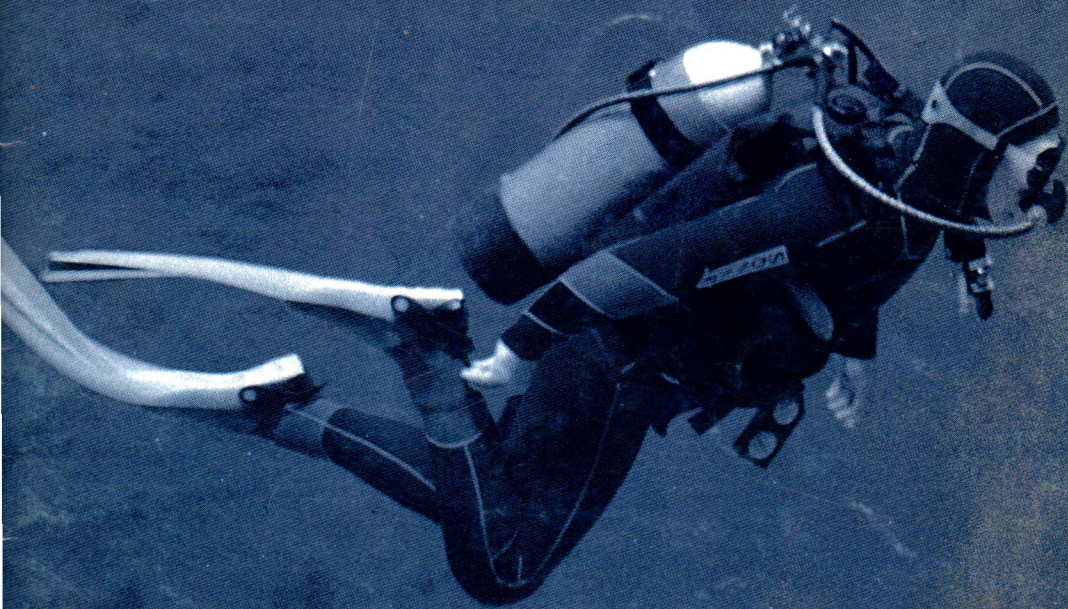




C.D.A.A. Newsletter

# GUIDELINES

No: 63 - DECEMBER 1997



**CAVE DIVERS ASSOCIATION OF AUSTRALIA**

*(Incorporated in South Australia)*

**Print Post No. PP 381691/00020**



# **A.B. Ocean Divers**

## **not only teach Cavern, Sinkhole and Cave Courses, we dive as well.**

*Why not join us for a fabulous holiday next year?*

### **Maldives 10-20th April 1998**

Flying Singapore Airlines to Male, Maldives.

7 nights at Paradise Island Resort in "above the water" suites.

10 dives incl. tank, weights and air.

2 nights on return at Pan Pacific Singapore.

All transfers ex Melbourne, all meals at Paradise Island.

Cost: \$3,400 per diver, non diver \$2,900 ex Melbourne

### **Papua New Guinea aboard "Paradise Sport" May 15-26th 1998**

Unlimited diving, "Blackjack", "S'Jacob", "Yokohama" etc.

10 nights "Paradise Sport" includes transfers, air, tanks and weights.

Nitrox fills plus Mike Ball's "solo system" are available.

Free soft drinks and wine, all meals, three levels of accommodation.

Cost: from \$2,800 ex P.N.G.

### **Mexico - late October 1998**

#### ***Cave Diving***

Qantas to L.A., Aero Mexico to Cancun.

Transfer by bus to Akumal, 7 nights / 8 days at Villas De Rosa

2 dives per day twin 80's, all meals and soft drinks.

Nitrox available, guide supplied, extension in Mexico and  
to Florida possible, costs being finalised.

Cost: approx \$3,600 ex Melbourne.

\*\*\*\*\*

**All travel is arranged by our Travel Agents.**

***Phone Ocean Divers on 03 957 92600 for more information  
about our sensational holidays or dive courses.***

## **EDITORIAL**

Dear all,

This is the last edition of the Guidelines in 1997, and I hope that you will find the many different contributions that we have collected useful and interesting.

1997 has been an interesting year for the CDAA. A new Directorate has come in and we have voted in a change to a 5-member committee, from the previous 3. This latter change probably best reflects the growing pressures on the CDAA to address a significant number of new challenges in a more difficult environment. The difficulties I refer to relate particularly to the stricter processes that must be adhered to as a result of the greater threat of litigation, with all the implications this has for increased insurance, standards and perhaps more rules than we would all like.

Land-owner liaison issues stand out as a critical area where we can all contribute to ensure that this organisation can survive the next few years. 1997 has been a year where very poor judgement by divers, as well as outright breaches of the law have created major problems for the CDAA. You might be aware of the destruction of locks and gates at Idlebiddy, Nettlebed and Tank Cave. There

have also been appalling scenes at the Lady Nelson tourist center, extremely rude behaviour in relation to specific land-owners, late night noise at Engelbrechts and also insulting behaviour to the Guides there, and such misdemeanors as leaving lights on and doors unlocked which then casts further doubt on the ability of members to behave themselves in an appropriate manner. You should all be aware that these types of actions are a guaranteed way of ensuring that access will be restricted to all, and that land-owners will not accommodate future requests for improved access arrangements. Please take this to heart. Please think about how you conduct yourselves, and make sure that others do the same. It is in all our interest to make sure that we keep our good name and reputation.

Finally, 1997 will also be my last year as editor. I have enjoyed this task, but the work load has become an increasing burden... Glenn O'Connell will be taking over. I wish him well in his new position.

Wishing you all the best for the New Year and a Merry Christmas,  
safe diving,  
Victor Kostuik.

## **IMPORTANT NOTICE - ENGELBRECHTS CAVE**

Over the last few months the National Committee has been advised of several instances where CDAA members have exhibited unacceptable behaviour whilst accessing Engelbrechts Cave. All members were advised during October to exercise common sense when visiting the site. Members were also advised that if this situation does not improve then restrictions may be enforced. These restrictions may in the form of limiting diving to daylight hours and only during tour hours.

Members are asked to ensure that they do not

- cause excessive noise late at night
- leave gates open at any time including the lower gates to each of the cave and penetration sites
- leave lights on after diving
- enter the sites unless certified to dive there

This situation is now serious and the National Committee will take immediate action against all members connected with this type of behaviour.

## **NOTICE**

The Directorate has investigated a number of issues arising as a result of a dive in the Nullarbor by two CDAA members in February of this year. After due consideration, the

Directorate has imposed a 12-month suspension and \$100 fine on both members, for the use of Nitrox in a non-CDAA approved site.



# CONTENTS

Editorial	3
The Exploration of Branford Springs	6
Santo Cave 97	9
New Indonesian Cave Dive	13
Kilsby's Sinkhole Release & Indemnity	15
Weebubbie Indemnity	16
Gear Configuration the Hogarthian Way	17
CDAА Notices	19
CDAА Instructors	19
AGM Photos	20
CDAА Site Access	22
Report from the Returning Officer	24
Business Director's Report	25
Standards Director's Report	29
Reels, Guidelines & Line Laying	32
A personal perspective on gear management when using a manifold	34
Trading Post	38
CDAА Products	39

Front cover:  
Ewens Ponds

## CAVE DIVERS ASSOCIATION OF AUSTRALIA

P.O. BOX 290, NORTH ADELAIDE,

S.A. 5006

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.

## CDAА DIRECTORY

The following is a list of people that can be contacted for CDAА matters. Please contact the most relevant person or, if unsure write to:

C.D.A.A. P.O. Box 290 NORTH ADELAIDE S.A. 5006  
If you know who you want to write to, please address your letter to the relevant director.

### NATIONAL DIRECTOR

Steve Sturgeon 0418 940 143 (mobile) (08) 9527 7667 (work)  
P.O. Box 5233 Rockingham Beach (08) 9527 5892 (fax)  
Western Australia 6138 Email: Caving@nitrox.com.au

### STANDARDS DIRECTOR

Glen Harrison 0418 846 602 (mobile)  
24 Broadbeach Drive harrison.glen@saugov.sa.gov.au  
Maslin Beach South Australia

### Investigations Officer

Victor Kostiuik 0417 392 843 (mobile) vk3vic@vds.net.au

### Instructor Materials

Peter Grills (02) 4950 6262  
3 Tenille Close Edgeworth NSW 2285

### Instructor Records

Sue Riddle P.O. Box 643 Bayswater VIC 5153 (03) 9762 3471

### BUSINESS DIRECTOR

Carlo Virgili (08) 8364 4102 (work)  
124 Swine Avenue Toorak Gardens carlovir@tafe.sa.edu.au

### Treasurer

Andrew Seifried (08) 8379 4013 (home) seifried@senet.com.au

### SITE DIRECTOR

Gary Barclay (03) 5565 8793 (home) (03) 5565 8118 (fax)  
P.O. Box 15 Koroit Victoria 3282 garinda@tpgi.com.au

### PUBLICATIONS AND RECORDS DIRECTOR

Sabine Schnitger 0412 114 439 (mobile) (03) 9602 1111 (work)  
79 Park Street (03) 9602 4844 (fax)  
Abbotsford Victoria 3067 100232.2105.compuserve.com

### Records Officer

Linda Claridge (03) 5565 8793 (home) (03) 5565 8118 (fax)  
PO Box 15, Koroit, Victoria 3282 garinda@tpgi.Commission.au

### Editor

Glenn O'Connell 0411 704 758 (mobile) glenn@vds.net.au

### CDAА products

Wayne Wilson (03) 97401271 (home)  
waynew@c032.aone.net.au

Phil Argy 087 230 879 (home) blinkbonney@seol.net.au

### CDAА Advertising

Tony Davis 0418 370 941 (mobile) (03) 5978 6201 (home)  
adavis@r150.aone.net.au

### REPRESENTATIVES

#### Victoria

Warrick McDonald (03) 9579 2600 (work)

#### New South Wales

Andrew Robertson (02) 525 0995 (home) 018 412 563 (mobile)  
aroberts@awa.com.au

#### South-east (Emergency only)

Phil Argy 087 230 879 (home) blinkbonney@seol.net.au

#### Queensland North

Frank West (070) 537 334 (home)

#### Queensland South

Michael Wilson (07) 399 3928 (home)

### RETURNING OFFICER

Jim Ferry  
12 Grand Central Avenue Hallett Cove South Australia 5158


### PUBLIC OFFICER

Kevin Burrows  
11 Oakfield Avenue Clarence Park South Australia 5034

### CDAА INSURANCE

Insurer: FAI  
Policy number: 1300243500/3501  
Coverage: \$5 million public liability coverage  
Expiry date: 11/7/98

## 'Mix' with The best 'Commander Nitrox' by Cochran



### Features

- 2 gas mixes 21- 99%
- Tacite low light display
- 100 metre max depth
- User setable parameters
- User setable alarms
- Full deco to 27 m stops
- Downloadable

### For further information Contact:-

Cochran Australasia Pty Ltd  
PO Box 5233 Rockingham Beach,  
WA 6168  
Ph: (08) 9527 7667 Fax (08) 9527 5892  
Email : Cochran@nitrox.com.au  
Website http://www.nitrox.com.au

## Espiritu Santo- The 'New' Cave Diving Region

Dive the Fresh, Clean, flowing waters of the Mount Hope Cave system. Be among the first divers in the world to dive this area.

Sites include - sinkhole, cave and penetration level dives. Full packages can be arranged including :- accommodation, dive facilities, guides and transport.

### For further information Contact:-

Steve Sturgeon  
Nitrox & Tech Diving Expeditions  
PO Box 5233 Rockingham Beach, WA 6168  
Ph: (08) 9527 7667 Fax (08) 9527 5892  
Email : Cavediver@nitrox.com.au  
Website http://www.nitrox.com.au



AQUAMARINE



# The Exploration of Branford Springs

## The Littlest Spring by Jason Richards

Reprinted with permission from Underwater Speleology, Number 23 1996.

When describing underwater caves, there are a few descriptive phrases commonly used to denote caves that the average or student diver is usually warned away from. For many years the older, usually wiser, and definitely alive instructors have warned inquisitive students away from hazardous caves by saying, "Oh, you don't want to go there, it's low and silty", Or "It's pretty dark and deep," along with a disdainful look. Of course, the latter always referred to caves near Tallahassee, Florida and the other, to anything that was smaller than Peacock Springs in the Suwannee County, FL.

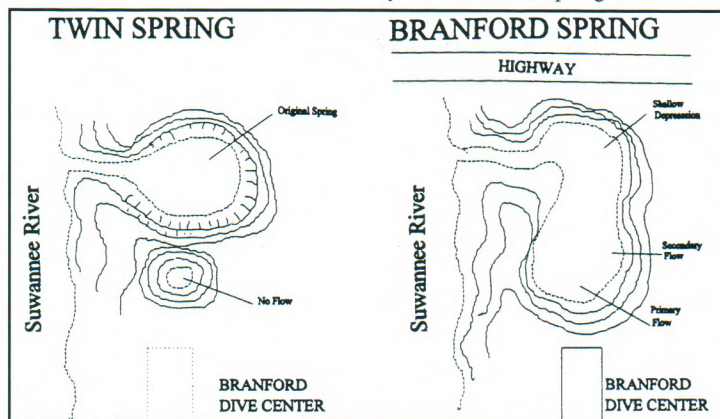
I know both these phrases well. As a student of a conservative and safety conscious instructor, I heard these phrases often, usually in conjunction with cave names that had been out of my skill range at the time.

What I failed to understand was that these warnings were also given to less skilled divers in the hope that they would not venture near caves that were being protected for their beauty or fragility. It took a trip back home to Colorado and some Colorado caving to learn the fine difference between "There's no caves there" and "There's no caves to speak of there." This realization made me wonder whether or not some of the caves I had been warned away from a few years back had really been as bad as they were described.

In May I had the opportunity to travel back to Branford, FL. For a month of continuous cave diving, which I spent diving caves that I had not bothered to look at previously. One of the most notorious caves of this type is Branford Spring, just below the Branford Dive Shop in where else, but Branford, Florida.

As long as most people can remember, the only information about this spring had been vague rumours that it was really small, no-mount, and very silty. Of course no one that I asked had ever actually been past the cave entrance despite the strong flow and crystal clear water which causes boils on the surface easily visible from the parking lot above. Since the first day I looked down from the tank fill station above the spring I had always wondered what the cave really looked like.

In the late 1960's Branford Spring was originally known as Twin Spring. A small picture of Twin Spring hangs in the Branford Dive Center, near the front door. If one looks at the picture long enough, one might notice that the sinkholes are much more pronounced than they are now and in fact are more reminiscent of the upstream sinks at Telford which slope down sharply to the water level. The platforms from which the kids fling themselves into the water are not in the picture, of course, and neither is the Branford Dive Center. What you may fail to notice is that, though there are two sinks in the picture, it is in fact the same area that now holds only one large spring. How is that possible? In the picture there are definitely two sinks, of which the upper one is closed off, and does not have a run or outflow, and the lower one seems to be flowing strongly, much the same way that Branford Spring does now.



To begin, you must understand the viewpoint of the photo. The photo was taken from the direction of the highway, which did not have the large bridge then, towards what would become the Branford Dive Center. (see diagram) The lower, closed sink is actually where the flowing Branford Spring is now. The upper spring is in the same area that is now a shallow depression in the Branford Spring run, heading towards the Suwannee River.

Now that we are oriented, how did the changes take place? Though the method is definite, the reasons are a little more vague. In the late 60's the City of Branford dynamited the entrance shut. Rumour has it that the cave was destroyed over concern for the lives of local swimmers and children, who enjoyed free diving into the entrance. Of course this is totally unsubstantiated, but it does make sense in light of the rather unpopular view of caves that the locals had during that time. However, viewing the proximity to the highway, and in light of debris found in the cave, I believe that it may have been filled in as a consequence of the construction of the highway. When the city needed to construct a suitable abutment for the large bridge that is now in place, I imagine they found the proposed highway too close to the original spring and rather than alter the route, they found it easier to fill the cave entrance.

Regardless of the reasons, the geographical changes were drastic. The entrance to the lower spring was entirely closed. The large berm between the springs was removed, either entirely, or low enough for the upper spring to carve a run through the remaining earth. The upper spring began to flow heavily, burdened with the flow from the now closed lower entrance. It is possible that a large room within the cave was entirely collapsed, and another entrance buried altogether. The flow of the spring was altered permanently.

My first diving exposure to Branford Spring was late in my month of diving. I was testing a new side-mounted tank set up in preparation for sump diving back in Colorado. I had decided to use Branford Spring as I could get

in and out of the water easily to get materials from the dive center, should I have overlooked anything. Once in the water I began to poke around the entrance to the cave, as there isn't really much else to look at in the basin. The entrance was easily side-mount passable but large chunks of cement and rock had fallen (or been pushed) into the entrance, blocking passage. The digger in me took over, and I spent about fifteen minutes hauling huge chunks of cement block out of the hole. I easily opened the passage to a size that I felt safe entering, and moved the debris far enough up the slope into the basin that I was sure it would not roll back in, blocking my exit.

Once in, I was surprised to find that the cave actually opened up into a room that I could have taken backmounted tanks into. The excitement began to grow and I pushed in further, and found the permanent line a little further in. With my side mount tanks, I was feeling pretty good about looking at some low stuff, so I backed out, and laid a jump reel to the main line across the 10 feet to the entrance. No reason to die for something as stupid as ten feet. I continued in, and as the passage turned to my left, it began to get a little smaller. I pushed on until I came upon a small green bucket.

To my dismay the line stopped and the floor and ceiling came together into at first what looked like impossible passage. I pushed my head into the restriction, but with all my gear I could not get my shoulders in. Once again I backed out, and rethought my plan. On the surface, I decided that I needed to find out a little information about this cave, to see why the line stopped, and if it might really go. My first and best source of information would be Gene Broome, proprietor of the Branford Dive Center. Gene and I have been friends for about a year, and he has listened to me rattle on about my caving adventures for every caving day of that year. Gene has been diving the Branford area since the 60's and takes great pride in counting on less than 10 fingers the number of active cave divers that there were in the area before him. He usually has very in-



depth knowledge of the caves in the area. From the look I got when I asked, I knew that this would be no different.

"Why do you want to know?"

"Oh, I was just down there poking around."

*A look of suspicious surprise from Gene...*

"How far did you get?"

"Oh, not far, back to a green bucket, maybe fifty or sixty feet, and 26 feet deep."

*A sly, knowing grin from Gene ...*

From there, we adjourned to his office, where he told me his story of Branford Spring, and set out the stakes, so to speak.

Apparently, in the late sixties, Gene had been digging in the spring in the hopes of breaking back into trunk passage. The had pushed past the spot where I was and worked into another restriction where the was digging, when a train passed on the nearby tracks above. The din was terrifying, and as any digger can attest, anything that sounds like a huge rock slide in an already precariously dug passage, brings immediate thoughts of being buried alive, and Gene dropped his digging tool and hauled ass, never to return. But just before he left, he swore that he could see where the passage opened up ahead, and he was sure that it got much larger.

That was it. I was very interested now. His last words, "tell me when you find my shovel" had set the challenge, along with the assurance that the first restriction was definitely passable. That same day, I prepared a new equipment setup to reenter the cave and take another look. I left the side mount rig behind and adopted a single aluminium 80 cubic foot tank with a "Y" valve. I attached a single small backup light so that it rode alongside the tank, tucked under an inner tube. I had decided on one light only, as I knew that coming back out was always accomplished in zero visibility, and a light failure would present very little if any additional complications. This presented the smallest possible tank configuration with three sides of the tank bare, and everything tucked onto one side. I decided that due to the size of

the passage, fins would be more hindrance than help, especially if I had to back out any length of passage. A buoyancy vest was also ruled out, as it presented too much of a vertical profile in the squeezes.

Frog kicking, and fastening the Y-valve with one hand I discovered that I had pretty decent control of the tank and with a little help from controlled breathing, my buoyancy. I reentered the cave and began to lay line. By travelling slowly I was able to worm through the smallest passage I have ever been in, wet or dry. I was forced to hold my regulator side-ways in my mouth, as the hose prevented it from staying sideways with my head. I was constantly worried of losing my mask as the limestone was scraping both sides of it in the small passages. There was little digging to be done in the first passage, as it was hard limestone floor and ceiling and brushing aside small debris was the extent of it. In places there were low pockets that had to be scooped clear of debris. This created zero visible conditions, but as there was nothing to look at and I could feel every inch of the edge of the cave without moving. I was not worried about losing my way.

It took three days to reach where Gene had been digging, perhaps sixty feet into the cave. A round trip of 120 feet typically took forty-five to fifty minutes, and an entire tank of air. The early parts got easier day by day, but each new piece of cave required that I learn a "system" for getting through the restrictions. On the third day I reported to Gene that I thought I was where he had been, and that I too could see where I thought the cave might open up! There was some confusion as I had not seen his shovel, and of course there was no way that I could have missed it, but we later decided that it may have rusted away or something else.

The next day I entered the cave, determined to make it to the large passage. I cruised through the first restriction, barely even stopping to wriggle. I soon reached the far end of the second restriction where I was stopped cold by a "nubbin" hanging from the ceiling. It may

have been only about two inches long, but in a passage less than eight inches tall, it made all the difference. I became quite worried as I realized that I could not dislodge myself from the nubbin, and unlike in a dry passage, I had a very definite time limit imposed by my small air supply. I was unable to move to either side, as the passage closed together a mere hand's width on both sides. I could not move forward as I was pinned between the shoulders, and my arms were squeezed to my sides, preventing me from bringing them forward to push myself back out. I had made the cardinal crawler's sin, and crawled with both arms behind, rather than one arm forward at all times. I was stuck there, unable to move for nearly five minutes, before I realized that all I had to do was get one shoulder around the nubbin. This realization that I could pass the obstacle, if only I could live long enough to get out, forced me to calm down and think out my situation. I decided to make another cardinal caving sin, and exhale all the way, to try to extricate myself. This dangerous trick worked, and I was soon free to try again. The second time I inched forward with one arm ahead of me, and was able to squeeze past the horrible nubbin, to my first glimpse of the cave to come. After three days of super thin cave, the next passage looked like Carlsbad-esque borehole cave. I very nearly screamed in my regulator. I looked out into a huge room, the ceiling and floor sloping away from me, and the walls arching beyond my light's beam at an obtuse angle. Looking at my tank gauge, I realized that in my struggles I had reached one-third of my air supply, and had to leave through the tortuous exit.

"Gene! Gene! It goes! I hit Borehole! Gene!"

"What? Where? Did you find my shovel?"

"No, no, but it goes! I got into a huge room!"

"How big?"

"I dunno, maybe 150 feet long and 75 feet wide!"

*(Of course, my light beam only penetrated 15 or so feet, or was absorbed by the tannic acid stained walls, and there was no way I could tell how large the room was, but theatrically it*

*sounded great!)*

"I knew it! I knew it was going to break into something big!"

Gene actually looked like the was relieved, perhaps because the was finally finding out that "his cave" was more than just a small phreatic water conduit with nothing large behind it.

Over the next week, I surveyed the cave, eventually finding the upstream water source, which dropped to a depth of 101 feet. This is extremely promising, as most of the trunk cave in the area is at this depth, and I hope to break into more passage. Unfortunately as I left the line, it had entered a wide, low area, and had again become no-mount territory. It is possible that in my hurry, I have missed a side passage, or taken a wrong turn in the last room. In fact, my dreams are filled with small squeezes that open into huge pits and gigantic chambers.

At this time I must make a safety note concerning this cave for all of the would-be explorers and lead scoopers. This is not a no-mount training cave. This is the real thing. There are continuous areas of passage which are LESS THAN 8 INCHES in height! It would be easy to make it past the first restriction, into the relatively large area between the two restrictions which approaches 12 inches in height. If a diver were to have difficulties here, or later on, a body recovery would NOT be possible, as there is no way for another diver to enter the cave at the same time to manipulate the victim. Yes, once there is nothing left but bones and wet suit, a diver could probably remove the victim, but at that point, I might be more tempted to leave the victim in a cranny as a warning. If you want to test your mettle, head to Little Devil cave at Ginnie Springs. Push a bottle through the entrance restriction on the small side. This entrance is still 3 inches larger in height than the restrictions in Branford Cave, and a good bit wider. Another test would be to lay a 4x8 sheet of plywood on top of four 8" scuba tanks at each corner. Have a buddy stand on the plywood, while you crawl underneath with



mask and regulator. Accounting for the flex of the plywood, this should roughly approximate the squeeze in height. As you will soon realize, the squeezes are beyond the skill and finesse level, and have been reduced to the sheer physical size of the diver.

Exploration will no doubt continue, whether it is Gene Broome, myself or someone else slight of build, but fore all you guy and gals out there considering it:

*"You don't want to go there; it's small and silty..."*

#### A look at the map, and some notes ...

As the map is new, and there is a certain lack of information about this cave system, I will provide some thoughts about each section of cave that I found interesting.

**Cross-section "D":** Please ensure that if you dive the cave, you rebury the entrance when you are done. There are lots of children who swim here, and could very easily get caught up in the entrance! Cross-section "D": This is the beginning of the first restriction, no worries!

**Cross-section "E":** The cave turns right here, just keep one shoulder under the lip on your right. Notice that there is a lot of flow here. I am pretty sure that this is where the small boil on the surface originates, and in fact, may actually be pushing more water than the large entrance.

**Cross-section "F":** To the right is the source of most of the flow. I believe that this connects to a side passage in the big room. I didn't look

close enough, but this might be able to be opened up, and thus eliminate the entire second restriction!

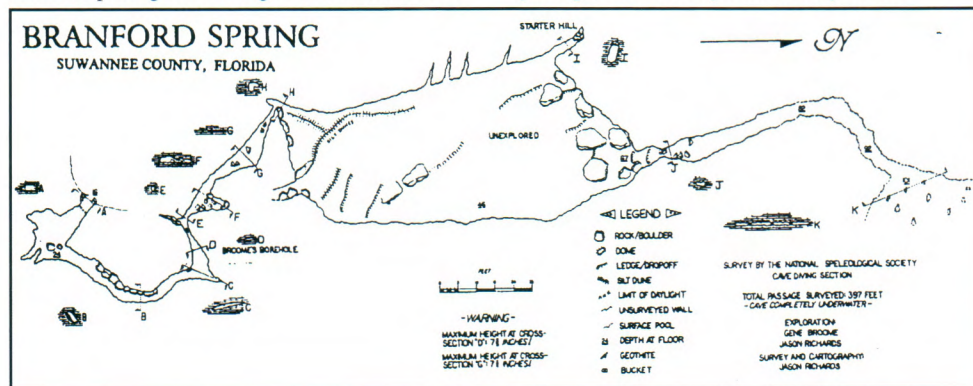
**After cross-section "G":** Listen for the air pockets!

**Cross-section "H":** Borehole! To the left is where I believe the original entrance to Twin spring was. Though it looked solid, I again did not look that close, and my belief is that this used to lead to a decent sized room that collapsed when the cave was closed, creating the surface depression in the basin.

**Cross-section "I":** This area is interesting for two reasons: You can hear the semis on the road above, and the starter motor at the bottom of the rubble. Before the survey we believed that this might be the original Twin Spring entrance. However, as the survey shows, this is not possible. In fact, this seems to be under the highway, and might have been plowed under during construction.

**Cross-section "J":** This is where I might have missed a side passage, though it might be buried by debris. There is much less silt here, due to the higher flow! Lots of water here, where is it all going? Coming from?

**Cross-section "K":** The beginning of the lower wide room. I ran about two hundred feet of line down the center. I needed to follow the walls, but hindsight is always 20/20. Very low flow here, might be because the room is so large, or because I missed the turn to the main passage, and this is just an eddy room.



## Santo Cave 97

Written by Steve Sturgeon

As we battled the strong flow through the cathedral like portal at the start of the Sarakata River resurgence we knew this was going to be the biggest feature yet. Once through the confinements of the portal the flow was less severe. We pushed ahead trying to define the passage and follow the flow source. The first problem encountered was the lack of reflected light in what would turn out to be a huge single entrance chamber (approx 100 metres in diameter) Due to the inaccessibility of this site we had only carried relatively small lights. When swimming towards apparently open areas we were confronted by huge banks of black silt that is probably washed into the system during the "wet". These huge black mounds literally soaked up our light making it very hard to be sure of the way ahead. When we looked up, the ceiling was some 20 metres above our heads and out of sight, venturing up we found air chambers with ancient formations covered in the same mud as we had found in the large "Bat Cave" found close by during the 96 expedition. This tactic of looking high would prove to be fruitless in the coming days. Several other passages were tried during the next few dives only to find out that they were also part of the huge main chamber. The breakthrough finally came on our 2nd to last day's diving when we realized, that what we thought was more silt on the floor was in fact a heavy, yet fine black gravel being deposited in the flow line. Once we started to follow this trail it quickly showed us the way to the main passage leading us up-stream. The entrance to this main streamway proved to be below the point where we started ascending to the air chambers on the first dive. If we had dropped down instead of going high we would have found the main tunnel on the first dive.

The Sarasota River resurgence was the second objective of Santo Cave 97 Our first was to look at Bush Rope hole. Bush Rope had been found on our previous expedition. However we had very little time left at this point to do much with the site. What awaited us was a significant section of dry cave (80 Metres long) on the upstream side of a short "duck" which ended in a crystal clear spring disappearing - who knows where. A follow up trip by Gary Bush, Mark Donovan and Kevin

Green January 97 saw the first dives made in Bush Rope Hole. During these dives 200 metres of line was laid into 4 branches of the cave, including 1 into a small dry chamber. Unfortunately this choked off with no way forward. Two of the other branches also became small and impassable. The one thing Gary and Kevin had told us was that no noticeable flow was felt in any of the three leads that had choked. Judging by strong flow at the start of Bush Rope Hole a considerable amount of water was flowing from somewhere. Based on this assumption we pinned our hopes on the last lead which had not been fully explored.

This follow up cave diving expedition to Espiritu Santo, Vanuatu was made possible by the continued support of Air Vanuatu, VanAir, Russell and Margaret Donovan of the Deco Stop Lodge and Kevin and Mayumi Green of Aquamarine. Their assistance with travel and supplying all the on site needs of the expedition members, including accommodation, transport and diving supplies was invaluable.

The members of Santo Cave 96 had answered many of Russell's questions but had uncovered just as many new ones and left some unanswered. The plan for 97 was simple, try to complete the exploration and survey of the first system and begin exploration of the Sarakata system. Team members included Stephen Sturgeon, Gary Barclay (Santo Cave 96 members) Stuart McGregor, Paul Holden, Ian Gill, Tony Hiscock and Mark Wilkinson, all CDAA members.

We arrived in Santo loaded down with enough equipment for two weeks' cave diving and 12 days of wreck diving on the famous "President Coolidge"

Our first day was spent cleaning and preparing cylinders for oxygen & nitrox use and installing the team's nitrox panel in Aquamarine's dive store. (the panel was left behind at the end of the trip for future use. While in Santo we trained Aquamarine staff in the use and blending of nitrox. The next day the team spent a pleasant day diving Jackie's Blue Hole, testing equipment and camera gear before heading back to Mount Hope. The next day started off very slow and



disorganized, with us having to wait some time to fill cylinders and then problems with compatibility of our equipment and the filling system. We also picked up a French tourist who wanted to dive the caves. Once we were done we headed off to Mount Hope station to dive the three lowest holes - 3 Way, Tourist Blue Hole & Pump Sink. Gary & Paul dived "54" with the intention of surveying the blind end of the passage just past the restriction. Unfortunately we hadn't reckoned with Gary Barclay's increased girth. This factor made the negotiation of the restriction a trifle slower than usual. On the bright side at least Gary bumped off a roll of film. Shame the camera was not working (battery failure). After we had packed the dive gear back on the trailer we took a scenic trip around the block looking for the right fence lines. (Things look very different after twelve months of growth). This was made all the more interesting due to the muddy conditions caused by wetter than normal weather for this time of year. We headed up to Bush Rope Hole to take a look at our next survey site.

Wednesday 30th July (Independence day in Vanuatu) was to be our first day of serious diving and surveying in Bush Rope Hole, but as in all things the best laid plans of mice and men go astray. It rained all night making any access to Mount Hope very dangerous and difficult. A quick change of plans saw us all head off to check out the reported blue hole on the Shark Bay Cattle company's property. The hole turned out to be four metres in diameter and 7 metres deep with no flow and no leads. We also checked out a small stream rising close by and emptying a sizeable amount of fresh water into the sea. Unfortunately the water was percolating out of many small holes rather than one large enough for access. Despite the rain and problems we decided to attempt to get through the mud to Bush Rope Hole to ferry our equipment through to the lake at the end ready to start surveying the cave in earnest the next day. Thanks to Russell's 4 wheel driving skills and knowledge of the property we were able to get through. Not, however, without us getting out and pushing, and even then we got the trailer hopelessly bogged and had to unload all our equipment, disconnect the trailer and push the 4 wheel drive out. We then had to load our equipment onto the back of the 4-wheel drive and make several trips to get our equipment through. During the next few days we explored all the

leads we could find in Bush Rope Hole and surveyed the whole system. Unfortunately no way could be found large enough to get through. Each of the leads ended in the same area, probably skirting another collapse. We were unable to locate any surface features in the area that could be the collapse holding us back, so as time was running out we decided to leave any further attempts to get past the restrictions for another trip and head off for the Sarakata.

The Sarakata was to prove far more arduous than any of the previous sites. The head of the Sarakata could only be reached via a very steep path through the thick undergrowth descending approximately two hundred metres into the valley. Enough gear for eight divers had to be carried into the valley, fortunately we were able to enlist the help of some of the local men to help us. The unusually wet weather was to make the trip up and down the valley very hard and dangerous. 4 days' of diving was carried out by the team; during this time fixed lines for survey purposes were installed in the cave and much of the site was surveyed. By the end of the fourth day, 600 metres of line was installed in the main passage leading upstream as well as many metres in side passages and the main chamber. Despite the best efforts of the team no end to the main passage was in sight. The main passage beyond the entrance chamber was a consistent 6 - 9 metres in width and 3 - 4 metres in height with a strong flow impeding progress. It was clear that the most practical solution was to return as soon as possible with diver propulsion vehicles to continue the exploration.

What lies ahead? Our short-term objective is to register all of the sites so that they can become sanctioned sites under the CDAA cave categorization system. Other short term tasks include getting various soil, rock, bone and fossil samples analysed and pushing a 4 wheel drive or horse track through to the head of the Sarakata so that we can get more equipment into the site. The medium-term objective is to return to the Sarakata River resurgence in November 97 to continue to push toward the real source of the Sarakata. This trip will involve the use of diver propulsion vehicles and on site compressor facilities to extend our current limits.

Any divers wishing to visit the area can contact the author for more details.

## New Indonesian Cave Dive Introducing "The Crystal Cave" by David Cowan

### Introduction

An article by Barbara Lengs entitled "Cave Diving - Indonesia Style" appearing in "Guidelines" No. 57 (March 1996) informed readers of cave diving opportunities existing in and around Kupang, the principal city of West Timor. Barbara's article focused on a cave system called "Gua Oehani".

In nearby Darwin, a number of divers had been aware of diveable cave sites in Kupang for several years. One of these divers is Sasha Muller, an ex-CDAA member and co-proprietor of Darwin dive store, 'Coral Divers'. Although a regular but transient visitor to Kupang, Sasha had not dived at any of the sites due to the lack of suitably trained buddies and concern about "Flying After Diving" limitations due to the short stays in Kupang waiting for the next flight out.

In mid-1996, the presence of Russell Kitt, an experienced cave diver from Melbourne, on a Coral Divers expedition to Flores finally provided Sasha with a buddy and hence the opportunity to dive at one of the sites. Sasha and Russell selected a site called "Gua Kristal" (translates as the "Crystal Cave") near the village of Bolok, about 10 kilometres south west of Kupang. On Anzac Day of this year, Sasha again dived the "Crystal Cave" - this time with David Powell and myself.

The story of our experience follows.

### The Dive

Our dive started with a rather lengthy walk from our Bemo (ie Indonesian for Mini-Bus) at the roadside across rough ground in the hot dry season sun. We carried all our scuba equipment while our guide, Tommy, carried the refreshments and the towels. Finally, we entered the cave through a hole in its ceiling undergoing a quick and refreshing transition from the hot brightness of the outside world to the cool pitch darkness of the underworld.

After negotiating the steep descent down the rockpile to the water's edge, we were very surprised to discover that the lake was occupied by some bikini clad school teachers from Melbourne and a group of local children. Both parties were obviously enjoying a respite from the hot tropical sun. After exchanging civilities and carrying out final checks, we entered the water.

Hovering down the guideline laid by Sasha and David, I switched on my powerful wide beam torch to reveal walls and ceiling of pristine white limestone and lovely crystal clear water with an attractive copper sulphate blue hue. The clarity of the water is obviously the

reason why the local community call this cave, the "Crystal Cave".

Taking into account that we were within 24 hours of flying home, the plan was to do a quick tour of the cave system to the first air chamber and back. After 10 minutes of careful and leisurely finning through the main tunnel and its narrow squeeze-laden extension. I arrived in the air chamber where Sasha and David were waiting on the rockpile for me.

After a chat, Sasha briefly investigated the start of the tunnel beyond the air chamber. This and other features will have to wait for the next trip. Before returning, a knot was placed in the guideline - later back at our hotel after a few Bintangs (ie a popular Indonesian lager-style beer), we laid out the guideline in the hallway to determine the penetration by pacing as being approximately 90 metres.

### The Cave Environment

To avoid a long description of the cave layout, I have drawn a scaled map (see below) consisting of a plan view and a section view. This depicts the principal features of the system.

The map, which is drawn to the Australian Speleology Federation (ASF) Grade 1 standard, is based on our observations during our short visit to the cave. Please note that much of the detail is not shown and I must emphasise that the appropriate level of caution needs to be exercised in using this map as a resource for planning future dives in the "Crystal Cave".

Unlike Gua Oehani, the cave appears to be used only as a swimming hole by the local community. I suspect this is either due to its relatively remote location and its steep entry. As a result, the cave is very clean (ie no washing detergent containers et al as in Gua Oehani) and has had minimal wear due to human activities.

The water-filled portion of cave contained the following features:

The ceiling which is rich in fossilised coral, is very flaky to the touch. This feature has probably has contributed considerably to the very silty layer on the cave floor. Incidentally, the exposed portions of the fossil coral were very good at snagging our floating guideline.

While Barbara Lengs reported that "Gua Oehani" contained depositary forms such as stalactites and stalagmites, I did not sight any of these in the "Crystal Cave". Further exploration will verify if such formations exist in the "Crystal Cave".

As for "Gua Oehani", the water temperature was very



pleasant. My computer recorded a maximum temperature of 28 ° Celsius. Therefore, lycra suits were the appropriate dress for the dive. Tropical grade wetsuits or light gauge drysuits may be the appropriate dress for longer duration dives in this and other West Timorese caves.

I reached a maximum depth of 14 metres. The maximum depth of the cave appeared to be in the order of 15 to 16 metres.

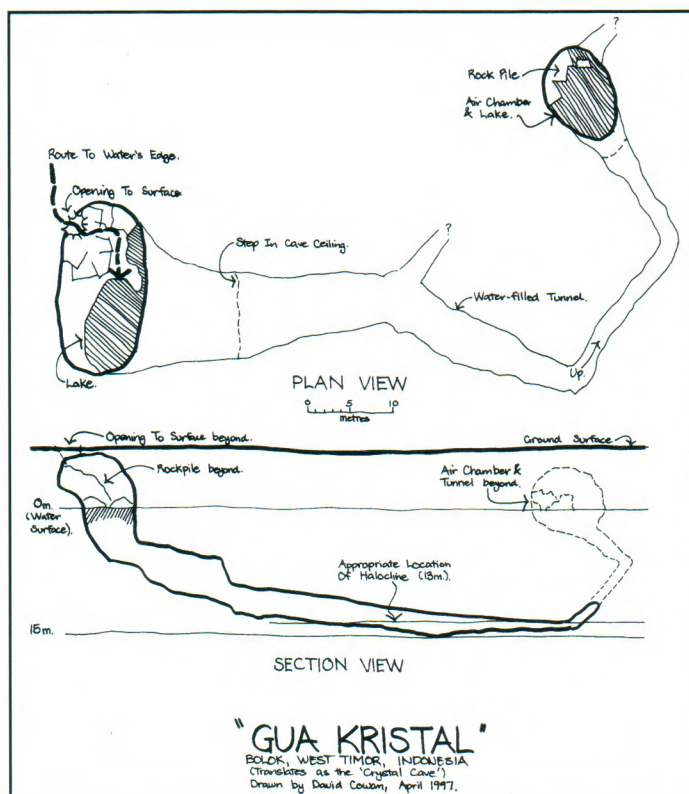
A halocline exists at approximately 13 metres - I assume that this roughly coincides with sea level. As Barbara Lengs noted, passing through this layer disturbs in a quite spectacular way the otherwise excellent visibility. The lead diver, before passing through the halocline, sees the interface between two layers of water with the top layer being freshwater while the bottom layer is pre-dominantly saltwater. The divers following only see blurred images due to the disruption caused by the lead diver.

A fixed line of 12 mm rope has been fixed by unknown persons to the ceiling of the cave from the first step in the ceiling to the first air chamber. The use of this line is not recommended as its use may cause temporary silting problems within the cave. Additionally, due to its position in the cave, the fixed line is not as versatile and as enjoyable to use as a guideline reel.

#### Other Sites

Kal Muller (no relation to Sasha) in his book, "Underwater Indonesia", states that four known sites exist in the vicinity of Bolok. It is reasonable to assume that Gua Oehani and the "Crystal Cave" are included in this number.

My observations lead me to speculate that the region around Kupang may contain a considerable number of caves of which a significant number may be water-filled. The underlying limestone stratum is widespread and deep as is obvious from road cuttings, excavations and the deep gorges cut by the heavy wet season rain. Subsequent to our visit to Kupang, Sasha indicated that he has a number of additional sites to investigate on future trips.



#### Contact Details

Persons interested in diving sites in West Timor such the "Crystal Cave", can contact Sasha Muller at Coral Divers, in Darwin, by writing to or by calling in at Shop 3, 42 Stuart Highway, STUART PARK NT 0820 or by the following electronic means:

- Telephone: (08) 8981 2686
- Facsimile: (08) 8981 2171
- Email: cdiver@ozemail.com.au

Cave Divers who 'surf', can visit Coral Divers' Home Page on the WWW at <http://www.ozemail.com.au/~cdiver> to find out the latest news.

#### About The Author

David Cowan was member of the CDAA from April 1982 until June 1992 and was involved in a number of research projects conducted by the CDAA and the SAUSS. The above dive was David's first dive in a freshwater cave environment this decade.

David's previous contribution to "Guidelines" was a short report published in "Guidelines" No.19 (August 1984) regarding a dive in a freshwater-filled cave on the Isle Of Pines, in New Caledonia.

## KILSBY'S SINKHOLE

### RELEASE AND INDEMNITY

**IN CONSIDERATION** of the South Australian Police Department (hereinafter called "the department") permitting me for diving purposes to enter upon that area of land leased by the Department and known as Kilsby Cave at Mount Gambier including the access road commencing from Sisters Road for a period of five (5) years from this date,

I.....(full name)

of.....(address)

.....(occupation) **HEREBY RELEASE AND DISCHARGE** the Department, the Commissioner of police or the State of South Australia or any of their employees or agents from all actions, proceedings, suits, costs, claims and demands both at and in equity which I might have had against the Department, the Commissioner of Police or the State of South Australia or any of their employees or agents for any loss, damage or injury to me or my property (including deaths) of whatsoever nature and howsoever arising in connection with or arising out of my entry into the said area whether caused by negligence, default or misconduct of the Department, the Commissioner of Police or the State of South Australia or any of their employees or agents or otherwise howsoever **AND I HEREBY INDEMNIFY AND AGREE TO KEEP INDEMNIFIED** the department, the commissioner of Police or the State of South Australia or any of their employees or agents from and against all actions, proceedings, suits, costs, claims and demands and the costs reasonably incurred in defending, resisting or settling the same which may be brought or made by any third person or persons in respect of any such loss, damage or injury (including death) referred to above.

Dated this ..... day of ..... 199

**SIGNED SEALED AND DELIVERED**  
by the abovenamed in the presence of:

.....  
Signatory

.....  
Witness



DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT  
Standard Indemnity Form CLM, 250

INDEMNITY

I,  (full name of Person/s),  
representing  (name of Organisation\*)

\* If the Organisation is not a legal entity, the Indemnity must be represented by same Person/s as listed above.

hereby indemnify the Executive Director from and against liability for all actions, suits, demands, costs, losses, damages and expenses (hereinafter called 'claims') which may be brought against or made upon the Executive Director or which the Executive Director may pay, sustain or be put to by reason of damage to property or injury to persons (including death) caused by or arising in any way out of the conduct of the above named Organisation/Person/s on any lands or waters managed by the Department of Conservation and Land Management (CALM) or generally as a result of the presence of the Organisation/Person/s, or the Organisations/Person/s agents or clients on lands or waters managed by CALM and for the purpose of this indemnity the Organisation/Person/s shall at all times during the period of the activity maintain a policy of public liability insurance in the names of the Organisation/Person/s and the Executive Director of not less than 5 million dollars (\$5,000,000) to cover claims to which this indemnity applies made against the Executive Director or the Organisation/Person/s AND SHALL LODGE WITH THE EXECUTIVE DIRECTOR proof of this insurance policy with the interest of the Executive Director noted thereon and shall on demand by the Executive Director produce evidence of current premiums under this policy having been paid.

Signed  Date  /  /   
Applicant

PUBLIC LIABILITY INSURANCE

Name of Insurer   
Policy Number   
Amount of Coverage  Expiry Date  /  /

In accordance with above INDEMNITY a copy of this Public Liability Insurance must be attached

CERTIFICATION

I,   
(Full name BLOCK letters please), certify that to the best of my knowledge the information provided within this application is true and correct in every detail. I have read and agree to abide by these conditions.

Signed  Date  /  /   
Applicant

## Gear Configuration the Hogarthian Way

by Stan Bugg

A frequently mentioned topic in technical diving journals is a gear configuration concept called the Hogarthian style. Even a cursory understanding of its principles reveals it to be directly applicable to cave diving, no matter what level of certification.

The Hogarthian style is favoured by many U.S. cave and technical divers. It is named after William Hogarth Main, a cave diver for more than twenty years, who introduced its principles to many divers in the 60's and 70's, including the late Sheck Exley.

Before I proceed to describe the system, I wish to point out that I do not necessarily agree with all of its principles and examples. I do however, find the system and its philosophy to be extremely thought provoking.

The Hogarthian style assumes:-

- The best possible gear, maintained in perfect order.
- A diver who is highly skilled, and physically fit.
- A buddy who is similarly fit, skilled and equipped.

In addition to the above, Hogarthism follows these principles:-

- Gear should be a cohesive unit, and not a haphazard collection of parts.
- Think about what you are doing with your gear, and ensure that you are not trying to solve problems that will not occur.
- Make sure that, in solving a problem you do not create other problems.
- Less is best. Less gear means less clutter, more streamlined, more comfort, therefore safer.
- What is not needed should not be carried. REDUCE. REDUCE REDUCE.
- Hogarthianism relies on simplicity and skill, rather than complexity and additional equipment.
- Have nothing dangling. All accessories, hoses, etc. are tucked away.

Having outlined the principles, consider some specific examples. Hogarthians advocate one long hosed and one short hosed regulator. The long hose is retained in the mouth, and the short hose is on a neck strap under the chin. In an air emergency, the long hose is given up, and the diver switches to the regulator under his chin.

Gauges are worn on the wrist. Combo gauges are considered to be too cumbersome. Only the HP gauge without a boot is retained, and it is clipped off close to the body.

Hose protectors, valve protectors and combo gauge protector cages are unnecessary with skilled gear management and stowage. Also they add to entanglement problems i.e. they create other problems while "solving" problems that should not exist. If you constantly bash your gear about while diving, the solution is to improve your technique.

Butt mounted batteries are frowned upon, on the grounds that they create numerous problems in an unsuccessful attempt to increase streamlining. e.g. entanglement point, potential damage gearing up and ungearing.

Twin manifolded cylinders are favoured over twin independent. Hogarthians claim twin independent is a system developed to overcome potential manifold failure which seldom if ever occurs. In solving what is seen as a "non problem" they add complexity of air management. They do concede that twin independent is a superior system when solo diving.

Divers should not have to carry more than three torches. If a diver finds that due to failure, three is not enough, the diver should evaluate the quality of his torches, or seriously evaluate how he maintains them!

All hoses are custom made to the correct length to avoid entanglement.

All redundant "D" rings, clips etc. are removed.

Whether or not you become a pure Hogarthian



in your gear configuration, I believe there is much to consider in the principles and attitudes I have described; and any honest analysis of your gear and how it might be improved must enhance safety.

In my own case, the writing of this article has stimulated me to change my own equipment.

- The hose protectors, worn for more than ten years, will be discarded.
- I have purchased a shorter SCUBA feed hose to replace the one that is 20cm too long.
- A curved wrist mounted slate has replaced my old square one.
- My long hosed regulator has been rerouted to more streamlined.
- I am trying to relocate my spare cutting device, and I am experimenting with different ways to attach my gauges.

On the other hand I am retaining my twin independent system for the time being, and my combo gauge which carries my redundant depth gauge and timer. I also continue to carry four torches for penetration diving.

The articles I have read on Hogarthian styles were written by divers who obviously do not have the word "compromise" in their

vocabulary. Win Remley, co-publisher of Deeptech magazine makes this clear in his article "**The Hogarthian Way.**" when he says, "Personal preference is a euphemism for "I don't want to do it right."

Outspoken Hogarthian, George Irvine, in an article aggressively entitled, "**Do it Right, or Don't do it!**" says, "If it's not clean and simple, it's not hogarthian. If it's not hogarthian, it's not right."

Whether or not you agree with all of the Hogarthian principles, I am sure all will concede that there are several points worthy of consideration:-

- It is common for new cave divers to add gear in a haphazard manner.
- Clutter must inevitably compromise safety rather than enhance it.
- With good technique, protective accessories SHOULD be unnecessary.
- An essential part of the safety equation is diver skill.
- Problems with gear failure should be all but eliminated if your gear is the best available.

## 25 Year CDAA Anniversary

1998 is the 25-year anniversary of the CDAA. The National Directorate is looking to stage some commemorative events, probably at the 1998 AGM. It is also time for a new line of CDAA clothing, and this will carry a 25-year anniversary logo.

I am looking for CDAA members with ideas

and time who might like to contribute to any activities, or who might want to put forward some initiatives of their own. If you would like to contribute, please get in touch with me!

Sabine Schnittger

Publications and Records Director

## Lost documents

Finally, I am beginning to trawl through all the written material and documents that exist since the founding of the CDAA with a view, in the longer term, of cataloguing this in some form. This would ensure that valuable documents are not lost or destroyed, and are available to

reference for interested members. If you are an ex-office bearer, would you please check whether you still have old material and get in touch with me. I will organise collection.

Sabine Schnittger

Publications and Records Director

# CDAA NOTICES

## GUIDELINES DEADLINES

If you would like to contribute to Guidelines, you should note the following deadlines for submission of materials:

Deadline	for publication
7th of November	December
21st February	March
21st May	June
15th August	September

## MISSING MEMBERS

Mail to the following CDAA members has been returned to us:

KJ Martin	#2932
TJ Hegarty	#1814
DL Apperley	#2436

Please get in touch with Linda Claridge to update your address!

## GUIDELINES NOTICE

In the last few months there have been complaints from members who have not received their Guidelines, or have not received them on time. We are in the process of upgrading the CDAA's database, so please bear with us.

If you have not received your copy of Guidelines (or know someone who hasn't), please check the following things first:

- that you are a paid-up financial member of the CDAA, and/or
- that we have your correct address;
- that you have paid until the year 2000 and have fallen victim to the millennium bug!

If neither of these apply, please contact Linda Claridge who will be able to help you.

## CDAA INSTRUCTORS

Any Instructor wishing material contact - Peter Grills 0419 820 920

STANDARDS DIRECTOR:

Glen Harrison

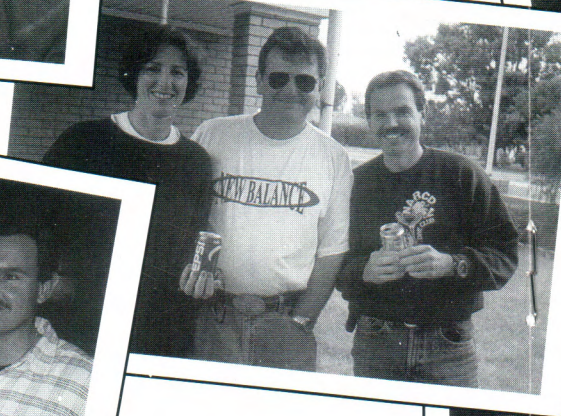
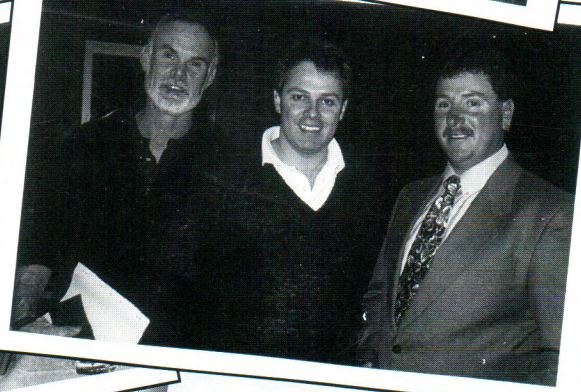
Telephone: 0418 846 602

(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
Des Walters	•	•	•	NSW	(060) 411 405 w						019 401 469 m
Andrew Wight	•	•	•	NSW	(02) 9428 2176	John Mc Cormick Specialist Non-Teaching	•	•	•	VIC	(03) 9555 5777 w
Liz Wight	•	•	•	NSW	(02) 9428 2176	Warrick McDonald	•	•		VIC	(03) 9579 2600 w
Frank West	•	•		NSW	049 636 497	Tony Richardson	•	•	•	VIC	0418 300 531
SOUTH AUSTRALIA						Bob Wealthy	•	•	•	VIC	(056) 858 338 h
Greg Bulling	•	•	•	SA	014 477 430 m (08) 8265 4978 h	Frank Ziegler	•	•	•	VIC	(055)23 6392 w
Glen Harrison	•	•	•	SA	(08) 8386 3237 h	WESTERN AUSTRALIA					
Karen Kennedy	•	•		SA	(087) 250 335 h	Marilyn Boydell	•	•		WA	(09) 349 5646 h
Max Marriot	•	•	•	SA	(08) 8447 3360 h	Simon Jones	•	•	•	WA	(09) 344 4343 h (09) 344 1562 w
Richard Megaw	•	•	•	SA	(08) 8344 1733 h	Hugh Morrison	•	•	•	WA	(09) 409 99807 h
Richard McDonald	•	•	•	SA	(08) 8295 4140 h/w	Andrew Poole	•	•	•	WA	018 928 028 m
Alan Jolliffe				S E Asia Rep	61 773 3544 h	Steve Sturgeon	•	•	•	WA	(09) 527 9211 w
Gary Bush				NZ Rep	(018) 318 837 m	John Vanderleest	•	•	•	WA	(09) 426 8623 w (0411) 184 211 m



# AGM PHOTOS





## CDAA SITE ACCESS

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
<b>MOUNT GAMBIER - SOUTH AUSTRALIA</b>			
<b>Ewens Ponds</b>	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.
<b>Horse &amp; Cart Tea Tree</b>	CN CN	Peter Cunningham PO Box 643, Mt Gambier 5290	By phone or mail, 1 week prior. Ph: (087) 38 4003.
<b>Little Blue</b>	S	Port MacDonnell	Little Blue - permission not required - must carry card.
<b>Allendale</b>	C	Port MacDonnell	Obtain key from Mt. Gambier Tourist Information Centre.
<b>Gouldens</b>	CN	DENR	<b>General Diving:</b> Divers to contact DENR and notify of date and site to be dived. Divers must have the correct CDAA diving endorsement for the site. The onus of proof of CDAA status is on the diver and is provided by presentation of CDAA membership card or DENR checking the membership list supplied by CDAA. 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. <b>Training:</b> 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.
<b>2 Sisters</b>	CN	P.O. Box 1046	
<b>Fossil</b>	C	Mt Gambier 5290 Ph: (087) 35 1177	
<b>Ela Elap</b>	S	Mr. Peter Norman	By phone or drop in before diving. Ph: (087) 38 5287
<b>One Tree</b>	S	Private Bag 67, Mt Gambier 5290	
<b>Swim Through</b>	C	Valerie Earl PO Allendale 5291	Currently CLOSED pending new access arrangements.
<b>Piccaninnie Ponds</b>	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.
<b>Hells Hole</b>	S	Primary Industries	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 Wynnai, 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: wynnai.trevor@pi.sa.gov.au. Written confirmation required.
<b>Pines</b>	C	S.A. (Forestry)	
<b>Mud Hole</b>	C	PO Box 162 Mt Gambier 5290	
<b>Kilsby's</b>	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. January 24 & 25 1998, April 11 & 12 1998, June 6 & 7 1998. <b>No animals permitted.</b>
<b>Shaft</b>	S	Generally open one weekend a month L. Claridge P.O. Box 290 North Adelaide 5006	<b>TIMETABLE FOR "THE SHAFT" GUIDES</b> January 31 - February 1 February 28 - March 1 March 28/29
<b>Ten Eighty</b>	S	Mr. Colin Traeger	<b>Sundays only</b> 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 Please include stamped self addressed envelope. Closed October to November for shearing.
<b>Bullock Hole</b>	S	PO Box 12,	
<b>Black Hole</b>	S	Mt Gambier 5290 (087) 26 6215	

## CDAA 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		Mt Gambier	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.
- East	C	Council	
- West	P		
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.
Idlebiddy (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 Wynnai 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: wynnai.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; CDAA 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			
Cocklebiddy	C	Regional Manager	Must apply for permission to dive at least 4 weeks in advance of trip. Ph: (098) 41 7133. 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 CDAA 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.
Murra El Elevyn	P/C	C.A.L.M.	
Tommy Grahams	C	44 Serpentine Rd,	
Weebubbie	C	Albany 6330	
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 <sub>2</sub> 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.	



## REPORT FROM THE RETURNING OFFICER

Issue No. 61 - June 1997 of Guidelines called for nominations for all office bearer positions. The nominations received no later than 6PM Friday 11th July 1997 were as follows:

### NATIONAL DIRECTOR

Greg Bulling CDAA No 1331

Nominated by Carlo Virgili CDAA No 2215

Seconded by Glen Harrison CDAA No 931

### BUSINESS DIRECTOR

Carlo Virgili CDAA No 2215

Nominated by Greg Bulling CDAA No 1331

Seconded by Glen Harrison CDAA No 931

### STANDARDS DIRECTOR

Glen Harrison CDAA No 931

Nominated by Victor Kostiuik CDAA No 2517

Seconded by Sabine Schnittger CDAA No 2656

### SITE ACCESS DIRECTOR

Gary Barclay CDAA No 1735

Nominated by Linda Claridge CDAA No 2214

Seconded by Steven Van der Starre CDAA No 2474

### PUBLICATIONS & RECORDS DIRECTOR

Sabine Schnittger CDAA No 2656

Nominated by Victor Kostiuik CDAA No 2517

Seconded by Greg Bulling CDAA No 1331

All positions nominated for were unopposed.

No Members motions or amendments to the constitution were received.

Notice was also given in Issue No. 61 - June 1997 of Guidelines advising that the election of Office Bearers, voting on member motions and on amendments to the constitution would be conducted entirely on postal voting papers. To vote, members were to be financial at the polling date. The polling date set for this was 6th September 1997 with the mail out of ballot papers to be included in the August issue (No. 62) of Guidelines and ballot papers to reach the

Returning Officer no later than 6PM Friday 5th September 1997.

Ballot papers were sent out with Issue No. 62 - August 1997 for all members to vote either "yes" or "no" to the Constitutional amendments.

However, due to the constitution at this time stating "that anyone who attends on the (AGM) night votes, then postal votes are only valid from those unable to attend" it was decided that postal votes would be received up until 6PM Friday 12th September 1997, and that a vote would be cast at the AGM. All postal votes received were held until the night of the AGM.

All members attending the AGM filled in an attendance sheet with their name and CDAA number. These were then checked for financial status, and if they had voted by postal vote this was then removed from the postal ballot.

A vote for amendment to the Constitution was then conducted for all members present at the AGM. These votes in addition to the postal votes were then counted.

The results were:

106 YES

22 NO

2 Invalid (Due to no name or CDAA No on outside of pre-addressed envelope).

Amendment to the Constitution - CARRIED.

Thank you to Ken Smith, Andrew Seifried and Harvey Grantham who scrutineered, helped with the voting and helped count the votes on the night.

Jim Ferry

CDAA 2624

## Business Director's Report

I refer to the 1996 Annual General Meeting where members voted to increase the number of Directors of the National Committee from three to five with the creation of the positions of Site Director and Treasurer. It was put at the time that this would enable issues resulting from the increasing size and complexity of the Association together with the need to improve accountability and the development of new technologies to be better addressed. This strategy was partly discounted because the Treasurer's role [previously undertaken outside the framework of the National Committee] was to be performed by a Director on the National Committee. As a result the number of Directors increased by two, but the additional resource available to meet the stated objectives was limited to one.

The new Constitution voted in at the 1997 Annual General Meeting and effective from 13 October 1997, resulted in the creation of a new Director, that of Publications and Records and the transfer of the Treasury function to the Business Director's portfolio.

Sabine Schnittger has been appointed to the position of Publications and Records Director in accordance with the provisions for the filling of casual vacancies.

The demand for management and financial accountability has further increased, highlighting that these complex tasks require specialist skills and continuity to ensure effective and efficient management and control. To address these issues and the intention of the 1996 constitutional amendment referred to above I have created the non Office Bearer position of Treasurer. The Treasurer will report to me and I have appointed Andrew Seifried to that position. Andrew is a CDAA member and holds a Bachelors degree in Accountancy. He tutors in accountancy and has relevant experience through the preparation of statutory accounts for various incorporated bodies.

Andrew and I are working together to establish a computerised accounting system, enabling the timely production of management reports,

quarterly reporting in Guidelines and annual financial statements. Furthermore we will address issues which have emerged as a result of a review of the 1996/97 financial records and statements.

### Membership fees

The Constitution states that membership fees are due on 1 July of each year. It also states that any member whose membership renewal remains unpaid by 1 September will cease to be a member and additionally will be required to pay a late fee on renewal. The current Regulations allow for a late fee of twenty dollars to be imposed on payments made after 1 September.

Generally these provisions, which have been in place since December 1992, have not been enforced.

Whilst most members renew their memberships after 1 July, this year, a significant number of members did not renew until after 1 September; 101 renewals were issued after 1 September. There are a number of reasons for this occurring, however it has resulted in a major blockage for forward planning and I am giving notice now that consideration is being given to increasing the late fee and that commencing with the next round of annual renewals the provisions of the Constitution will be enforced. Memberships will not be renewed after 1 September without discharging the late payment fee.

I stress that renewals are due on 1 July not 1 September and members delaying their renewals to fall just within the 1 September late fee date should be prepared to accept delays in the processing of their memberships.

To facilitate prompt and convenient payment for all members I will investigate the feasibility of accepting credit card payment for fees, however I believe any merchant fees and related costs cannot be absorbed by the Association. Additionally the Records Officer will issue timely renewal notices so that members have adequate time to forward their fees.

## ADVERTISING RATES

FOR SPACE - APPLY TO THE EDITOR

"Guidelines" magazine is circulated to over 1200 members and retail outlets.

Back page	2 colour	\$350.00
Inside Front Page	Black & White	\$300.00
Inside Back Page	Black & White	\$300.00
Full Page	Black & White	\$250.00
Half Page	Black & White	\$150.00
Quarter Page	Black & White	\$100.00



## Spring Workshop

I can report that the Spring Workshop conducted during the AGM weekend, whilst not supported as expected by members, returned a net profit of \$430.52. I stress these fundraisers [in lieu of fee increases], made possible through the efforts of volunteer presenters and organisers will not be held in the future if they do not attract adequate support prior to the event.

## 1996 - 1997 FINANCIAL STATEMENTS AND NOTES

The Financial Statements of the Cave Divers Association of Australia for 1996/97 can be summarised as follows:

PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 30th JUNE 1997			
INCOME		30/6/96	
Profit- Trading account	\$ 661.92	\$ 791.00	
1996/97 Membership fees	\$ 37,735.00	\$ 45,379.00	includes items not in the 1996/97 figure
Advertising	\$ 5,565.00	\$ 1,900.00	
Instruction Packages	\$ 2,400.00	\$ 6,070.00	
Instructor Renewal fees	\$ 1,045.00	\$ 1,665.00	
Interest received	\$ 1,109.02	\$ 588.00	
All other income**	\$ 12,443.50	\$ 3,475.00	
	\$ 60,959.44	\$ 59,868.00	
**includes creditors claim written off(\$569.50)			
EXPENSES		30/6/96	
Guidelines	\$ 9,314.28	\$ 5,760.00	
Guidelines Postage	\$ 1,612.36	\$ 921.00	
Postage- other	\$ 2,383.56	\$ 2,016.00	
Printing and Stationary	\$ 8,029.00	\$ 2,293.00	
Telephone	\$ 3,987.13	\$ 2,926.00	
AGM expenses	\$ 1,870.35	\$ 1,208.00	
All other expenses	\$ 19,176.16	\$ 16,516.00	
	\$ 46,372.84	\$ 31,640.00	
NET INCOME	\$ 14,586.60	\$ 28,228.00	
CAVE DIVERS ASSOCIATION OF AUSTRALIA BALANCE SHEET AS AT 30 JUNE 1997			
ASSETS		30/6/96	
Current Assets			
Cash on hand	\$ 29,370.42	\$ 13,514.00	
Term Deposit	\$ 8,642.71	\$ 8,416.00	
Other Current Assets	\$ 8,629.78		
Non Current Assets	\$ 5,816.90		
Total Assets	\$ 52,459.81		
LIABILITIES			
Total Liabilities	\$ 15,220.00		
CDAA members equity			
opening balance	\$ 22,653.21		
add net income 1996/97	\$ 14,586.60		
CDAA members equity 30/6/97	\$ 37,239.81		
represented by:			
NET ASSETS	\$ 37,239.81	\$ 22,654.00	

## Claims for reimbursement of expenses - mobile phones

On another matter, I have recently advised all Directors that reimbursement for telephone calls made to mobile phones will only be made in exceptional and urgent circumstances. Therefore if you leave a mobile phone number for a Director or a representative to return your call, do not expect to have it returned.

Income for the year ended June 30 1997 does not include membership fees paid for the 1997/98 year prior to that date, this has been reported as a liability - memberships paid in advance. This accounts for the difference in membership revenue between 1996 and 1997.

The total income figure is up slightly from last year. Advertising revenue has increased, from \$1900 in 1996 to \$5565 in 1997. Interest received has also almost doubled due to the placement of funds in several cash management accounts.

It does appear however, that certain (relatively small), items of revenue have not been brought to account; this matter will be investigated further.

The level of expenses rose significantly. Several items have contributed to this. Advertising revenue of \$2320 was written off as a bad debt, due largely to inadequate invoicing procedures. The new arrangement with Aqua-Tech for advertising management will minimise CDAA exposure to this situation in the future.

The publication and postage of Guidelines also played a large part in the increase in expenses. There were four issues published in 1996/97 compared with three in 1995/96. The large increase in advertising revenue has helped offset the production costs. The current high standard of Guidelines will help to attract new advertising, and therefore should be encouraged. It is not expected that Guidelines expenses will increase materially in this financial year.

Printing and Stationary costs were also higher due to the need to replenish stocks of instruction materials and member handbooks. The Annual General Meeting expenses were also up slightly due to the postal ballot system of voting and the changes to the constitution.

The introduction of a five person directorate does not appear to have contributed greatly to cost increases. The telephone expense and meeting expense was slightly higher. The use of telephones by Directors will be subject to increased monitoring to confirm efficient and justifiable use. There is also a greater reliance

on email facilities which will also help to contain costs.

There are several other areas that are being examined to reduce costs, this includes the current banking arrangements to see if further savings can be made.

The use of accounting software will translate into lower accounting and audit fees. The current insurance premium is competitively priced, but changes in Government requirements for indemnity may put pressure on our current arrangements.

The monitoring and control of CDAA assets needs to be improved. An asset register will be compiled, including course materials, CDAA products and other items not already covered. A greater level of accountability for CDAA assets being held by CDAA representatives will also be required. The handling and control of cash, usually the biggest problem in most organisations, does not seem to be a problem here, particularly where membership fee collection is concerned.

The development of the Business Plan and Management Framework will be a useful tool in the monitoring and control of income and expenditure. It is expected that a number of the issues discussed in the preceding paragraphs will be addressed and incorporated into the plan.

## 1997 - 1998 NOTIONAL BUDGET

At the 1997 Annual General Meeting discussions took place surrounding the text to be provided by candidates with their nominations. As a result a motion was passed calling for Directors to

*'publish their intentions for the next twelve months as would have been required had they been opposed.'*

I hasten to point that no such requirement of Directors existed and in support I quote from Guidelines No.61 - June 1997.

*'Nominations must be accompanied by a precis not exceeding two hundred words detailing skills, experience and achievements relevant to the duties and tasks to be completed during the term of the nominated position.'*



The intention of this description was to introduce candidates and assist members to differentiate between competing candidates. In this election candidates stood uncontested.

The very notion of candidates specifying individual tasks and strategies as the basis for election defies the logic underpinning the development of the Association's Business Plan and Management Framework. This notion does not allow for adequate consideration of ongoing and competing work and results in poor use of resources and unfinished programs and initiatives.

It is my intention to complete the Business

Plan and Management Framework promoting forward planning as the basis for future Office Bearer nominations and subsequent accountability to the general membership.

In recognition of the motion referred to above and that members require greater accountability I have published summarised notional budgets for each Director. These are based on 1996/97 expenditure patterns incorporating projected savings in the areas of insurance, printing and stationery and telephone expenses and new initiatives for 1997/98. It assumes that the Association will maintain 1996/97 revenue levels.

<b>CAVE DIVERS ASSOCIATION OF AUSTRALIA</b>	<b>Allocation \$</b>	<b>New Initiatives \$</b>	<b>TOTAL \$</b>
<b>1996 - 1997 EXPENDITURE</b>			<b>46,373</b>
<b>1997 -1998 NOTIONAL BUDGET</b>			
<b>NATIONAL DIRECTOR</b>	<b>5,900</b>		
General contingency, operating and minor projects	2,500		
Insurance	3,400		<b>5,900</b>
<b>BUSINESS DIRECTOR</b>	<b>6,800</b>		
General contingency, operating and minor projects	1,000		
Annual General Meeting	1,700		
Computerised Accounting System		500	
Committee Meetings	1,800		
Constitution		900	
Regulations		900	<b>6,800</b>
<b>STANDARDS DIRECTOR</b>	<b>6,500</b>		
General contingency, operating and minor projects	1,500		
Instructor workshops	2,000		
Course materials	2,500		
State meetings		500	<b>6,500</b>
<b>PUBLICATIONS AND RECORDS DIRECTOR</b>	<b>26,460</b>		
General contingency, operating and minor projects	2,000		
Production and distribution of Guidelines	15,200		
Upgrade - Records System		2,000	
Upgrade - hardware		1,000	
CDA A 25th year activities		2,000	
CDA A products and insurance	260	4,000	<b>26,460</b>
<b>SITE DIRECTOR</b>	<b>2,000</b>		
General contingency, operating and minor projects	2,000		<b>2,000</b>
<b>1997 - 1998 NOTIONAL BUDGET</b>	<b>35,860</b>	<b>11,800</b>	<b>47,660</b>

## Standards Director's Report

Since the last issue of Guidelines much has been happening in the area of Standards. It was pleasing to note that the AGM was reasonably well attended and there appeared to be some strong support from the membership present. What is also remarkable was the fact that the meeting actually finished ahead of time. The following is a summary of Standards activities since the last Guidelines.

### NEW INSTRUCTOR APPOINTMENTS

I would like to congratulate the following members on their recent instructor appointments:

Linda Claridge: Cavern/Sinkhole Instructor  
Warrick Mc Donald: Cave Instructor

### NSW MEETING

I attended a State meeting in NSW on 12 October which was organised by Andrew Robertson, the NSW state rep. Approximately 50 members attended and it was good to see such a good turn out. The meeting content included an overview of the AGM proceedings, subsequent discussions, questions & answers and was concluded with various cave diving slide shows and talks.

There were some "hard" questions asked, particularly by proponents of re-breathers and tri-mix. I outlined the various draft policies the CDAA was considering adopting on these matters which raised a degree of discussion. It was disappointing for me that some members did not accept the explanations and decided to provide their views on the "cavers list". It is also surprising that some of the questions asked on the list were not raised at the meeting held for that purpose. However I am happy to report that this was a small proportion of the total number of members attending, and that some of the views proposed received no support at all. My position is, and always will be, to protect the access to sites for the greater membership.

### LAND OWNER MEETING

I attended a landowner forum in November and am pleased to advise that several important issues were resolved. On advice from Crown Law the forum is adopting new Terms of Reference and these should be finalised before Christmas. The Directorate has been given the opportunity for input and comment to ensure the best possible outcome for all parties.

The recent South Australian election has resulted in some name changes for Government Land Managers. DENR is now the Department of Environment, Heritage and Aboriginal Affairs. PISA (Forestry) is now one of the functional groups within the Department of Administrative and Information Services (DAIS). At this stage only the names have changed and usual access requirements etc will remain unless notified.

One important issue raised by Trevor Wynniat of DAIS is the problem with using portable compressors, stationary motors or generators in the pine forests. If you wish to use such equipment it is a requirement of access to satisfy the following:

- carry a suitable 9 litre capacity fire extinguisher
- carry a fire rake or shovel
- clear the area a minimum of 4 metres around the motor
- specify that you wish to use such equipment when making your application to dive their sites. Your request will then be noted on the permit.

The CDAA has a positive working relationship with this group and provided members continue to do "the right thing" this relationship can only become stronger and the CDAA prosper as a result. Some more of the positive outcomes from the meeting are included below.

### NEW CAVE DIVER INSTRUCTOR STANDARDS

The Land-owner forum supported a change to cave level instructor standards. Cave diver courses can now be run entirely by a single instructor. The introduction of performance based standards and course evaluation forms has seen the requirement for two instructors removed. The only caveat is that a CDAA instructor can only undertake a maximum of 4 Water Training Sessions (as defined in the Standards & Procedures Manual), on any CDAA courses, per day. This will ensure student and instructor safety by preventing an instructor undertaking, say, 8 dives a day if they are running a Sinkhole and Cave course on the same weekend.



This initiative will mean that cave courses should become more available to members since the financial impediment to fund two instructors has now been removed.

Penetration course standards will still remain the same.

## **NEW CDAA POLICIES AND REGULATIONS**

Following formal advice to the landowner forum the following new regulations and policies are effective.

### **MANIFOLDED SYSTEMS IN CDAA RATED SITES**

Manifolded systems may be used in all CDAA rated sites. Divers using manifolded systems must adhere to CDAA air management rules.

It is recommended that divers have practiced and are competent in the following skills:

1. Rapidly locating and changing to the backup regulator.
2. Rapidly deploying and replacing the long hose primary regulator.
3. Accessing all tank valves and turning them on or off whilst diving, in a reasonable period of time.

In CDAA rated sites divers using manifolded systems and dive teams consisting of divers using manifolded and independent systems must adhere to the following regulations:

1. Manifolds with two high pressure outlets must be used (Ideal or Isolation).
2. Each outlet is to have a first and second stage regulator attached.
3. A minimum of one cylinder pressure gauge must be used.
4. In sites where swimming side by side is possible the primary regulator of a manifolded system must be fitted with a low pressure hose of at least 1.5 metres in length.
5. In sites where restrictions can be negotiated the primary regulator of a manifolded system must be fitted with a low pressure hose of at least 2 metres in length.
6. Where a dive team consists of divers using manifolds and divers using independents the diver(s) using independents must ensure that one of the regulators is fitted with a low pressure hose of at least 1.5 metres in length for sites where swimming side by side is possible and 2 metres in length in sites where

restrictions can be negotiated. In both instances the other regulator hose must be at least 1 metre in length.

7. If a manifolded system is used as an independent system then all equipment required of an independent system must be carried.

In CDAA rated sites divers using manifolded systems and dive teams consisting of divers using manifolded and independent systems should adhere to the following recommendations:

1. All valves of a manifolded system should be accessible and devices used to prevent roll off or damage to the valves should not restrict or hinder access.
2. If more than one scuba feed is required, each should be fitted from a different first stage.
3. The long hose should be breathed from throughout the dive.
4. The long hose should be stored on the diver in such a fashion that it does not create a snagging problem and can be easily extended in an emergency.
5. The backup regulator should be checked periodically during the dive to ensure its continuing operation.
6. Divers should maintain close buddy contact throughout the dive.
7. Divers should be aware of their buddies equipment configuration including which second stage regulator comes from which valve, and the deployment process for the backup regulator.
8. Manifold divers are encouraged to dive with other manifold divers.

### **ENRICHED AIR MIXTURES - USE IN CDAA RATED SITES**

Enriched air mixtures may be used in all CDAA rated sites. Divers must comply with the Regulations set out below

#### **Regulations**

1. Divers must be agency certified to use enriched air mixtures.
2. Divers must not exceed the level of training, standards and procedures for which they have been certified in enriched air mixtures.
3. CDAA members must not undertake any gas blending unless they have been agency certified.

4. The maximum PO<sub>2</sub> to be breathed at the planned maximum depth is 1.4 bar.
5. The maximum PO<sub>2</sub> whilst on a decompression stop should not exceed 1.6 bar.
6. All cylinders containing enriched air mixtures must be appropriately marked in accordance with the divers certification agency's standards.

#### **Recommendations**

1. Cylinders containing decompression mixtures should be pressurised, the valve closed, the demand valve secured and the cylinder marked with the maximum useable depth.
2. Cylinders containing decompression mixtures should be attached to a shot line(s) where appropriate.
3. For decompression stops where the FO<sub>2</sub> of the decompression mix exceeds that of air:
  - a) If the PO<sub>2</sub> at the maximum achievable depth during decompression exceeds 1.6 bar, then a depth marked decompression shot line should be used. The shot line should be able to support any buoyancy problems the diver(s) may encounter.
  - b) Shot lines should be depth marked at the depth(s) of all planned stops.
  - c) Where a shot line is required divers should be in physical contact with the shot line during all decompression stops.
  - d) A decompression breathing system should be placed at the decompression stop by the diver or support diver at the beginning of descent.
  - e) There should be a minimum of two divers at any decompression stop where the PO<sub>2</sub> of the decompression mix exceeds 1.4 bar.

### **USE OF REBREATHERS IN CDAA RATED SITES**

1. The general unrestricted use of rebreathers is not permitted.
2. In the interest of furthering the Association's aims and objectives the National Directorate will accept requests for the use of rebreathers on behalf of landowners and land managers in extraordinary circumstances.
3. Such requests must detail the:
  - applicant's training, qualification and experience in rebreather use.

- gains provided by rebreather use over the use of open circuit scuba.
- impact of the planned activity on existing access arrangements.
- a detailed dive plan including the dive objective(s), redundancy and support.

4. Where such an application is supported the National Directorate will initiate correspondence with the land owner/manager on behalf of the applicant.
5. Applicants must comply with all land owner/manager requirements.
6. Landowners and managers must not be approached directly.
7. Landowners and land managers can only be approached in accordance with the provisions of this Regulation.

Thanks to all those members who contributed to these policies.

### **INVESTIGATIONS OFFICER**

In order to reduce the workload on Directors when following up on standards violations and member complaints a single member sub-committee has been formed. The position will be called CDAA Investigations Officer and I wish to thank Victor Kostiuk for agreeing to undertake this role.

In essence the terms of reference give Victor full investigative powers on behalf of the CDAA National Directorate and will ensure a speedy resolution in these matters.

### **REVIEW OF NEW COURSE FORMATS**

Instructor evaluation and feedback is still being collected for the new course standards and formats. It is envisaged that an Instructor Workshop will be run to ratify these changes sometime in May 1998.

### **DUAL RATING FOR PINES**

Pines now has a rating of Cave & Penetration. The areas where it is not possible for two divers to swim side by side are now officially Penetration rated. Dives in these areas can be counted towards various prerequisites as required. Cave level divers found diving these areas will be in breach of access arrangements for that site and as such will be dealt with accordingly. So please do the right thing.



# Reels, Guidelines and Line Laying

by Tony Richardson

The plethora of cave diving equipment available in the nineties presents the newly trained cave diver with a number of choices.

Originally CDAA training was very rigid in specifying what reels and lines were suitable for sinkhole and cave diving .... a closed faced reel with 3m orange, braided, floating line. Today it is recognised that different reels and lines are needed for different situations.

Open faced reels are gaining in popularity due to their light weight and simplified construction. They also have advantages in that line jams can generally be easily rectified during the course of the dive due to the accessibility of the line on the reel. A feature often overlooked is that these reels allow easy breaking by placing a finger against a spool when deploying line.

Whatever type of reel is used, the handle should be designed to allow both reel and dive light to be held by one hand. Every reel should be equipped with a lockdown screw to secure the spool from unwinding when not in use. This lockdown screw is not designed as a brake and should not be used as such.

Jump reels are small closed or open faced reels carrying about 15m of line. These reels serve a variety of purposes - to bridge the gap between two fixed lines in a cave, to make temporary repairs to a damaged fixed line, to use as a search reel when a diver has become separated from a fixed line in poor visibility, to assist in maintaining line contact if fixed line is cut due to entanglement, and as an aid in underwater cave surveying.

There are three or four common types of guideline in use on reels.

The 3mm orange, braided, floating line is still preferred for Sinkhole and Cavern diving - it is easily manageable, floats to avoid snagging on the bottom when you are high on the roof of a sinkhole, and is very visible.

Line used for jump reels is usually 1mm yellow or white, sinking, bricklayers type line. Thin line is used here to allow a sufficient

quantity to be carried on compact jump reels. This type of line needs more frequent checking for wear and abrasion.

Two sites, Englebrechts West and Tank Cave, warrant the use of heavy 8-9mm fixed line for negotiating significant restrictions. In both cases a reasonable amount of slack exists in the line. This enables the diver some lateral movement in order to negotiate the restriction always at its widest section, and secondly, to signal along the line via line pulls to following divers upon exiting the restriction.

The fixed gold lines used in Iddlebidy, and in Tank Cave along the main routes and the main circuit are a 5mm sinking line. These distinguish the main passages in Tank Cave from other side passages which are lined with conventional orange-coloured line. It is a salient point that lines used for Cave or Penetration sites should be the sinking variety in order to avoid line entanglement when diving in restricted passage.

Laying line in any site from Cavern through to Penetration basically follows the same procedure. There are four types of tie-off: primary tie-off, secondary tie-off, wrap, and line placement (or tuck-under).

In 15 years of CDAA training I have seen a wide variety of knots espoused as being suitable for tie-offs. These ranged from complex slip knots, which supposedly allowed you to undo them easily when blacked out - provided of course you pulled on the right loop, through to the "Roy Rogers" knot which was used in the TV show to tether the equine partner .... although I am yet to see a horse on a cave dive .... but I have noticed a few cowboys. Anyway, my skills of underwater macrame must be poorly developed as I invariably forget how to do new knots within about five minutes of being shown. The system I am about to explain here relies heavily on the KISS principle, is easy and quick to execute, and even easier to undo when reeling in and exiting a cave.

Firstly, the primary tie-off is easily secured to an anchor when there is a large loop pre-tied in the end of the line. Underwater at the anchor you create a large "slipping loop" by wrapping the loop-end of the line around the anchor and then passing the reel through it. See diagram 1. The primary tie-off must always be positioned to allow a direct ascent to the surface from that point.

The secondary tie-off is secured just inside the cave or cavern entrance in the event that the primary tie-off is interfered with. A clove hitch around a projecting rock or log is a simple but effective knot to use in this situation. See diagram 2.

For the remainder of the dive the primary objectives when laying the line are to keep the line out of line traps, position the line so that the divers do not get entangled in it, and ensure the line is kept reasonably taught. I have found all of these objectives can be comfortably achieved by using line wraps and tuck unders rather than time (and line) consuming knots.

So what is "line wrap" .... some new type of dance? Well not exactly. To execute a line wrap pass the reel of line around a rock outcrop and then pass it back over the line prior to the outcrop. See diagram 3. Alternatively, a bight or loop of line can be taken, twisted once, and then placed over the anchor. With due consideration for direction of pull, a correctly

executed and positioned line wrap is very secure as the opposing forces of the incoming and outgoing lines (from the anchor point) counteract each other and lock the loop of line tightly around the anchor.

Tuck unders or line placements are even simpler. The boulders, rocks, ledges, and outcroppings that make up the natural cave environment are used to simply position the line to where you want it to go. See diagram 4. I sometimes pick up smaller rocks and place them on top of the line to keep it in place.

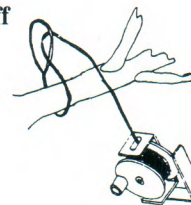
All caves are suited to this method of laying line. Only rarely should pitons or weights be required as anchors or tie-off points.

It is important not to wrap a line too frequently. If wraps do come adrift this could result in a lot of slack line. Line placements and tuck unders are more effective in this regard.

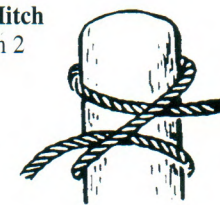
If some of this is new to you, why not turn off the time waster in the corner, grab your reel and go out and have a practice in the back yard. Land drills as they are called in our training courses are an essential precursor to any in water skill training. Having the skills and techniques to quickly and effectively lay and retrieve a line can only make your cave diving safer and more enjoyable.

Tony Richardson.

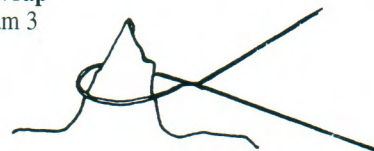
**Primary Tie-Off**  
Diagram 1



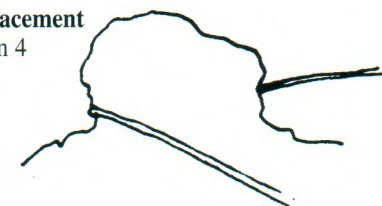
**Clove Hitch**  
Diagram 2



**Line Wrap**  
Diagram 3



**Line Placement**  
Diagram 4





# A personal perspective on gear management when using a manifold

by Barrie Heard

Recently there have been a number of articles within Guidelines which have discussed the use of manifolds in Cave Diving. From reading these articles you could easily get the impression that diving with a manifold is extremely dangerous and should be avoided at all cost - however nothing could be further from the truth. I thought it would be timely to enter into the discussion from a slightly different perspective. Previous articles have relied heavily on perceived failure rates based largely on statistical analysis (often by people who have done very little if any diving on manifolds) and the application of manifolds in solo diving (which is outside the scope of this discussion), whereas I shall comment from my own experience of some 300+ dives with a manifolded system over the previous years, in a variety of situations. I thought it was time to comment as an actual user of the system as both a technical/cave diver and a technical instructor. So why am I qualified to make these comments - because in the past 20 years, other than the above point, I have used all systems of twin tank diving in various configurations and have learnt "heaps" by making "the odd mistake or two". Experience is often a hard teacher so perhaps I can share a bit of information with others and then you can make up your mind.

## TWIN TANK SYSTEMS

Before I explain why I use "my" system I will briefly discuss the actual details of available twin tank systems - as this is what the discussion seems to be about - often very passionately one way or the other. Twin tank systems fall into two basic systems - those which are back mounted and those which are side mounted. This discussion needs to mention side mounts because one system of back mounts has adopted some of the principles behind their use. Over the years there have been a variety of manifold configurations available to the diver. A manifold is, simply put, a means of joining cylinders together to access a larger volume of gas with one or more outlets. The following list names and discusses their relative merits &/or deficiencies.

### Crossover manifold (various manufacturers).

Originally designed to simply bolt between the two valves with one regulator outlet. It effectively meant you had one large cylinder. The major shortcomings were that it could be bumped or damaged resulting in

an air leak for the total supply, and it only had provision for one first stage. These should not be used for diving and are in fact potentially dangerous! Having said that I consider myself lucky that in many dives with this configuration I never had a failure - although the fittings had to be very carefully connected, otherwise the "o" rings leaked. I know people who still use them, but that doesn't mean they are right. For many years there has been an improvement to this system which firmly bolted and joined the cylinders in one valve, but this was quickly superseded by the next system.

### Perfect manifold / ideal manifold / Benjamin conversion.

This manifold provided two outlets for two separate first stages (regulators). George Benjamin who was involved in some of the early exploration of the Blue Holes in the Bahamas has been credited with the development of this system. At the time it was a tremendous leap forward in diver safety - particularly at depth. Two contents gauges can be used but really only one is needed as the tanks' contents were always available and visible through this one gauge. This was a major advance over the previous type as it provided access to the full twin tank supply, and you could turn off a regulator at the tap if it developed a fault. There was no need to swap regulators during the dive and this was seen as a safety factor at depth. This system was used in the early exploration of the Nullarbor by some divers, including myself, and is still commonly in use in the USA. The major disadvantage is that you could still lose a considerable amount of air from the total supply. This could occur if a burst disk "blew" as there would be no way of stopping the air escaping from both cylinders. I had this happen to me in the Nullarbor, because we were filling our cylinders just a little bit higher than normal. I soon learnt that not only do burst disks work, but you must also have the correct one. However, I would caution to point out that in my experience burst disks fail during filling, storage in excessive heat or slowly leak as they "corrode" and rarely (never in my experience) burst underwater. The manifolds are expensive (from \$240 - \$400+) and of course have to be installed correctly to ensure that "o" rings are not damaged and the correct spacing was obtained between the tank necks. The major advantage of this system is that it allows the diver access to larger gas

volume and has the added security of 2 valve outlets, 2 first stages and a second stage operating off each. This system was in use for many years and has proved extremely reliable when used sensibly. However, time goes on and an improved idea was developed from this.

**Isolation manifold (Sterling, Apeks, Dive-Rite, Sherwood).** This manifold is the current version which allows true isolation of each cylinder. This system has all the features of the "perfect" manifold with the added advantage of being able to effectively isolate each cylinder, if required. Technically these twin cylinders can be connected and be either independents or joined - in their regulator operation. Once again the major disadvantages are that they must be permanently connected, correctly installed with correct spacing, the tap has to be turned off if a problem arises, and they are also costly to purchase (from \$240 - \$400+) On the plus side, they don't require you to swap regulators at depth and this can be an important consideration.

**Twin independent cylinders.** In this instance, the cylinders are totally separate. No manifold is used, therefore none can fail. Each cylinder carries its own first stage, second stage and contents/depth gauge. In the event of either regulator failure, equipment damage (heaven forbid!) running out of air in one cylinder, there is always the other independent cylinder to use. The vest feed is taken off one cylinder, if a dry suit is worn its supply is taken from the other cylinder. However, even at depth, regulators must still be swapped! If I were going to dive solo in restricted passages I would tend to use this system unless I was carrying a stage bottle, in which case I would go back to manifolded cylinders on my back and a stage on my side. Side mounts are definitely classified as twin independent systems as they are on either side of the diver, with no connection between them at all (there is however one exception and that is when gas switching blocks are used, but I don't want to discuss those here as I don't agree with their use for recreational purposes! - perhaps at another time).

## PREFERRED SET-UP

So now that I have established the most common twin cylinder configurations - why and how do I dive with my cylinders. My diving "genre" consists of the following: cave diving, where I have dived, and still do, in virtually all the diveable sites (and some not so diveable!) available to me over the past 25 years and "technical diving" (often deep >40m) using both Trimix and EANx mixtures. I have rarely used "air" for the whole dive in the past 4-5 years. This diving

is mainly to search for and dive on wrecks within Bass Strait. Additionally I spend considerable time teaching dive students at all levels from EANx diver through to Trimix Diver, and still thoroughly enjoy teaching 2 or 3 cave diving courses each year.

For the above diving "genres" I have tried to use a system which adapts to my style of diving in the majority of situations. For preference (probably 85% of the time) I use twin Sterling (Faber) 7 litre (44cub ft) cylinders which have been manifolded together with a Sterling DIN/K Isolation Manifold. I have a fairly good breathing rate and find that this configuration allows me to dive safely and comfortably in most areas. I can easily conform to the thirds rule for my dives and always have enough gas on hand for buddies or students I have with me. The way I attach these to my back is with a backplate and harness to which I simply bolt the cylinders - no fancy cam straps or bands. I always have my cylinders in stainless steel bands to ensure they stay in the correct orientation. In situations where I require a large volume of gas I use twin Roth 10.5 litre (85cub ft) cylinders or Sterling (Faber) 12 litre (100cub ft) cylinders. The only location where I do not use a manifold with these two larger configurations is in Tank Cave.

My regulator configuration is kept the same regardless of whether I use twin independents or manifolded cylinders - with one exception. With the manifolded cylinders I only wear one tank contents gauge which I always wear on my left side. For the regulators I breath off I have chosen to always use two different second stages. Because I always use this configuration I always know which valve I am using and I can feel the physical difference in the second stages when I pick them up. I might add here that I encourage people doing technical courses with me to use different second stages with similar performance when they use travel gases for this same reason - colour coding is useless when you can't see. These regulators are attached to each valve post with the RHS valve hosting a first stage, a second stage on a 55' hose and my primary vest inflator. The LHS hosts the other first stage, my cylinder contents gauge, a second stage on a 55' hose and either my drysuit inflator or a second buoyancy vest.

Some people are probably asking 2 questions: 1. Why don't you use a short hose on one side - the reason is that I spend a considerable time teaching students in both Cave and Technical diving and I believe that I need to be able to hand off either reg in an emergency. 2. Why do you use a 55' hose? - because it is the right length for me and my gear



configuration. If I blindly followed some text books and used a 2m hose I would have to either wrap it up somewhere or even wrap it round my neck. I don't need the extra length and neither do you unless you want to tow divers on your scooter through restrictions in zero vis conditions. Because of the length of hose it is important that they be stowed carefully. I allow the hoses to drop vertically beside the cylinders on each side and then they loop up from under the "wings" and come up exactly in line with my harness strap. Each second stage has an angle joint which both allows it to be positioned better. Finally each second stage has a short length of surgical rubber (approx. 5cms) attached at the angle which has a scissor clip attached. This is clipped to my harness "D" ring. In this configuration the second stages do not hang down more than ~ 6 cms, can be lifted up to my mouth without unclipping in emergencies yet they are easily obtainable - even when lying face down in a flattener - I know, I have tried it.

During this what is the manifold doing - hopefully just being there and supplying breathing gas equitably to both first stages. The manifold has an isolation valve in the middle and this is for the purpose of isolating a cylinder if it suffers a catastrophic failure on either valve post. The pessimists and statisticians indicate that this can fail like each of the valves. Sure, but when was the last time a valve failed on you or your buddy. The solution to this potential problem is to do the following which will minimise the effect of one of these unlikely events. If you are diving in an environment where you will hit some object above you first ensure that you are using DIN valves to reduce snagging and your profile and ensure that the isolating tap is turned down. Removing the impact point surely makes good sense and makes you more streamlined. The problem with doing this is that you make it difficult to turn off the tap. To solve this problem make your life a bit easier by only turning the tap on about three quarters of a turn at the most. This is more than adequate to continually keep the tanks balanced yet with a quick turn it is off. The previously mentioned gear system can be easily used with twin independents with the simple addition of another cylinder contents gauge.

However, the ease of diving with a manifold far outweighs the use of twin independents. Using the manifold takes away some issues for task loading:

- changing the regulators (particularly) at depth is not necessary therefore removing the chance in normal diving of a regulator free flow, mouth full of water

(or dirt)

- when diving in a stressful environment; like current at depth, students at depth
- the possibility of narcosis affecting your ability to do either of the above ....

These are some of the reasons for me using this system but before you rush out and buy new gear think carefully about the sort of diving you wish to do. If you wish to dive solo in restricted passages which are muddy with lots of protrusions to snag you the preceding comments are probably not for you, however if you wish to dive in situations where you are mainly in the open and usually with others try a manifold.

Before I finish though you should be aware that using any piece of equipment requires you to be thoroughly conversant with it's use in as wide a range of situations as possible. Using a manifold is no different. It is common knowledge that the Sterling, Dive Rite and Apeks manifolds all have the problem of the LHS valve rolling off when continually bumped. I prefer not use covers but instead be able to reach and turn it back on. I use my drysuit inflator as the indicator - i.e. when it doesn't work it is obviously off. There are other things I do of course (like checking it!) but that is a known indicator.

A number of simple drills are taught and practiced during courses and you can try and practice these yourself. The first is being able to reach all the valves and turn them both on and off. Not as simple as it sounds for some. This may require you to undo crutch straps if worn, loosen harnesses and roll the tanks or even simply lift them up. It is not good enough to talk about it - you must actually do it - in the water, in the conditions you intend to dive in. On technical courses I run we aim to do a valve shut off exercise on every dive, regardless of the depth. After establishing we can reach the valves the next exercise we do is as follows: remove main regulator, swap to your other regulator, turn off your tank valve fully, give O.K. signal, turn tank valve back on fully, test and replace main regulator, turn off other valve, give O.K. signal turn on valve again. We aim to complete this exercise between 15-30 secs but no longer than a minute. Try it with your own valves.

Barrie Heard is a CDAA Instructor, a Technical EANx Instructor Trainer with IANTD and a Master Instructor with NASDS. He can be contacted on 0419401276 or ebank@dcscomp.com.au and is happy to help people who might want to set up their equipment for their style of diving.

## SAVE your \$\$ on the following equipment, and spend it having a good time!!

Static Rope: 10.5mm \$3.60 / m  
11mm \$3.70 / m

Harnesses from \$50

Screwgate carabiners from \$14.80

Tank haulage straps \$4.00

Tape ladders from \$90.00

For all your CAVING & ABSEILLING requirements, & more great prices, call for a FREE price list to be sent out.

## ROPING WORKSHOP

Course Covers:

Anchoring Belaying Abseilling  
Climbing wire & tape ladders Pulley Systems  
Equipment Haulage Basic Rescue  
Equipment I.D. & it's uses

Course needs min 2 people to run  
Duration 2.5 hours

## ROCKWORKS CLIMBING GYM

PH: 03 9462 4054

FAX: 03 9462 1009

E-MAIL: rockworks@micronica.com.au

74 Lipton Drive Thomastown Vic.



# TRADING POST

Viking Drysuit Size 2 \$950

Subsea Woolly Bear \$350

Both together \$1,200

Contact Trevor Alldritt  
(CDAА 2330)

08 8250 1483

## Need a Generator for your Nullarbor Trip

650 watt Honda generator  
available for hire.

Ideal for Nullarbor trips

Compact, reliable and very  
economical

Phone Victor  
0417 392 843

To all CDAА instructors wishing to advertise proposed CDAА courses -  
**Please contact the Editor for FREE advertising space!**

## Omission

We apologise for the omission of the following paragraph from the article "Rockfall in Weebubbie Cave" (reprinted with permission from "The Australian Caver #141") in Guidelines No. 62 (August).

"Just prior to Christmas the author signed an indemnity form on behalf of the Australian Speleological Federation Inc. that enables all members of the ASF [cavers and cave divers] who subscribe to the ASF's insurance policy access to Weebubbie Cave and all other caves on DOLA territory throughout Western Australia."

## GO FURTHER GO FASTER

Tekna Scooters  
available for hire

Fantastic for  
Nullarbor trips

Phone Glenn  
018 558 172

## CDAА PRODUCTS ORDER FORM

Please send Order Form, with cheque  
or money order ONLY, to:  
CDAА, P.O. BOX 290  
NORTH ADELAIDE, SA 5006

	QTY/ COL/SIZE	ITEM	UNIT PRICE	TOTAL
BOOKS		<b>Cave Diving Communications.</b> 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	
		<b>Cave Diving - A Blueprint for Survival.</b> 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	
		<b>Basic Underwater Cave Surveying.</b> The standard publication for anyone remotely interested in research and survey techniques used in water filled caves.	\$15.00	
		<b>CDAА Occasional Paper No. 2. From National Conference 1981.</b> Includes topics such as Fossil Cave, Belay Techniques and Cocklebidy 1979.	\$8.00	
		<b>S.R.T. Single Rope Techniques.</b> 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	
		<b>DES Emergency Handbook.</b> 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	
		<b>NSS Cave Diving Manual.</b> The standard reference manual in cave diving covering just about every conceivable topic. New Edition.	\$40.00	
		<b>Wukulla Springs Project.</b> The U.S. Deep Caving Team, edited by <i>William C. Stone</i> .	\$59.00	
		<b>The Darkness Beckons.</b> By <i>Martyn Farr</i> . The history and development of cave diving.	\$50.00	
		<b>Deep Diving.</b> By <i>Bret Gilliam, Robert Von Maier</i> . An advanced guide to physiology procedures and systems.	\$30.00	
VIDEOS		<b>Deep Into Blue Holes.</b> 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	
		<b>NSS Cavern Divers' Manual.</b> The standard reference manual in cavern diving covering almost every conceivable topic. Also most principles behind safe sinkhole and cave diving.	\$18.00	
		<b>Caverns Measureless to Man.</b> <i>Sheek Exley</i> .	\$40.00	
		<b>Cave Practice &amp; Equipment.</b> Edited by <i>David Judson</i> 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 <i>Martyn Farr</i> .	\$40.00	
		<b>Australian Caving Diving - A Contrast.</b> 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	
		<b>Australia "Nullarbor Dreaming".</b> 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 - <i>Andrew Wight</i> .	\$29.95	
		<b>Florida "Window to a Hidden World".</b> The ultimate cave diving adventure. Andrew and Liz with fellow cave diver-explorer <i>Wes Skiles</i> , 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: <i>Andrew &amp; Liz Wight</i> .	\$29.95	
		<b>Mexico "Water of the Gods".</b> 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: <i>Andrew &amp; Liz Wight</i> . Director: <i>Liz Wight</i> .	\$29.95	
		<b>Cuba "Beneath the Surface".</b> The underworld of Cuba. This documentary explores the role water has played throughout time in the history of Cuba. It reveals some of the many beautiful aspects of this magical Caribbean island, explores the bizarre subterranean caverns and provides unexpected contrasts with Cuba's turbulent history. This is an expose of a Cuba we believe we know. Producers: <i>Andrew &amp; Liz Wight</i> . Director: <i>Liz Wight</i> .	\$29.95	
		<b>New Style T-Shirts.</b> Colour: Red Earth. Sizes: Medium, Large, Extra Large.	\$25.00	
MISC.		<b>New Style Windcheaters.</b> Colours: Purple, Forest Green. Sizes: Small, Medium, Large, Extra Large.	\$35.00	
		<b>CDAА Key Rings.</b> Blue with gold motif. CDAА P.O. Box on back.	\$5.00	
		<b>CDAА Stickers.</b> Yellow. (Include stamped, self-addressed envelope for delivery.)	\$8.00	
		<b>CDAА Stubbie Holders.</b> Red with black logo. Foam/plastic shell.	\$2.00	
		<b>Tank Cave Poster.</b> Full Colour 14 1/2" x 25" poster of Tank Cave by <i>Peter Rogers</i> . Price includes p&h.	\$8.00	

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_

Sub Total \$

Plus postage & handling \$6.00

TOTAL \$

PLEASE ALLOW 4 WEEKS FOR DELIVERY. Take a copy of this Form for your records

DECEMBER 1997



# The INTERNATIONAL MOTEL

**Mount Gambier**

***“ The Cave Divers home away  
from home”***

**Come and enjoy the hospitality of  
Scott & Lynda Franks**

**Our Facilities include:**

**60 Ground Floor Units**

**Licensed Restaurant**

**Huge indoor heated pool, spa & sauna**

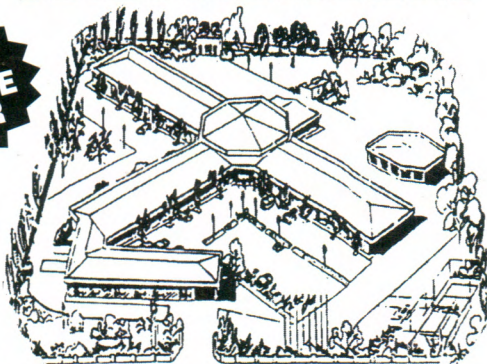
**Austar multi-channel pay TV free to all rooms**

**Secure floodlit off street parking**

**Quality Flag Accomodation**

***SPECIAL DISCOUNTS TO  
CDAA MEMBERS***

**OFFICIAL  
CDAA  
CORPORATE  
SPONSOR**



**International Motel**

**MOUNT GAMBIER**

**Millicent Road, Mt Gambier**

**Phone (08) 8725 9699 Fax (08) 8725 0843**

