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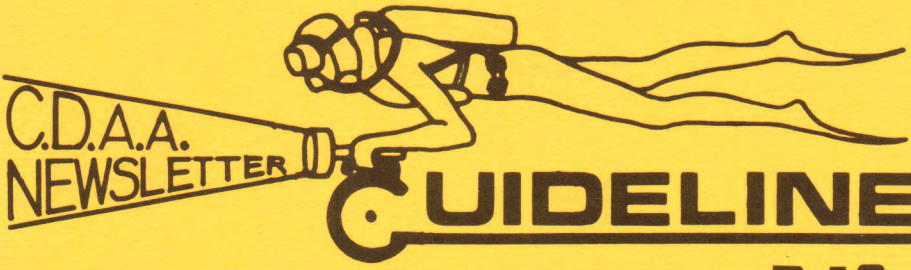

GUIDELINES

Nº 13

CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)

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GUIDELINES

NEWSLETTER OF THE

CAVE DIVERS ASSOCIATION OF AUSTRALIA.

No. 13 February 1983

CONTENTS

Page

Editorial 2
Diver's Role 2

CDAA NEWS

1. March Cat.III Test 3
2. Woods & Forest Permit Procedure 4
3. Barnoolut 4
4. Membership Application 5
5. Cave Access Approval 5
6. Mount Gambier Accommodation 5

OTHER NEWS

1. Media Watch 16
2. Exploration Cave Diving Trip 16

ARTICLES

First Aid for Decompression Sickness...*Dr. Tony Swain* 5
Air Emergencies.....*Robin Garrad* 8
Cocklebiddy Expedition - 1982.....*Peter Rogers* 13

Editor.....*Jenny Hiscock*
Typing.....*Lyn Wagstaff*

EDITORIAL

What do divers do when they go cave/sinkhole diving? I am sure that nearly all of us, at one time or another, have been asked by non-divers (and also sea divers) - why do we do it.

There is a small number of our members who have been doing quite a lot on their jaunts to Mt. Gambier- such as measuring water temperatures, visibilities, making reasonable maps and collecting histories (of diving and divers in the area). This group has now indicated interest in becoming the Cave Research Group and being incorporated into the formal structure of the Association.

An affiliation such as this would be beneficial to both parties; the Cave Research Group could use the established reputation of the Association in approaching Institutions, Government Departments etc. and the Association will have access to the information collected by the group that will strengthen our knowledge of the area of our responsibility and foster further research.

This particular group does not eclipse all divers that have been collecting cave/sinkhole data privately in the past and at present. However, it should provide a formal group where copies of private research could be lodged to provide a central register of cave/sinkhole research and enable some of that information to flow onto cave divers. Those individuals could also join the group to obtain further support for their own research.

Details of how such a group and the Association would be integrated are yet to be finalised. In my opinion, the concept is undoubtedly to be welcomed.

Jenny Hiscock

DIVER'S ROLE

"Many attempts have been made to improve the snorkel....

In my opinion the only real breakthrough in snorkel design for the average diver, is the inclusion of a bright coloured, often luminescent, band attached to the top of the snorkel, which makes it easier to identify - he can find it on the diving boat at night time, and boatmen may spot it in the water, before they run over him.

from Carl Edmonds, "Snorkels",
The Scuba Diver, Oct.1982,page 51.

CDAA NEWS • CDAA NEWS • CDAA NEWS • CDAA

1. MARCH CATEGORY III TEST

Candidates wishing to take part in the March Category III testing program must apply in writing at least one month before the practical test date of 19th March 1983. As this is very soon, if you haven't already applied and you want to take part in the program, apply immediately to your state post office box no.

Applications should list the Category III pre-requisites:

- 20 freshwater dives to Category II standard
- 8 of these with guideline reel and tether.

The theory test will be held on 2nd March; details of time and location will be communicated to you by the Examiner responsible - so don't forget to indicate a telephone number for contact on your application.

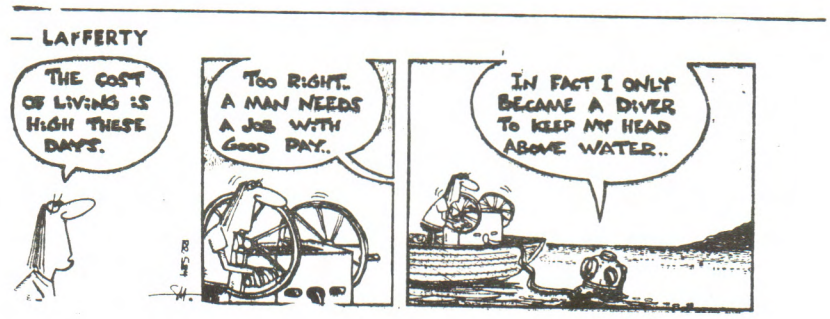
The theory test has been rewritten to include topics such as hypothermia, air embolism, EAR/ECC, shock, CO poisoning and diving at altitude. Questions on these topics are at a general knowledge level rather than expecting detailed knowledge as applies to the area of decompression and cave diving.

Candidates must achieve a pass in the theory exam before they can proceed to the practical test.

It is recommended that candidates undertake the Cat.III test program in their usual buddy pairs.

Test Dates in brief:

Close of Applications	-	19th February
Theory Examination	-	2nd March
Practical Exam at Picaninnie Ponds	-	19th March
08.30 a.m.	Examiners assemble	
09.30 a.m.	Candidates assemble	
Fees for test	$5.00 theory $25.00 practical	



2. WOODS & FOREST PERMIT PROCEDURE

Divers are reminded that they must obtain a permit from Woods and Forest personnel before they travel on land under their control, for the purposes of diving. Access is prohibited to all dive locations on total fire ban days - as determined by the local Woods and Forest officers.

In the interests of safe diving and continued access to Woods and Forest diving locations, please contact the following to arrange for the issue of permits,prior to diving. It is in your interest to obtain permits in view of Woods and Forests officers commitment to random checks at various sinkholes (ref.to letter page 7, 'Guidelines' No. 12).

Addresses / phone numbers for contact:

Tantanoola area:

Tantanoola Forest Reserve,
District Forester,
Tantanoola, S.A. 5290
Telephone: (087) 34.4098

Caroline area:

District Forester,
Myora Forest Reserve,
P.O. Box 116,
Mt. Gambier, S.A. 5290
Telephone: (087) 25.5622

South-East Regional Office:

Jubilee Highway East,
P.O. Box 162,
Mt. Gambier, S.A. 5290
Telephone: (087) 24.2711

3. BARNOOLUT

Some divers appear to be uncertain as to what information Mr. Watson would like when they apply to enter his property.

In the centre of this issue of 'Guidelines' is a letter format which can be used for obtaining landowner permission. Divers can photostat this letter and use it for all landowner contacts, or they can still write their own letter but provide the information indicated by the letter.

In reply to diver-entry requests, Mr. Watson will send a reply letter that indicates 1) dates when permission to enter property has been granted,
2) time of day
3) locations available at those times for diving, and
4) a code of behaviour which divers must adhere to whilst on the property.

These letters only give divers permission to go onto the property; they do not give permission to dive. This can only be given by the landowner at his discretion, after he has seen your current (i.e. financial) Category Card.

We hope that these letter formats will assist smooth diver-landowner contacts.
N.B. The letter format provided could be used for other landowner contacts.

CDAA NEWS • CDAA NEWS • CDAA NEWS • CDAA

4. MEMBERSHIP APPLICATION

Current membership forms ask intending diver members to provide two photographs. The Association would like new members to now send three (3) photographs to assist with a change in the issue of the first Category Cards.

The present procedure of obtaining CDAA qualifications consists of:

1) Obtaining CDAA membership
2) Training Course (optional)
3) Category I/II Testing program
4) 5 hours of freshwater scuba diving in Mt. Gambier sinkholes of Category I rating,

and so on.

Following completion of step 3), divers are issued with a Temporary Permit which has a Category I rating. The Committee would like these Temporary Permits to also have a photograph of the diver on them. At present though, two few photographs are available - thus the request for three photographs from new members.

It is felt by the Association that the Temporary Permit is a proper CDAA qualification, and thus should look like one.

The Association would appreciate it if any member who has contact with intending members (or if you have recently joined please send another photo), to tell the person to lodge three photographs with their application.

5. CAVE ACCESS APPROVAL

The Mount Gambier City Council has agreed to give the members of the Association (Category 3) access to Engelbrecht Cave. The official agreement is currently at our solicitors prior to the affixing of the Association seal.

The agreement is the first step in the Association's attempt to obtain legal and controlled access for its members to this location to ensure -

(i) continued access for our Category 3 members,

(ii) safe diving is undertaken by restricting access to dives without appropriate qualifications.

This location is only suitable for divers with considerable cave diving experience- thus the Category III classification - help us discourage divers without the appropriate experience from visiting it - for their sake and ours.

6. MT. GAMBIER ACCOMMODATION

We have been advised that units are available in the Mount Gambier area, suitable for divers. Each unit can sleep up to six people at a cost of $17.00 per flat.

For further information, contact -

Mr. J. Kilsby,
83 Penola Road,
MOUNT GAMBIER. S.A. 5290

Telephone: (087) 25.3210

Dr. Tony Swain
Adelaide Diving Medical Centre.

FIRST AID for DECOMPRESSION SICKNESS

There are five 'P's for a good dive and first aid management of diving accidents.

Prior planning prevents poor performance.

— — — — —

The first step in the first aid management of D.C.S. is to plan for its prevention.

It is important that all Tables are compiled from statistics for the average person under average conditions. There are many factors which influence where we are placed in the "average" position which should be considered in the dive plan. These include:

Previous dives,	Age,
Acclimatisation,	Physical condition,
Obesity,	Exertion,
Alcohol,	Hydration,
Fatigue,	Other illnesses,
Chilling,	Drugs.
Anxiety,	

Statistics have shown that equipment failure contributes to 30% of diving accidents, incidents and fatalities. Human error is responsible for over 70%. So planning and considering all the above factors is important.

Also important to the plan is good basic commonsense.

Always do "no decompression" dives
Know the depth of the water
Watch the time
Ascend 60'/minute or slower
Do not fly within 12 hours of diving.

If you must decompress,

Follow the Tables, but know their limitations
Use a shot rope
Have spare air on the shot rope.

If you are unlucky enough to get D.C.S. despite good planning, what about first aid?

You have presented the body as a whole with a problem:

Bubbles lead to poor tissue oxygenation and change permeability of vessels to allow the escape of fluid into the tissue. This leads to concentration of the blood and poor circulation flow which accentuates the poor oxygenation already appearing.

The first aid plan is to give oxygen to relieve the poor oxygenation and to reduce the size of the bubble by increasing the diffusion gradient of nitrogen out of the bubble. The best method to give oxygen is under pressure by means of the Edmonds in-water recompression system, but the next best is oxygen (100%) at the surface. The best method of delivery is via a regulator and this requires an adaptor from the oxygen cylinder.

Do not go back into the water on air.

Fluids in the form of fruit juice, or anything salty and sweet are given, one litre (1L) immediately, up to 2L in the first hour. This helps overcome the dehydration and improves the circulation flow.

Aspirin, 2 tablets, will help the platelets in the blood become less sticky and therefore improve the circulation flow and hence the oxygenation of the tissue. The aspirin also help in preventing the blood vessels leak so much fluid.

Keep the diver warm, a space blanket is adequate.

Remember this is the first aid management and like all first aid, it should be followed up with further treatment. First aid given within 4-6 hours of the appearance of D.C.S. symptoms will in most cases cure minor bends, and usually will prevent the appearance of more serious symptoms. If you decide that a diver needs to be given first aid treatment for D.C.S. he/she should also be given one treatment in a decompression chamber. To transport the diver it is advisable not to shake him/her around too much and placing the diver on a couple of air beds is an excellent method of transport by road. Always know from where you can get help, how long it will take it to arrive and return. This is all part of your plan before the dive commences.

In summary, first aid consists of :

1. Good planning before the dive.
2. Oxygen
   Aspirin
   Fluids, if you think D.C.S. is present.
3. If first aid has been given, the transport safely to a chamber recompression.

Additional Notes:

1. The St. John Council for S.A. Inc.
   Response Times Ex Adelaide (Revised 21/4/81)

	ROAD		HELICOPTER		FIXED WING AIRCRAFT				AIRSTRIP	
TOWN/ CITY	KM. EX.ADEL	ROAD TIME INC. 10 MINS RESP.	DAY INCLUDING 10 MINS RESP.	NIGHT INC. 40 MINS RESP.	NAVAJO INC. 50 MINS RESP.	SENECA INC. 50 MINS RESP.	+ROAD TIME IF A/S NOT IN TOWN	LOCATION OF AIRSTRIP	NIGHT AVAIL.	AVAILABLE AFTER RAIN
Mt.Gamb.	466	4hr50m	2hr10m	2hr40m	2hr10m	2hr15m		Mt.Gambier		

* Helicopter will require fuel (Add 20 mins. for refuelling).

2. On the back cover is an instant guide to first aid for decompression sickness produced by the South Pacific Underwater Medicine Society, 80 Wellington Parade, East Melbourne.

   Stick it in your log book, inside your glove box door - anywhere it will be accessible. If there is an 'event' it is probably worth having to show the local ambulance officer or doctor.

AIR EMERGENCIES

by Robin Garrad.

Throughout its testing programs, the Association places a high priority on dealing with out-of-air situations. The reason behind this attitude is that such a situation is immediately life threatening and response to it needs to be automatic. The necessity of such an automatic response is even more apparent in the Mt. Gambier diving environment given the additional complicating factors of depth, loss of surface and multiplicity of equipment.

In an emergency where time is at such a premium, it's no good trying to figure out which side donor and recipient should be, who should have the reel and where's the line going?

Ideally, in all out-of-air emergencies, the buddies separated by a mere metre, calmly switch to an octopus system and having abided strictly to the one third rule, sedately retrace their way to the exit. Of course, despite our best intentions, buddy pairs do occasionally stray apart, and the guy you hit for the octopus reg is nearly always the only one on the dive without one(See article in 'Guidelines' No.9; "The Bend that Wasn't").

Thus the CDAA places emphasis on buddy breathing for two reasons:

1) In an out-of-air, loss of surface situation, you are relying on your buddy to extract you from difficulty. He may or may not have an octopus reg, but he will certainly have all the buddy breathing gear. Thus buddy breathing is a last resort basic survival technique, for which the equipment is always available.

2) By being taught the technique and having tried it for themselves under mildly arduous test conditions, divers will hopefully realise what a 'basic' technique it really is, and how unlikely it is to function satisfactorily in an extended rescue on a real cave dive. In the light of this experience the value of an octopus system should become readily apparent..

BUDDY BREATHING

When your buddy (or any other diver) suddenly comes swimming at you, bursting for breath and grabs your mouthpiece, you are at the start of an extremely difficult task. If this task is to be successfully completed, three stages need to be negotiated:

1) Stabilise your position
2) Re-establish the breathing rhythm
3) Retrace your path to the exit

1) Stabilise your position

This is deliberately placed first because it is critical to attaining the second stage- if you cannot stabilise your position you will never re-establish your breathing rhythms.

Stabilise your position: this means rest and stop all movement. Sounds logical? You stop all movement and suddenly find the pair of you shooting off towards the roof. What went wrong?

The critical point to realise with buddy breathing is that as soon as you begin you have a buoyancy problem. If you were both neutrally buoyant previously, now you have two divers more or less joined together, holding great lung-fulls of air. Unless you act immediately, you will shortly be the subject of an uncontrolled buoyant ascent. Loss of buoyancy control is easily the most common fault with divers attempting tests in this area.

If you are close to, or at the roof of the cave or under a ledge, such positive buoyancy is an asset, stabilising you both against the roof. If however, (more commonly) you are near the floor of the cavern with a roof or wall sloping off well above you, an uncontrolled ascent is going to prove disasterous. Aside from the obvious medical problems of surviving such a rapid drop in ambient pressure, there is the major problem of physically hitting solid rock at speed en route, plus the buddy-breathing pair keeping in contact in such a situation.

Thus as a first measure, dump excess air from your B.C. (and your buddy's if possible) whilst he's grabbing his first (25) breaths. Look around - is there anything you can grab onto? - a rock, wall projection, lump of rubbish, with which you can maintain your position? If your buddy hasn't already locked himself to you by grasping your tank valve or harness, signal him to do so, pulling him close in towards you.

Once you have stabilised your position, then you are well on the way to achieving the other immediate objective - re-establishing the breathing rhythm.

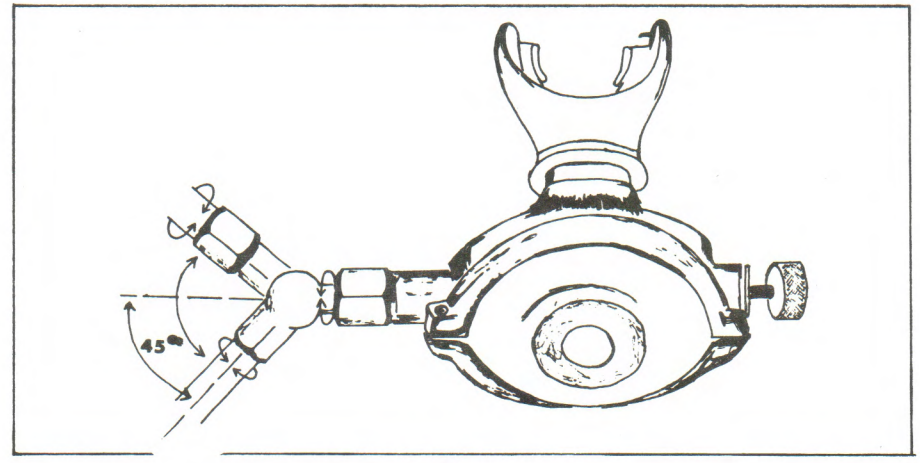
2) Re-establish the Breathing Rythm

Beginnings are delicate times - if you are the donor, be prepared to let the recipient have a greater ratio than 2 breaths : 2 breaths. The important point with this phase is not to rush it. If you were sticking to the 1/3 rule, you should have plenty of air on hand, so do nothing until the 2 breath : 2 breath rhythm is firmly established.

An equipment note here is the benefit of a long hose and elbow swivel joint on your normal regulator second stage. If you cannot immediately afford (see fig.1 below) an extra octopus second stage, at least equip your existing reg with a long hose and elbow swivel. Besides producing less jaw fatigue (with the hose coming under your armpit instead of over your shoulder) the long hose and elbow swivel makes buddy breathing physically easier as you're not so constrained by the hose length/single axis swivel. Face to face buddy breathing is also possible.

Having now calmed the situation down, got a 'normal' breathing rhythm back, you're ready for phase 3 - the strategic rearward advance.

FIGURE I. REGULATOR 2ND STAGE 'ELBOW' SWIVEL JOINT. THIS JOINT HAS TWO AXES OF ROTATION INCLINED AT APPROXIMATELY 45^{o} TO EACH OTHER.



3) Retrace your Path to the Exit

This stage often provokes confusion on Category 3 tests, with candidates constructing elaborate plans for "if you lose the mask and I lose the air supply...", or "if I lose the air supply and mask...", etc., etc. This is to miss the point the test is trying to teach : one cannot construct a specific plan for every conceivable emergency (I can't remember them all to begin with) - one needs a general system.

Here is such a system.

Before moving off from your stabilised position, take a quick inventory of the gear you have. Any large bulky objects which are not immediately necessary to your survival, ditch (e.g. survey gear, camera gear, spare reels etc.).

Next, sort out donor/recipient positions: the recipient tethers the guideline reel to himself and is in charge of reelwork. The donor takes up position on the right and is in charge of the air. In this manner the donor feeds air to the recipient who has both hands free to operate the reel. The donor can maintain single point contact by hanging onto the recipient's tank valve/harness. (see fig.2).

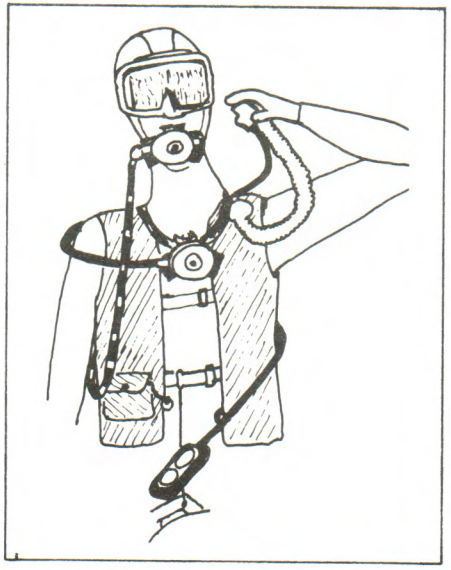
Now, and only now are you ready to leave your stabilised position.

Proceed slowly, at the first sign of breathlessness or loss of breathing rhythm, stop and rest. At all times, but especially on ascent, pay close attention to your own and your buddy's buoyancy. On ascent remember to breathe out if you don't have possession of the regulator - you're effectively making a controlled free ascent at these times.

At 30ft (9m) stop and assess your decompression requirements - to successfully buddy breathe one's way to safety only to get bent would leave one feeling very unhappy! Whilst decompressing, reflect on how much easier the exercise would have been had you had an octopus reg.

FIGURE 2.
A BUDDY BREATHING PAIR OF DIVERS RETURNING WITH CAVE REEL. NOTE RECIPIENT WITH REEL ON LEFT SIDE OF DONOR.

FIGURE 3(a).
NORMAL OCTOPUS CONFIGURATION.



Illustrations by Jenny Hiscock

Octopus Regulators

Since the inception of the Association, it has pioneered and fostered the use of octopus regulators. It is the view of the CDAA that all divers should be equipped with such systems and trained in their use. I state trained in their use because there is a lot more to octopus regulators than simply buying one and screwing it into a vacant L.P. port.

An octopus regulator is part of a co-ordinated regulator system : after many years of experimentation, the CDAA arrived some years ago, at the ideal configuration. This consists of one second stage equipped with a long hose and elbow swivel which has no neck strap which the diver normally breathes off (hose under right arm). The octopus second stage is equipped with a short hose and quick-release neck strap (hose over right shoulder). Fig.3(a)

The system is based on the idea that the regulator an out-of-air diver will go for, will be the most visible one - the one in the donor's mouth! If this second stage has a long hose and elbow swivel, the recipient can position himself comfortably anywhere around the donor. In the meantime, the donor picks up the spare second stage, which is always exactly where he knows it is - tethered just below his chin.

In this fashion, the octopus regulator is always instantly available and obvious; it is also attached and protected from damage or clogging by silt. Should the diver himself ever drop or misplace his main second stage, his octopus is again, always instantly available.

Figures 3(b) and (c) illustrate the system in use.

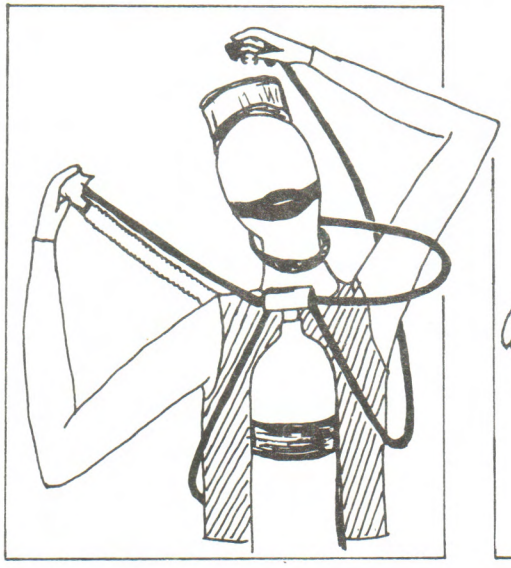


FIGURE 3(b).
HAVING SWITCHED TO HIS OCTOPUS REGULATOR, A DIVER SWIMS TO ASSIST AN OUT OF AIR BUDDY.

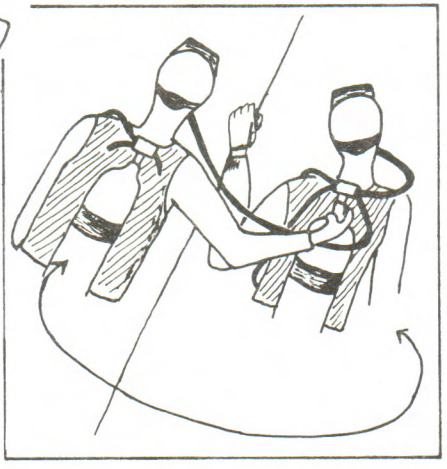
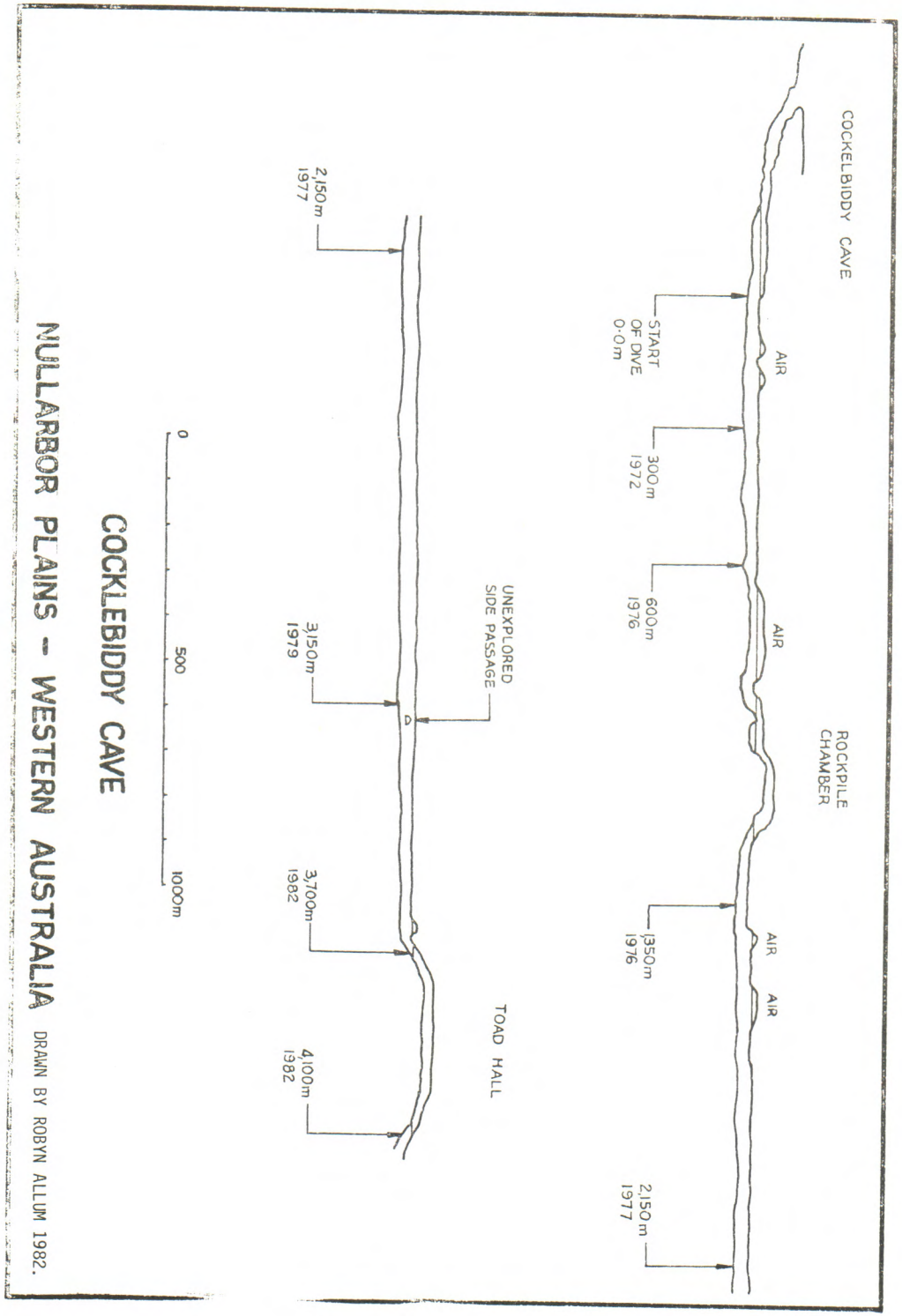


FIGURE 3(c).
DIVER WITH LONG HOSE OCTOPUS ASSISTS AN OUT OF AIR BUDDY ALONG A FIXED LINE.



COCKLEBIDDY EXPEDITION 1982

A NEW CAVE DIVING PENETRATION RECORD IN COCKLEBIDDY. *by Peter Rogers.*

During the first week of September 1982 a team of West Australians lead by Hugh Morrison, and including New Zealand and South Australian divers, assembled at Cocklebiddy cave on the Nullabor to attempt to extend further the world cave diving penetration record.

Access to the underground lake in Cocklebiddy is through a large cavern, the floor of which drops 90 metres vertically over a distance of little more than 200 metres horizontally. The task of moving equipment down to the lake began on Sunday 5th September, and during the next two days more than 40 88 cu/ft aluminium scuba tanks, a dozen sets of personal diving gear, torches, regulators, food, photographic equipment and even an emergency oxygen cylinder were hauled over the difficult terrain to the lakes edge. 240 volt electricity was run from a surface generator to the lakeside for lighting, and a 100 metres of high pressure copper tubing was connected from a surface compressor down through the initial steepest part of the cave so that scuba tanks could be filled without having to be hauled all the way out to the surface. Communication from the surface to the air filling station in the cave was via a two way intercom system.

On Monday 6th a fixed guideline was run from the entrance lake through to the rockpile chamber (see map); a 900 metre dive in which the roof of the passageway reaches a maximum depth of 10 metres below the water table. With the large numbers of divers due to pass along this first section of the cave, a good reliable guideline was essential, both because of the silt that can be stirred up in the first part of the tunnel (visibility reduced from perfect to less than 10 metres during the week of operations!), and to enable divers to take the shortest route through the large underwater caverns whilst remaining at a relatively constant depth. (In places the passageway is up to 30 metres wide and 10 metres deep).

The rockpile is treated as first base for push dive attempts in Cocklebiddy; all equipment to be used on a push dive must be hauled along the initial 900 metre dive, disassembled, carted over the rockpile, and reassembled in the lake on the far side. Tuesday 7th of September saw the major movement of equipment for the push dive from the entrance lake to the rockpile. A team of 3 divers wearing triple 88 cu/ft tanks on their backs, and supported by numerous other divers, pushed an underwater sled comprising of 15 88 cu/ft tanks out to the rockpile. Here it was taken apart, each tank was carried over the rockpile, and the sled was rebuilt in the lake the far side of the rockpile. Sets of triple tanks for the push divers to wear on their backs were also transported over the rockpile, as was the oxygen cylinder and various containers of food and spare parts.

Push dive day was Wednesday September 8th.

From a group of 5 potential push divers (Hugh Morrison, Simon Jones, Keith Dekkers, Ron Allum and Peter Rogers), the three who felt fittest and most ready to go on the day were chosen, these being Morrison, Allum and Rogers.

The party, comprising the 3 push divers, 4 backup divers who would assist at the rockpile and await the push divers return, and nearly everyone else involved in the expedition, left the surface at 3.15 p.m., to make their way down to the entrance lake. After a leisurely and relaxed dive to the rockpile, the push divers assembled their equipment on the far side of the rockpile and were ready to leave about 8 p.m.

The dive plan was for the three push divers to swim the sled along the guideline left in by previous expeditions until one of the divers had used a third of his air supply contained in his 5 tanks on the sled. At this point the divers would park the sled and continue using the triple tanks on their backs, again until one of the 3 had used a third of his air, at which point the divers would turn around and start for home. In the 1979 expedition Morrison, Jones and Dekkers had pushed 2 kilometres from the rockpile, at which point the tunnel appeared to be deepening, but showed no signs of stopping.

The increase in depth meant that decompression problems could arise if the tunnel continued to deepen, as the discovery of a new air chamber further along the tunnel would mean the divers would most probably be forced to decompress before they could surface, which might not be possible on the limited air supplies available at the extreme range of such a dive. It was hoped to add at least 500 metres to the existing record since although the triple sets and sled had been used in 1979, the 72 cu/ft steel tanks used previously had been replaced by aluminium tanks, each slightly overfilled to hold about 112 cu/ft of air.

So, with the prospect of a 6 hour dive ahead of them, and the 4 people waiting in the gloom at the rockpile knowing that the push divers had an absolute total of 9 hours supply of air if they didn't find an air chamber (which even if they did, they might well not be able to surface into due to decompression problems) the push dive began.

The first 500 metres were by far the most eventful of the whole dive. Buoyancy control of the sled proved more difficult than anticipated, with the sled and divers careering from roof to floor on more than one occasion. The buoyancy control of the sled was by three buoyancy vests attached to the front middle and back, each being scuba fed from tanks on the sled. These vests were necessary to compensate for the estimated 30kg of air that would be consumed during the dive. However, because air filled buoyancy vests were present on the otherwise constant volume sled, depth changes during the dive, from 0 to 14 metres, also resulted in buoyancy changes, and required constant attention. Other excitement during the first 500 metres of the dive included a blown high pressure hose on one of Morrison's regulators and an extruded o-ring from the first stage attachment of a scuba feed line on one of Rogers regulators. (These problems were subsequently put down to the over pressurized tanks). On the dive itself a regulator from a tank off the sled was used to replace Morrison's regulator, while the extruded o-ring on one of Rogers regulators was successfully replaced. Both these operations took place underwater! Keith Dekkers and Graham Morrison from the back-up diver team followed the push divers for the first few hundred metres of the dive using twin tanks, when these two turned back the silent immensity of Cocklebiddy slowly enveloped the three push divers.

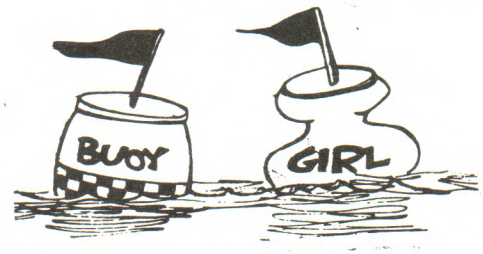
With buoyancy now well under control the three divers slowly pushed the sled through the crystal clear waters of Cocklebiddy, following the line laid down by previous expeditions. The history of previous push dives came to light as at a point 1 kilometre from the rockpile the 3 divers discovered a slate left by Morrison and Jones in 1977 to mark the limits of that dive. At this point the 3 divers took a 5 minute rest, floating gently on the underside of the roof. Around 1650 metres from the rockpile a coil of 500 metres of guideline was found, left in 1979 by a South Australian push dive that had failed to break new ground. At the 1800 metre mark Hugh Morrison indicated that he had used a third of his air from the sled, and so as arranged the sled was "parked" against the roof and the three divers moved on into the clear waters ahead. 200 metres after leaving the sled, the guideline which had been a constant companion since leaving the rockpile, 2 kilometres previously, ended. A new record was being established, and the thrill of breaking new ground was experienced by all 3 divers.

Morrison tied on new guideline to the end of the old, and the 3 divers continued. About 100 metres into new ground a side tunnel off to the left was discovered, the first branch in the entire length of Cocklebiddy. A smaller second such branch was discovered at the 2250 metre mark, and it was with great expectation that the divers realised the form of the main tunnel was changing. From the 2 kilometre mark, at 14 metres depth, Cocklebiddy gets steadily shallower, with a more uneven floor and the two previously mentioned side tunnels. At the 2400 metre mark an air pocket was discovered, but after some brief underwater signalling it was decided to push on. By this stage the cave was only 3 to 5 metres deep, and showing every sign of surfacing. 2550 metres from the rockpile, with a large air chamber above them the divers were unable to continue underwater due to a collapsed rockfall. After a 5 minute wait, in deference to decompression sickness, the 3 surfaced into a large chamber with a rockpile leading up out of it. Diving equipment was left at the waters edge and exploration of the new cave started.

After an initial steep 15 to 25 metre climb the rockpile levelled off and the cave continued above water in much the same fashion as it had underneath. After about 500 metres, Toad Hall (as it was named) ended in yet another lake, and Cocklebiddy headed off once more into the unknown.

The 3 divers rested for about an hour in Toad Hall before commencing the return journey, anxious not to stay too long for fear of unduly worrying those waiting at the first rockpile. The outward dive from the rockpile had taken 3¼ hours, and so it was well after midnight by the time the return journey commenced. On arriving back at the sled the divers paused to drink a fruit box apiece, to counter the effects of the dry compressed air they had been breathing, before getting underway on the slow return journey. Having mastered the buoyancy problems of the outward journey, the divers returned from Toad Hall to the rockpile in 2.3/4 hours, a total push dive time of 7 hours. By this time fatigue, both mental and physical, was becoming an appreciable problem, and so the push divers and backup divers left most of the equipment at the rockpile for retrieval the next day, and headed for home.

The party finally emerged tired but triumphant at 6.30 a.m. the next morning, to huddle around the campfire in the cold splendour of a Nullabor dawn. The whole journey had taken over 15 hours, and each diver had swum 7 kilometres. Despite these incredible statistics, the memory that lingered was one of the magnificent size and splendid stillness of an underwater world that began to fade from reality with the approaching dawn.



1. MEDIA WATCH

1.1 "Cave access approval",
'Border Watch', about 23rd November 1982.

1.2 Article on Category III diving at Mount Gambier as regular 'Cave Diving in Australia' feature in 'Scuba Diver' by Russell Kitt Vol.1, No. 6 October 1982.

1.3 'No Air Below 40m" by John Wood
'Diver' (British Sub-Aqua Club magazine)
October 1982 edition.

Comments

Ed. The incident in the above article is the same as described briefly in 'Guidelines' No. 9 "The Bend That Wasn't" by Peter Horne. The Association has had contact with the divers about the incident prior to the appearance of the above article. Perhaps the reaction of many can be best portrayed by the following letter received recently...

Letter to Editor.

Dear Jenny,

Please find enclosed a copy of an article from the October 1982 edition of "Diver" magazine - a British publication. I thought it may be of possible use to you in the next edition of Guidelines.

The following points concerning the article immediately came to mind:

1. *No mention of any CDAA training*
2. *If no CDAA certification, how did they get access to One Tree Sinkhole??*
3. *No guideline used*
4. *The majority of CDAA members (myself included) would not be impressed with divers fixing a stainless steel plaque of a club emblem to the wall of a sinkhole or cave. (A more refined form of graffiti?!)*

Keep up the good work.

Yours in diving,
Tony Richardson.

2. EXPLORATION CAVE DIVING TRIP

In March this year (1983) Russell Kitt is planning an exploratory trip to the underwater caves in the Isle of Pines, New Caledonia. Details of this trip were available to Victorian members with 'Guidelines' 12 and are available to South Australian members with this edition. There are still vacancies for the adventurous cave diver who has some spare time in March - contact Russell soon.

SCUBA DIVING ACCIDENTS

can include:

- *decompression sickness*
- *pulmonary barotrauma*

FIRST AID FOR BOTH OF THESE:

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

CONSCIOUS PATIENT

- 100% O_2 mask. High flow
- Fluids — salted and sweetened 1 litre/hour
- Two tablets of aspirin

UNCONSCIOUS PATIENT

- Intubate O_2 100% 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