### MAY 1984



## CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)

C.D.A.A.

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# **DIVERS DIARY**



#### SPECIAL STATE MEETINGS

South Australia - State Administration Centre Theatrette,

Victoria Square, Adelaide. Monday 27th August, 1984.

7.30p.m.

Victoria -

Y.W.C.A. Headquarters,

489 Elizabeth Street, Melbourne. Thursday 16th August, 1984 (Rooms 2 & 3, 3rd Floor). 7.30p.m.

ANNUAL GENERAL MEETING - C.W.A. Hall,

Laurence Street, Mount Gambier.

29th September 1984 - Commencing 8 p.m.

### SEPTEMBER CATEGORY 3 TEST PROGRAM

Close of Applications: 29th August, 1984.

Theory Examination: 5th September, 1984.

Practical Exam (Mt. Gambier): 29th September, 1984.

### **GUIDELINES**

#### NEWSLETTER OF THE

#### CAVE DIVERS ASSOCIATION OF AUSTRALIA. No. 18 MAY 1984

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Editing :..... Dennis Thamm & Peter Horne. 

# **EDITORIAL**

Cave diving can be a very safe and enjoyable sport if it is approached in the proper manner with the correct training, equipment and judgement. It has a name for being a hazardous sport which can't be denied.

However, the reason for this reputation is mainly due to press sensationalism and the tendency to exaggerate accidents for press impact.

Fortunately, the recent tragedies involving members were taken well in hand to prevent this.

The publicity received during this period has been such that the Association is now recognised as a responsible body for the training and regulation of its members.

Because no loss of life had occurred since the inception of the Association, these fatalities have shown that such a situation can be correctly handled, and that a true image of the nature of our sport is now known by the general non-diving public.

This now ensures that the sudden closure of sinkholes in the Mount Gambier region is unlikely to occur due to lack of public knowledge or press sensationalism.

The help of <u>ALL MEMBERS</u> by not allowing this type of situation to occur again will ensure the continued future access that we now enjoy.

Dennis Thamm.

# DIVER'S ROLE

"The large percentage of cave diving deaths involves young divers who venture into cave diving locations and go beyond the point of their capabilities, only to become one of the lifeless statistics that could have been prevented by good judgement."

David Desautels, 1972 NAUI "The Complete Guide To Cave Diving".



# CDAA NEWS • CDAA NEWS • CDAA NEWS • CDAA

# TRAGEDY AT PICCANINNIE PONDS

by Peter Horne

On Saturday, the 7th of April 1984, Death visited Piccaninnie Ponds for the first time in almost 10 years, claiming the lives of John FISHER of Mount Gambier, and Barry O'NEILL, of Adelaide.

John, 28 years of age and a CDAA Category 2 member and Barry, 30, had done a considerable amount of cave diving together and were considered by many of their friends to have been very safety-conscious and meticulous dive-planners. They had planned to do a deep dive some time prior to the accident and knew of the dangers of deep, confined tunnels, and Nitrogen Narcosis.

John and Barry left for Piccaninnie early in the morning of the 7th, and dived some time before 9 a.m. Two Victorian members, Gordon Thring and Roger Townsend, arrived at that time and found their car at the Ponds' carpark, and after waiting for some time they entered the water and found a spare tank and guideline attached to the wall at around 37 metres, at the top of the near-vertical tunnel called the "Dog Leg" where a diver died at 45 metres in 1974. Descending down the taut guideline, the two divers halted at the 45m mark and could see dim glowing lights far below, and as they were motionless and no air bubbles were rising up the tunnel, they knew that someone had been killed.

The Adelaide-based Police Underwater Recovery Squad immediately arrived at the site and commenced operations to recover the victims' bodies, which they finally succeeded in doing on Monday the 9th, after considerable difficulty due to the extreme depth where they were situated (63 metres). John and Barry were tightly wrapped in about 15 metres of their guideline, in a hopeless tangle which had somehow looped around obstacles in the cave. Their knives were still in their scabbards and John was holding loops of line in his hand. Barry was tethered on to the line. Both had only about 150 p.s.i. of air in their tanks - virtually nothing at 60+ metres. Barry's depth gauge M.D.I. showed around 68m had been reached.

As horrifying as the accident was for friends and relatives of the victims, being the first accident in 10 years in the Mount Gambier region also meant that this was to be the "test case" which would determine whether the Association would succeed in representing cave diving, or would fail, resulting in closure of the caves and sinkholes as was almost the case when we first formed in 1973.

Upon learning of the tragedy from a stunned member, the President confirmed the accident through the Police Department and notified all available Committee and Examiner personnel. Steps were immediately initiated to learn as many facts as possible to enable accurate reporting to the news media to be made, and a Committee member left that night for the Mount to assist another representative there with the recovery if possible. Co-ordination of information was maintained through the President and National Secretary, and carefully-worded press releases were made to minimise erronous reporting. It was also 'fortunate' that the accident occurred at a time of other newsworthy headlines and on a Saturday morning, as the only paper out on the Sunday in Adelaide was the Sunday Mail. A personal visit to the Editor was made to ensure the facts were known to minimise sensational reporting.

Through the efforts of those concerned, it appears that correct and fairly balanced reporting did in fact occur through the more responsible newspapers, with only two which drastically sensationalised with distorted facts and emotional impact. The immediate production of a detailed report on the incident by the Committee for Cabinet and the Minister of Environment and Planning also helped in the dissemination of the known facts, to support the Association.

## CDAA NEWS • CDAA NEWS • CDAA NEWS • CDAA

No doubt, the reputation of the Association helped with this as last year, to remind the public of our existence a publicity campaign was organised for "State Affair" (Adelaide television) and the press, and the 10 years of safety was heavily "pushed". The highly-publicised Cocklebiddy expeditions around the same time were also good public-relations exercises. Consequently, Piccaninnie Ponds was not closed to divers.

For those of us who knew John and Barry, it was especially unpleasant to read of the 'rules' of cave diving which both divers apparently chose to break for their own reasons, and knowing the risks they were taking. The 36m limit of the National Parks and Wildlife Service Permit was not adhered to; they entered a "Category 3"-type section of the Ponds (total darkness; confined; no air surface) without that qualification; John was diving in Piccaninnie Ponds with a friend he knew was not a member of the Association, and was also diving illegally because of this fact. These facts only added up to indicate to the public that they were acting somewhat irresponsibly, despite any experience they may have had. It is a bitter irony that a safety line designed to lead divers back to the surface was largely responsible for causing this tragedy. Equipment and techniques may continue to improve, but the underwater environment in caves will always be hostile and unforgiving.

We hope that this tragic accident will at least make all cave divers more aware of the dangers of deep diving, confined areas and line entanglements. Our sincere condolences are extended to all relatives and friends of John and Barry.

# DEATH AFTER DIVING - WHAT HAPPENED ?

by Peter Horne.

Even while the double-fatality in Piccaninnie was still reverberating through our minds and public reaction was slowly abating, the shocking news of the death of yet ANOTHER cave diver reached the President on 20th May this year.

Initial reports were frightening - a diver surfaced after a deep repetitive dive in "One Tree" on May 19th 1984, complained of severe chest pain immediately after surfacing and died several hours later in Mt. Gambier Hospital of cardiac arrest. The fact that Piccaninnie Ponds was also involved sounded alarm bells to the Committee, and it was reported that a certain newspaper had already prepared a fantastically spectacular, sensational and emotional front page for release should the autopsy confirm that "the killer sinkholes" had claimed yet another victim. To most of us, such hysterical reporting could very well have meant the 'beginning of the end' of cave diving in Mount Gambier, where public opinion is a powerful influence despite any assurance from ourselves that the caves, as such, were NOT responsible. Deep diving ANYWHERE is hazardous. After all, nobody has been hurt by the caves themselves falling in on them. As with the Piccaninnie tragedy, the facts were immediately sought, and fortunately readily obtained because of the wilful cooperation of the Triends and associates of the victim who were present.

# CDAA NEWS • CDAA NEWS • CDAA NEWS • CDAA

Paul MURPHY, 20, was diving with friends on an official club diving weekend. His first dive, in Piccaninnie Ponds, was at around 10.42a.m. Plan was 120 feet for 25 minutes, but in fact they spent most of the time at much shallower depths, in the Cathedral. 6 minutes of decompression were required but they added 4 more for safety. Soon after, Paul dived in Swim Through to less than 10 feet for about 8 minutes. Over five hours later, using U.S.Navy tables again and having worked out residual nitrogen times accurately, he dived with a friend in "One Tree" to 140 feet for 13 minutes. Again, 6 minutes of decompression were required at 10 feet but they did 13 minutes as a precaution. Shortly after surfacing, however, Paul coughed and tasted some blood, and within 5 minutes of leaving the water he was in extreme pain. After being driven at breakneck speed back to his caravan where a nursing friend who was also a Cat. 3 cave diver checked him out, he was taken to the Mount Gambier Hospital as he did not have any symptoms of decompression sickness or other barotrauma apart from the chest pain. He was refused admittance and given some painkillers and advised to leave, but was kept in under observation after the nurse refused to leave with him. Basic checks were performed and oxygen was only administered briefly (not by the hospital). He was given morphine due to his reported extreme pain and was still kept under observation. About 5 hours after being taken to the hospital, Paul said he felt ill and while the nurse went out to find a bowl for him, he died. Resuscitation attempts were unsuccessful.

Paul had reported chest pain some time previously, apparently including one particular occasion about 6 months before when, whilst fishing in a remote area, he was forced to spend an entire night in a car with such pain, which he apparently attributed to 'indigestion'. Whether the pains were caused by the same thing or not will never be known for sure.

His body was taken to Adelaide for a special post-mortem examination to try to determine whether an embolus or decompression sickness was the cause, but this was unlikely in view of the 30-odd hours from his death to the autopsy. No bubbles or clotting were found in his heart or other major regions, and he apparently died through a sudden rupturing of the Aorta artery near the heart - a dissecting aneurysm of the Aorta - which is fairly rare in a person so young, generally occurring in middle-aged people through failure of the inner wall of the artery. Whilst it is speculated that the exertion of the dive MICHI have played a part in the accident, such an event could possibly have occurred if Paul had been playing squash or running for a bus. There are no known previous cases of such a condition being caused by deep diving or diving of any kind.

Further details are available from the Committee (Project Stickybeak Investigation).

#### WORD PROCESSING FOR MAILING LIST

Members might have noticed that this issue of "Guidelines" arrived in an envelope with an address label different from the last - hopefully still showing your correct address! All addresses have now been put on a Word Processor, and as this has been a very lengthy process involving several days of keying-in over a month or two, some addresses or names might be incorrect. We hope that no inconvenience is caused. Please fill in the centre sheet of the magazine and return it showing all amended details for updating our files. The next run should be correct for all members.

### CDAA NEWS • CDAA NEWS • CDAA NEWS • CDAA

#### TRAINING AND EXAMINING - NEW C.D.A.A. POLICY

A proposal outlining a new procedure regarding cave diving tests and examining, and the roles of Instructor/Examiners was presented by Ron Allum to the National Committee at the National Committee Meeting on 25th March 1984, supported by the Victorian State Testing Officer Barrie Heard and the National Testing Officer, Peter Rogers, on behalf of the Examining Sub-Committee, for ratification.

The proposal presented significant alterations to current procedures whilst attempting to formulate a standard which would more closely unite S.A. and Vic CDAA training and testing philosophies.

Basically, the proposal separated the combined nature of the Category 1 and 2 tests into separate tests, with the aim of giving prospective cave divers actual Category 1 experience prior to undertaking a more comprehensive Category 2 test. The Category 1 test would be much easier; in fact, it was only required to ensure that divers at least would be capable of performing a safe Category 1 dive. Their proficiency should therefore be better for the more comprehensive Category 2 test. Buoyancy and line-following abilities are the main skills needed, so the practical part of the Category 1 test would be based on these. Category 1 experience would also give divers a much better understanding of the nature of the sinkholes of Mount Gambier.

Whilst the Examiners Sub-Committee and the National Committee agreed that the proposed new system had many benefits, the aspect of total loss of the requirement for independent Examiners at tests (or the need for their presence in-water during novice cave divers' Category 1 diving experience) that the proposal presented prompted considerable heated debate.

A vote on the proposal was taken, and it was passed as presented.

Key points of possible interest to our members regarding the new policy include:-

- CDAA Examiners may now advertise their own cave diving courses and train and test their own students, with or without the presence of an independent Examiner.
- 2) Examiners are not compelled to accompany their students in Cat. 1 sinkholes during their gaining of Cat. 1 experience as was stated after the last policy change (refer to "Guidelines" No. 16, Page 6).
- 3) The availability of CDAA tests will remain the same, regardless of whether training has been undertaken, although training is recommended and in future may, in fact, become a requirement.

Like all significant changes to established systems, the new policy may be found to require modification if problems arise. The current rigid standards of cave diving testing are to remain as they are, and it is our hope that the transition to the new system will be smooth and trouble-free. Further information is available from the State Testing Officers of the S.A. and Vic. Examining Sub-Committees.

# CDAA NEWS • CDAA NEWS • CDAA NEWS • CDA

#### C.D.A.A. EXAMINERS

With the aim in mind of always striving for the highest possible standards in cave diving safety, and in view of the fact that almost all of our current Examiners possess Instructor qualifications with such organisations as PADI or FAUI etc., it was felt by the Committee members and the Examiner representatives present at the National Committee Meeting that the time had come to include Instructor qualifications in the prerequisites requirements for all future CDAA Examiners.

This qualification is additional to the other prerequisites, being:-

- . To have held Category 3 rating for at least 12 months.
- To hold a current Sub-Aqua Bronze medallion (or equivalent) and Senior/Advanced Resuscitation Certificate.

All applicants have to be acceptable to the Examiner Sub-Committee, having attended several Examinations and to assist as directed. Applications must be in writing.

As future Examiners must hold Instructor qualifications, the use of the designation "Instructor/Examiner" is now virtually obsolete, as Examiners can all train and test cave diving students.

#### ENGLEBRECHTS CAVE ACCESS - NEW KEY ARRANGEMENTS

As was mentioned in "Guidelines" Number 16, the Corporation of the City of Mount Gambier has now initiated a new system for controlling access to the popular Category 3 side of Englebrechts Cave, since vandals broke in and stole expensive lighting equipment.

The key for this side is no longer available from the service station on the opposite side of the road - instead, a key can only be obtained from the Tourist Information Centre near Umpherston Cave, at Jubilee Highway East. The Centre is open 7 days a week, from 9 to 5 (excluding certain public holidays - please check) and the key may only be obtained upon the presentation of your Category 3 certificate, and after signing a "Sign In-&-Out Book". All gates must be locked after you have passed on the way in as well as whilst exiting, and the key must be returned promptly and signed back in. No charge is required at this stage.

Recent visitors to the cave will also see two new, informative signs which were recently erected - the cost of which was partially paid for by the Association. We hope that our more artistic members will only draw on their slates!

Please note that the key arrangements for the uncategorised western side are still the same - i.e., only approved members can obtain the key from their State Committees. Keys are NOT held at the Tourist Information Centre for this side.

#### Do YOU Have Landowner Permission?

Recently, a complaint has been received through our Victorian CDAA Administration from the Victorian Speleological Association, regarding their members' encounters with hostile landowners who apparently have found cave divers wandering around properties without permission. Although the region is adjacent to Mount Gambier, all members are reminded of their obligations regarding seeking landowner permission before entering property to explore any feature, wet or dry. The cave diver cards issued by the Association are NOT an authority to dive - they are merely RECOMMEND ATIONS to landowners of divers' abilities. In the interests of better landowner relations, please consider everyone else involved in the sport before acting.

# **ATTENTION ALL DIVERS**

The following was received recently. As it may affect you, please read carefully:





# **Department of Environment and Planning**

55 Grenfell Street.
Adelaide. South Australia
Telephone (08) 216 7777
Telex. ENPLAN AA87182

Postal address G.P.O. Box. 1782 Adelaide. South Australia 5001

Reference

Contact Office

### National Parks and Wildlife Service Tel. 087- 24 1511

South East Region, (P.O. Box 1046) SGIC Building, 3-5 Helen St., MT. GAMBIER. 5290.

SEO 2.1.1 Piccaninnie Ponds

President, Cave Divers Association of Australia.

As discussed with your Committee at its Mt. Gambier meeting on 25th March, 1984 I wish to seek the assistance of your members in determining the actual annual use of Piccaninnie Ponds for scuba diving.

The number of permits issued for scuba and snorkel diving use in the Ponds has risen dramatically over the last few years. The National Parks and Wildlife Service needs to determine an appropriate level of use for the Ponds in order to prevent environmental degradation and ensure an aesthetic environment for diving.

Realistic decisions on use require knowledge of the rates of both use and damage. Your assistance on the former could be undertaken by the requesting of members to complete the table shown below. Members are only required to write in each box the number of scuba dives they have undertaken in the Ponds for that particular month in 1983/84.

It is standard practice with a number of permits for the Service to seek information returns prior to the issue of new permits. This ensures valuable records of activities undertaken and assists management decisions.

NOTE!

As also discussed it is appropriate that <u>permit holders be required to complete the above table before receiving a new permit.</u> I will rely on you forwarding requests for permit re-issue with this requirement in mind. We will need to assess the procedure for ongoing use.

Yours sincerely,

(L.C. Jolley)
REGIONAL MANAGER
SOUTH EAST REGION

# NEWS • OTHER NEWS • OTHER NEWS • OTHER NE

### CDAA RESEARCH GROUP PROJECT

In conjunction with the National Parks and Wildlife Service's Piccaninnie Ponds Management Plan, and to assist in promoting the Ponds for general tourism, the CDAA Research Group intends to undertake a detailed mapping survey of the Ponds in the near future.

Whilst the intrinsic shape of the chasm and the 3-D nature of the Cathedral will possibly make mapping somewhat more complex than say, in a simple circular sinkhole, the fact that so many members know the shape of the cave intimately is a very big advantage, which means that only the skills of simple underwater mapping need to be applied.

Due to the relatively easy access to this cave, an on-going mapping task could give all Category 2 divers who are interested an opportunity to participate in what should be a very interesting study. National Parks ultimately would like to produce a display board of our maps for erection at the Ponds so tourists can see what "that swamp thing" really contains underwater:

The advantage of working in relatively shallow, well-lit water in a smallish cavern is certainly ideal for obtaining a high degree of accuracy in mapping, with the possibility of going back to check on "problem" areas.

Although the Research Group has grown to around 20 regular members, all divers who might be interested in this particular project are invited to contact the CDAA, and we will get back to you for discussion on all requirements and skills.

#### A QUESTION OF DECOMPRESSION

The article titled "Decompression Considerations" in our last issue of Guidelines has received some mixed replies. The main area of concern has been the difficulty of calculation and the overall safety of the method of decompression for this particular type of underwater cave.

The original purpose of the article was to generate interest amongst the membership to show that there is a correct procedure for decompression and not just a system concocted because it looked good.

It was not included to completely change everyone to this type of decompression procedure. The methodology involved has been tried and tested by thousands of American cave divers, and is based on standard U.S. Navy tables - of which a majority of people use while diving around Mount Gambier.

Although it is easier to take the whole bottom time as that from time of descent to time of arriving at the deco point, as I'm sure most of us do, a matter of difficulty in using this method should not be questioned – as  $\frac{\text{YOUR}}{\text{regardless}}$  life depends on you being able to operate them correctly if you so choose,  $\frac{\text{YOUR}}{\text{regardless}}$  of their complexity.

Therefore, as a question of decompression, if you can operate the tables and wish to use them, do so - if not, then your current procedures are just as effective and safe.

Dennis Thamm, Editor.

### RTICLES • ARTICLES • ARTICLES •

# TO SMART TO GET NARKED'?

by Peter Horne.

The tragedy at Piccaninnie Ponds has caused a lot of us to think about the subject of deep diving yet again - not from the point of view of the risks of equipment failure or the cold, but from the less obvious risks which we often take for granted, such as Decompression sickness and particularly, Nitrogen Narcosis - the well-known "Raptures of the Deep".

The dangers of Nitrogen Narcosis have often been mentioned to our members, with the first discussion occurring in the Category 1 and 2 theory exam. More recent members will possibly not have read an Editorial of this magazine dealing with this subject in Guidelines Number 7, May 1981, which read as follows:-

"..With the overall ability of cave divers increasing (and also their confidence) the Association is aware that divers are exceeding the recommended safe depth limit of 36 metres in several of the larger sinkholes. The C.D.A.A. cannot condone this as a point of principle and does not intend to amend the depth limit recommended, because it must and will maintain its standards and public image along the lines already explained. In short, if you exceed the set depth and get into trouble, the C.D.A.A. will not accept any responsibility in the matter.

But it is time to remind divers that Narcosis killed 7 divers only a few years ago. These occurred at a time when deep diving was the IN thing, as many of the longer-running C.D.A.A. members will recall, and the real wonder is that a considerably greater number of daring cave divers didn't join the ranks of the statistics and Coroner's reports.

Recently there have been disturbing signs that deep diving is being more commonly attempted than during the previous few years (no doubt directly proportional to the time elapsed since the last death in 1974). Many factors contribute to this trend - familiarity of sinkholes, better equipment, better training and the wider use of the 'more tolerant' US Navy Tables for repetitive dives. But Narcosis will not go away - it will remain the real nemesis of sinkhole divers unless strictly guarded against by each and every individual."

The issue of the dangers of Narcosis is often only briefly perceived by many cave divers who still believe (through the persistent ill-founded reporting through various diving books and magazines) that susceptibility to Narcosis is a sign of low intelligence, inexperience and poor mental self-control. Let's take each of these supposed 'factors' and explore the FACTS about each in a little more detail.

LOW INTELLIGENCE. The idea that people with lower I.Q.'s get Narked earlier than "smart" divers seems to have originated somewhere deep in the unrecorded past of diving history, possibly as a result of early 'dry chamber' tests or as a misinterpretation of other results. In reality, it would seem that the more stupid divers are those who DO feel narked but refuse to admit it to themselves or their companions!

The famed underwater explorer, Jacques E. Cousteau, in his book "The Silent World", speaks thus of Narcosis:-

"I am personally quite receptive to nitrogen rapture. I like it and fear it like doom. It destroys the instincts of life. Tough individuals are not overcome as soon as neurasthenic persons like me, but they have difficulty in extricating themselves. INTELLECTUALS GET DRUNK EARLY AND SUFFER ACUTE ATTACKS ON ALL THE SENSES (capitals added), which demand hard fighting to overcome."

# RTICLES . ARTICLES . ARTICLES .

In effect, Jacques was saying that the MORE intelligent divers get narked EARLIER than "tough" divers, who have great difficulty overcoming the effects. Consider this the next time you tell your friends that you never get narked!

INEXPERIENCE. Whilst it is true that unfamiliarity with the sinkhole environment and anxiety can increase the effects of narks (and therefore air consumption under stress), it does not automatically follow that the presence of narcosis is a sign of inexperience or anxiety. Even the most experienced cave divers who regularly undertake deep dives have to perform 'acclimatisation' or 'build-up' dives immediately prior to very deep dives as they realise the need to get their bodies more 'used' to the effects of the ailment. Acclimatisation, whilst apparently working to a considerable degree in moderately deep diving, can never fully rid our bodies of the effects of narcosis. In fact, it can work in reverse by giving divers the incorrect impression that they are able to easily cope with a deep dive when in fact, they may have their faculties handicapped subtly, whereby logical thinking processes are impaired without their being aware of this. It does not take much logical thought to swim around at depth, shining a torch on rocks and winding up a guideline reel - these mechanical actions are almost automatic to divers who explore sinkholes frequently. However, as underwater photographers and mapping teams will know, the ability to THINK CLEARLY AND LOGICALLY at depth is another thing altogether, and when something unexpected happens requiring thought (for instance a sudden departure of a mouthpiece from its regulator, or a torch tether looping around a bit of slack quideline), stress and apprehension increase enormously.

POOR MENTAL SELF-CONTROL. Counter-acting the effects of narcosis is merely a matter of concentration, assert certain experienced cave divers. Although reflexes and thinking processes are slowed down, most problems can indeed be sorted out provided that divers keep calm, have sufficient time to do it safely and don't get lost in their determination to solve one problem only. A psychological effect called "TASK FIXATION" occurs when a problem is encountered at depth by people effected by narcosis. In their efforts to concentrate on the obvious problem (such as, for instance, a jammed guideline reel during descent), other, more subtle dangers such as neglecting to check air supplies, depth and time factors etc. begin to occur. Careless movements of flapping fins from anxious divers working out a minor guideline snag can instantly waft up great clouds of silt, bringing on added stress and very hard-to-suppress feelings of panic in many divers. Couldn't happen to you? Remember that a group of three experienced cave divers in One Tree not so long ago nearly had a tragedy when one diver ran completely out of air whilst engrossed in holding a torch for his friends whilst they worked, below 40m.

We in the diving fraternity understand the many subtle 'peer pressures' which exist particularly in cave diving, where some divers boast of being 'better' than others because they have gone deeper and/or 'never get narked'. It is considered to be a sign of weakness to admit to having been affected by narcosis, unfortunately because many newer divers do believe this, from their limited reading and experience. None of us want to look as though we are 'weak minded' or anxious about diving in caves as seen by others, but this ego problem unfortunately has been responsible, and probably will continue to be responsible, for the deaths of many divers. Whilst most of us believe that we should have the right to take the risks we want, our position in the cave diving world (particularly the Mount Gambier situation) means that we can lose completely, all of our diving rights if the public and Government so wish. So please, consider not only your lives when you dive, but also the rights of all of us who enjoy the unique beauties and thrills of the caves and sinkholes.

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# RTICLES . ARTICLES . ARTICLES . ARTICLES .

# SILTOUT IN 'THE SISTERS' by N.A. Jones, Crystal Dive Club, Vic.

There is a great deal of difference between practicing silt-out conditions and techniques with a blacked out mask in a controlled environment (such as a swimming pool) and actually encountering sudden and total silt-out during a pleasure dive. Just how big that difference is I found out during a dive in "The Sisters", a Category 1 sinkhole at Mount Gambier.

My buddy and I were both fairly experienced divers (I had over 200 dives logged), but very new to cave diving. We had completed our practical test to Category 2 standard and had made one previous trip to Mount Gambier from Melbourne to build up our Category 1 hours. The purpose of the second trip was to further build up our hours so we could achieve Category 2 status. We arrived on Friday night and completed a night dive in "Baby Blue". After a good night's sleep, we went out on Saturday morning to "The Sisters" and since neither of us had dived there before, we spent some time walking around the site, checking access and observing the general layout. Having decided on a plan, we put on all our gear and entered the North hole where we spent 15 minutes having a look around, and then we exited, entered the South hole and spent 20 minutes in there. During our time in the North hole we had noticed a cave-like area formed by some fallen rocks positioned close to the side wall, but as we did not have a guideline with us and it was evident that silting would be a problem, we did not enter the area. After the dive, we decided that if we ever entered "The Sisters" again, we would take a guideline so we could explore the very small cave-like area.

We finished off the Saturday night with another dive, this time in "Goulden's Hole", and then on Sunday morning we started with another dive in "Baby Blue". We carried out our dive table calculations conscientiously (as we always did), and decided that we would wait until 4p.m. and then do another dive in "Goulden's". Unfortunately, when we arrived, the hole was already being used by several divers, so we decided to have another dive in "The Sisters". A recalculation of no-stop limits gave us a bottom time of 35 minutes at 20 metres, so we planned to spend no more than 15 minutes in each of the two holes. We entered the North hole with myself leading and laying the guideline, and my buddy following on the line. After locating the small cave-like area, I signalled for my buddy to wait, on the line, outside the entrance while I went inside. The area formed by the fallen rocks was quite narrow, and I planned to enter for a short distance and then back out if it did not widen sufficiently for me to turn around. What actually happened was that I penetrated just over one body-length and decided I was not really happy, and that I would not go any further. The entrance had widened a bit, but it did not seem wide enough to turn around, so I started to back out.

At first I thought my extra-reliable torch had ceased to function, but I quickly realised that the real problem was a total silt-out in the fine, black silt stirred up by my fins, into which I had backed. In the circumstances, I did the most natural thing - panicked!! Good visibility had suddenly been reduced to zero, I was in a confined space, I had lost my sense of direction and I was moderately scared. On the plus-side, I had plenty of air, plenty of time, a reliable buddy nearby (only a few metres away) and I had a guideline reel in my hand. I somehow managed a quick about-turn so my guideline pointed the way out. and with a couple of fin strokes (I did not care about further

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silting up the water) and a few turns of the reel handle, I reeled myself back along the line, emerging from the cloud of silt to come face-to-face with my buddy. He was fairly surprised to see a reel followed by the rest of me, suddenly appear from the middle of the black mass of silt.

Since we had some time remaining we explored a bit more of the North hole before finishing our dive, as planned, with a 15-minute dive in the South hole. Even though it was not necessary, I took my guideline into the South hole, as I felt much safer and happier with it in my hand. After this experience I realised the main calming factor was the guideline reel in my hand, and the knowledge that the line pointed the way to safety. Thus, apart from being a frightening experience of suddenly being silted-out, a valuable lesson in the true value of a guideline was learned. In retrospect, the danger I was in was much less than perceived at the time. My buddy reported that until I became silted out and turned around, my fins were within his reach and he could, had he felt the urge, have grabbed them and hauled me out unceremoniously, backwards out of the cave.

My advice to other Category 1 or inexperienced Category 2 cave divers is to find out about a cave before diving it, by asking others or reading the Mount Gambier cave diving "Bible" ("Cave Diving In Australia" by Lewis & Stace), and to be aware of silting problems, especially in confined spaces.

Remember - just because a cave is of Category 1 standard does not mean you cannot get into trouble through silting. For my own part, when diving a new site I usually take a guideline as my own 'security blanket', even if my buddy is familiar with the cave, and I would recommend this practice to all other members.

"SILT? WHAT SILT?"

THE WHITE WAY OUT!

Common sights (not) seen whilst cave diving!

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### MARCH CAT. 3 TEST

by Peter Rogers.

The March 1984 Category 3 test was held on Saturday 24th March under ideal weather conditions. The results were some of the best recorded with all 16 candidates passing (8 from S.A., 8 from Vic). Congratulations to all concerned!

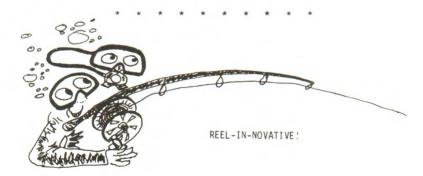
The high standards displayed by all candidates were a result of the large amounts of concerted training effort put in. Hopefully this message will be passed on and all future Cat. 3 candidates will train with their buddies in the techniques necessary for Category 3 cave diving. At Category 3 level the examiners expect a polished performance in all aspects of the test. It is highly unlikely, regardless of experience that this can be achieved without a great deal of pre-thought, preparation and training. Most cave divers benefit greatly from practicing the Category 3 tests as outlined in the Information Bulletin. The tests are designed to show weaknesses in techniques. and can be practiced in any suitable pool or diving location. For example, set a fixed line out under your local jetty, and let your buddy try to follow it with a blacked-out mask.

The techniques of buddy-breathing and mask-clearing should be practiced continually during diving. The next time you are down the Mount, try removing your mask near the end of the dive. (Assuming it is safe to do so!) You may be surprised at how long it is since you last had your mask off underwater! In a tight situation, recent proficiency in personal diving skill is a major

#### **EQUIPMENT INNOVATIONS**

During the Cat. 3 test, two new equipment ideas were spotted. The first was the use of an aluminium saucepan as the basis of a cave diving reel. The saucepan can be any size required, is far more durable than plastic, and only requires a central reel, a handle, and a hole for the line to come out. The second was the use of PVC piping as a back-up torch holder. Take a 6-inch appr. length of PVC pipe the same diameter as your back-up torch. Cut about one third of the circumference out for the whole length of the pipe. Two more slits in the back of the pipe will allow it to be threaded onto a weightbelt.

Back-up torches (of the yellow Aquaflash type) can now be snapped into this holder (making sure they are also clipped onto something as well) to keep them from snagging in guidelines and other equipment.



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### TORCHES ??

by Dennis Thamm.

In the early days of cave diving, torches were either home-made or small and ineffective, which made cave and sinkhole exploration difficult and sometimes dangerous. However, with the improvement of diving equipment, so too have we seen an improvement in commercially-available diving lights.

The availability of faster charging, high output batteries and high output alobes now means you can do a dive that allows you to fully appreciate the shape and dimensions of a particular sinkhole without lugging large heavy home-made lights about, or using a commercial torch which is too small.

Gone are the days when your buddy asks:-

"Did you see....?"

followed by a reply of:-

"0000???"

Some will still argue that home-made torches are better and with current materials certainly are, BUT for those who have not the time, money, and equipment for their manufacture, there is now an alternative commercial product with a wide range of accessories that gives comparable output without the hassle of making your own.

Now you may ask, "What do I want from my torch?" So, to make the task easier, I will spell it out.

Your main torch needs to be of reasonable size and capacity (Amp Hours), giving a bright and penetrating beam, while a small but high-intensity torch would make an ideal back-up. The better your light output, the more relaxed and safe the dive will be as knowing where you are in relation to the entrance prevents disorientation, which can so easily happen in the larger sinkholes around Mount Gambier.

I have prepared the following list of torches and accessories which are from my own personal uses and experiences, which I have found are useful:-

#### OCEAN PRO, DACOR, IKELITE

Access: 6 volt rechargeable lantern battery 4 or 6 Ah capacity. 8, 30, 12/25 (dual filament) watt bulbs.

Use: Good general-purpose torches - robust, main or backup. Loss of some intensity due to spread beam only fault. Good for lighting larger areas up close.

### NATIONAL 6 CELL (D Size)

Access: Rechargeable "D" Size NiCads. 6 volt 1A Quartz bulb (bayonet

Use: As above. No loss of intensity, long penetrating beam, due to deep and large reflector.

### NATIONAL, YUASA 4 CELL (D Size)

Access: Rechargeable "D" Size NiCads. "Tekna" high intensity Krypton bulb.

Use: Good larger style backup. Reasonable penetrating beam. Can also be used as a main light source.

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### IKELITE, TEKNA, SABRE, NATIONAL, YUASA, SUPER Q etc ...

all 2, 4, 6, 8-cell "C" or "AA" Size torches.

Access: Rechargeable batteries of appropriate size. Krypton bulbs for

4 and 8 cell torches. 1A Quartz bulbs for Sabre and Super Q.

Use: Ideal for backups - fit easily into vest pockets etc. Small

but penetrating beams, make very good spotters when taking

photos in caves - attach to strobes.

This covers most of the commercial and common brands available at present, with most accessories being available from dive shops or their suppliers.

Chargers can be purchased from most electronics shops or made up to order, depending on their sophistication and type; i.e., 240 volts or 12v.

Any queries can be directed to the Editor.

MEDIA WATCH

### 1. Piccaninnie Ponds Double-Fatality.

As all members will know by now, the accident at Piccaninnie Ponds was very good "copy" for the various forms of news media. Fortunately, most newspapers presented fairly accurate and responsible approaches in their reporting of the accident, although the subject was sensationalised in a couple of instances ("The Killer Sinkholes";"...eleven lives claimed by the treacherous cave", etc). Details of the extensive coverage can be obtained from the Association.

"Deadly Lure of the Bottomless Caves", (Pics. deaths), (Star Enquirer) 9/5/84.

### 2. Diver Dies After Dive.

Small section on front page of "The Border Watch" regarding the death of Paul Murphy, 22/5/84.

### 3. Cocklebiddy Cave - World Record Dives

The publicity about the tremendous effort made by the Australian Team reached world-wide proportions; the following newspapers around the world covered the event under the title "Australian Cave Diving Team Sets World Record" -

"Tong Nguan Yit Pao", "Siam Rath", "Ban Muang", "Bonn", "Pedoman Rakyat", "Indonesia Times", "Masa Kini", "Akcaya Berita Buana", "Sinar Pagi", "Tegas", "Haluan", "Manila", "Nichi-Go Times", "Bali", "Kuala Lumpur" - distributed through Australian Information Services (D.A.S.).

An article entitled "French Cave Divers Break World Record At Cocklebiddy" was also carried in Skindiving in Australia & the South Pacific, Vol. 14, No.2.

"Underwater Everest", (Australasian Post), 17/5/84. One of the best articles to date with many photos and facts.

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### FOR SALE

(This section is available free of charge to CDAA members who have personal cave diving equipment they wish to sell (reels, torches, tank manifolds and the like). Please state prices and contact numbers).

#### U.S. DIVERS TWIN TANK MANIFOLD

Any reasonable offer will be considered.

K. Lengs, (08)336-1616 (hm); (08)225-5980 (wk).

#### 2. SEALED BEAM LAMPS

- 6V 6W 1.25a (#4547), 8 only, \$4 each. Same size as GEC lamps. \$27 for the lot.
- 12V 30W GEC, 2 only (one stained reflector). \$10 for both, or \$8 and \$5.

#### TORCHES - 4 CELL TYPE

2 only, \$15 each

L. Jerman, (08)267-2503 (hm).

#### 3. VARIABLE BEAM TORCH HEADS TO SUIT 12V SYSTEMS

55W or 100W. The Ultimate in underwater lights. \$95 Complete.

Christopher Brown, (08)79-1445 (hm).

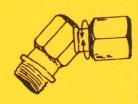
Elbow swivel joints can be purchased from the Association.

They are good quality chromed, brass type and can be attached to any brand of second stage regulator.

Send \$18 to : CDAA,

P.O. Box 290, NTH. ADELAIDE,

The item will be sent by mail.



# **SCUBA DIVING ACCIDENTS**

# can include:

decompression sicknesspulmonary barotrauma

### FIRST AID FOR BOTH OF THESE:

- 1. OXYGEN
- 2. FLUIDS
- 3. ASPIRIN
- 4. OBTAIN EXPERT ADVICE

#### **CONSCIOUS PATIENT**

- 100% O2 mask. High flow
- Fluids saited and sweetened 1 litre/hour
- Two tablets of aspirin

#### **UNCONSCIOUS PATIENT**

- . Intubate 0, 100% High flow
- I.V. fluids (saline or Hartmann's Solution) 1 litre/hour

#### LOCAL CONTACTS

MOUNT GAMBIER HOSPITAL: (087) 24 2211

A.H. (087) 24 2213

ROYAL ADELAIDE HOSPITAL:

(08) 223 2855

Ask for Intensive Care Unit.

**Duty Diving Medical Officer** R.A.N. School of Underwater Medicine 02-960 0444 (0800-1600 hrs) 02-960 0321 (after hours) Please state: - The diving medical emergency - Ask for the Duty Diving M.O. to be contacted - Give your telephone number