it was no longer his exclusive 'secret cave'; a series of research dives in Mount Gambier's Blue Lake (Project Number 4) with myself as leader, following on from several previous research studies in Blue Lake I had privately negotiated since early 1985; and the detailed mapping of Ten-Eighty Sinkhole

Summary of SAUSS projects, 1986-1996

| No | Project | Project leader | Status / comments |
|----|---|----------------------------|---|
| 1 | Fossil Cave (5L81) Palaeontological & Mapping Project, 1987-1988. | Peter Horne | Completed; 33 Page Report, 17 colour photos; diags & maps; ISBN 0 9587507 0 X |
| 2 | Gouldens Hole (5L8) Mapping Project, 1987-1988 | Greg Bulling | Completed; 25 page report, 9 colour photos; diags & maps; ISBN 0 9587507 1 8, |
| 3 | Iddlebidy Cave (5L250) Exploratory Study, 1988-1990. Peter Horne | Peter Horne | Completed; 15 page report, 5 colour photos; diags & maps, ISBN 0 9587507 6 9 |
| 4 | Blue Lake Study 4-5 February, 1989. | Peter Horne | Completed; 12 page report, 4 colour photos; diags & maps; ISBN 0 9587507 2 6 |
| 5 | Ten-Eighty Sinkhole (5L42) Mapping Project, 1989-1991. | Mark Nielsen & Peter Horne | Completed; 16 page report, 2 colour photos; diags & maps; ISBN 0 9587507 7 7 |
| 6 | The Pines (5L61) Mapping Project, 1992 + (continuing) | Adrian Richards | Currently In Progress |
| 7 | Allendale Sinkhole (5L11) Mapping Project, 1991-1994. | Stan Bugg | Completed; 22 page report, 12 colour photos; diags & maps; ISBN 0 9587507 8 5 |
| 8 | The Bullock Hole (5L163) Mapping Project, 1996 + (continuing) | Chris Murphy | Currently In Progress |

(Project Number 5), with Mark Nielsen initially running this study with my assistance.

1990 was a quieter time and in fact it was the beginning of a very unproductive period which was to continue for the next few years. Very little of significance occurred and the 1990 Annual Report was a 'quickie' which was produced mainly to fulfil our Constitutional obligations ... the Ten-Eighty study was still calling for volunteers, but at least the Iddlebidy Cave project had been completed as far as was possible at that time (with the help of University of Adelaide sedimentologist, Martin Thoms), and a 10-minute tourism video about Blue Lake, filmed and produced by myself and Tony Carslisle, was later edited professionally and put on public display in Mount Gambier. A very attractive photographic display of our Blue Lake work over the years was also set up at the Pumping Station by the Engineering & Water Supply Department.

The main achievement for the Society in 1991 was the successful closure of the main survey loop around the cavern area in Ten-Eighty Sinkhole and the drawing-up of the first preliminary maps. Some 27 divers spent around 105 manhours collecting data for this study, but the problems with co-ordinating large groups of volunteers on a regular basis to attend a dive site 450km from their homes caused many cancelled dive weekends, so it was suggested that individual members set up their own smaller studies in future, eg mapping Allendale Sinkhole and The Pines, as time permitted to enable work to continue piecemeal (which was still better than no work at all!). By the end of 1992, the early stages of 'The Pines' mapping project (Project Number 6) were under way by myself and Janine Tamblyn (now Kraehenbuehl) when we installed and surveyed-in stations 'A' to 'H' around the main cavern, and the Allendale Sinkhole mapping project (Project Number 7) had also been almost completed by Stan Bugg and Brian Cornell. Preliminary maps of both sites appeared in that year's Annual Report.

1993 was an exceptionally quiet year; Allendale was still being mapped but no additional work had been undertaken in The Pines. Mia Thurgate's illustrated 'stromatolite' report, being rewritten and formatted by myself for SAUSS's first 'Occasional Paper', was also in the early stages of what was to become a 200-hour typing and proof-reading saga after Peter Girdler attempted to undertake further editing and had the entire computer-record 'crash' without keeping any back-up disks! (In the end, Mia rewrote the whole thing herself.)

The Annual Report for 1994 was a white paper-covered publication and the first to be prepared by a different Projects Co-ordinator, namely Grant Pearce, who kindly took over the work after I stood down after my 8-year stint in that position. Grant reported that The Pines project had remained quiet, the Allendale project had been completed by Stan and Brian, and that Mia's report was also nearing completion.

On 15 January 1996, permission was sought by SAUSS to accurately map 'The Bullock Hole' (Project Number 8) on Barnoolut Estate, approx. 20km southwest of Mount Gambier. Mr Colin Traeger, the property manager, agreed to the project provided all divers were financial CDAA members of cave diving level and of course, dived in accordance with the CDAA's regulations. Later in March, a group of 11 divers arrived at the sinkhole to commence the study. With this group was a small number of family members and an expert in dry cave surveying, SAUSS consultant speleologist Graham Pilkington, who was responsible for the above-water mapping of the hole. The divers were divided into buddy pairs with staggered dive times and intervals so as to avoid overcrowding the sinkhole, and the main central drop-line and floor-line rays were put into place. As a result of this and subsequent weekends, there have been a total of about 38 individual dives, recording around 400 depths, compass bearings and other measurements to complete the main trunk of the cavern and about one third of the floor area. Detailed mapping of the main features and the floor has to date been completed to a depth of about 27 metres, and water temperature and depth measurements have also been checked and collated.

Over the years, members have also provided a considerable amount of input to a number of other bodies and media sources, including various brochures and articles about the group's work (local newspapers, overseas cave diving journals and the high-quality Australian Geographic magazine etc) and hand-outs re. Mount Gambier's Blue Lake for which we also provided input regarding a proposed tourist development. SAUSS has provided a useful public service by making it possible for normal, non-diving members of the public to purchase underwater research and speleological reports, as well, and I hope that the NEXT ten years will see the Society continuing to be a leader in the provision of such information.

Cave Diving Rescue Tobermory, Ontario on 6 Aug 1995

by Dr. David Sawatzky

David Sawatzky is Senior Medical Officer at the CF Support Unit in Toronto, North York, Canada. His extensive professional medical experience includes his current work as Medical Consultant to the Canadian Association of Nitrox Divers, Medical Editor for Diver Magazine and position as expert accredited witness in diving accident investigations. He has published extensively and won the Governor General of Canada Star of Courage in 1996. His caving and cave diving experience since 1975 include discovery and survey work in caves in Alberta and British Columbia, membership of caving expeditions to Mexico, Vancouver Island, Nova Scotia and New Brunswick, exploration of the Ottawa River Cave System and work as a resource and contact person for cave diving rescue and body recoveries.

The following account is of a very well trained and experienced cave diver who had a lapse in concentration during a cave dive and made a mistake that should have resulted in his death. Only the fact that he responded in a mature and intelligent fashion after his mistake, the fact that the required rescue personnel and resources were readily available, and LUCK resulted in his survival. To the best of my knowledge, this is only the third time in history that someone who failed to return from a cave dive has been rescued.

Cave diving by its very nature is an inherently dangerous activity, if you make a mistake, you almost always die. That does not however mean that all cave divers have a "death wish", nor does it mean that every cave dive is a gamble with death. The risks in cave diving are almost all predictable and it is possible to plan ahead and prepare ways to deal with these predictable risks. Therefore, the trained and experienced cave diver is actually quite safe as long as they are diving within the limitations of their training and experience. There have been over 500 individuals who have died while

diving in caves. The vast majority of these fatalities were open water divers/instructors who were not trained in cave diving and therefore failed to prepare for all of the predictable risks. One of these risks eventually resulted in their deaths. The basic problem is that we "don't know what we don't know". It was usually something the diver didn't know that resulted in their death. Of the relatively small number of cave diving fatalities that have occurred to individuals with some training in cave diving, most have occurred when the cave diver was engaged in a type of cave diving for which they were not trained.

On Saturday the 5th of August 1995, Ric Browning and I checked out the back end of Little Stream Cave near Tobermory, Ontario. We had been told that the cave ended in a sump that immediately became too small to get through but that it might be possible to enlarge the passage by digging. We are both fully trained in cave diving and have each been cave diving for over 10 years, the last 6 years together, almost all original exploration. When we reached the end of the cave, we found that the water was coming in through a small opening in the left hand wall at a depth of approximately 12 feet. The bottom of the opening was composed of fine gravel and it looked possible to dig it open. We decided to return the next day to work on it although the primary purpose of the weekend was to do some open water diving with our wives. We had no intention of pushing the cave but simply digging at the restriction to see if we could get through and see if the cave opened up again beyond.

On Sunday we returned to the cave at approximately 2:00 PM. Our wives stayed in the boat while we swam ashore and entered the cave. The entrance is located in a cliff about 25 feet above the lake. There is about 200 feet of dry passage and 100 feet of mostly flooded rift passage with one to two feet of air space

before the sump. I dived first with a 50 cubic foot steel tank with a "Y" valve and two regulators. I elected not to use the line reel we had with us as I could ascend directly to air from the dig site and there was nowhere else to go. I quickly dug open the restriction, stirring up the silt and reducing the visibility to zero. I backed through the restriction into a passage approximately two feet high and three feet wide. With my arms still in the first restriction, I could feel with my legs that the passage closed down and made a tight descending corner in solid rock. It felt too small and crooked to be passable. I returned to the surface and reported what I had found to Ric. He elected to have a quick "look" at what I had found and mentioned that he also wanted to check out a possible opening on the opposite side of the sump. I had checked the sump quite thoroughly the day before and had seen no such opening.

I had used only 300 psi out of the tank so he dived with my tank and regulators. I waited, listening to the sound of his bubbles and movements in the sump. After a while they seemed to be further away and less frequent. He had obviously moved into an area where his air bubbles were rising into a different part of the cave. I became more and more concerned as time passed. At one point I heard him banging on the rock, like he was trying to open a restriction. There was no pattern to the bangs. Another time his bubbles came up in the sump and I expected him to surface but the bubbles moved away again. After approximately 45 minutes I left the cave to get another tank and light. I returned to the sump, dived in and thoroughly checked the entire wall space. The only way out was through the restriction I had dug open. I surfaced and used my weight belt to secure the end of the dive line as there was no place to tie it off. I backed through the restriction and carefully felt the tight passage behind me, discovering to my surprise that it was possible to squeeze through. I backed until my legs were out into wide open cave and felt around. There was a small amount of air up by the roof (at a depth

of about 15 feet) so I knew that Ric had gone through. It had now been 2 hours since Ric had started his dive and his tank would have lasted at most 45 minutes. I had lost one light on my first search of the sump, my second light was fading, and my large cave diving light was intermittently going out. I had one tank and one regulator. I knew that Ric was either dead (most likely) or in an air pocket where he could probably survive for several hours. In addition, I knew that it would be very difficult and perhaps impossible to get back through the tight restriction I was in if I proceeded on into the larger cave passage. It was not safe for me to proceed with the equipment I had so I elected to leave and get the appropriate gear and some help before proceeding. I expect that Little Stream Cave is an over-flow resurgence for Leopard Frog Cave. Leopard Frog Cave is located 2 km away and has been dived downstream for over 1 km with no air spaces. I did not expect that there would be any air spaces between Little Stream Cave and Leopard Frog Cave.

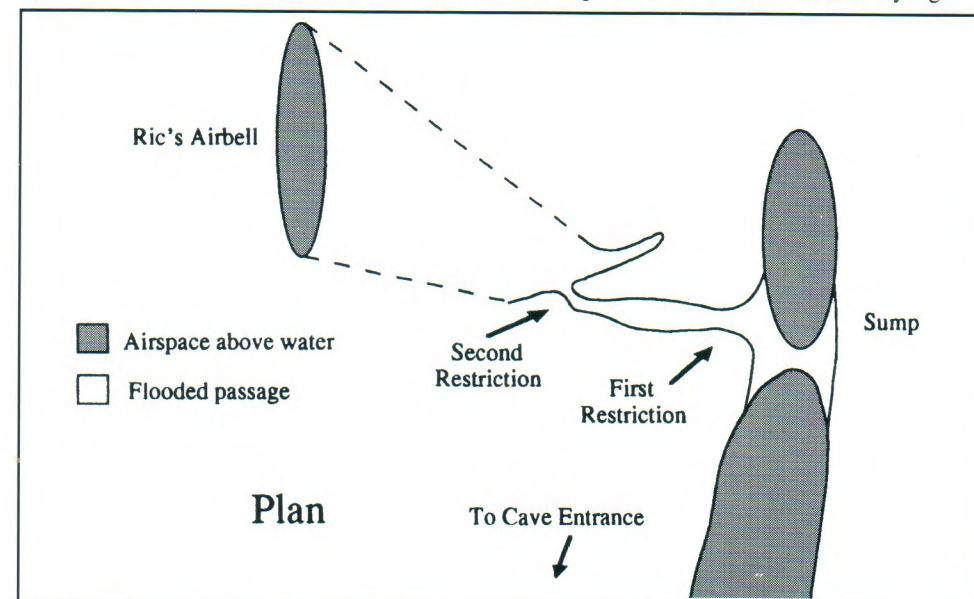
I exited the cave and had to tell Ric's wife Sandra and my wife Dana that I knew where Ric had gone but that I could not safely follow him with the equipment I had available. I also had to admit that he was most likely dead. The marine radio on the boat would not work (it had been working that morning) so Dana drove the boat near shore and I jumped out by a group of open water divers. I knew that Kim Martin and Terry German (two other cave divers) were diving in Leopard Frog Cave and that they would have the specialised equipment I needed. Unbelievably, Kim and Terry were coming down to the lake as I came ashore. I explained what had happened and Terry went to start gathering equipment while Kim drove me to the police station before returning to help Terry. The police contacted the Coast Guard to immediately get a boat to the area to do a shore search and to let our wives know that help was coming. They also contacted the National Parks staff in Tobermory and got in touch with Stan McClellan, the Senior Park Warden.

Stan and I had discussed the problem of missing cavers/cave divers several times over the years as the Parks / Police divers and rescue personnel are not trained in cave or cave diving rescue. Parks had decided that the best policy would be to call me as I have training in both areas (student BC Cave Rescue 1987, instructor BC Cave Rescue 1988), know most of the other individuals in Canada who have similar training, and am a medical doctor, diving medical specialist, caver, diver, and cave diver. I also have the dubious distinction of having done more cave diving in Canada than anyone else (300+ dives, almost 600 sumps). When Stan arrived he simply said, "David, you are the expert, what can we do to help?". The support of the police, Parks Canada, and the Coast Guard was superb. The necessary personnel and equipment were gathered and in an unbelievably short (for this type of operation) three hours we were back in the lake off the cave entrance on two parks boats. Kim and Terry had done an outstanding job of getting the necessary cave diving gear together, had thought of a couple of things that I had missed in my highly stressed state, and had recruited the assistance of two dry cavers to help carry gear through the cave. By approximately 8:30 PM Kim, Terry, and I were

back at the sump. My wife Dana and Stan had both reminded me of the danger of my going back into the sump if my head was not perfectly clear but they also both understood that only I could make the final decision. In cave rescue terms I was the friend and companion of the victim, the surface coordinator, the underground coordinator, and ultimately the rescue diver. I was just slightly stressed!

At the sump I discussed the situation with Kim and Terry. Kim volunteered to have a look first as we knew that, if necessary, I could get through in zero visibility. After 20 to 30 minutes Kim returned, unable to get through the first restriction. Kim has a significant amount of cave diving experience but little experience in passages this small. I greatly appreciated his maturity in not going beyond his experience and possibly becoming a second fatality.

I got ready, ensured that Terry was still holding the end of the line, backed into the sump, and moved down to the first restriction. Some of the gravel had shifted back into the opening but I knew I could move it out of the way from the other side so I pushed through. I backed through the second restriction until my legs



were once again in open cave while my head and shoulders were still in the restriction. It was decision time. I had the appropriate equipment, two good lights, a full 50 with a "Y" valve and two regulators. I had a good guideline back to air. However, it had been six hours since Ric had started his dive. The water and air were approximately 7 degrees C and even in his drysuit he would be extremely hypothermic unless he had gotten completely out of the water (he was wearing only light underwear under the drysuit). I knew there was a small but real chance that I would not be able to get back through the restriction. Ric was almost certainly dead. I imagined living the rest of my life not knowing for sure that Ric had been dead, plagued by the 1/1000 chance that he might have been alive in an air bell and that he had subsequently died because I had not gone in to check. I decided that I could not live with that possibility. I was also acutely aware that if I had a problem, there was no one to come after me. I checked my condition. I was highly stressed but I was clear headed and fully focused on the task at hand. I prepared myself to come face to face with Ric's dead body in the two inch visibility and pushed through.

I followed a tiny air surface for about eight feet down a rift off to the right until it pinched out. I returned to the restriction, Ric was obviously farther into the cave. I moved back and soon found that the roof of the passage ascended a couple of feet but did not go up to air. I moved further back and again the roof rose but did not go up to air. Even further back I ascended in a rift and surfaced with my head and shoulders out of the water. My hopes were just starting to fade as I looked the 10 feet to the end of the empty airbell when I heard a very familiar voice say from behind me, "about @\$%*~> time you got here!". I turned around to see Ric wedged up in the other end of the rift just out of the water, his tank completely empty.

I had several conflicting emotions. First and foremost I was overjoyed and in shocked disbelief that he was alive and OK. Second, I wanted to beat the *%#@ out of him for having made such a stupid and basic mistake

as going through the second restriction into open cave without a guideline, putting Sandra, Dana, and myself through the hell of believing for several hours that he was dead, and for my having to risk my life to confirm that he was either dead or alive. The third emotion was the one that had to take control. Although he was alive and well, and I was very relieved, we still had several major problems to solve. First, I did not know if I could get back out. Second, Ric had no air in his tank, and the passage was too small to allow us to share air on the way out even though I had two regulators on my tank. I took Ric's empty tank, gave him the line reel to hold (there was again no place to tie off), and left him with a very heartfelt promise to return.

I swam down and back to the second restriction. It felt too small to get through but the guideline proved to me that it was the correct way out. I first tried to push my tank ahead of me while dragging Ric's tank behind. My tank constantly got hung up and I could not force my shoulders into the opening. I backed out and tried feet first, right side down, dragging both tanks behind. I got my body completely into the passage but could not bend enough to get around the corner. Back out of the restriction. I had one more option, feet first, left side down. In I went and moved through the restriction with little difficulty.

I surfaced to tell Kim and Terry the good news and we moved through the 100 feet of canal passage to tell the dry cavers and to refill Ric's tank. One of the dry cavers immediately went to the mouth of the cave to tell the other rescue personnel and our wives that Ric was alive.

I refilled Ric's tank off a larger tank we had carried into the cave and sent the second dry caver back to the boat for another large tank so that when I went back in after Ric, both his tank and mine would be completely full. It took about an hour before I again surfaced in Ric's airbell. I gave him his full tank and was giving him explicit instructions on how to get out through the second restriction when I noticed that I was still breathing quite heavily. Ric had been in the airbell for seven hours now and had used up a lot of the oxygen, replacing

it with the carbon-dioxide generated by his body. It is impossible to know how many more hours it would have taken for the level of O2 to drop enough or the level of CO2 to rise enough for Ric to have passed out, slipped into the water, and drowned.

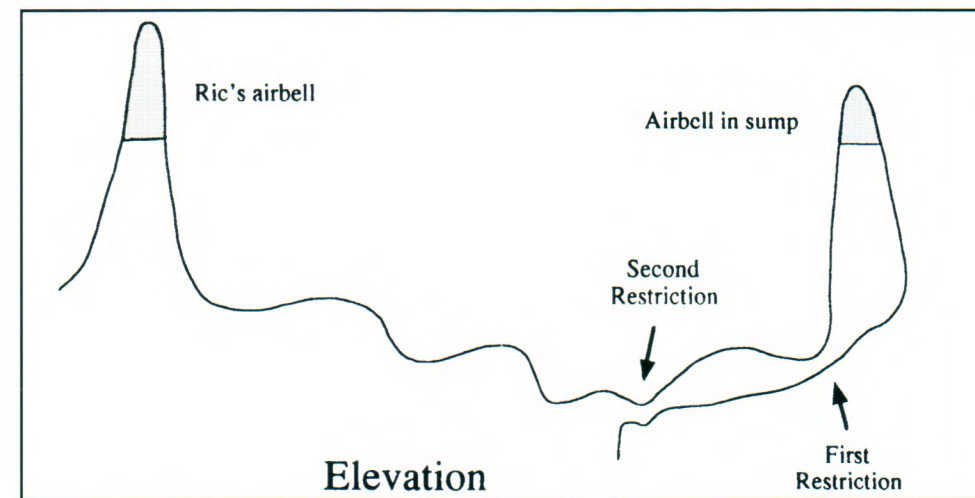
I sent him on his way while I sat wedged in the rift holding the line reel. I felt him move down the line, through the restrictions, and out the other side. I waited a couple more minutes and headed out. Having jammed my regulator down into the silt and gravel coming through the first restriction, I was only slightly surprised when it started to free flow. I returned to the air bell, stripped and cleaned the second stage, and headed out again. This is a regular occurrence when you cave dive in very small silty passages and I had done the same thing many times before, usually having to clean the regulator under water while breathing off my second air supply.

I moved through the restrictions with little difficulty, removing the line. As I was moving through the sump to return to the surface, I felt another body in the sump. What was going on? I surfaced, asked who was in the sump, saw only Kim and Terry, and turned back to go get Ric when he surfaced behind me. He had surfaced in the airbell in the sump and had not realized that he was in the wrong place until he felt me move past him.

We carefully moved all the people and equipment back to the mouth of the cave and out to the Parks Canada boat just offshore. It was approximately 11:00 PM and the ordeal was finally over. Ric was a bit confused on the way out. He was almost certainly mildly hypothermic and possibly suffering some short term effects of the low oxygen and high carbon-dioxide.

A miracle had happened, Ric was alive and OK. I thought back to earlier in the day, shortly after I arrived at the police station while they were busy trying to contact the Coast Guard and Parks personnel. I had felt pretty discouraged and said half to myself that Ric was almost certainly dead. One of the policemen overheard me and said, "don't give up hope. This might be one of those miraculous 911 rescues". How right he was!

What did we do wrong? Why did the accident happen? Ric believes he/we made the following mistakes. (1) When we went into the cave, we told our wives we would be out in 2 hours or less. I do not consider this a mistake. We had to give them some idea how long we would be. (2) Near the entrance to the cave there is a short, tight duck. I slid through, Ric passed me all of my gear, and then he tried to get through. He could not get through with his belly pouch on so he left it on the outside of the duck and came through. This was a mistake, how-be-it a small one, as his pouch



contained some backup gear that might have been useful. (3) Ric sees his third mistake as doing the dive even though he was not fully equipped to do an exploration cave dive. I partially agree but then he was not to have done an exploration cave dive but simply a quick look at the walls of the canal passage and the restriction I had dug open. (4) Ric did not have a weight belt and was quite buoyant in his drysuit. He sees this as a mistake. In sump diving the purpose is to come up to air and therefore, we frequently dive buoyant. Rics buoyancy did contribute to the accident but I see it as at most a minor mistake (5) Ric sees his major mistake as doing the dive without a guideline and I agree, with some provisos. I do not believe that I took unreasonable risks by doing my dive without a line and if Ric had limited his dive to the area where I had been, he would have been safe and not had a problem.

I personally believe that the accident was a result of the following factors. When I described what I had found to Ric, he built a

mental image of what the cave looked like and therefore had a preconceived notion of what he would find. Here is where I believe Ric made his biggest mistake, he was not paying attention to what the cave was doing as he was rapidly moving into the unknown, without a guideline. He pushed through the first restriction without being aware of it and when he encountered the second restriction, he thought he was in the first. Therefore he pushed back, expecting his feet to encounter the wall I had described. Instead he entered open cave, his positive buoyancy caused him to move up and away from the second restriction, destroying the visibility and confusing his orientation. That was when he knew he was in serious trouble.

Cave diving is a very unforgiving sport. As with most high risk sports, the novice is at greatest risk. However, the experts are also at risk when they get so comfortable that they stop paying attention. Ric is very lucky to be alive. His experience should remind all of us to always pay attention to what we are doing.

FROM THE RETURNING OFFICER

On the 16th December, 1996, an election was held to elect a new National Director. Of 289 envelopes returned on time, 66 were deemed invalid. The remainder were distributed as follows:-

| | |
|------------------|----|
| Barrie Heard | 61 |
| Warrick McDonald | 73 |
| Greg Bulling | 89 |

On behalf of the membership, I congratulate Greg and wish him well and hope sincerely that all of the membership give him their support.

As a matter of record, the primary reason for 66 votes being deemed invalid was the failure of those individuals to write their name and CDAA number on the outside of the pre-addressed envelope, as requested on the ballot paper. Thus there was no way of determining the financial status of the member of whether they had voted more than once.

Thanks very much to Tracy Armstrong and David Blundell who scrutineered and helped count votes on the night.

Chris Edwards
CDAA 2247

A.B. OCEAN DIVERS

237 East Boundary Rd., East Bentleigh Vic. 3165 (03) 9579 2600

Check out these stocktake deals!!!

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Apollo Custom Made Dry Suits from \$1499.00

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DUI ... just call!

2 x Used 50 cf aluminium cylinders with DIN/K valves \$200.00 each.

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DIN Valves 2 only at \$120.00 each. Oxygen approved.

Huge range of second hand BCD's from \$100.00

CAVERN COURSES October 21st - 3rd November, February 24th - 9th March.

SINKHOLE DIVER November 18th - 24th, April 7th - 13th.

GENERAL INDEMNITY FOR WEEBUBBIE CAVE ACCESS

I HEREBY AGREE that I or my estate will not make any claim or initiate any proceedings whatsoever against the Minister for Lands, the "State of Western Australia", the Western Australian Government or any of its servants or agents and that I will indemnify and hold harmless the Western Australian Government and its servants and its agents against all demands, claims, actions and proceedings, damages, costs and expenses arising out of or in any way connected with:

- The granting of permission to enter Weebubbie Cave; or
- Any advice or information given to me by the Western Australian Government or any of its servants or agents relating to my entry to Weebubbie cave; or
- Any incident howsoever caused occurring while I am in or near Weebubbie Cave; or
- A claim which may arise from a third party.

Signature _____ Date _____

NOTICE RE NITROX ENDORSEMENT

Following the information contained in the last issue of Guidelines, notification of the CDAA policy on Nitrox has been sent to the landowners.

For those who would like to use Nitrox, please send a copy of your Nitrox certification (from the agencies listed in Guidelines 59) along with your CDAA card and a cheque for \$10:00.

Your CDAA card will be endorsed with a Nitrox label and you will then be able to use Nitrox under the conditions listed in Guidelines 59.

One important change is that you are *no longer required to inform landowners of your intentions to dive Nitrox*, however, your endorsed CDAA card must be available on site for verification if required.

If you have any enquires please contact the Records Officer or the National Director

NOTICE OF 1997 AGM

This notice is to advise members that the Annual General Meeting of the Cave Divers Association of Australia will be held on 13 September 1997 and to call for:

* Nominations for all office bearer positions;

* Member motions;

* Amendments to the Constitution, (refer article regarding the Constitution in this issue)

The items so called must be received by the Returning Officer no later than 6pm Friday 11 July 1997. Members intending to nominate for any Office Bearer position must be a financial member of the Association at the close of nominations, that is 6pm Friday 11 July 1997. Nominations must be accompanied by a precis not exceeding two hundred words detailing skills, experience and achievements relevant to the responsibilities of the nominated position and must be proposed and seconded by financial members of the Association other than the nominee. The responsibilities of Office Bearer positions are contained in the Constitution of the Association.

Early notice has been given in Guidelines so as to avoid unnecessary postage.

The National Directorate has decided that the election of Office Bearers, voting on member motions and on amendments to the Constitution and any other matters which may be advised in accordance with the provisions of the Constitution will be conducted entirely on postal voting papers. The National Directorate is firmly of the opinion that this will more accurately represent the views of the whole membership and give those members unable to attend the Annual General Meeting an opportunity to register a vote.

Polling date for the election has been set at 6 September 1997. If you wish to vote you must be a financial member of Association at the polling date and you must use the ballot papers to be provided in the August issue of Guidelines, (or a separate mail out if so required) and you must ensure the ballot papers reach the Returning Officer no later 6pm Friday 5 September 1997. More information will be provided on the voting procedure in the August issue of Guidelines, (or a separate mail out if so required).

Returning Officer

Jim Ferry

12 Grand Central Avenue, Hallet Cove, South Australia, 5158

CDAA NOTICES

GUIDELINES DEADLINES

To ensure Guidelines is produced reliably and regularly, the following deadlines have been set for each issue. Please note that material will not be considered if it arrives after the stated dates.

Issue 62 July 11 deadline

Issue 63 November 1st deadline

Issue 64 February 1st deadline

Editor

CDAA INSTRUCTORS

Any Instructor wishing material contact - Peter Grills 0419 820 920

STANDARDS DIRECTOR:

Glen Harrison

Telephone: 0418 846 602

(email) harrison.glen@saugov.sa.gov.au

| INSTRUCTOR | CN | S | C | STATE | PHONE | INSTRUCTOR | CN | S | C | STATE | PHONE |
|------------------------|----|---|---|--------------|-----------------------------------|---|----|---|---|-------|-------------------------------------|
| NSW & ACT | | | | | | VICTORIA | | | | | |
| Nick Jones | • | • | | ACT | 015 851 313 m | Stephen Arnel | • | • | • | VIC | (055) 26 5230 h |
| Ron Allum | • | • | • | NSW | (02) 9552 6348 h | Bill Bernhardt | • | • | • | VIC | (03) 9725 9716 h |
| Terry Cummins | • | • | | NSW | (02) 9417 2800 w | Jane Bowman | • | | | VIC | (03) 9579 2600 w |
| Peter Grills | • | • | | NSW | (049) 48 7848 h | Stan Bugg | • | • | • | VIC | (03) 9379 8791 h |
| Ian Lewis | • | • | • | ACT | See top of page | Brian Cornell | • | • | • | VIC | (059) 85 2514 h |
| Gary Norgard | • | • | | NSW | (049) 68 4588 h | John Dalla - Zuanna | • | • | • | VIC | 015 887 060 m |
| David Ogilvie | • | • | | NSW | (02) 9977 4355 w | Chris Edwards | • | | | VIC | (03) 9579 4352 h |
| Andrew Robertson | • | • | | NSW | 018 412 563 m | Barry Heard | • | • | • | VIC | (056) 27 6474 h 019 401 469 m |
| Des Walters | • | • | • | NSW | (060) 411 405 w | John Mc Cormick Specialist Non-Teaching | | | | VIC | (03) 9555 5777 w |
| Andrew Wight | • | • | • | NSW | (02) 9428 2176 | Warrick McDonald | • | • | | VIC | (03) 9579 2600 w |
| Liz Wight | • | • | • | NSW | (02) 9428 2176 | Tony Richardson | • | • | • | VIC | |
| Frank West | • | • | | NSW | 049 636 497 | Bob Wealthy | • | • | • | VIC | (056) 858 338 h |
| SOUTH AUSTRALIA | | | | | | Frank Ziegler | • | • | • | VIC | (055)23 6392 w |
| Greg Bulling | • | • | • | SA | 014 477 430 m (08) 8265 4978 h | WESTERN AUSTRALIA | | | | | |
| Glen Harrison | • | • | • | SA | (08) 8386 3237 h | Marilyn Boydell | • | • | | WA | (09) 349 5646 h |
| Karen Kennedy | • | • | | SA | (087) 250 335 h | Simon Jones | • | • | • | WA | (09) 344 4343 h (09) 344 1562 w |
| Max Marriot | • | • | • | SA | (08) 47 3360 h | Hugh Morrison | • | • | • | WA | (09) 409 99807 h |
| Richard Megaw | • | • | • | SA | (08) 8344 1733 h | Andrew Poole | • | • | • | WA | 018 928 028 m |
| Richard McDonald | • | • | • | SA | (08) 8295 4140 h/w | Steve Sturgeon | • | • | • | WA | (09) 527 9211 w |
| Alan Jolliffe | | | | S E Asia Rep | 61 773 3544 h | John Vanderleest | • | • | • | WA | (09) 426 8623 w (0411) 184 211 m |
| Gary Bush | | | | NZ Rep | (018) 318 837 m | | | | | | |

CDAА SITE ACCESS

Mixed gas Diving BANNED from all sites (Nitrox approval to be finalised but not yet completed May 1996).

Remember: Access is a privilege, not a right. Please be considerate of landowners wishes.

CN = CAVERN S = SINKHOLE C = CAVE P = PENETRATION

| SITE | LEVEL | OWNER | ACCESS DETAILS |
|--|-------------|---|--|
| MOUNT GAMBIER - SOUTH AUSTRALIA | | | |
| Ewens Ponds | Nil | DENR P.O. Box 1046 Mt Gambier 5290 (087) 35 1177 | Groups of 6 or more, phone/mail to Dept. of Environment & Natural Resources (DENR). Smaller groups, no need. Indemnity form to be completed. |
| Horse & Cart Tea Tree | CN CN | Peter Cunningham PO Box 643, Mt Gambier 5290 | By phone or mail, 1 week prior. Ph: (087) 38 4003. |
| Little Blue | S | Port MacDonnell | Little Blue - permission not required - must carry card. |
| Allendale | C | Port MacDonnell | Obtain key from Mt. Gambier Tourist Information Centre. |
| Gouldens | CN | DENR | General Diving: Divers to contact DENR and notify of date and site to be dived. Divers must have the correct CDAА diving endorsement for the site. The onus of proof of CDAА status is on the diver and is provided by presentation of CDAА membership card or DENR checking the membership list supplied by CDAА. If there are problems with the diver not being a current financial member DENR will not be chasing the records officer to sort out the problem. This will be the responsibility of the diver. The diver must have signed an indemnity with DENR before access is permitted. Training: Cavern and Sinkhole. The Instructor is to notify DENR of the date the sites are needed and to forward signed indemnities from each student and their temporary card number. Cave and Penetration: The Instructor is to notify DENR of the date the sites are needed and is required to forward signed indemnities from each student and their membership number. |
| 2 Sisters | CN | P.O. Box 1046 | |
| Fossil | C | Mt Gambier 5290 Ph: (087) 35 1177 | |
| | | | |
| Ela Elap One Tree | S S | Mr. Peter Norman Private Bag 67, Mt Gambier 5290 | By phone or drop in before diving. Ph: (087) 38 5287 |
| Swim Through | C | Valerie Earl PO Allendale 5291 | Currently CLOSED pending new access arrangements. |
| Piccaninnie Ponds | S | DENR P.O. Box 1046, Mt Gambier 5290 | Permit holders by phone. Be aware of delicate vegetation. Indemnity form to be completed. Ph: (087) 35 1177 Faxed copies of cards no longer accepted when booking. |
| Hells Hole Pines Mud Hole | S C C | Primary Industries S.A. (Forestry) PO Box 162 Mt Gambier 5290 | Contact Primary Industries S.A. (Forestry) by mail, phone or fax to arrange permit. Collect permit from Regional Office, Jubilee Hwy., Mount Gambier. No diving on total fire ban days. Forest Work Bans may be applied by PISA Forestry if forest fire danger is expected to reach extreme. Such bans also exclude the public from entering the forest. If in doubt, please check with Trevor Wynniat, although signs are generally erected at diving sites on such days to indicate such bans. Permits will ONLY be issued Mon-Fri between 8.30am-4.30pm. Ph: (087) 242 887. Please use this number for all bookings and enquiries etc. Fax: (087) 242 885 Email: wynniat.trevor@pi.sa.gov.au. Written confirmation required. |
| Kilsby's | S | Landowner leased to S.A. Police | Restricted access conditions apply - refer Guidelines Issue 54. Twin tanks, maximum of 40 metres depth. Write to: P.O. Box 77, Mount Gambier, 5290, six weeks prior. 1996 weekends - 8 & 9 June, 27 & 28 July, 5 & 6 October, 7 & 8 December, 1997 - 25 & 26 January, 29 & 30 March, 26 & 27 April, 7 & 8 June. No animals permitted. |
| Shaft | S | Generally open two weekends a month L. Claridge P.O. Box 290 North Adelaide 5006 | TIMETABLE FOR "THE SHAFT" GUIDES Saturday 17th May Saturday 7th June Sunday 8th June Saturday 5th July Sunday 6th July Saturday 2nd August Sunday 3rd August |
| Ten Eighty Bullock Hole Black Hole | S S S | Mr. Colin Traeger PO Box 12, Mt Gambier 5290 (087) 26 6215 | Contact CDAА Records Officer for diving deed THEN mail Booking Form to Colin Traeger 2-6 weeks prior, stating names/qual. of all divers, and time slot Please include stamped self addressed envelope. Closed October to November for shearing. |

CDAА SITE ACCESS

| SITE | LEVEL | OWNER | ACCESS DETAILS |
|--|--------|---|---|
| MOUNT GAMBIER - SOUTH AUSTRALIA (continued) | | | |
| Max's Hole | C | Mr T. Edwards P.O. Box 1319 Mt Gambier 5290 | Phone or mail 1 week prior to dive. Ph: (087) 26 8277 |
| Hann's cave | P | P & A Lasslett | Groups of four divers only apply in writing to Site Director. Limited groups will be allowed access over the summer months. The site is very delicate and therefore only limited access is available. Divers applying will be notified as to further access details. Please include a stamped self addressed envelope. |
| Engelbrechts - East - West | C P | Mt Gambier Council | Obtain key from Mt Gambier Tourist Information Centre. Access agreement must be signed prior to diving. Key must be returned by 5pm Sunday, 2 divers must sign out keys, all divers must sign in advising which groups they are diving with. |
| Three Sisters | P | Millicent Council | Contact Linda Claridge (Records' Officer). Access available for experienced Penetration divers only. Low profile or side mounted independent air systems required. Access agreement must be signed prior to diving. Please allow 4 weeks for indemnities to be processed. |
| Idllebiddy (5L250) | P | Primary Industries S.A. (Forestry) | 5L250 open 1st & 3rd weekend of every month. 5L290 open every weekend. Max. 4 divers per dive per day, 1 dive per day for each site. Only Penetration divers completed practical in-water cross-over. Bookings from Forestry Office - key from Lady Nelson. Contact Primary Industries SA (Forestry) by mail, phone or fax to arrange permit. Collect permit from Regional Office, Jubilee Hwy., Mt. Gambier. No diving on total fire ban days. Forest Work Bans may be applied by PISA Forestry if forest fire danger is expected to reach extreme. Such bans also exclude the public from entering the forest. If in doubt, please check with Trevor Wynniat or Forestry Office, although signs are generally erected at diving sites on such days to indicate such bans. Permits will ONLY be issued Mon-Fri between 8.30am-4.30pm. Ph: (087) 242 887. Please use this number for all bookings and enquiries etc. Fax: (087) 242 885 Email: wynniat.trevor@pi.sa.gov.au. Written confirmation required. |
| Nettle-Bed (5L290) | P | PO Box 162 Mt Gambier 5290 | |
| McKay's Shaft | S | | Contact Phil Argy at Mt. Gambier as access can be arranged. |
| Tank Cave | P | Mr. DY CER | Apply in writing at least 3 weeks in advance to; CDAА Tank Cave Access, 19 Broadmeadow Drive, Flagstaff Hill 5159. (This access may be cancelled at anytime, at the discretion of the landowner) NB: New divers must first apply for an application form to; Paul ARBON, PO Box 290 North Adelaide. (See Tank Cave Access Information - Issue No. 57). |
| Baker's Cave | C | Temporarily closed. | |
| NULLARBOR - WESTERN AUSTRALIA | | | |
| Cocklebidy | C | Regional Manager | Must apply for permission to dive at least 4 weeks in advance of trip. |
| Murra El Elevyn | P*1 | C.A.L.M. | Ph: (098) 41 7133. |
| Tommy Grahams | C | 44 Serpentine Rd, | *1 Murra El Elevyn rating currently under review |
| Weebubbie | C | Albany 6330 | Apply in writing with at least four weeks notice to: Mr Graham Higgins, Department of Land Administration, PO Box 2222, MIDLAND, WA 6056. Include in the application: • The dates of the intended visit(s) • Photocopies of CDAА certification cards for all of the party • A signed Indemnity Form for Weebubbie Cave (photocopy from original in Issue 61 of Guidelines). Please note that this arrangement is for Weebubbie only and access to other caves on the Nullarbor must follow existing access protocol. Also note that divers must supply their own ladders as the old ladder has been removed. |
| WELLINGTON CAVES - N.S.W. | | | |
| Limekiln (McCavity) | P/C | | Both Penetration and Cave Level are being accepted for this cave depending on it's water level at the time. The cave has a restriction at the entrance which is underwater making it a Penetration Dive. During drought, the water level drops to form a small lake below the restriction allowing experienced Cave Divers access to this delicate cave. |
| Water (Anticline) | C | | Affected by high CO ₂ levels during Summer/Autumn. Access arrangements are co-ordinated with an already commissioned research group. Contact Greg Ryan (02) 9351 4809 w, (02) 9743 4157 h, gregr@cs.su.oz.au. |

Some interesting comparisons of several Mount Gambier cenotes

Submitted by Peter Horne, March 1997.

(Revised version of an article which was prepared for the newsletter of the Cave Exploration Group of S.A., 1995)

Way back in the late 1970s, long before the CDAA's first Research Group was formed, a small number of individuals independently undertook various forms of research and exploration work in the waterfilled caves and cenotes of the Lower South East in an effort to document these fascinating phenomena. Very little was known at that time about the true size and shape of these karst features, and often what we did know came from one or two quick dives with knots on guidelines and approximate compass bearings. However, our rough sketches were better than nothing, and during the next ten years or so, dedicated Research Group members and members of the South Australian Underwater Speleological Society (which was formed three years after the CDAARG, in 1986) produced much better maps of many of our most popular and impressive waterfilled features.

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

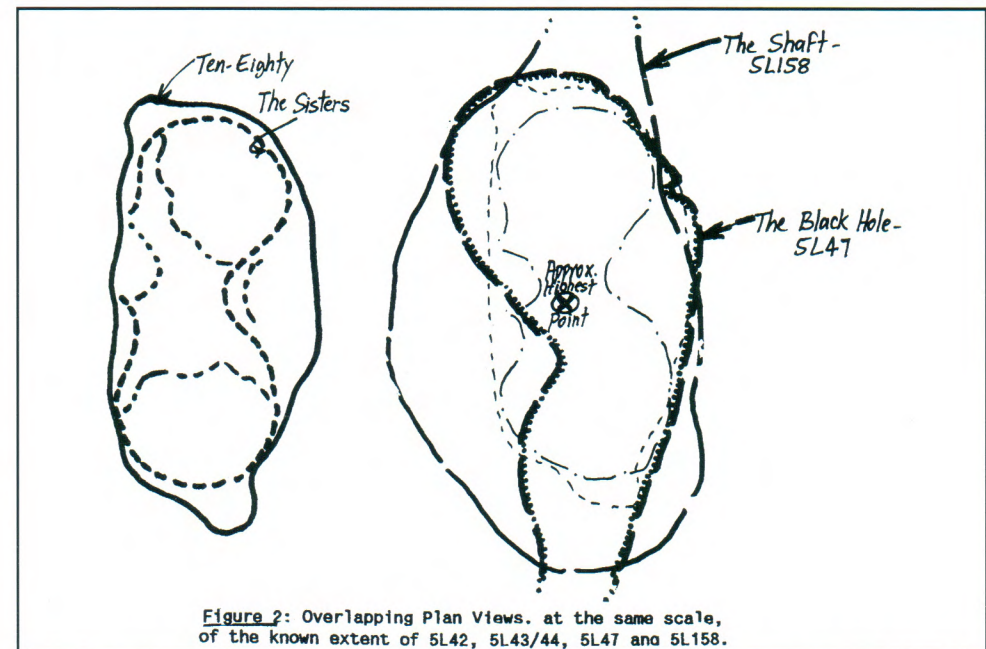
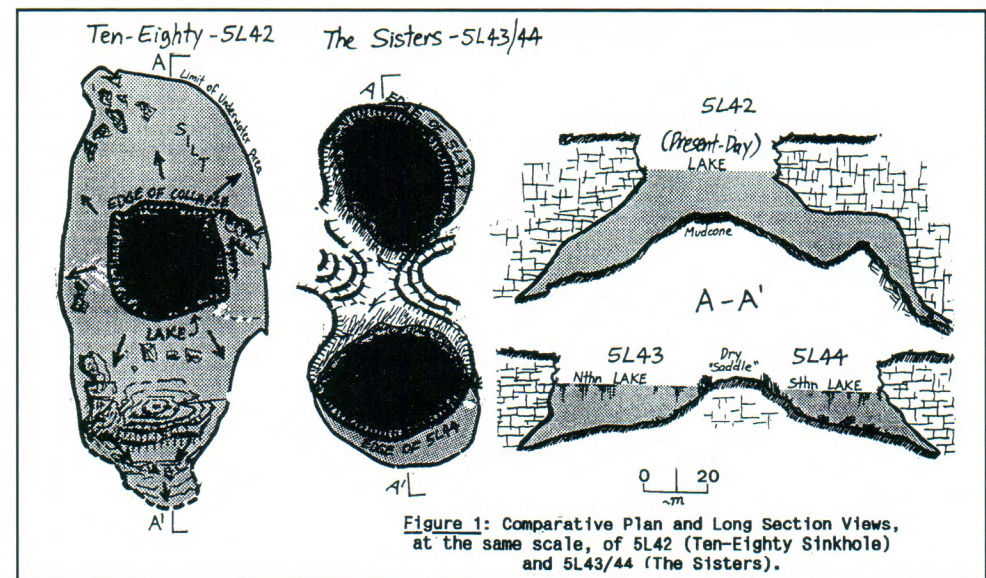
Having put sketches of every major karst feature in one place in the form of the "Lower South East Cave Reference Book", I was

prompted to share some of these mysteries with other speleologically-minded types in the hope that their expertise in karst morphology and general geological dynamics will be brought to bear to help cavers to get some idea of what is really going on beneath our feet!

For the moment, I'll restrict my discussion to nine of the more significant sinkholes of the region because of the interesting aspects which I want to identify. These features are 5L42 (Ten-Eighty), 5L43/44 (The Sisters) and 5L47 (The Black Hole) - all on the property known as Barnoolut Estate and within sight of each other; 5L158 (The Shaft), further to the south, near Allendale East; 5L7 (One Tree/Wurwurkooloo), 5L9 (Little Blue Lake) and 5L14 (Ela Elap), which are located perhaps a dozen stone-throws from each other a few kilometres to the south-east of the Barnoolut sinkholes; and 5L40 (Hells Hole) in the Caroline Forest, further east again.

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

Drawn to scale in an overlapping plan-view sketch, the two sinkholes which make up The Sisters are seen to fit very neatly into the



known boundaries of Ten-Eighty; their shallower nature probably resulted from the way the ceiling collapsed many thousands of years ago. Furthermore, if the boundaries of the mighty Shaft and The Black Hole are also added to this sketch (using the shallowest or highest points in each sinkhole as a common

reference point), they are surprisingly found to have similar limits (Figure 2) and in fact, The Black Hole is seen to be nearly the SAME SIZE as The Shaft. This shows how small The Shaft really is (or how BIG the OTHER features are, depending on your point of view!).

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

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

region while Diprotodons, rather than today's Baa-Baas, were wandering around the plain!

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

Interestingly, when this type of comparison between sinkholes is made with some of the other significant features nearby, a different structure seems to be found. Unlike 5L42, 5L43/44, 5L47 and 5L158, the sinkholes

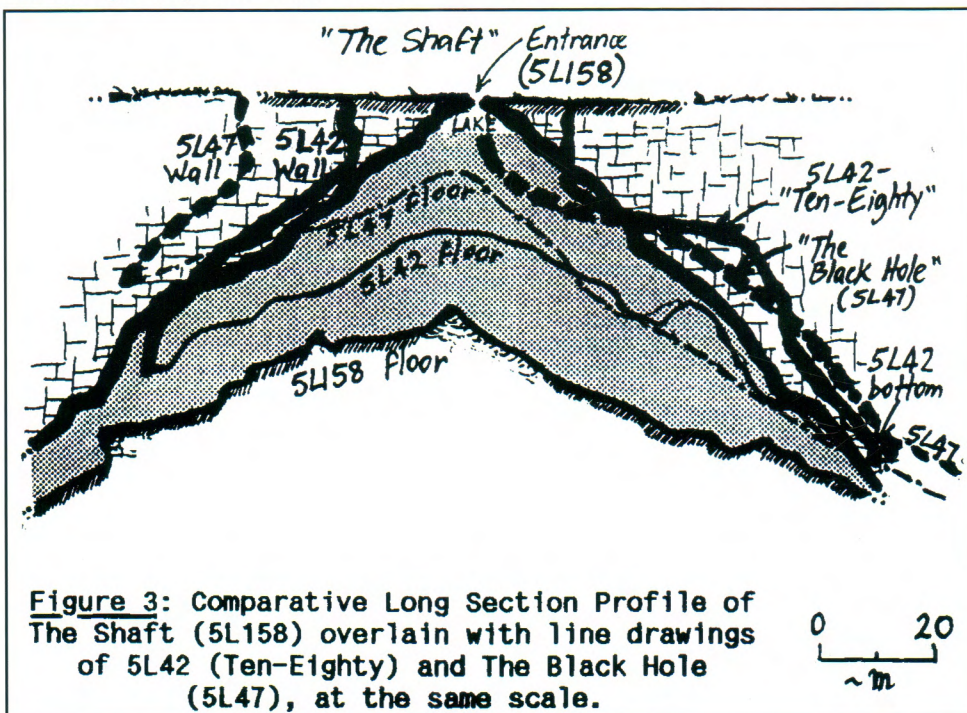


Figure 3: Comparative Long Section Profile of The Shaft (5L158) overlain with line drawings of 5L42 (Ten-Eighty) and The Black Hole (5L47), at the same scale.

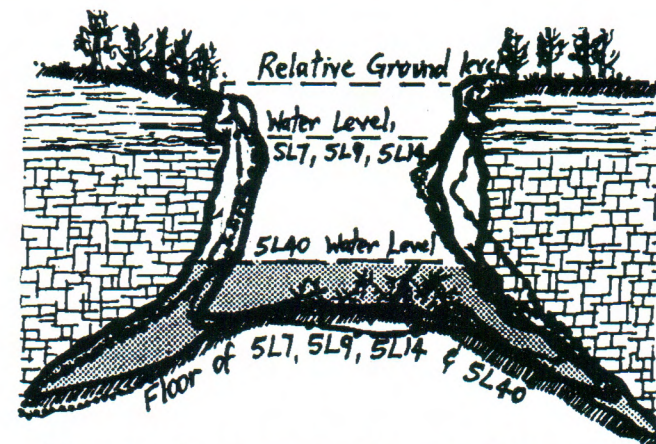


Figure 4: Comparative Profile of 5L40 (Hells Hole) overlain with line drawings of 5L7, 5L9 and 5L14, at the same scale.

known as One Tree, Little Blue Lake and Ela Elap have much deeper, more vertical walls before they begin to "bell out" perhaps 10-20m further down. This would seem to indicate that their original underground caverns might have been born quite a bit deeper underground - a theory which seems to be further supported by the fact that their profiles, when drawn over a map of 5L40 (which is very similar in shape and size as well, even though it is quite a long way away) are also remarkably similar (Figure 4).

Such differences, if they are actually real and not just artefacts of my wishful statistical manipulation, could assist all manner of scientific enquiry in the future when it comes to understanding the nature of the limestone and general geology to the south of Mount Gambier. Perhaps these questions will even help us to eventually explain why the water in Ela Elap is so damn COLD (11 degrees C) compared with One Tree (15 degrees), even though these two near-identical features are on the same property!

One could go on about such comparisons for a

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

References

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

Cave Diving in Vanuatu

Submitted by Stephen G Sturgeon

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Santo Cave 96

Cave diving on Santo Espiritu in Vanuatu. Who would have thought that the home of the President Coolidge would also have the potential to offer inland diving to rival some of the best cave diving in the southern hemisphere. The seeds were first sown by Russell Donovan, owner of The Deco Stop Lodge who leased a parcel of land off the custom land owners. Russell started by cutting a track through the jungle to the boundary of his property where he then had to build a bridge across the Sarakata River. This opened up the area to outsiders for the first time. It was not long before local knowledge led Russell to the first of the Blue Holes. With the help of Kevin Green from Aquamarine Dive center and Col Mckensie of SSI, exploratory dives were carried out for the first time. It was then decided to investigate the feasibility of the area as a cave divers' tourist destination. Through Kevin & Col's contacts I was contacted and tasked with putting together a team to survey, map and categorise the sites they had found. We were also to systematically search for further features and formulate an access protocol for the sites.

Five minutes after walking back into work after returning from a cave diving trip to Western Australia's Nullarbor Caves the phone rang. It was Col Mckensie asking me to leave my gear packed and put together an expedition team to head off to Santo as soon as possible. I decided to put together a team that, although small and relatively unknown, would have the diverse skills needed to successfully carry out all the tasks we were being asked to undertake. The team was made up of myself, a cave diving instructor from Rockingham with experience in expeditions to unknown cave diving areas, Dave Warren, veteran of dry caving expeditions to Indonesia, Vietnam, the Nullarbor and Mountaineering in Nepal, Gary Bush, cave diving instructor from New Zealand, Tony Davis, Gary Barclay and Linda Claridge, all cave divers from Victoria.

Our team were generously sponsored by Air Vanuatu & Van Air for travel. Accommodation was supplied by Hideaway Island in Vila and The Deco Stop lodge in Santo. Other Sponsors included

Cochran Australasia, Kodak, Underwater Kinetics and SSI. We flew into Vila just after midnight, and after a short ride in a local bus we were dropped off on the beach in total darkness, to await the ferry to Hideaway Island.

After the 10 minute ride over to the tiny island paradise, we quickly found our beds and got what small amount of sleep we could before being woken at 5:30 the next morning, in time for Dave and myself to get back to the airport for our 1 hour flight to our final destination, the island of Espiritu Santo.

Due to the large amount of expedition equipment we were all carrying, our group was split into three separate flights from Vila to Santo. So while Dave and I set off to organise things in Santo, the others enjoyed the hospitality of Hideaway Island. The friendly staff and great ocean diving ensured a pleasurable wait for the remaining four team members.

Linda and Tony were the last to take the 65 minute flight from Villa to Santo. They arrived at the Deco Stop Dive Lodge to be greeted by Margaret & Russell, the owners of this great establishment. It was here that they found the rest of our team. We were all busy cleaning tanks (ready for Nitrox) and preparing the huge supply of expedition equipment. This was to continue until lunch time when we all donned nice clean, bright overalls & loaded ourselves into Russell's ute for the trip up to his farm. Unlike any farm we had ever witnessed, this piece of native jungle was slowly being turned into prime farming land, but Russell, unlike most land owners is a very environmentally aware person who is working to enhance rather than damage the land. It was during his early development that the first discovery of the holes was made. Throughout the 45 minute trip to the farm, we used our GPS to record various waypoints that would be useful later when plotting the actual sites and hopefully tying them together. "OK, we are here," Russell stated as everyone piled out of the ute.

"Here?... where?" - there appeared to be nothing except dense jungle. "This-a-way," as we all keenly followed Russell along some tracks to appear at the first of many features we were to



Gary Bush and Gary Barclay negotiating the restriction at a depth of 54 metres in '54 metre Shaft'. Photo by Kevin Green.

visit in the next couple of hours. The first site consisted of a short stream intersected by another stream both flowing at quite a considerable rate. What got all of us excited was that one end of the stream appeared out of the ground whilst the other end disappeared quickly into a 54 metre hole. Question 1 - where was it going, Question 2 - where did it come from, Question 3 - why the hell hadn't we brought any gear! A quick probe along the edges to see just what we were up against and we were off along a track that was being expertly constructed by Russell and his trusty bush knife.

This was to set the tone for the rest of the afternoon, one hole would lead to another, that led to yet another. Over each rise and around each corner there would appear either a sinkhole, a creek, or maybe those exciting resurgences. Our mission was to discover if any of these were linked and just where they all came from and where they went. A trapse along one creek was a very welcome cool change to pushing through the undergrowth and we were very surprised to feel the force of the water flow.

Now the hard work was to begin, during the course of the afternoon 13 features had been waypointed on the GPS and these all had to be related to a large topographical map. Dave and Gary Bush spent many hours that night plotting over the map and computer successfully making some sense of the coordinates.

Day three started bright and early with a cooked breakfast, after which we headed off once more into the bush to look for more leads. The trend seemed to be that the more we found the more the locals would come up with. We started off by heading into an area that had previously been



Searching for other blue holes. In foreground, Stephen Sturgeon, on horse Gary Bush and Russell Donovan and others. Photo by Tony Davis

fenced off as being unacceptably dangerous for running bulldozers and cattle. Unfortunately initial exploration failed to give us any sizeable leads. During the next few days Dave & I went off looking for more potential sites while the rest of the group surveyed the lower reaches of the main streamway that Russell had first shown us. This included several sections of river cave.

During these exploratory treks that Dave and I made, the local guides would often suddenly say we could not go any further either because of different traditional ownership of the land or Taboo. One such place was an interesting section of the Sarakata River. In order to continue our exploration of the Sarakata River Region, we had to make an offering to the spirit of Tabup - a small Picaninnie, or young child, who, according to legend, was drowned in the Sarakata River.

In the words of the Custom Land Owner, Roman, to perform the ceremony we had to walk to where the small child was drowned - "close up little bit". Close up little bit proved to be a hike through the thickest jungle any of our party had ever seen. After a long trek we ended at a 15 metre cliff overlooking the pool where Tabup drowned. During the short ceremony, Roman offered prayers to his various gods, and sacrificed a live rooster to Tabup, by slitting its throat and offering it to the river, along with some local currency and a yam. The ceremony was intended to appease the spirit and allow us to dive in the place where Tabup had drowned.

With the ceremony completed, we walked back to Roman's village for the second official ceremony of the day - the Kava Ceremony. At the start of the ceremony we were greeted by the entire village

community, all dressed in traditional costume, Roman then offered a formal greeting to his new friends, and thanked us for helping to find the caves on his land. He then formally cemented the business partnership with the lessee of the land for a continuing tourist area. We were then led into the village proper for the Kava Ceremony. Kava is a root that is crushed to a pulp and mixed with water to make a very different drink, which, instead of being alcoholic, is in fact a type of narcotic drug used a lot in the Pacific Region.

After meeting & drinking Kava with various members of the village, we were left with the feeling that what we had been part of during the course of the day was genuine local tradition, not to be taken lightly, and something not seen by the average visitor to Santo.

To date we had explored all the lower streamway section including the resurgence named Fifty four (from the initial depth) and had travelled as far as possible upstream. At this point the future was not looking too bright. As usual, the most uninteresting looking areas can prove to be the most productive. Such was to be the case with Clamshell (named after the huge clamshell embedded in the limestone wall at the waters edge). A path had to be cut through the dense undergrowth down a steep, muddy slope, and then the gear was lowered to the water's surface, 4 metres below.

After an initial recce by the two Garys, Linda and Tony took on the job of exploring the site. A small, very silty entrance lake led down through a tight and very dirty passage to a depth of 32 metres where a window led into the main streamway. The visibility immediately went from zero viz to the



About to enter '54 metre shaft'. Divers Gary Bush and Gary Barclay, others Stephen Sturgeon and David Warren. Photo by Tony Davis.

crystal clear water of the underground streamway we had explored at 54. At first they went downstream, hoping to connect up to our guideline in 54 that the two Garys had installed. The second dive ended after running only 30 metres of line and dropping to a depth of 42 metres as the passage closed out at a restriction not easily passed by divers. Due to the strong downstream current it was decided that after letting a few metres of line through the restriction to flap in the current, as a beacon for the divers pushing upstream from 54M spring that the upstream section should be pushed.

On the next dive Linda & Tony made a concerted effort to push upstream, adding another 100 metres of line through virgin passage which was a fairly constant 3 metres wide by 2 metres high.

Tony's final dive for the expedition was another push upstream, and again Tony & Linda were able to lay another 75 metres of line to the end of the previous days limit, however instead of continuing in a fairly straight line, the tunnel had started to turn left & right, and gradually rise in depth from the constant 36 to 39 metres to a minimum of 29 metres.

By now the cave has had just over 300 metres of line laid upstream, with no end in site, however the gradual decreasing depth indicated that the passage was heading towards the surface. As we had found a likely looking upstream sink on a previous trek through the jungle, we decided to survey back to Clamshell, which was found to be approx. 500 or 600 metres from the entrance to Clamshell.

Another dive by Gary, Kevin and myself upstream in Clamshell resulted in another 100 plus metres of line being added to the previous point and an exploratory foray of a further 30 metres was made to a point where the depth had decreased to less than 10 metres. At this point we had gone about as far as our equipment would allow us to go. It was time to check out the upstream sink found earlier (The Drinking Hole). Linda made the first dive into the sink armed with a single 20 cu ft pony bottle and instructions to have a quick look! After a few minutes Gary became concerned with the length of time she was under so Gary Bush grabbed another pony to check out the delay. Linda was OK but had found another couple of restrictions which would block our way from Clamshell. Linda and I returned to The Drinking Hole to dig out the down stream restriction. We started by pulling out all the loose rocks both large

and small, and finished by levering out some of the harder ones. After this was done I went back down to see if the vis had cleared enough to attempt to get through. This proved to be quite easy and another section of line was laid making the down stream total approx. 75 metres. The way appeared to be clear to connect to Clamshell.

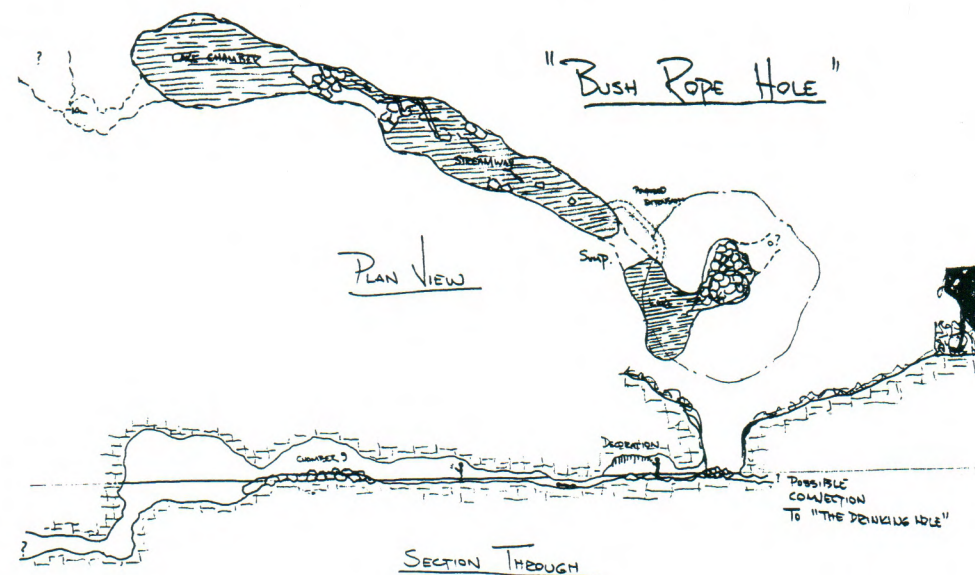
On our next dive Linda and I used side mounted 120 cu ft cylinders to negotiate the restrictions that had been cleared previously and picked up the reel at the 75 metre mark. Unlike all the previous dives the way forward was not cut and dried. The cave was a complex wash out of the collapse with passages going off in many directions. Intuition, water flow and a lot of luck led us through to a passage similar to the passage from Clamshell. Sure enough after laying 240 metres of line the connection was made. A hard swim against the flow was all that remained to complete the dive. The week long project of laying line, digging out restrictions and surveying had finally paid off with a 600m connection from Clamshell to The Drinking Hole.

The last job was to install a permanent fixed line with line arrows indicating distance and direction from the two surfaces. This was to be accomplished by sending in Linda and Dave from

Clamshell to install line arrows, whilst Gary videoed progress. Unfortunately due to an equipment problem and a communication error the line arrows were not all installed. The second phase of the dive was for Gary Bush and I to enter from The Drinking Hole and do the first through trip installing line arrows and tidying the line as we went. The end result was that a complete through dive had been established.

During the trip many other promising features were found and recorded for future exploration. Not the least of which is Bush Rope Hole. It consists of a 15 metre abseil into a small hole which has a small duck going upstream about a metre or so into a decorated lake chamber. Another duck of about 5 or 6 metres comes up in dry river passage approximately 100 metres long and terminating in another upstream sump that starts off like the passage in Clamshell, big, white and exciting. This, along with many other exciting features (including the Big One), the Head of the Sarakata River will have to be left for our next expedition (August 97).

Anyone interested in joining the next expedition should contact the writer on 08 9527 7667 for further details. Expedition leaves Australia on 26th July, 1997.



A MESSAGE FROM THE NATIONAL DIRECTOR

Since the last issue of Guidelines the National Directorate has been busy tackling a number of important issues which I will discuss under the headings below.

Director Resignation and Retirement

One of the most important things to occur since the last issue of Guidelines has been a change to the National Directorate.

Firstly, Chris Brown the Business Director, has decided to stand down from his position. Several issues have prompted Chris to resign, including his need to spend more time with his employment. His position has been casually filled by Carlo Virgili, and I would like to take this opportunity to thank Carlo for stepping into this role and already working tirelessly to get many of the required tasks done, at such short notice.

Secondly, Ian Lewis the Standards Director, has decided after many years of serving on various Directorates, to retire from CDAA office. Ian is known to many of the members through his long association with cave diving, not just at a political level but as an author, examiner and instructor. He is a life member of the Association and I would like to take this opportunity, on behalf of the members, to thank Ian for the time he has spent serving the CDAA, and wish him well in the future. He has written a more detailed explanation regarding his retirement, which appears elsewhere in this issue of Guidelines.

The position of Standards Director has been casually filled by Glen Harrison, who has already been working closely with Ian and I, in reviewing and updating the entire Standards and Procedures of the Association.

As a final point on this matter, I would like to make it clear that the retirement and resignation of Ian and Chris, were not in any way related.

Rebreathers

A number of members would be aware of a dive done in Cocklebidy cave by two CDAA members, back in February this year, using

semi-closed rebreathers. The National Directorate would like to make it clear to all members that the use of rebreathers, of any kind, is not sanctioned by the Association and the advice we have is that there use (at this stage) is outside existing insurance agreements. This is quite reasonable when one considers that the CDAA Standards and Procedures were set up with only open circuit SCUBA in mind. The circumstances surrounding the rebreather dive in Cocklebidy cave are currently being reviewed by the National Directorate after the issue was raised at a recent Landowner Liaison Committee meeting.

Weebubbie Cave access

While discussing the Nullarbor, I am pleased to announce that access to Weebubbie Cave has been re-negotiated with the WA Department of Land Administration (DOLA). Members of the CDAA who wish to enter the cave must adhere to the following system:

Write an application with at least four weeks notice to:

Mr Graham Higgins
Department of Land Administration
PO Box 2222
MIDLAND
WA 6056

Include in the application:

- * The dates of the intended visit(s)
- * Photocopies of CDAA certification cards for all of the party
- * A signed Indemnity Form for Weebubbie Cave (photocopy from original in this issue of Guidelines)

Please note that:

- * This arrangement is for Weebubbie only and access to the other caves on the Nullarbor must follow existing access protocol.
- * The fixed ladders have been removed from the cave, so individual groups will need to make alternative arrangements for entry.

Access Problems

1) One Tree Sinkhole

I was recently contacted by Jenny Norman in relation to access problems with One Tree Sinkhole. As long time members would know, the Normans have been strong supporters of the CDAA for many years with their patience in allowing access to Ela Elap and One Tree. This type of commitment is not without its down side, from people knocking on the door early Sunday mornings to ambulances being called to attend injured divers.

The current access problem relates to divers taking the key to the One Tree paddock gate, from the mailbox **without express permission**. This has occurred several times and the Normans have made it clear that access would be compromised if it occurred again. The key is often left in the box for people other than divers, and the fact that it is placed therein no way presumes access has been granted unless **specific** arrangements have been made. Divers are also asking for access without having their **current CDAA card** available to show, this problem has also been raised by staff at Lady Nelson Park. It really is quite simple **NO CDAA CARD - NO DIVE** is the policy, so please don't put the landowner under pressure by asking.

In my discussions with the Normans and through feedback from the Site Director Gary Barclay, it is quite clear that the vast majority of divers do the right thing, with only a handful causing any problems.

2) Pines/Fossil/Gouldens

It seems that a number of divers are not following the access procedures for these sites. It is a requirement that a permit be obtained before diving in Pines and that DENR are contacted before divers enter either Fossil Cave or Gouldens Hole. Remember all of the current access arrangements are listed in detail in every issue of Guidelines.

Englebrechts West Lighting

Penetration divers who have visited Englebrechts West recently will be aware of the new lighting system and "diver dummy" on

display. The switches for the bottom lights have been changed and it is important that all lights are left as they were before entry, to avoid disruption to the Life Line tours.

Nitrox Card Endorsement

The procedures for Nitrox endorsement appear elsewhere in this issue of Guidelines. Please be aware that to use Nitrox in sites where the CDAA has an access agreement requires the divers to have a Nitrox endorsed CDAA card and *at this stage*, only 32% and 36% Nitrox is permitted.

Standards and Procedures

The Directorate has been working to update and refine the Standards and Procedures of the association in line with requirements for insurance coverage. This process is almost complete and when finished, will define in a much clearer way the requirements necessary to meet the performance based criteria for each course.

Insurance

The insurance issue continues to be a problem for the Association. Our current policy does not adequately protect Guides and several have withdrawn their services from taking divers into the Shaft and Tank Cave, until adequate coverage is found.

The issue is a complex one. The insurance companies require clear standards, hence the refinements we are making to our Standards and Procedures. The premiums are a burden on the finances of the Association and it is likely that several landowners will soon require up to \$20 million dollars coverage.

I am currently negotiating with two new companies in an effort to find a more suitable policy but it is an arduous process, however, I am confident that something can be arranged in the near future.

Renewals

Finally, it is renewal time again and this issue of Guidelines contains a renewal form. It is imperative that membership remains continuous to avoid problems with divers seeking access with out of date cards.

NOTICE RE CONSTITUTION

At the 1995 Annual General Meeting of the Association a motion to establish a Limited Directorate to review the Constitution of the Association was carried.

In Guidelines, Issue No. 56 members wishing to participate in the Limited Directorate were invited to register their interest. The work of the Limited Directorate was completed earlier this year and the resultant proposed amendments published for comment in Guidelines, Issue No. 60. The National Directorate wishes to thank Maria Brennan and the Limited Directorate for their efforts in this matter.

To date comments received by the National Directorate have been considered and this issue of Guidelines contains a draft constitution for final comment. Many thanks to those members who took time to provide comments. The National Directorate has worked hastily and the draft constitution has not been submitted to rigorous proof reading in an attempt to publish in this issue. Any comments no matter how minor will be appreciated.

It is the intention of the National Directorate to endorse a proposed Constitution which will contain a number of amendments to be put as one motion. All voting will be by postal ballot. As members of the Association this will be your last opportunity to contribute to this process.

The endorsed constitution together with postal voting papers will be circulated in the August issue of Guidelines.

Comments can be forwarded to Carlo Virgili by email: Carlovir@tafe.sa.edu.au or GPO Box 1589 Adelaide SA 5001

Draft Constitution for final comment

The previous version of the constitution published on the mailing list and in Guidelines has caused considerable feedback. As a result of this, an amended constitution has been drawn up and is published for further discussion.

CAVE DIVERS ASSOCIATION OF AUSTRALIA CONSTITUTION

1. **NAME:** The name of the Association shall be "Cave Divers Association of Australia Incorporated".

2. **DEFINITIONS:** In this Constitution:

- 2.1 Association means the Cave Divers Association of Australia, (CDAA).
- 2.2 The Act means the Association's Incorporation Act, 1985.
- 2.3 The National Committee means the National Committee of the Association as defined in Section 15 of this Constitution.
- 2.4 Regulations means the Regulations of the CDAA.
- 2.5 In this Constitution the use of he/she or his/hers is interchangeable.

3. **OFFICE:** The Office of the Association shall be determined by the National Committee. All changes to the Office shall be distributed to the members through the Associations official publication.

4. **AIMS AND OBJECTIVES:**

- 4.1 The basic aims and objectives of the Association are to foster the development, advancement, promotion, mapping, education, exploration, conservation, safety and research of underwater karst features.
- 4.2 Additional aims and objectives of the Association include:
 - (I) to seek Government support and assistance for the attainment of the Association's agreed aims;
 - (II) to accept subscriptions, donations, devises and bequests to enable the furtherance of the Association's aims;
 - (III) to acquire, dispose of or otherwise deal with any real or personal property that may be considered necessary or convenient by the National Committee;
 - (IV) to liaise with land holders and other interested parties to promote understanding and cooperation with the Association's aims and objectives;

- (V) to promote and engage in other such activities and provide such other facilities as are consistent with and will enhance the Association's aims and objectives;
- (VI) to ensure adequate training and safety of all members and special visitors.

5. **AMENDING THE REGULATIONS:**

The Regulations can only be amended at a properly constituted meeting of the National Committee, where a majority of members present vote in favour of the amendment(s). Such meetings must comply with the provisions of Section 24.

6. **AFFILIATION:**

The Association may affiliate with any such other Associations or bodies the aims and objectives or interests of which are considered by the National Committee to be in common with those of the Association.

7. **INCOME**

The income and property of the Association shall be applied solely to the furtherance of the aims and objectives of the Association as outlined in this Constitution and no portion of it shall be ceded to any of its members. The Association shall not be prevented by this section from paying any members for any goods or services, provided such goods and services are authorised by the National Committee and payment satisfies the provisions of accounting records as defined in the Act.

8. **MEMBERSHIP**

There shall be four (4) categories of membership - General, Associate, Life and Affiliate.

8.1 **GENERAL**

General Membership shall be open to any person. Any such applicant shall be deemed to be a member upon:

- (I) receipt of the completed application form;
- (II) being accepted by the National Committee or it's designate, (as defined in the Regulations) as being a person having met the requirements of the Association including:

- (a) payment of all fees;
- (b) holding a minimum of entry level certification;
- (c) any other requirements as set out in the Regulations.

8.2 **ASSOCIATE MEMBERSHIP**

Associate membership shall be open to any person who is interested in the aims and objectives of the Association but does not fulfil the requirements of general membership.

- (I) Any such applicant shall be deemed to have become an associate member upon:
 - (a) receipt of the completed application form;
 - (b) being accepted by the National Committee;
 - (c) payment of all fees.
- (II) An associate member may attend meetings of the Association but has no voting rights.

8.3 **LIFE**

Life membership shall be open to any person who has contributed extraordinary service consistent with the Association's aims and objectives over a number of years. Life members shall be announced at the Annual General Meeting of the Association in accordance with the provisions stipulated in Section 23 of this Constitution. Life members shall not be required to pay the annual membership fee or any levies which may be imposed by the Association.

8.4 **AFFILIATE**

Affiliate membership shall be available by application to other Associations or bodies who are interested in the aims and objectives of the Association. Affiliate membership implies or requires no rights or obligations except contact and publication exchange and serves to formalise official liaison for matters of common interest.

- (I) Any such applicant shall be deemed to have become an affiliate member upon:
 - (a) receipt of the completed application form;
 - (b) being accepted by the National Committee;
 - (c) payment of all fees.
- (II) An affiliate member may attend meetings of the Association but has no voting rights.

9. **CERTIFICATION**

- 9.1 Members shall be certified into levels of skill and experience. All members, regardless of their level, shall have equal membership rights and are eligible to stand for election within the Association.
- 9.2 Members shall only dive in a karst feature appropriate to the level of their certification. Where a feature is multi classified, members may only enter that part of the feature for which they are certified.
- 9.3 The certification level of each feature shall be determined by the National Committee and will be set out in the Regulations.

10. **FEES**

All fees, levies and fines must be paid and a receipt issued before membership is granted to any member.

10.1 **MEMBERSHIP FEES**

- (I). The annual membership fees shall be determined by postal vote. The fees will be stipulated in the Regulations.
- (II). The membership fees must be paid and a receipt issued before membership is granted to any members.
- (III). The membership fees shall fall due annually on the 1 July. Any intending member who joins after the 1 May shall be deemed to be financial for the next financial year.
- (IV). Any member whose membership fee is unpaid by 1 August shall pay a late fee, as specified in the Regulations. Any member whose membership fee is unpaid by 1 September shall cease to be a member.

Any member so affected shall have the right of appeal to the National Committee.

10.2 **LEVIES**

The National Committee may impose a levy for a specific purpose at any time, provided that such a levy does not exceed the annual general membership fee. Levies in excess of the annual general membership fee must comply with the provisions of Section 23.

10.3 **FINES**

The National Committee may, in addition to the provisions of Section 13.2, 13.3 and the Regulations, impose a fine on any member found in breach of this Constitution and or Regulations. Each year or part year of suspension shall attract a fine equal to the annual general membership fee in the year which the infringement occurred. Membership will not be reinstated until this fee has been paid.

11. **RESPONSIBILITY**

- 11.1 No member shall be authorised to represent the Association in any way or affix their name to any document relating to the affairs of the Association without the sanction of the National Committee.
- 11.2 No member shall carry out any resolution of any meeting unless requested by members at any meeting or by the National Committee.
- 11.3 No member shall make, authorise or issue any public statement, whether written or verbal, or in any way purport to represent the Association or its views on any matter, or make any statement which may in any way be associated with the Association except within the provisions of Section 11 of this Constitution.

12. **RESIGNATION OF A MEMBER**

Any member may resign by first giving 30 days notice in writing to the Business Director of the intention to resign, and upon expiration of that period of notice the member shall cease to be a member of the Association. Any member resigning from the Association or ceasing for any reason whatsoever (including expulsion) to be a member shall not have any right, title or interest in or to any property of the Association. Any member resigning part way through a membership year shall not be entitled to a refund of fees for the balance of that membership year.

13. **VIOLATION OF CONSTITUTION OR REGULATIONS**

- 13.1 Every member undertakes to comply with the Constitution and the Regulations of the Association and any refusal or neglect to do so shall render such member liable to suspension, expulsion or any other penalty as set out in the Regulations of the Association or determined by the National Committee. Any member who has been penalised shall be notified in writing within seven (7) days of such penalty being imposed.
- 13.2 **SUSPENSION.** The National Committee shall have the power to suspend a member for any breach of the Constitution or Regulations. Such member shall be given not less than twenty (20) days notice in writing prior to the National Committee meeting to be held to deal with the complaint. That notice must provide full details of the nature of the complaint and the time and place of the National Committee hearing at which time such member is entitled to appear before the National Committee (with or without representation) for the hearing of the complaint.
- 13.3 **EXPULSION.** The National Committee shall have the power to recommend to an Annual General Meeting or a Special General Meeting of the Association the expulsion of a member who is currently suspended for any breach of the Constitution or Regulations. The National Committee may suspend such a member pursuant to Section 13.2. of this Constitution until such time as the next Annual General Meeting or Special General Meeting, whichever be the sooner, is held.
- 13.4 **APPEAL.** Any member who has been suspended or

expelled or penalised by the Association shall have the right to appeal such penalty, such appeal shall be lodged with the Business Director within fourteen (14) days of written notice being received by the appellant. If any such appeal is lodged a Special General Meeting shall be held at which meeting the appellant shall be summoned and who shall be entitled to explain their actions or answer the charges. A majority ruling of the members present shall decide on the penalty.

14. FINANCIAL YEAR

The financial year of the Association shall end on 30 June each year.

15. NATIONAL COMMITTEE

The National Committee of the Association shall consist of the National Director, Business Director, Finance and Publications Director, Site Director and Standards Director. Office Bearers shall be elected in accordance with this Constitution. Office Bearers found in breach of this Constitution or Regulations and required to serve a member suspension must resign office. The Standards Director, (if also a current CDAA Instructor), if found to be in breach of this Constitution or Regulations and required to serve an Instructor suspension must resign office. Subject to this Constitution and the Regulations, the National Committee shall manage the affairs of the Association and:

15.1 Shall make regulations in conformity with this Constitution as deemed necessary for the carrying out and managing affairs of the Association.

15.2 Shall fill any casual vacancy within the National Committee, within three (3) months of such a vacancy occurring, for the remaining term of that vacancy.

15.3 Shall deal with applications for membership and resignations of members.

15.4 Shall interpret the Constitution and Regulations of the Association.

15.5 Shall carry out all resolutions passed at any meeting of the Association.

15.6 Shall deal with any matters which may arise in the day to day running of the Association.

15.7 Subject to the provisions of Section 13 of this Constitution determine actions to be taken against any member who contravenes the Constitution or Regulations.

16. DUTIES OF THE NATIONAL COMMITTEE

16.1 NATIONAL DIRECTOR

The National Director shall:

- (I) preside as chairperson at all meetings of the Association;
- (II) authorise all statements for publication or general release to the public;
- (III) prepare an Annual Report of the activities of the Association for distribution to the members not less than 21 days prior to the Annual General Meeting;
- (IV) be responsible for legal and insurance matters relating to members, sites, landowners and other interested groups;
- (V) be an ex-officio member of all sub committees of the Association;
- (VI) have the casting vote at meetings of the Association;
- (VII) be responsible for all duties or responsibilities not otherwise undertaken;
- (VIII) have the power to delegate and assign tasks as the need arises.

16.2 BUSINESS DIRECTOR

The Business Director shall:

- (I) assist the National Director and, in the absence or inability to act of the National Director, exercise all powers and perform all of the duties of the National Director;
- (II) be responsible for the administrative organisation of the Association and the keeping of all records;

(III) maintain a copy of the Constitution and Regulations and make copies available upon request;

(IV) conduct all correspondence of the Association;

(V) prepare all necessary agendas for any meeting and ensure that all mail is distributed within the required time frames;

(VI) in accordance with the provisions of this Constitution call all meetings of the Association and notify all relevant members;

(VII) take minutes of all meetings and keep them in accordance with the Act;

(VIII) maintain a record of all Special Visitor Permits issued;

(IX) provide a written report of infringements of the Constitution and of the Regulations by any member to the National Director;

(X) be responsible for issuing all certification cards;

(XI) have the power to delegate and assign tasks as the need arises.

16.3 FINANCE AND PUBLICATIONS DIRECTOR

The Finance and Publications Director shall:

- (I) be responsible for the timely production and distribution of all official publications of the Association;
- (II) keep all necessary accounting records as defined in the Act;
- (III) receive all monies belonging to the Association and within a reasonable time, deposit or arrange to deposit such monies with the Association's bankers;
- (IV) subject to Section 6 authorise and pay all accounts as required;
- (V) maintain a record of members including their financial status and advise members of any fees due;
- (VI) prepare and submit the books of account to the Auditor each year;
- (VII) prepare and submit a duly audited Annual Report and the accounts of the Association, as defined in the Act to members not less than thirty (30) days prior to the Annual General Meeting;
- (VIII) have the power to delegate and assign tasks as the need arises.

16.4 SITE DIRECTOR

The Site Director shall:

- (I) liaise with the members of the Association, landowners and other interested groups in respect to obtaining and maintaining dive site access;
- (II) have the power to delegate and assign tasks as the need arises.

16.5 STANDARDS DIRECTOR

The Standards Director shall:

- (I) keep a list of members holding current CDAA Instructor status;
- (II) maintain, develop and implement the provisions of the Standards and Procedures Manual, as defined in the Regulations;
- (II) undertake and be responsible for ensuring compliance with the provisions of the Standards and Procedures Manual;
- (III) provide a written report to the National Director of any infringement by an Instructor of the Constitution, Regulations, the Standards and Procedures Manual or diving standards contained in the Regulations;
- (IV) consider any applications for Instructor appointments in accordance with the provisions of the Standards and Procedures Manual;
- (V) have the power to delegate and assign tasks as the need arises.

17. OFFICE BEARERS & ELECTIONS

17.1 Office Bearers of the Association must be financial members of the Association and must be residents of Australia. Office Bearers found in breach of this Constitution or Regulations and required to serve a member suspension must resign office. The Standards Director, (if also a current CDAA Instructor), if found to be in breach of this Constitution and the Regulations and required to serve an Instructor suspension must resign office.

17.2 The Office Bearers of the Association shall be elected by postal ballot only and the result shall be announced at the Annual General Meeting. Office Bearers may also be elected at a Special General Meeting of the Association subject to the provisions of Section 22. Office Bearers shall, subject to this Constitution, hold office until the next Annual General Meeting.

17.3 At each Annual General Meeting the Chairperson shall declare all positions vacant. Nothing shall prevent retiring Office Bearers from re-nominating.

17.4 All nominations for Office Bearers must be in writing and be signed by the nominee, the proposer and the seconder. The proposer and the seconder must be financial members of the Association.

17.5 Members must be given not less than sixty (60) days written notice of polling date, calling for the written nominations of candidates for the Office Bearers. Nominations must be received by a Returning Officer not less than forty-five (45) days prior to the polling date. A list of validly nominated members shall be distributed not less than thirty (30) days prior to the Annual General Meeting or Special General Meeting.

17.6 The Returning Officer shall be determined by the National Committee.

17.7 Office Bearers may at any time be removed from office by resolution duly passed at a duly constituted meeting of the Association. The position shall then be filled subject to Section 15.2 of this Constitution.

18. SUB COMMITTEES

A subcommittee may be formed by the National Committee. Each subcommittee shall be accountable, subordinate and report to the National Committee, and shall be formed for a fixed term and for a specific purpose.

19. PUBLIC OFFICER

A Public Officer shall be appointed from the general members of the Association and shall not be an Office Bearer. The National Committee shall be responsible for appointing the Public Officer.

20. MEETINGS

The following types of meetings may be held for the members of the Association as required by this Constitution or at the request of members:

- 20.1 State Meetings.
- 20.2 Special General Meetings.
- 20.3 Annual General Meetings.
- 20.4 Committee Meetings.

21. STATE MEETINGS

State meetings may be called from time to time as the need arises by the National Directorate. Such meetings shall be called only for the exchange of information. No motions may be put, no voting may take place.

22. SPECIAL GENERAL MEETINGS

A Special General Meeting shall be convened whenever the National Committee or the Public Officer deems necessary or upon a written request from not less than 10 % of members eligible to vote at that time. The written request shall be signed by those requesting and shall be sent to the Public Officer of the Association, and shall state the object(s) of the meeting. The meeting shall be held within sixty (60) days of the written request. The time for the meeting shall be determined by the National Committee and will be held in a location that best services the majority of members. Notice of such meeting shall

be given not less than thirty-five (35) days prior to the meeting to all members eligible to vote. Such notice shall be by prepaid post to each member at their address appearing in the records of the Association and shall state the place, time, and date of the meeting. The agenda shall be distributed not less than thirty-five (35) days prior to the meeting stating the nature of the business to be discussed. No business other than that notified shall be transacted at the meeting. 20% of members entitled to vote and personally present shall constitute a quorum for the transaction of business at any Special General Meeting. If a quorum is not present after one half hour of the time appointed then the chairperson shall arrange a further meeting in accordance with Section 25.1. Items can only be voted upon if a quorum has been established. The National Director shall appoint two (2) scrutineers who shall report the result of the ballot to the National Director.

23. ANNUAL GENERAL MEETING

The Annual General Meeting of the Association shall be held at a date to be fixed by the National Committee between 1 September and 31 October each year. The business to be transacted shall be in the following order:

- 1 Welcome and Opening
- 2 Present
- 3 Apologies
- 4 Acceptance of the minutes of the previous AGM
- 5 Business Arising from the Previous AGM
- 6 Adoption of the Annual and Financial Reports
 - National Director
 - Finance and Publications Director
 - Standards Director
 - Site Director
 - Business Director
- 7 Appointment of an Auditor
- 8 Elections
 - Results of postal voting
- 9 General Business
 - Any Other Business
 - Results of Life Members postal vote
- 10 Close

Not less than sixty (60) days prior notice shall be given by the Business Director to all members eligible to attend such meetings. Such notice shall be by prepaid post to each member at their address appearing in the records of the Association and shall state the place, time, and date of the meeting. An agenda shall be available stating nature of business thirty (30) days prior to the meeting. The minutes, annual and financial reports and any other business to be transacted shall be distributed to the members not less than thirty (30) days prior to the Annual General Meeting. Items can be voted upon only if presented in accordance with the provisions of his Constitution.

24. COMMITTEE MEETINGS

The National Committee of the Association shall meet at least 4 times per financial year. The meetings shall be open to the membership of the Association and the minutes and financial records of the Association shall be available to the membership on request. The quorum for a Committee Meeting shall be four (4) Office Bearers.

25. MEMBER MOTIONS

Members desiring to bring business before a meeting shall give forty-five (45) days notice of that business in writing to the Business Director.

26. VOTING

26.1 GENERAL

- (I) A member is not entitled to vote unless they have complied with Section 10 of his Constitution.
- (II) Each member shall have one (1) vote. Such vote shall be personal or by postal ballot subject to the provisions of this Constitution.
- (III) Except where expressly provided the election of Officer Bearers shall take place by postal ballot and

the result shall be announced at the Annual General Meeting. The Returning Officer shall report the result of any postal votes to the National Director. Each nominee may appoint a scrutineer for the counting of votes. The Returning Officer shall be a non contestant.

26.2 POSTAL VOTING

- (I) Where provided for in this Constitution, a member not otherwise voting shall be entitled to use a system of postal voting.
- (I) A postal vote shall only be made upon a form approved and provided by the National Committee for that purpose. That form shall protect the anonymity of the voter and shall be confidential.
- (III) A Returning Officer shall be appointed by the National Committee and shall be a non contestant.
- (IV) Postal vote papers shall provide notice of the motion.

27. ALTERATIONS TO THE CONSTITUTION

The Constitution of the Association may only be altered by postal vote and the result shall be announced at the Annual General Meeting subject to the following:

- 27.1 The amendment shall be notified by the proposer in writing to the Business Director at least forty-five (45) days prior to the Annual General Meeting.
- 27.2 The Business Director shall notify each member in writing of the proposed alteration at least thirty (30) days prior to the Annual general Meeting.
- 27.3 Only postal votes shall be accepted for Constitutional changes.
- 27.4 The Business Director shall advise all members in writing of the duly passed amendments within thirty (30) days of it being passed and such alteration shall come into effect

seven (7) days after the posting of such notice.

- 27.5 The Constitution may also be altered at a Special General Meeting of the Association subject to the provisions of Section 22 of this Constitution.

28. WINDING UP

- 28.1 If at any meeting a resolution for the dissolution of the Association is motioned, then the resolution must be passed by no less than 80% of all financial members.
- 28.2 If upon dissolution of the Association, there remains after all liabilities have been discharged, any assets, those assets shall be distributed to any other organisation whose aims and objects are similar. Such distribution shall be determined by the members at a Special General Meeting to be held at or before the time of dissolution.

29. THE SEAL

- 29.1 The Association shall have a common seal upon which its corporate name shall appear in legible characters.
- 29.2 The seal shall not be used without the authorisation of the National Committee and every use of the seal shall be minuted in the minute book of the Association.
- 29.3 The fixing of the seal shall be in the presence of at least three (3) Office Bearers.
- 29.4 The seal shall be kept in the custody of the Business Director or such other member of the Association as shall be decided by the National Committee.

30. NOTICES

Any notice required to be served in accordance with this Constitution may be served on behalf of the Association by posting it to the last address held on file by the Association. Where such document is properly addressed, prepaid and posted to a member it shall be deemed to have been received at the expiration of three (3) clear business days from the posting.

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| BOOKS | | Cave Diving Communications. A manual from NSS - CDS dealing exclusively with all underwater communications used in cave diving. Including touch, torch and line signals, and use of line arrows and jump reels. A must for all cave divers bookshelves. | \$15.00 | |
| | | Cave Diving - A Blueprint for Survival. A book by the world-renowned cave diver, the late <i>Sheek Exley</i> , this is a case study of a number of accidents that have occurred in the USA and how to avoid them. | \$15.00 | |
| | | Basic Underwater Cave Surveying. The standard publication for anyone remotely interested in research and survey techniques used in water filled caves. | \$15.00 | |
| | | CDAA Occasional Paper No. 2. From National Conference 1981. Includes topics such as Fossil Cave, Belay Techniques and Cocklebidly 1979. | \$8.00 | |
| | | S.R.T. Single Rope Techniques. Published by the <i>Sydney Speleological Society</i> . This is the definite work on all aspects of vertical travel in caves. Should answer most questions on rope work for cavers and cave divers alike. | \$27.00 | |
| | | DES Emergency Handbook. Revised 1996 edition by <i>Lippmann and Bugg</i> . Printed on waterproof paper this essential first aid manual should be part of every cave divers' kit. | \$15.00 | |
| | | NSS Cave Diving Manual. The standard reference manual in cave diving covering just about every conceivable topic. New Edition. | \$40.00 | |
| | | Wukulla Springs Project. The U.S. Deep Caving Team, edited by <i>William C. Stone</i> . | \$59.00 | |
| | | The Darkness Beckons. By <i>Martyn Farr</i> . The history and development of cave diving. | \$50.00 | |
| | | Deep Diving. By <i>Bret Gilliam, Robert Von Maier</i> . An advanced guide to physiology procedures and systems. | \$30.00 | |
| VIDEOS | | Deep Into Blue Holes. By <i>Rob Palmer</i> . This is the project manual written about his trips to the Bahamas, diving some of the most advanced and spectacular caves in the world. | \$40.00 | |
| | | NSS Cavern Divers' Manual. The standard reference manual in cavern diving covering almost every conceivable topic. Also most principles behind safe sinkhole and cave diving. | \$18.00 | |
| | | Caverns Measureless to Man. <i>Sheek Exley</i> . | \$40.00 | |
| | | Cave Practice & Equipment. Edited by David Judson British Cave Research Association. Updated 295 Page book fully illustrated with over 200 line drawings & 33 pages of dramatic photographs. Full chapter on cave diving by Martyn Farr. | \$40.00 | |
| | | Australian Caving Diving - A Contrast. By <i>Tony Carlisle</i> . Four short documentary type videos on Warbla Cave, Three Sisters Cave, The Road to Toad Hall and Tank Cave. Reviewed in Guidelines 54. | \$25.00 | |
| | | Australia "Nullarbor Dreaming". A world record exploration into a desert cave. During November 1988, a team of Australian cave divers set out on an amazing adventure to explore the mysterious subterranean waters of the Pannikin Plains cave. This epic underwater exploration nearly ended in tragedy when a freak cyclone storm hit the area and the cave collapsed trapping the expedition below. The program is a graphic account of the expedition and their escape from the cave. Executive Producer - Andrew Wight. | \$29.95 | |
| | | Florida "Window to a Hidden World". The ultimate cave diving adventure. Andrew and Liz with fellow cave diver-explorer Wes Skiles, take us on a journey to discover the beauty and danger of the Florida aquifer. Beneath the surface of Florida lies one of the planet's largest freshwater reserves. The intricate system of water filled caves is now under increasing environmental threat from the population above. Producers: Andrew & Liz Wight. | \$29.95 | |
| | | Mexico "Water of the Gods". An exploration of ancient Maya ruins and underwater caves. Under the dense jungle of Mexico's Yucatan Peninsula lies a vast freshwater source relied upon by the ancient Mayas - a mysterious and complex people who built and occupied complex limestone cities in this region for over two thousand years. The Wights explore their hidden caves, uncovering their beauty and mystery, and providing a link to the past. Producers: Andrew & Liz Wight. Director: Liz Wight. | \$29.95 | |
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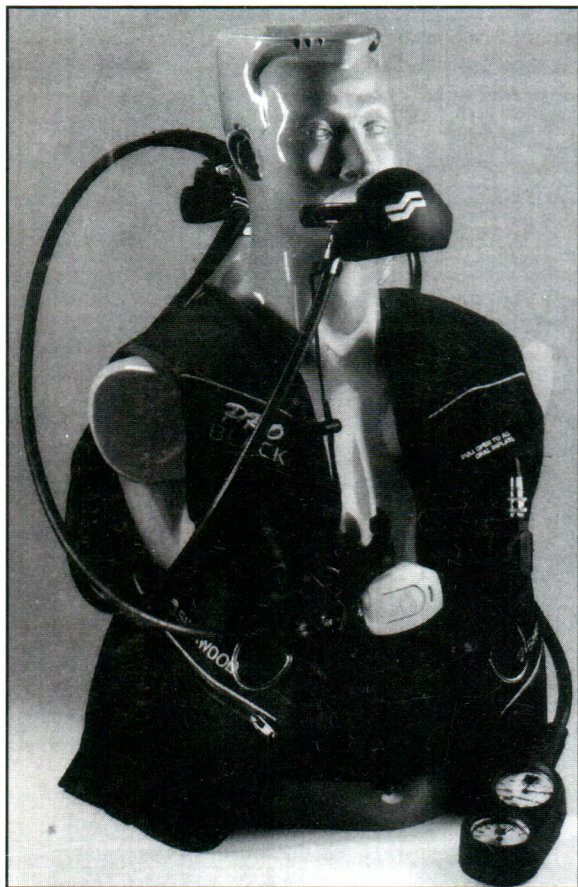
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