



C.D.A.A. Newsletter

GUIDELINES

No: 51 - MARCH 1994



CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)

Print Post No. PP 381691/00020



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Front Cover: Phillip Mann in Pines, c. 1984.
Photo by Frank Ziegler.

Guidelines is the newsletter of the Cave Divers Association of Australia, published four times a year – March, June, September and December. All articles for the following issue are to be sent to the Editor, Peter Girdler, P.O. Box 290, Golden Grove, SA 5125, prior to **10th May, 1994**. Articles and information may be reproduced without prior permission provided reprints are credited to the authors and Guidelines. Private ads for caving and diving equipment may be advertised free. 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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DIRECTORY

The following is a list of people that can be contacted for C.D.A.A. matters. Please contact the most relevant person or, if unsure, write to P.O. Box 290, North Adelaide, 5006 and your enquiry will be passed on.

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EDITORIAL

Litigation, Liability Insurance, Risk Management, Duty of Care and Karst Management are all issues that are being addressed at this time by the CDAA, Speleological Councils, Land Owner/Managers and Caving Groups alike. As users of these respective recreation sites we have a responsibility, in relation to these issues, which we can no longer ignore. If we wish to retain access to sites then we must exercise our responsibility and not ignore it. The days of "She'll be right mate, I know what I'm doing", have gone and we must abide by the accepted procedures or risk losing access.

I believe we have already seen what "could have happened".

The membership have the opportunity "to have their say" through this forum or by contacting their appropriate representatives. I would welcome any members' input to these issues.

Recent negotiations have enabled the CDAA to gain access to Kilsbys six times a year and the numbers allowed to dive on a weekend have increased. First time divers still have priority, at this stage, but that may change later this year along with changes to the access procedures. These changes will be detailed in the next issue of Guidelines.

Safe diving, Pete

TRY THE PAGER ...
To contact Peter Girdler
via his pager - (03) 625 5000
OR (08) 273 5000
and quote pager no: 56857

A NOTE FROM THE RECORDS' OFFICER - MEMBERSHIPS DUE 30th JUNE 1994

by Glenn O'Connell

As most members are aware, all memberships expire on the 30 June each year except those who have bi-annual memberships. This means that at least half of the membership renew each year and this could be up to 700 members. It is impossible to renew all the due memberships at once so to avoid being caught without a

card it would be advisable to start renewals as early as possible to avoid delays. A renewal form is enclosed with this edition, so fill it out and mail it today!

After the 31st of October EACH YEAR, a late fee of \$20 will be imposed for late renewals. NO EXCEPTIONS. **G**

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NATIONAL DIRECTOR'S REPORT

by Lisa Bernasconi

Being my first report as National Director, I would like to thank the membership for giving me the opportunity to hold the position, even though it may only be temporary. I realise, of course, that I only preside here because of the constitution, but I do believe that I can and will do the job justice. I have the ability to be fair and unprejudiced in my decisions and because I have been involved with the Directorate for nearly two years, I have a clear understanding of all that is occurring within the Association at this point of time.

As to the Business Director's position, we have had a few enquiries but no decision will be made by the deadline for this issue, but a decision will be made within a month and the membership notified.

In January, I was involved in a 125th Anniversary for Port MacDonnell council. The CDAA set up a display for them at Allendale East. The weekend was a great success but only for the efforts of Peter Horne, Des Walters, Stan Bugg, Brian Cornell, Steve Arnell, Phil Argy, Gary Barclay and Linda Claridge, so I'd like to thank all of them for their efforts.

We've been promising CDAA-run Cave Courses to be advertised in Guidelines, but I'm afraid that there will be a further delay with those dates until a firm answer on our insurance status can be given in relation to those courses.

I realise it sounds early, but a tentative date of the 30th July has been set for the A.G.M. The reason I mention it now is because there will be only one more edition of Guidelines before July. The June edition will have notice of the meeting and a call for nominations. But any motions for the agenda will need to be sent to myself by 11th June. I will then pass these onto the acting Business Director.

Finally the good news. Excluding Black's Hole, Barnoolut will be open for diving as of 1st April 1994. Black's Hole will remain temporarily closed until new safety measures can be finalised. Access will remain the same as before for 1080 and Bullocks, as outlined in the back of Guidelines. I'd like to thank Colin and Shirley Traeger for all their patience and co-operation while we've been trying to finalise the requirements for Black's Hole. **G**

CDAA NEWS

WELLINGTON CAVE

Wellington Cave is available for diving one weekend per month until (and including) December 1994. Divers will be joining already-commissioned Research Groups. You must have Penetration Rating. Contact Neil Vincent on (043) 97 1798 (h) for further details and to arrange dives.

RE-OPENING OF BARNOOLUT

Barnoolut will be re-opening as of 1st April 1994, for diving in 1080 and Bullocks ONLY. Black's Hole is temporarily closed. Anyone not using correct belay and safety techniques will suffer severe penalties. See "CDAA Site Access" for all current details regarding access procedures.

LATE FEES

After the 31st of October **each year** a late fee of \$20 will be imposed for late renewals. **NO EXCEPTIONS.**

CDAA MEMBERSHIP NUMBERS

As a matter of interest, the following numbers relate to the current membership listing for the CDAA:-

Level	No.
Cavern	131
Cavern/Sinkhole	574
Cavern/Sinkhole/Cave	223
Cavern/Sinkhole/Cave/Penetration	163
TOTAL MEMBERS	1091

WATERSPORTS

by A. Keane

With the current proliferation of dry suits, there must be many who, like myself, have completed a dive with gritted teeth, practising cross-legged finning.

Dry suits are great but, if they are to live up to their title, you really can't go wee-wee in them. Being a Pom and a tea addict, this issue has haunted my dry suit career and I have sought solutions which I am happy to share with others similarly afflicted.

There are a number of devices available on the market to assist with incontinence problems. They all have their pros and cons, and none of them is especially sartorially pleasing, having been designed principally for geriatric invalids. There is a real opening for fluoro coloured incontinence wear for sportspeople; perhaps Nike could produce a range bearing their motto – "JUST DO IT".

The answer to sub-aquatic urinary relief for men would appear to be a product called "Uradome". It's basically a bag which you strap to your leg which is connected to your willy by a rubber tube. When you urinate the fluid flows into the bag. That's the theory anyway.

The trouble is that these devices have not been designed for people who invert themselves and they take no account of suit compression. My first experiment with one of these devices failed spectacularly and I had the refreshing experience of a gentle annointment with 500ml of cold urine.

"There is a real opening for fluoro coloured incontinence wear for sportspeople; perhaps Nike could produce a range bearing their motto – JUST DO IT."

Self-administered golden showers do bring a new dimension to onanism but they can be very inconvenient.

It is possible to get the device with a non-return valve and this is the preferred option. The fluid bag may be mounted on the thigh or the calf. Calf mounting seems best (that's the anatomical calf, not the bovine variety). The leg bags come in two sizes – 500ml and 1.25 litres. The larger size is better as it is more tolerant of compression and you'll need it if you like to sink a six-pack between dives.

There are a number of options for the bit that goes on your willy. Essentially they resemble heavy duty condoms with a tube hanging out the end and look like the sort of thing that's only available mail-order and arrived discretely packaged. One type just rolls on and is secured with sticky tape. The better variety has sticky stuff through the length of the sheath which gives a really good seal. Both varieties offer a lot of amusement disentangling them from your hair. They come in three sizes – if you require the smallest one you can always say you are buying it for a friend.

This device is available from a number of surgical suppliers. Grajen's of Prospect helped me with mine and the boss, Mr Joyce, is familiar with the special needs of divers, having helped me work out the best system.


Publisher's Note: Suffer boys, as wee have to!

**CDA 1994 ANNUAL GENERAL MEETING
SATURDAY, 30th JULY 1994**

Further details in next issue of Guidelines




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A TRIBUTE TO LOST AMERICAN COMRADES

by Peter Horne

The morning of Tuesday, 20th July 1993 began very badly for me after I received a phone call advising that yet another of America's most experienced and highly-respected cave divers, Bill Mayne, and his diving buddy had been killed a few days earlier while diving between Clearcut and Venture sinkholes in Florida. Bill was quite well-known by a number of Australian cave divers thanks mainly to the computer-link facility known as "E-Mail", as he often discussed local cave diving issues with some of my friends here in Adelaide, and Bill was in fact providing much-valued assistance with information about mixed-gas diving and decompression procedures.

I remember that back in the early 1980s, when American divers died while exploring caves, the vast majority of accidents involved people who were not cave divers at all ... as tragic as such cases were, almost all instances occurred because of inexperience, lack of correct equipment or the breaking of cardinal safety recommendations (particularly with respect to depth). In 1986, fellow "groveler" Andrew Cox and I had the great pleasure of visiting the States for a few weeks, and during the course of our many wonderful diving adventures we bumped into a number of prominent cave divers whose names were familiar to many of us ...

some of whom were later to pay the ultimate price for their sense of adventure and dedication to cave exploration activities.

The deaths of Roberta Swicegood, Brent Potts, Parker Turner, Bill McFaden, Carl Sutton and now Bill Mayne - people whose names were known world-wide through their contributions to cave diving, their contacts with other divers and their prominence in

various journals and publications - during the past five years or so have shocked underwater speleologists all over the world, even though we understand that cave diving is inherently dangerous and that many of the above divers were working "on the edge" ... breaking new ground and undertaking high-risk tasks which promised significant rewards if people were willing to accept the considerable risks involved.

This brief article, then, is intended as a tribute to all of those cave divers who have lost their lives while contributing to mankind's knowledge about our unique underwater cave environments; true modern-

day adventurers who were dedicated in their efforts to tame the wild and unforgiving frontier of underwater speleology.

The incredible knowledge we have gained and the lessons we have learnt through their ultimate sacrifices will be long remembered.

G

"This brief article is intended as a tribute to all of those cave divers who have lost their lives while contributing to mankind's knowledge about our unique underwater cave environments."

**CDA 1994 ANNUAL GENERAL MEETING
SATURDAY, 30th JULY 1994**

Further details in next issue of Guidelines

SIDEMOUNTS MAKE SENSE

One of the problems faced by divers at some penetration level sites is the negotiation of underwater restrictions. With good visibility the passing of such constricted areas generally provides little problem. In a number of sites however these "squeezes" must be tackled in visibility which often reaches zero. This can lead to a host of problems, not least of which is one diver becoming jammed and preventing remaining members of the dive team from exiting.

Since cave diving in general has its origins in caves which were generally low and very silty (i.e. English sump diving) it is interesting to reflect on the type of equipment configuration used in such diving. Almost without exception this type of diving has been undertaken with low profile side-mounted cylinders. Generally small steel cylinders were used which proved to be quite easy to rig, using a webbing belt around the waist that the cylinders attached to. For this style of diving which generally was at shallow depth and of short duration, this system worked well and is still in use today with minor refinement.

When I first tried using side-mounted cylinders some years ago the results were less than satisfactory. The 63 cu/ft aluminium cylinders that I used felt uncomfortable as they flapped around on a modified waist mounted belt. As well as the cylinders' tendency to move sideways, they also floated tail up when the cylinder pressure began to drop.

Although perturbed at this initial disappointment, I thought I would look closely at some contemporary British cave diving videos to check their side-mounted set up. I found that they used cylinders that flopped around and floated tail up! My

motivation for this style of diving soon waned as floppy tanks didn't really appeal to me. It was not until I visited Florida in 1992 that I once again began to look closely at side-mounts.

Due to the restricted nature of some of Florida spring systems, a number of the American cave divers have spent considerable time refining side-mounted cylinders. The reliability and usefulness of their designs has led to a large increase in the use of side-mounts with specialty courses in side-mount diving now also being offered. It is interesting to note that the American

pioneers of side-mounts have extended the known length of many well known spring systems by using side-mounts to pass areas that had previously been too tight to negotiate with back-mounts.

So how do the new style side-mounts differ from the English model? Firstly, they have been designed to stay close to the body of the diver. Rather than simply being attached at the waist, they have two main points of attachment - one on the hip and the other under the arm.

The hip attachment is facilitated by the use of a special mounting plate

which attaches to the diver's vest. The most suitable vest to use is the current style "ADV" which has quick release shoulder straps. A standard jacket-style vest (e.g. Scubapro) can also be used but is less suitable due to the restricted number of front attachment points for the placement of hoses, etc. The hip mounting bracket is a rectangular piece of 3mm aluminium plate. It has two 50mm x 5mm slots cut lengthways in the top which enables it to be threaded through the webbing waist band of the vest. The type of vest chosen must therefore have

Continued on next page

"Due to the restricted nature of some of Florida spring systems, a number of the American cave divers have spent considerable time refining side-mounted cylinders."

SIDEMOUNTS MAKE SENSE

Continued from previous page

a webbing waist band rather than a thick cummerbund.

As well as the two slots, the plate has two other important features. The first of these is a mounting clip which is positioned so that the base of the clip is flush with the bottom of the plate. The type of clip chosen is generally a common brass weight belt/catch bag style, with no swivel. It is bolted on through the top eyelet so it sits perpendicular to the plate. It should be noted that this style of clip is not recommended for general cave diving usage as it can trap line very easily. For this application where the cylinders shield the clip it is acceptable, although line care is still advised.

The second feature of the plate is the attachment of a two inch brass ring. It can be mounted at the clip bolt hole and needs to be able to swivel. It functions as an attachment point for torches, jump reels, etc.

The length of the mounting plate will be determined by the distance from the webbing waist band to the hem of the vest. It is important that the attachment clip on the plate is accessible just below the hem. Once positioned on the vest these two plates should sit just behind the hip bone where the hip pocket would normally be found.

The last important feature of the plates is a 2.5cm quick release webbing strap which attaches between them. Its function is to stop the cylinders from hanging too far below the diver's front surface when swimming horizontally.

To attach the cylinders to the plates requires the placement of a stainless steel worm band around the cylinder approximately 30cm below the cylinder neck (this will vary depending on the height of the diver). Attached to this band is a D-ring holder (Dive Rite) and 2.5cm (1 inch) D-ring. The thickness of the D-ring should be around 3-4mm to avoid accidental unclipping. This type of D-ring can be difficult to obtain, however a 2.5cm (1 inch) brass ring (available from saddlery shops) can be flattened on one side to make a suitable D-ring. To attach the cylinders, the vest is put on and each individual cylinder is "clicked" on to the hip plate. With very little

space between the cylinder and the diver's hip, sideways movement is all but eliminated.

Of course the attachment of the top of the cylinder must also be addressed. The simplest and most successful system I have found involves the use of a bicycle inner tube. First, the hard plastic backpack from the vest is removed. Attached to the front of the vest at the position where the shoulder straps meet the main section of the vest (at low chest height), are two 5cm (2 inch) stainless steel split rings (Dive Rite). One end of the bicycle inner tube is threaded through a split ring and it is then passed around the back and threaded through the slits in the back of the vest (which were originally used for the tank camming strap). Finally it passes back to the split ring on the other side of the vest. This will leave one continued loop, starting at one of the split rings, passing behind the diver's back and then returning to the other split ring.

If we now go back to the situation where the diver is ready to don the cylinders. Firstly a cylinder is attached at the hip. A loop end of

the bicycle tube is then grasped and pulled over the cylinder valve. The opposite cylinder is then attached in the same manner. The purpose of the bicycle tube is to pull the neck of the cylinders in to the body of the diver. When correctly set up the cylinders should sit with the valves just below the diver's armpits.

The cylinders are only stable in this configuration, if they are negatively buoyant. With steel cylinders this is not a problem but with aluminium it can cause some floating of the cylinders. To avoid this I have attached weights to the aluminium cylinders by using camming straps. Depending on your total weight requirements the amount placed on the cylinders can vary from 3lb on each (with a wet suit) to a maximum of 6lb on each (with a drysuit. Any more than this becomes uncomfortable when handling the cylinders. I have found that mounting the weights mid way along the cylinder, facing forward, (ie facing down when the diver is swimming) is the best method.

So now that we have the cylinders firmly attached to the diver, what do we do about

hoses, gauges, torches and other bits of paraphernalia? Let's look at each one separately.

The satisfactory placement of hoses is probably the most time consuming task of all. The very principle of side-mounts dictates that the front of the diver must be streamlined, otherwise the benefits of removing backmounts are lost.

The way that the hoses come out of the regulator will be dictated to some degree, by the position of the valve handle and the type of first stage. The valve handle must be located in such way as to securely hold the bicycle tube. Normally this will mean the valve handle facing outwards at right angles to the diver.

When routing the second stage hoses, care must be taken to ensure that they are well tucked in and will not hang down when swimming. The mouthpieces can be easily clipped with a short piece of bungy cord to the top of the vest (split rings are good for attachment points). Once again they should not hang too far when the diver is face down.

Continued next issue



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Ph: (08) 269 5793**

CDAА SITE ACCESS AND RESEARCH REPORT 1992 – 1993: PART 2

by Peter Horne, Manager,
Site Access Committee and Mapping/Research Group

Continued from last issue – Guidelines 50

Also on the subject of changes to official Government Departments, the Woods and Forests Department has now been changed to **Primary Industries S.A. (Forestry)**. Various concerns have been addressed with PISA during the past few months, including a complaint about possible roof-collapses occurring in The Pines during forest clearing operations (a preliminary map of the cave showed that the ceiling is quite thick throughout the cave, unlike some divers' impressions), a request for detailed information about other caves on their land (provided in conjunctions with the Cave Exploration Group of S.A.), and other aspects which were dealt with in a recent issue of GUIDELINES (involving people not picking up permits, etc).

Legal issues and concerns about members' liability took up a lot of time this year. Many hours have been spent in meetings with our lawyers and in telephone discussions with legal people to sort out the best way to proceed with this poorly-understood area of concern. The Directors and I are now confident that a formal agreement between members can be made up to protect the CDAА as a unit, and at least one insurance company has expressed its interest in possibly providing the required coverage ... but these are still early days and more detailed discussions will be needed before anything concrete can be reported. (Claims raised by the South East Scuba Divers Club at the last A.G.M. about incredibly-cheaper rates being available were investigated and found to be incorrect – the type of insurance covering small-club recreational activities

and meetings is completely unrelated to what the Association requires).

Other areas which required considerable effort involved changes to the South Australian Government's "Stamp Duty" requirements for Deeds from \$4 to \$10 (this matter took up quite a lot of time in our vain efforts to be exempted from this increase) and some long-term problems with our caving friends interstate, and it is hoped that

we are now well on the way to a resolution in the latter instance thanks to the involvement of the Australian Speleological Federation.

And, I'm sorry to report, we still are no closer to a resolution regarding access to Warbla Cave in the Nullarbor, despite the rejection of the proposed World Heritage listing of the area. However, the matter is not dead yet and efforts are being made to resolve this issue using other aspects and committees involving the National

Parks system.

Access to the spectacular Kilsbys Hole by recreational divers has now commenced without incident, with four groups of divers being put through to date (involving something like 75 members or so). The water was initially quite murky on the surface, but later divers saw conditions quickly improving. With the exhaustion of the first listing of approved divers made up initially of people who had undertaken constructive and supportive work for the Association in the recent past, we have all but sorted out the best method for gaining access to this site with minimal hassle, and all Sinkhole-rated members who are proficient in the use of twin independent scuba cylinders can now

*"The Association
is riding on the
peak of a wave
of support now,
and I sincerely
hope that it
continues along
in this way
during 1994."*

be placed on the list ... first come, first served, so put those pens to paper if you are interested in exploring this wonderful site!!

Members may recall that with the change in ownership of Tank Cave towards the end of last year, access negotiations were thrown back to "square one" and it took a couple of months before a strategy for renewed access negotiations was finalized. Thanks particularly to members Phil Prust (the project co-ordinator) and Peter Blackmore (a local member who was willing to put in a good word to the landowner for Phil), the new owners were found to be most co-operative, and new access arrangements were successfully negotiated in the beginning of the year. Because of the high skill level required to safely enter, explore and exit the Tank Cave system through some relatively major restrictions in zero-visibility (and in view of its extreme penetration distance and maze-like structure), only Penetration-rate cave divers who have appropriate experience are allowed to visit this site, and the present arrangements involve both "research" and safety aspects

which need to be carefully addressed – particularly with respect to the new landowner's wishes.

Back on the issue of tourism support by the Association. Numerous discussions were held with the Mount Gambier City Council regarding their desire to install a cave diving dummy (NOT Chris Brown himself, as some rumours have it!) in the western side of Engelbrechts Cave, where it will hang from the ceiling, probably with blue lights illuminating the chamber amid the roar of exhaled divers' bubbles. Chris has been busy making up the various bits of gear to make the dummy look real ... but for those members who may think they can pinch a bit of easy gear, please note that the tanks and guideline reels won't work! We have also been involved in discussions which are resulting in safer water access to the Western Side – e.g. a walkway etc – because the Council does not want any unsightly structures in the cave to detract from the tourism presentation.

The Three Sisters Cave has now been
Continued on page 14

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	Cave Diving. A Blueprint for Survival. By world-renowned cave diver Sheck Exley, this is a case study of a number of accidents that have occurred in the USA and how to avoid them.	\$10.00	
	Basic U/W Cave Surveying. The standard publication for anyone remotely interested in research and survey techniques used in water filled caves.	\$15.00	
	Cave Diving - The Cave Diving Group Manual. Completely new edition from the pioneers of the sport, the British. Covers every possible aspect including sump rescue solo diving and advanced oxygen and mixed gas theory. Reviewed in Guidelines No. 37.	\$40.00	
	CDA Occasional Paper No. 2 - <i>from Natitonal Conference 1981.</i> Includes topics such as Fossil Cave, Belay Techniques & Cocklebidy 1979	\$8.00	
	S.R.T. Single Rope Techniques - <i>published by the Sydney Speleological Society.</i> This is the definitive work on all aspects of vertical travel in caves. Should answer most questions on rope work for cavers and cave divers alike.	\$23.00	
	DES Emergency Handbook - <i>Revised 1990 edition by Lippmann & Bugg.</i> Printed on water-proof 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.	\$28.00	
	Research Handbook for Cave Divers - <i>Peter Horne.</i> This book is a compendium of years of experience from various sources. A valuable addition for those interested in the other side of cave diving. <i>As reviewed in Guidelines No. 36.</i>	\$15.00	
	Wukulla Springs Project. The U.S. Deep Caving Team edited by William C. Stone.	\$59.00	
	The Darkness Beckons - <i>Martyn Farr.</i> The history & development of cave diving.	\$59.00	
	Deep Diving - <i>Bret Gilliam, Robert Von Maier.</i> An advanced guide to physiology procedures and systems.	\$30.00	
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	Nullabor Challenge (Video). <i>Produced by Hanger 137.</i> The true story of the exploration of the largest single limestone cave region in the world.	\$29.95	
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Continued from page 11

visited by a dozen or so divers since its re-opening, and all have expressed their pleasure at visiting the site (even the well-known, but anonymous "fossil" member - hey, hey! - who had to remove his gear to get back up through the restriction!) The latest version of side-mounted tank design is reportedly the ONLY way to go if Penetration divers want a very easy time getting through this narrow part of the cave, and I'm sure we will see these systems being used more and more frequently for our most advanced cave sites in the near future. Recent trips to the Three Sisters have also resulted in an improved map being produced (by Tony Carlisle and Adrian Richards - thanks, guys!) and an informative video for Millicent Council, who have supported us a great deal.

Murray McKay, the owner of the recently-opened McKay's Shaft, has kindly let several groups gain access to his interesting feature of late, and access is now being co-ordinated via Phil Argy at Mount Gambier. Phil has also initiated discussions with other landowners/managers re. a few other sites in the area, and has certainly proven his worth as a most valuable CDAА contact in the South-East.

Since it is not my intention to completely fill up this issue of GUIDELINES with this report, I will summarize some of the other issues of possible significance herewith:-

- "The Visitor" magazine, by S.E. Tourism - a suggestion went to them to update their description re. sinkholes and their accessibility by visitors;
- Engelbrechts Cave - gear list etc. was updated;
- The access requirement list regarding The Shaft was updated;

- A number of Special and General Site Information Bulletins for the information of interested members, outlining special requirements etc. were produced;

- Official Duty Statements outlining the duties and responsibilities of CDAА Site Access and Research positions were drawn up; and

- The CDAА continued to be represented on the S.A. Speleological Council, with David Whoomes replacing myself to work with Peter Girdler on caving issues.

The above is a brief overview only; as you can gather, there are many changes in the wind when it comes to cave diving matters - particularly in South Australia - and members are more than welcome to contact the Directors or myself if they would like to discuss any aspect of the above report in more detail.

In closing I would like to thank those supportive members of the Association who have assisted with the many and varied discussions during the year.

Site access negotiations and related legal aspects are extremely time-consuming these days - comparable to a full-time job at times - and it is good to hear that our efforts to enhance the Association are at least occasionally appreciated.

Such positive comments from members are welcome when one considers the never-ending whinging and carrying-on that is all too prevalent from a minority of loudmouths! If any member believes that more could be done to improve CDAА-Landowner relations, they are very welcome to offer their services at any time. Membership interest and involvement in the matters which concern us all is the only way we can survive as a unified cave diving body, and YOUR help is always very much appreciated!

The Association is riding on the peak of a wave of support now, and I sincerely hope that it continues along in this way during 1994.

GROMMETS

by Pat Bowring

NOT all CDAА members are blessed with close proximity to Mt Gambier's perforated, flooded, subterranean landscape. This necessitates a degree of innovation and exploration.

You could add diplomacy, if you wanted to get embroiled in games being played out over some of the better known sites in New South Wales.

But this mob can't be bothered with any of that. They'd rather go diving. Even if it involves weird stuff. Anyway, who said you can't go ice-diving in Australia? (More on that later.)

It all started in Mt Gambier. The Mt Gambier Hotel, to be precise, where as an annual event a mob from New South Wales descend on the place, and try not to give their state of residence too much of a bad name.

They started calling themselves Grommets - not so much as a boast of our youthfulness, but an indication of our willingness to learn from our bettes and a salute to the rashness of immaturity. (You need a little bit of that, every now and again.)

Flexibility is a key attitude. If you know your Latin, the phrase "in excrucimento semper nil nisi altitudo variate" (or something like it) sums up the situation pretty well. If you don't know any Latin, like me, you probably won't give a toss anyway.

The point is that this mob believes that advancement in diving doesn't just mean going deeper, staying longer and doing it more safely. You've gotta keep finding new places to dive.

Preferably in fresh water. Preferably some sort of cave.

But not necessarily.

Flexibility allowed Messrs Cavanagh, Moray and Bowring in Tasmania cave diving on a wreck. Well, cave diving, with a wreck

thrown in. Not on the one dive, either. Even Cavanagh would have run out of air on the four or five hour swim between sites.

The wreck, for anyone interested, is The Nord and it's a great single tank drop, giving about 15 minutes bottom time without compulsory decompression. About right, considering the 10 degrees Celsius water temperature. And you can still get some interesting penetration, although multiple dives on the site is what is really required.

But onto the important bit. The caves, Cathedral Caves, to be precise. The largest acknowledged submerged cave system along a pockmarked section of coast south of Eaglehawk Neck's Pirates Bay towards Tasman Island. Great White territory, but we won't dwell on that.

(Certainly not while you are bobbing on the surface catching video of seals. I watched Cav do exactly that, while I waited on board watching for that tell-tale signal of the seals evacuating the water.)

The caves are in about 20 metres of water and are probably the best sea cave system in the country. Corridors criss-cross. Many are impenetrable, but you

can get through enough to occupy your time. If you luck upon the right tunnel, you end up in a magnificent room called The Catacombs so named because of the labyrinth of corridors running into it.

Much of the system has not been mapped and what mapping has been done lies in the large tin shed occupied by the Eaglehawk Dive Centre. There is a bit marked Grommets Grotto, which no one seems to have been through until we silted the place up last year.

More down to earth and subsequently more frustrating stuff has been done in New South Wales, where the mob continues its

Continued on next page

"The caves are in about 20 metres of water and are probably the best sea cave system in the country. Corridors criss-cross. Many are impenetrable."

GROMMETS

Continued from previous page

quest. While others fight over the good stuff that is already known, we are content to look for stuff that might have been flooded and forgotten years ago.

This led us to a dam in the Blue Mountains which, for want of anything better, we nick-named Zig-Zag. It was used last year by some members of the group as a training site and during that little exercise, an intriguing entrance was found near the wreck of a stolen car.

This year, however, conditions weren't good. Actually, good is not a word that should be used in any proximity to a description of conditions.

Yet, despite this, we were able to find the abandoned car. We knew we had found it when we landed upon it. Visibility was down to the length of one's nose, which in my case was quite a distance and we were able to find the entrance.

A tactile exploration (rock ... rock ... rock ... silt) proceeded and we worked our way down a narrowing corridor. The turn around came at the 30 metre mark. One day it would be nice to see where we had gone. It may also cause a terrible shock.

The water temperature was an extremities numbing four degrees Celsius, which was a real jolt for those of us who had recently returned from the Solomon Islands.

But it was not cold enough to deter members of the group from an ice diving expedition at Guthega, in the Snowy Mountains. The water temperature here was one degree Celsius and, due to conditions which had caused misery to skiers all winter, ice did not cover the entire lake.

But there was enough for the exercise. The maximum depth achieved was about 12 metres, but a 70 metre reel was run to its fullest extend on a couple of occasions. On the way out visibility was up to about 12 metres, although the trip back to the hole cut in the ice was like swimming through thick yellow fog, due to the fine sediment that was unavoidably stirred from the bottom.

Small life-forms could be seen and larger shadows, most probably from the ubiquitous eels, were spotted. Apart from the experience of diving in water temperatures way below the worst nightmares of most NSW divers, for many on the trip it was a valuable education in how to deal with a frozen first stage.

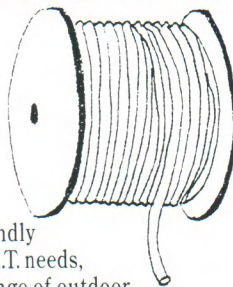
One diver even managed to come up with a novel twist to the common free-flow problem. His reg froze closed. Those with environmental seals had to drop through the hole in the ice and then wait as someone shoved their hand into the icy water and turn on the tank valve. TRUST.

While field work is, of course, the primary objective, there have also been less demanding exercises aimed at coalescing current and potential cave divers in New South Wales. This includes one memorable restaurant night in which 40 or more people turned up to watch video from Mt Gambier and the Nullarbor with a little wreck diving from the Solomons thrown in for good measure. **G**

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KILSBY'S EXPERIENCE

by Graeme Rethus

Recently a group of divers comprising myself, Stephen Bull, Peter Owen and Wayne Skinner travelled across the border to Mount Gambier. Our aim - to dive the famous Kilsby's Sinkhole. We were booked to dive on Sunday the 30th of January, in the morning.

Sunday morning came, and we waited on the Sisters Road corner, as arranged. The sky was overcast and a brisk wind that came straight from the South Pole let our still-sleepy minds know that we were indeed in Mount Gambier! Peter Girdler arrived, clipboard in hand, asking us such questions as "any deep diving the previous day?", "use of computers" and the like.

We then proceeded onto the property, to be greeted by a little black and white dog. He seemed delighted to see us, probably something to do with him anticipating a few handouts!

The first thing I noticed was the ramp. Not a huge cut in the limestone like Little Blue, One Tree or Ela Elap, but a very neat slice in the rock only 3-4 metres wide, coming through the wall of the doline at water level, creating a sort of doorway, or arch, and giving you just a glimpse of the water at ground level. It was quite an eerie sensation looking down into the hole, not really knowing what to expect under the water.

Off down the ramp we traipsed, and onto the pontoon conveniently moored there for our benefit for a closer inspection. Surprisingly it has quite a small surface area of water, with the wall being undercut about 10-15 metres off to the left of the pontoon. Peter then informed us that he had work to do on his dive, and that it was up to us to formulate our own dive plan. The in-water guide wasn't there to look over our shoulder, just to be an in-water presence. The only real regulation was not to exceed 40 metres depth, and he

would in fact be taking both our maximum depth and our in-water time after the dive. These would be recorded and given to the Police for their records.

Peter then gave us a description of the basic underwater layout of the cave, after which we rushed back to the car, geared up, and hurled ourselves in from the top just to be first in! No, actually we made our way with dignified haste down to the pontoon and after pre-dive checks (hey, could you check that my air's on?), jumped in.

My initial impression was that the viz wasn't as good as I'd heard. From the middle, you could barely see the walls, but as I

headed down the guideline things began to get clearer. I could see that it was quite a big area extending back under the surface, and when I reached the end of the guideline at about 40 metres, I turned around.

"WOW" is about the only word to describe the vista spread before me. I could see the entire sinkhole, from front to back and top to bottom. My initial fear topside that the hole was too small for the number of divers soon disappeared as I realized that this hole was HUGE!

The walls to the side and behind me sloped towards the surface, which looked tiny. For the first time I could really see what 40 metres of depth looked like!

Beams of light arrowed from the surface to play on huge boulders and slabs of rock. Across the other side I could see other divers meandering about, their exhaust bubbles streaming all the way to the surface. All this and NO torch! My computer was beckoning me towards the surface, so I started the longest spiral dive of my career. At 30 metres, I looked to the surface again and was stunned to see, in complete clarity, someone standing on the pontoon looking into the water. By

Continued on next page

*"At 30 metres,
I looked to the
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pontoon looking
into the water."*

KILSBY'S EXPERIENCE

Continued from previous page

this stage all of the divers were in the water and it was a beautiful sight to behold, shimmering columns of exhaust bubbles extending upwards the only clue that they were underwater and not flying through the air. Another clue that we were underwater was the school of pan-sized trout swimming about.

After a safety stop, it was time to leave the water and de-gear.

This is truly one of the most spectacular dives I have ever done. Thanks must go to the Kilsby family and to the band of hard working people who have worked behind the scenes to allow us access to this wonderful dive site. So, I guess that if you've already dived this site, you'll know what I'm raving about, and if you haven't - do yourself a favour and enjoy a unique experience.

G

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"THE SHAFT" – THE BOTTOM IS REACHED – PART 2

by Andrew Wight

Continued from last issue – Guidelines 50

At a depth of 60m the light headed feeling of narcosis became more noticeable. Ron and I changed from the narcotic effects of air and started to breathe the trimix of Helium, Nitrogen and Oxygen, with slight relief of the narcosis we pushed on down the tunnel.

The interesting thing about mixed gas diving is that using trimix, at the point of changeover at depth, there is no real change in your current narcotic state – rather it just stays the same! The real benefit of mixed gas is in the greater depths, instead of becoming hopelessly "narced", the gas mixture keeps you at the same narcotic state at the point off changeover to the mix.

The roof began to change colour from a pure white of polished limestone to that of an ochre brown. Swimming past the virginal roofline our bubbles would dislodge the brown sediment from the roof. We knew we were now getting into unexplored cave passage for any previous divers would have left a tell-tale path of dislodged sediment from the roof, exposing the white limestone just as we were now doing.

Swimming along the roof the three of us were now at 73m and the tunnel was not getting any deeper. We had previously thought the cave would plummet straight down but we now learned that the Shaft had a long gently sloping tunnel the size of a railway subway continuing on as far as we could see. Our lights could make out that the floor was also very silty and we kept as close to the roof, both to limit our exposure to depth and to also stop stirring up the blinding silt. My thoughts started to wander as we now had to swim about 180m into the tunnel

at a depth of about 75m. I started to think of what must have happened to the divers that died here many years ago. Would we see any remains of their equipment or had they not come this far?

Breathing the deep mix kept my head reasonably clear but at this depth, coupled with the exertion of swimming carrying three large scuba tanks, you could nearly see the pressure gauge needle move with every breath. The cave was now beginning to narrow and we had already swum 200m down the tunnel. A few metres in the distance Sheck was now heading into a one-person sized hole in what looked like a rock collapse. Now at a depth of 85m, Ron and I stopped and waited on the guideline for Sheck to "push" the last few metres of the cave.

Emerging in a cloud of silt, Sheck signalled that he had pushed as far as possible and that the cave "pinched out" in a collapse of rubble. Sheck had been to a depth of 87m and the Shaft had been bottomed.

Our ascent back to the surface was going to take considerably longer than

our 20 minute descent to the end of Australia's deepest cave dive. We now had to pay the penalty of such a deep dive and begin our decompression with our first stop at 140 feet! This would begin the risky part of the dive for each stop was only a few minutes and had to be carefully timed and executed before moving up towards the surface in ten foot increments. It took 101 minutes to ascend back to 20 feet where we changed from breathing air back to 100% oxygen. At 20 and 10 feet we had a further 63 minutes of decompression which is already considerably shorter than if we had continued

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"My thoughts started to wander as we now had to swim about 180m into the tunnel at a depth of about 75m. I started to think of what must have happened to the divers that died here many years ago."

TEN THINGS TO DO ON YOUR NEXT DECOMPRESSION STOP

by Stan Bugg and Brian Cornell

Safety conscious divers are spending more and more time doing safety stops, even following relatively shallow dives. Divers who admit to the advantages of such stops invariably say that they are bored while doing them.

A foolproof way to eliminate the boredom is to turn such times into productive practice of the vital skills of our sport. Not only will you stop being bored, but You will become a much more competent diver, and the deco time will fly by.

Work on just a few of these on each deco stop. We can guarantee you will no longer be bored, and your diver skills just might improve!

Here are a few things that you might like to try next time you are hanging about at 5m:-

1. Practise finding and using your octopus regulator, thus ensuring that it falls to hand, and that it breathes to your satisfaction.
2. Remove your mask, then replace and clear.
3. Take your mask off for one minute.
4. Buddy breathe with yourself ... two breaths then take the reg out for 5-8 seconds, replace for two breaths, etc.
5. Buddy breathe with your buddy.
6. Buddy breathe without your mask. (You used to be able to do it, remember?)
7. Practise trimming your buoyancy till you can hover neutrally buoyant at the deco stop without holding the line.
8. Trim buoyancy by ORALLY inflating your B.C. (This is how the CDAA buoyancy test used to be done in the '70s.)
9. Blow air rings. You can spend a lot of time searching for the PERFECT air ring! Besides, it is good practice for regulator clearing with partly emptied lungs, and for operating in a face-up position.
10. Use your slate to calculate your respirator minute volume. Record your depth in ATA, the number of minutes you remain there, and the number of atmospheres of air you used in that time.
Now use the formula:-
$$\frac{(\text{AIR USED [ATS]} \times \text{WC of cylinder})}{(\text{Number of minutes} \times \text{depth in ATA})} = \text{litres/minute}$$

TRADING POST

FOR SALE: Divers watch Aqualand, brand new \$450. Greg Osborn (08) 276 2989.

FOR SALE: One complete set of Aquacorps magazines including technical journals AND in mint condition. \$100. Tony Richardson (03) 754 6163.

FOR SALE: Dive Rite Wings B.C. System - inc. wings, backplate & deluxe harness with pocket and line cutter. Ideal for twin tank setup. Approx. 60 lbs lift. In exc. cond. RRP \$750, sell for \$480. Two Dive Rite safety/jump reels with Lexan spools and anodized alloy frames. Hold approx. 30m of line. In exc. cond. RRP \$98 each, sell for \$60 each. Tony Davis (03) 781 3820.

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CDAA INSTRUCTORS

INSTRUCTOR	Cavern	S'hole	Cave	State	Telephone (h)
Ron Allum	•	•	•	NSW	(02) 398 4610
Stephen Arnel	•	•		VIC	(055) 26 5230
Bill Bernhardt	•	•	•	VIC	(03) 725 9716
Chris Brown	•	•	•	SA	(08) 269 5793
Marilyn Boydell	•	•		WA	(09) 349 5646
Stan Bugg	•	•	•	VIC	(03) 379 8791
Greg Bulling	•	•	•	SA	(08) 265 4978
Gary Bush	•	•	•	WA	018 318 837
Paul Cavanagh	•	•	•	NSW	(02) 804 7888
Terry Cummins	•	•		NSW	(02) 417 2800 (w)
John Dalla-Zuanna	•	•	•	VIC	(055) 62 9583
Ian Gothard	•	•		VIC	(03) 486 1810
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Barry Heard	•	•	•	VIC	(056) 27 5511
Alan Jolliffe	•	•	•	VIC	(03) 874 7669
Nick Jones	•	•		VIC	(03) 282 4502 (w)
Simon Jones	•	•	•	WA	(09) 344 4343
Max Marriott	•	•		SA	(08) 47 3360
John McCormick	•	•	•	VIC	(03) 579 0570 (w)
Richard McDonald	•			SA	(08) 278 1829
Warrick McDonald	•	•		VIC	(03) 579 2600 (w)
Richard Megaw	•	•	•	SA	(08) 344 1733
Hugh Morrison	•	•	•	WA	(09) 409 9807
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Frank Ziegler	•	•	•	VIC	(055) 26 5288

"THE SHAFT" - THE BOTTOM IS REACHED - PART 2 Continued from page 19

to breath air.

The cold Shaft water was about 14 degrees Celsius and having decompressed for 2 hours and 45 minutes, Ron, Sheck and I were starting to feel the cold even though we had worn extra layers of thermal clothing under our dry suits. Cold but very happy we arrived back at the surface about three-and-a-half hours after the dive began.

The dive safely completed - Sheck, Ron and I had reached the end of an epic deep

cave dive reaching a depth of 87m, approximately 212m from the top of the rock pile, beneath the entrance of the cave. The Shaft had now revealed, after nearly three decades of diving, that it was not "bottomless".

What happened on that fateful day in 1973 and what led four divers to their deaths, we will never know, but it remains as a sobering reminder that cave diving is extremely dangerous if you are not properly trained or experienced.

CDAA SITE ACCESS

Remember: Access is a privilege, not a right. Please be considerate of landowner 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. Ponds usually closed 1 Sept. - 30 Nov. yearly (phone to check). Indemnity form to be completed.
Horse & Cart Tea Tree	CN	Peter Cunningham PO Box 643, Mt Gambier 5290	By phone or mail, 1 week prior. Ph: (087) 38 4003
Little Blue (Baby 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 2 Sisters Fossil	CN CN C	DENR P.O. Box 1046 Mt Gambier 5290	Contact DENR by phone/mail prior to diving. Stay out of Gouldens when pump is operating. Indemnity form to be completed. 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. Accommodation also available. Ph: (087) 38 5287
Swim Through	C	Valerie Earl c/- 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
Hells Hole Pines Mud Hole	S C C	Primary Industries S.A. (Forestry) PO Box 162 Mt Gambier 5290 (087) 24 2759	Contact Primary Industries S.A. (Forestry) by mail or phone to arrange permit. Collect permit from Regional Office, Jubilee Hwy. Mt. Gambier. No diving on total fire ban days. Permits will ONLY be issued Mon-Fri between 8.30am-4.30pm.
Kilsby's	S	Landowner leased to S.A. Police	Contact Peter Girdler. Restricted access conditions apply. Refer Guidelines Issue 47 (April 1993).
Shaft	S	Mr & Mrs Ashby	ONLY by contacting designated "guides" who will arrange access. Refer Guidelines Issue 48 (July 1993).

SITE	LEVEL	OWNER	ACCESS DETAILS
MOUNT GAMBIER - SOUTH AUSTRALIA continued			
Ten Eighty Bullock Hole	S S	Mr. Colin Traeger Manager, Barnoolut Estate PO Box 12, Mt Gambier 5290 (087) 26 6215	Contact CDAA 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 - 1pm Saturday, 9am or 1pm Sunday. WEEKENDS ONLY. Closed October-November for shearing. Black Hole temporarily closed. Anyone not using correct belief and safety techniques will suffer severe penalties.
Max's Hole	C	Mr T. Edwards PO Box 1319 Mt Gambier 5290	Phone or mail 1 week prior to dive. Ph: (087) 26 8277
Engelbrechts - East - West	C P	Mt Gambier Council	Obtain key from Mt Gambier Tourist Information Centre. Access agreement must be signed prior to diving.
Three Sisters	P	Millicent Council	Contact Peter Horne or Peter Girdler. Access available for experienced Penetration divers only. Low profile or side mounted independent air systems required. Access agreement must be signed prior to diving.
Idlebiddy (5 L250)	P	Primary Industries S.A. (Forestry) PO Box 162 Mt Gambier 5290 (087) 24 2759	Open 1st & 3rd weekend of month. Only Penetration divers who have completed practical in-water cross-over. Phone Forests Clerk for bookings. 4 divers per group per weekend. Collect key from Lady Nelson. Must show permit.
McKay's Shaft	S	Mr. McKay	Contact Phil Argy (087) 23 0879. Small groups of about 4, good ladder climbing & SRT skills required. Access agreement to be signed prior to diving.
Tank Cave	P	Mr. & Mrs. Dycer	Apply in writing to: CDAA Tank Cave Diving, c/- 4 Rosella Street, Modbury Heights, SA 5092. Access conditions apply. (Refer Guidelines 48.)
NULLARBOR - WESTERN AUSTRALIA			
Cocklebiddy	C	Regional Manager	Must apply for permission to dive at least 4 weeks in advance of trip. Ph: (098) 41 7133.
Murra El Elevyn	P	C.A.L.M.	
Tommy Grahams Weebubbie	C C	44 Serpentine Rd, Albany 6330	Small dive site next to main chamber: Sinkhole
NULLARBOR - SOUTH AUSTRALIA			
Warbla	P	N.P.W.S. Ceduna	Currently CLOSED to all diving subject to draft management policy.
WELLINGTON CAVE - N.S.W.			
Penetration Level. 1 weekend per month until end 1994. Divers will be joining already commissioned Research Groups. All access arrangements via Neil Vincent on (043) 97 1798.			

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BOOKS/VIDEOS

Cave Diving Communications. A manual from NSS-CDS dealing exclusively with all u/w communications used in cave diving.

Cave Diving. A Blueprint for Survival. By world-renowned cave diver Sheck Exley, this is a case study of a number of accidents in the USA and how to avoid them.

Basic U/W Cave Surveying. The standard publication for anyone remotely interested in research and survey techniques used in water filled caves.

Cave Diving - The Cave Diving Group Manual. Completely new edition from the pioneers of the sport, the British. Covers every possible aspect including sump rescue solo diving, advanced oxygen and mixed gas theory. Expensive but well worth it.

CDAА Occasional Paper No. 2 - from Natitonal Conference 1981. Includes topics such as Fossil Cave, Belay Techniques & Cocklebidly 1979

S.R.T. Single Rope Techniques - published by the Sydney Speleological Society. This is the definitive work on all aspects of vertical travel in caves. Should answer most questions on rope work for cavers and cave divers alike.

DES Emergency Handbook - Revised 1990 edition by Lippmann & Bugg. Printed on waterproof paper this essential first aid manual should be part of every divers' kit.

NSS Cave Diving Manual - The standard reference manual in Cave Diving covering just about every conceivable topic. New edition

Research Handbook for Cave Divers - Peter Horne. Written by our most experienced research diver, the book is a compendium of years of experience from various sources. A valuable addition for those interested in the other side of cave diving.

Wukulla Springs Project. The U.S. Deep Caving Team edited by William C. Stone

The Darkness Beckons - Martyn Farr. The history & development of cave diving.

Deep Diving - Bret Gilliam, Robert Von Maier. An advanced guide to physiology procedures and systems.

Nullarbor Challenge (Video). Produced by Hanger 137. The true story of the exploration of the largest single limestone cave region in the world.

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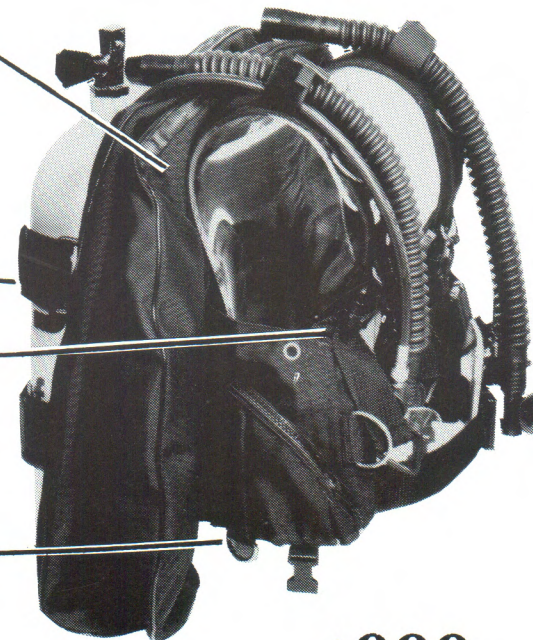
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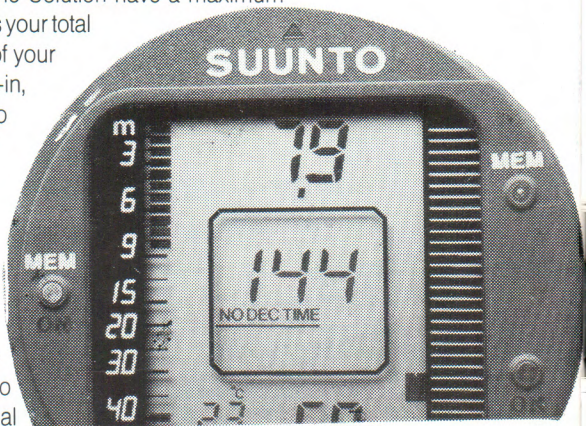
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