



**C.D.A.A. Newsletter**

**No. 90 - DECEMBER 2004**

*Best Wishes for  
Christmas and  
a Great 2005!*



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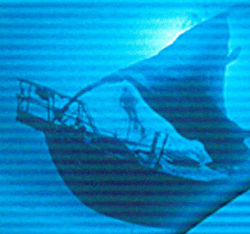
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## EDITOR'S CORNER

*Publications and Records Director Annual Report (also From the Editors desk...)*

Hi All

Wow what a big three months it has been for my partner Geoff and I! At the time of writing my last editorial before my trip overseas we only had Tony and Heike as nominees. While I was away George nominated and was subsequently voted in as standards director - A sign of healthy association to have elections and enough people interested in doing the job. Well done George! And we keep Tony on as the fantastic webmaster and hopefully we will get input from him as well on the new course structures. The website has racked up a few more record months of hits. Your photo contributions certainly helped as well.

At the end of my RTW trip dodging hurricanes in South Carolina, and drinking steins in Munich I finished up at Cairns to be handed the paperwork for our mortgage from Geoff via Warrick. Meanwhile at home poor Geoffie slaved over our old house to get it up to scratch for selling. I caught up with the gang from Ocean Divers and off we went to Truk lagoon. A terrific trip or all on twin tanks and we even met Paul Leslie and his gang of other new Pen divers from his shop at the end of our week there. Paul is our new products officer (taking over from Heike) helping me out, thanks a lot. After getting back from Truk it was then go go with the AGM at Mt G, a day or 2 of practice for our Pen course and then the next 2 weekends on the Pen course. The day of settlement of our new house was the first day of the course, bit of an anticlimax! Unusually we had 4 out of the 5 directors there on the course,; little ol' me as a student and Heike, George and Warrick all as Pen instructor trainees. So we even managed to fit in a director's meeting late one night after diving and theory, over greasy fish and chips and red wine (thanks to Geoff for taking the minutes). Unfortunately Rob couldn't make it. Thanks to my 3 director buddies for keeping me sane during the course especially to George who tried very hard to get a smile!

Heike our very own Geospatial Information Scientist has just finished a new site map of Mt Gambier in full colour. If you wish to get a copy of one please email me. This will be given out to all new members as they join.

After the joys or not so joys of the course we headed back to Mt G yet again 2 weeks later for a fun weekend of Kilsby's with the cav/sinkers, some practise for Geoff and some Pen diving for me with Dean Johnson. Wests and Pines were fantastic. Dean and I had the biggest smiles on our faces after the dives. But the best part of the weekend was getting a phone call on Saturday morning at the Bellum from our agent to say they had sold our house in Brunswick and all the hard work had paid off. Hoping our Christmas will be a little quieter time in our new home. Planning a sailing trip down to Wilson's Prom for the New Year far away from caves and silt and mask blackouts...

Cheers

Merry Christmas everyone. Hope you like our very own Father Christmas resplendent in whiskers on the front cover! Thanks Max.

PS Notice I avoided talking about memberships? Please see the ad in Guidelines, let me know if you are interested....

Also welcome to 3 new advertisers this issue.



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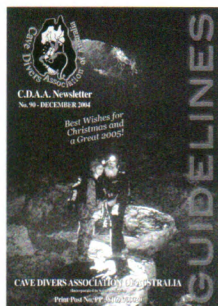


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## Front cover:

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## CAVE DIVERS ASSOCIATION OF AUSTRALIA

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# Dredging 8 Mile Creek

Neville Skinner

**Eight Mile Creek was so named because it is located eight miles to the east of Port MacDonnell. Eight Mile Creek is the interconnection from Ewens Ponds to the sea, approx 2.3 kilometres in length, and as such it is a critical part of the greater Ewens Ponds system, carrying something in the order of 100 mega-litres (approx 3 m3 per second) of water to the sea each year from the Ponds.**

Ewens Ponds consists of several freshwater ponds in series, formed by water pushing up out of the ground in a series of springs that actually continue past the Ponds and down Eight Mile Creek itself. The Ponds are fairly large in size, each extending to a depth of about 9-12m, and spread over a distance of around 300-400m, interconnected by narrow channels.

At one stage the third Pond contained a cave; today only the remnants of this remain, as I understand it was virtually

destroyed through the use of explosives for the fishing of native freshwater eels, some 30-40 years ago.

The Ponds, their interconnecting channels, and Eight Mile Creek provide an excellent location for snorkelers and divers alike, who visit the area all year round to admire the exquisite beauty of the site. This beauty is provided by stunning waterweeds of various shades of greens and yellows, intermingling with the blues of the water, the browns & whites of the mud and limestone bottom, and the natural sunlight.

Visibility seems to reach infinity, as one can see as far as possible in the crystal clear waters containing various species of fish including the protected Southern Pygmy Perch, and the protected (and threatened) Ewens Pygmy Perch that feed on small shrimps and other invertebrates. The Southern Pygmy Perch can be found amongst the weed that grows in the creek, as they are not strong swimmers, while the Ewens Pygmy Perch has a preference for strongly flowing water. (The Ewens Pygmy Perch is only found in a very small area of the lower South East of SA, and in the Glenelg River system.)

There are also Galaxias fish, native freshwater crayfish, marron and several other species that I do not know the names of.

About 40-50 years ago drains were run into Eight Mile Creek in order to lower the water table, so that the surrounding wetlands could be converted to dairy pasture. Today the dairy farms still exist, and so do the drains. A plaque at the entrance to Ewens Ponds marks the original water level of the area.

In order to maintain the drainage system our predecessors started the practice of dredging Eight Mile Creek, from the Ponds to the sea, as the removal of the waterweed causes the water to flow significantly faster. This results in a drop in the water level, which in turn more effectively drains the surrounding land.

Imagine my surprise last year whilst snorkelling from Ewens Ponds down Eight Mile Creek to the sea with fellow cave-diver Daniel Habib in July last year during heavy rain, to discover at a point about one-third to one-half of the way down, that the stunning beauty of the creek suddenly and dramatically turned to silty water, green from the algae contained within it (photos available).

We were both shocked to swim into a complete (white) siltout, laden with green algae, at a point about one-third to one-half way down the creek.

How could this be?

After some investigation, involving emails to the Dept of Environment, the EPA, and Minister (for the Environment) John Hill, who has been very helpful in seeking answers on this issue from his department(s), I have learnt this is the result of "maintenance activities" conducted by the SE Water Conservation & Drainage Board.

I learnt that during these "maintenance activities" a dredge is



pulled up & down the creek for two days until it is free of native water-weed. The result of this is a decrease in resistance to water flow, leading to a resultant (significant) decrease in water level, and better drainage for the dairy farms adjacent to that area.

This occurs once or twice a year, usually following telephone calls from dairy farmers who complain their paddocks are not draining properly, as the water level starts to rise.

To my surprise I have discovered few people are even aware this has been happening; in fact I have learnt that up until about 2001 the creek was dredged all the way from the sea to the Ewens Ponds Conservation Park boundary.

I also had the opportunity on 12-13th May this year to witness this devastation first-hand for myself, along with members of DEAH, the EPA and Native Fish Australia who have been contracted to write a report on the impact this may be having on the environment.

The South-Eastern Water Conservation & Drainage Board, with approval from the Government, still continue the practice of dredging Eight Mile Creek, despite this creek being the most significant freshwater creek in the South-East, possibly in Australia, as I know of no other creek of such diversity & beauty, and which is visited by so many tourists, including many overseas visitors.

Try to imagine two caterpillar tractors, one on each bank of the creek, pulling between them a large steel cable about 20-25mm in diameter, to which is connected a dredge-shaped drag made from large steel girders possibly weighing as much as two tonnes. Try to imagine these tractors pulling that dredge up and down the creek for two days, at a speed of about 4-5 kph, under a 20-30cm high wave of water.

And try to imagine the devastation as the unique native waterweed containing the threatened and protected Pygmy Perch is carried out to sea, and then washed

back onto the beaches by the tide, so that almost a kilometre long strip of beach is covered in rotting native waterweed.

Try to imagine the pelicans, and the 600 or so seagulls, along with other waterbirds, as they fight for a feed of our endangered freshwater fish.

And try to imagine not being sent to gaol if you or I did that!

This method is currently employed to devoid a 1.2km section of Eight Mile Creek of its vegetation, which totally devastates that section of the creek from the Spencers Pond (man-made) outlet to the bridge adjacent to the mouth of Eight Mile Creek.

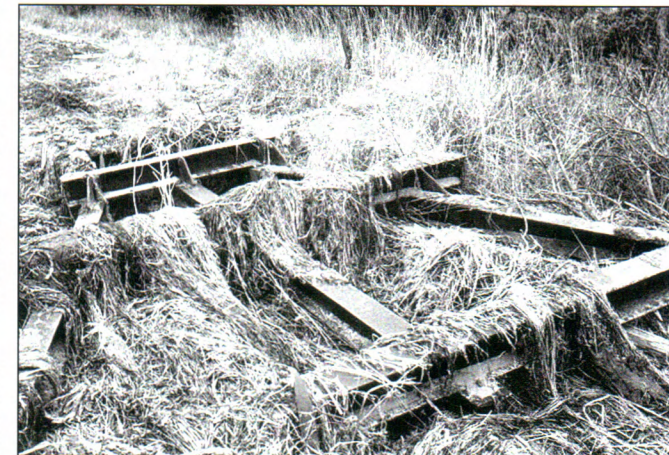
This is a practice of the past that was acceptable in the day when the land was being cleared of anything resembling trees and scrub.

Why is it that this practice is still allowed long after land clearing has been legislated against? This must not be allowed to continue within any part of Eight Mile Creek; it must surely be possible to drain the adjacent land through means that do not interfere with this natural environment.

The draft Management Plan of the South-Eastern Water Conservation & Drainage Board 2003-2006, listed amongst its 'Statutory Functions and Obligations' (South Eastern Water Conservation & Drainage Act 1992), "The enhancement or development of natural wetlands and the natural environment generally in the South East".

I believe the South Eastern Water Conservation & Drainage Board should receive our every encouragement in this endeavour. I am not suggesting the farmers not have their land drained; what I am saying is there are other ways to do this without directly impacting on the environment as is the case at Eight Mile Creek.

Surely drains could be located separate from Eight Mile Creek, such that this environment has an opportunity to survive into



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# You load sixteen tons and what do you get?

by Greg Ryan

*They might have been metric tonnes, and the material wasn't number nine coal, but there was a whisper of the Merle Travis song in the air at Wellington on a recent weekend as a group gathered to begin restoration work on Water Cave.*

During the 1960s the entrance to Water Cave (also known as Anticline Cave), in the centre of the Wellington Caves caravan park, must have been considered to as be in an inconvenient location, as it was filled in. Its location was forgotten as the grass grew back, and soon a road was routed almost overhead, and a power pole placed where there was once a doline. In the late 1980s, armed with a survey from the late 1890s, the cave was re-located by the Sydney University Speleological Society (SUSS) and Ernie Holland from Jenolan Caves, and the entrance uncovered with help from a Wellington Council backhoe. The cave entrance was extensively filled with pieces of broken limestone, probably remnants of the karst landscape which became the park, and rubbish including bottles, cans, tyres, timber and wire. Much of the rubbish and rock had found its way down to the lake which is straddled by the spectacular anticline in the ceiling which gives this cave its alternate name. Remains of a gate were discovered, harking back to the cave's early tourist his-

tory.

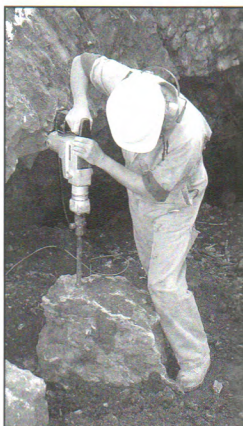
With no funds for redevelopment, and other projects on the Caves Reserve taking priority, a "temporary" fence was erected and the site sat virtually untouched for sixteen years, deteriorating as the excavated entrance eroded, with each downfall (few and far between in recent years) washing more earth into the entrance and down to the lake.

The need to preserve the cave from further damage and address the dilapidated appearance and safety of the site became more urgent this year. Proposals included installation of a drainpipe and ladder down to the cave entrance and refilling the excavation, with a locked man-hole cover at the surface, were put forward.

An alternative suggestion that the speleo community would be willing to help in the restoration of the site was taken on board by the Caves Advisory Committee and the recent working weekend was organised.

Chris George, the manager for Wellington Caves, did extensive preparation of the site with the loan of a council truck and backhoe, removing sixteen truckloads of material in September ready for the labour intensive clearing near the cave entrance and down the slope to the water, and the final levelling and setting of the benches.

On the 13th and 14th of November 25 cavers from SUSS, Orange Speleos, NHVSS, Hills Speleos, NSW Cave Rescue and the Limestone Cowboys joined forces with Chris and Kevin Joyce, one of the guides. With Chris directing the work, advised by



University of Sydney karst geologist Armstrong Osborne and aided by the mining engineering expertise of Ian Cooper from SUSS, the group undertook the stabilisation of the entrance to the cave. These were no armchair supervisors, each working more than their fair share by hand and on pick, shovel, and jackhammer. Chris even found enough in reserve to take on hotplate duties at Saturday night's barbecue.

The work involved installation of five gabions, rock filled cages

stacked on a terrace, such as are often used in roadside construction. Each gabion was made on site from plastic coated wire mesh, measured, cut and laced into a basket. The baskets were placed on a levelled soil bench, filled by hand with loose limestone pulled out of the cave entrance and taken from the stockpile built up from the September machine works, lined with geocloth and backfilled with soil.

All loose rock from the excavation was removed and used in the reinforcement. The sloped floor into the cave was substantially cleared, with the bottom of the original tourist steps exposed at the lake's edge, but progress in the cave was limited. On Saturday much time was spent ensuring that work on the

entrance slope would be able to be conducted safely, and Sunday's efforts were hampered by the gluggy consistency of the mud further into the cave - the result of a 25mm deluge a few days earlier - and the slow nature of the work as rocks were pulled from the mud by hand and chained up and out of the cave. Along with removal of loose rock, inwashed soil was bucketed out and used as backfill for the gabions. All "artefacts" removed were set aside to be sifted through at a later date for any histor-

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ical or cultural significance.

In total the gabions took about 15 cubic metres of limestone, so around 20 tonne of rock was moved by hand into the baskets over the two days. Much work remains to be done. Another level of gabions needs to be installed. The cave and lake are still littered with rubbish, which extends into the small divable side passage. Planting of appropriate native species is required to stabilise the entrance site and cover the gabions. Runoff from the park which funnels into the cave needs to be redirected by landscaping around the site. It is expected that more working week-ends will be organised if Council support can be gained.

The future of the cave is still uncertain. It is unlikely that the cave will open to tourists again in the near future, but it is hoped that the work



done will prevent any further deterioration. The benching will lend itself to landscaping and a new fence which may provide a view of the cave from the surface, providing another window to the underground world for tourists. Restoration of the original entrance may correct ventilation problems which currently lead to high levels of CO2 in the cave. In the meantime, speleological and diving access to the site will also be restricted until the management is happy with the safety of the site. Thanks have to go to all that worked so hard over the weekend, with special thanks to Chris George, Armstrong Osborne, Kevin Joyce and all the Caves staff.



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## What? More Equipment? More Skills? Is it EVER going to stop?

*Progression through your diving career is generally accompanied with expanding your equipment list, learning to use it, and gaining general and then more specific skills.*

It typically might start with Open Water – when all that equipment is new, move to double tanks, dry-suits, stage bottles, redundant this that or the other, and so forth. In the case of Cave Diving – it's reels, and line markers, and redundant light sources. And of course there is a significant skills aspect to all of that – managing line, buoyancy control, communication.

However there is a whole previously unexplored area that Cave Diving exposes – VERTICAL techniques, specifically skills and equipment required to get in and perhaps even more importantly OUT of holes where there may be drops of 5 – 50 meters.

The beginner Cave Diver is first exposed to the concept when the CDAA instructor takes them to the edge of Hell's Hole. The 40m drop generally inspires two reactions:-

- You'd have to be crazy to go down there. That looks dreadful!

and

continued next page

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• How can I get down there! It looks fantastic. And so starts the interest that will definitely enhance your cave diving, could turn into a life long love, a very rewarding experience, and perhaps even spawn dry caving or rock climbing as an activity for its own sake.

There are some excellent sites in Mt Gambier that require vertical skills (here we refer to "drops" to the water as pitches – it's just standard vertical terminology):-

• **Hell's Hole** – a 40m pitch to the lake from the gantry, to a sinkhole dive that is worth the experience complete with a 2m start and a gently slope down to 22m, and its own wreck (a small row-boat).

• **Bakers Cave** – a cave level dive, with a 15 m pitch to the water's surface, through a quite narrow tube of limestone.

• **The Shaft** – most cave divers do this one first, with about a 10m pitch, and although it has a 40m depth restriction it goes beyond 100m depth with large tunnels.

• **McKay's Shaft** – unique in that it has underwater formations, worth the effort, but not deep or long.

So how do you get your gear and yourself down there? And more importantly how do you get back up? The answers to these and other thrilling questions are covered below:-

A "guided" site – where it's almost all done for you. The Shaft in Mt Gambier is our example. This is a Sinkhole site where a small hole in a paddock opens up to a circular tube in the limestone, and then drops to the surface lake.

The Shaft is generally only dived on a guided basis – and the guide will normally rig a tripod over the entrance, setting up a lowering rig, as shown below (photos reproduced from the CDAA web-site):-

#### **Guiding at the Shaft**

The diver clips in to the rope at the top, the guide lowers them down, and they clip off the rope at the bottom when they're in the water. The technique is EXACTLY the same as for lowering your twin tanks for example, using a sling around the tank posts.

The guide needs to control the speed of descent with a rope threaded through some sort of variable friction device – my preference is to use a goldtail, or whale's tail, which can provide enough resistance to easily control the descent of a 120kg man on 10mm rope.

The ascent in this case is a combination of ladder climb (divers) and hauling (the equipment).

The gear is then hauled up using pulleys and a couple of divers in a straight line pull using a breaking device of some sort to ensure nothing can drop if the haulers let go. In an emergency a diver could also be hauled but rule of thumb is that it would

take 7 people (or 3 burly plumbers in a hurry – as I've once witnessed! But the divers concerned were quite skinny). Ladder climb out of The Shaft

The guided approach has several advantages:-

• Very little skill or equipment is required on behalf of the participants, as they rely on the skills of the guide. They simply "clip in", "hang on", and "clip out" once in the water. A harness, karabiner, and sling are the most basic of equipment.

• It can get a large group in and out quite quickly. And works well since the pitch is quite short. A long ladder climb can be extremely tiring though. Rigging your own site

For some of the other sites – you're going to have to learn the skills to rig yourself, or get someone in your group to do it. That means a good proportion of the people in the group need the equipment and skills of the guide above, it is far better to have a redundant person if you're relying on someone to get you out:-

• **Aluminium Ladders** – The right length to get to the water's surface.

• **Rope** – again length is critical!

• **Harnesses, karabiners and slings** for each participant, or full SRT gear as discussed below.

• **Pulleys, tapes, Gold Tail/Whale's Tail.**

You need to have the skills to rig – questions you need to be able to answer are:-

• Where to anchor? A bull bar of a vehicle? A gantry especially designed for the task? A tripod? Or natural anchors?

• The right knots in ropes and slings? The right angles on rigging?

• The right number of karabiners, pulleys, friction devices?

• Have you the skills to rescue someone who gets stuck? Enough people to haul given 1 person roughly requires 7 haulers?

#### **More advanced skills**

There are a couple of more technical skills that become important as you become more experienced – abseiling and prusiking which together make up much of SRT skills (Single Rope Technique). They are described below:-

#### **Abseiling**

Abseiling is the down portion of SRT. Whilst being lowered into a surface lake, the diver can take control of their descent abseiling on a fixed rope rather than leaving it to the guide above. It's possible to use a number of devices each with various advantages – but the basic technique is to thread a rope through them, clip them on to your harness, and use the friction to control your descent down the rope:-

#### **A figure eight (from CTI/SMC)**

A relatively easy device to thread, the figure 8 is a common device. The disadvantages are that it

twists the rope, and can be mistakenly dropped as it needs to be taken off to release yourself from the rope.

#### **An abseil rack offers a smooth ride (especially the steel ones).**

Can be adjusted by threading more bars, and is relatively obvious if threaded incorrectly, and can be threaded whilst still attached to the harness.

Is a bit more bulky than a figure 8, but far more versatile. Abseil Rack (from Aspiring, drawn threaded)

#### **Stop (SRT Equipment)**

A stop takes some skill to utilise, and can be easily mis-threaded or the braking karabiner neglected or misused.

Certain designs also allow a panicked "grip of death" from the abseiler to remove all friction, and therefore ACCELERATE their descent, which can become a disaster, however the one shown brakes both with no pressure, or excessive pressure on the handle – so that to descend you hold it in the middle position.

Ultimately with an abseil device, the caver themselves are in control of their descent, and is responsible for regulating speed, avoiding obstacles, attaching and detaching safely.

In general, if there are any obstacles below the abseiler, they must have control in order to avoid them (and preferably the ability to changeover to go back up), and any obstacles above the abseiler could cause significant problems were they to dislodge and render the abseiler unconscious (a helmet is essential, as may be a bottom belay in



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certain circumstances).

#### **SRT & Prusiking**

Ladder climbs are limited if the pitch length is greater than 15m. Fitness and technique can push this out to 50m or so, but ultimately, SRT is a much more appropriate technique for longer pitches, but is a much more skill & equipment intensive option.

The major advantage is because of the attachment points, and the harness being integrated to them. Prusiking out of a site with a long pitch and multiple breaks is no problem whatsoever, whereas long ladder climbs can be defeating and taking breaks actually more exhausting at times than continuing on.

Here the equipment list is a bit more extensive and essential for EVERY participant in a dive (shown below):-

- A sit harness • A chest harness
- Chest Ascender • Hand Ascender
- A rack for descents • Footloops
- Safety Cowstails • Helmet

Our "lovely" assistant is shown below, donning the gear with further explanation:-

#### **Harness and Karabiner**

The most basic of vertical gear, a harness of some sort and karabiner that would allow a guide to lower them safely into an unobstructed site.

The sit harness pictured is a caving specific one (the Aspiring Speleo) – designed to have a low

attachment point. Climbing harnesses can safely be used here but are not as efficient for Prusiking as the attachment point is higher and therefore, your prusik step is far shorter.

Here the "model" is holding a 5 bar rack clipped in to the above harness, prepared to engage in an abseil.

Note the glove, and helmet. The glove in particular helps to control the speed of the abseil, using a braking hand in the small of your back so that your grip, the glove, the rope around your hip, and the rack itself can all be used to regulate the speed of your descent.

#### **Abseiling, Rigged for SRT**

With a complete Frog rig for SRT – Frog is one of many variations, with certain efficiencies over other systems. Note the hand ascender in the models left hand with the footloops hanging down, and the chest ascender at stomach level – this is used to crawl up the rope. The abseil rack is still attached on the models right, and there is another couple of items for safety – the cowstails which are ropes used to clip in at various points. The gear can look "awkward" and there is certainly a lot of it to manage – but as with good dive gear configuration, "hoses"/ ropes can be routed appropriately so that it can be quite efficient streamlined system.

The diagram below shows our "lovely" assistant performing the technique itself:-

The hunched prusik position. The extended prusik position.

Here – a step is about to be taken. The hand ascender is gripped firmly, and legs raised in the foot-loops.

The motion is then to ensure that your legs are underneath you, and to extend using them to gain height, as your arms can not haul your whole body weight for long.

The position here is extended, bringing the two ascenders together.

It is then time to return to the hunched position and repeat.

It's that simple – until something goes wrong.

The diagram below indicates the important components and the technique more clearly:-

#### **Conclusion**

Vertical techniques are a whole new set of skills and equipment relevant to cave diving. It opens up a significant number of worthwhile sites, and is a rewarding pursuit in itself. I started vertical caving in caves that weren't flooded about the same time as I started diving, and was able to combine the two once cave diving certifications were gained, and continued with dry caving and rock climbing. The dives I have done with any vertical component have all been outstanding, and well worth the extra effort, and most importantly all except one have been done without incident.

This article is NOT anywhere near enough information to start practicing with the techniques. Formal instruction is required, and correct equipment configuration is ABSOLUTELY critical. A mistake can be fatal but is easily avoided with the right approach. Training is even more essential when rigging. The one case referred to above that did not go according to plan was when another diver did not have the assumed ability to do the vertical component nor fitness necessary for the site, a very long ladder climb, and a rescue needed to be performed. As such I am always very cautious about the offhand comment "yeah – I can do it" and new participants get to demonstrate prusik and laddering skills if they say they have them.

There is some information on SRT available on the Internet  
<http://www.cavepage.magna.com.au/cave/SRT.html>, and very good equipment available. Check your CDAA Guidelines, or speak to your local outdoors shop for more information. Outstanding books are also available like "On Rope" by Bruce Smith and Alan Padgett, or "Vertical" by Alan Warild who is a leading Sydney caver exploring record breaking depths in caves throughout the world.

Thanks for reading... Tony Morris

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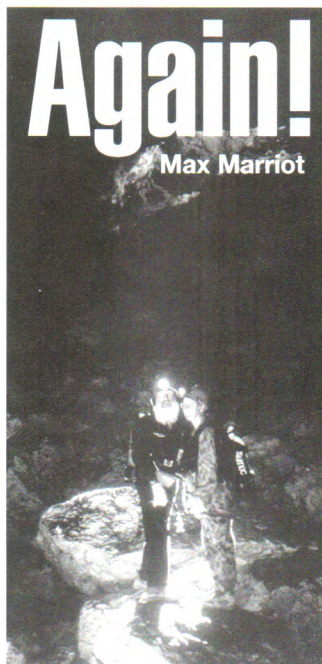
# Never To Be Seen Again!

*Late September 1994 seems so long ago and yet none of us who went to the Nullabor that year on that windy month ever thought we would be one of the last people to ever experience the mystique and enchantment of Weebubbie.*

I have never heard of any one else capturing these types of photos nor the light displays at Weebubbie. We were only a small group in total. Four divers and one very valuable photographer cook and bottle washer who captured some of the spectacular light displays that I had never seen or will never see again. Now that Weebubbie has had a very substantial collapse approximately a year and a bit later.

After spending over a week diving in Murra, Tommy's and Cocklebidie. We planned one of our days off as a travel day and to set up camp. The Nullabor being the Nullabor it can some times chuck some days that are in nature very raw. It makes it all part of the experience even before you get below the ground and water.

We were trying to set up camp at Weebubbie on a very windy afternoon. Just in the foreground of the entrance to the cave, amongst some trees for some protection. The wind was so strong that we had to have all four of us



Max Marriot

holding one tent down as one individual went around and installed the tent pegs, and extra guy ropes from the corners. The experience at one stage nearly had us when fixing the second tent, Para glide into the opening of the cave. Honestly! The wind just picked up all four of us and gave us a tough time until we pegged the tent down. The night was spent snuggled inside swags inside tents listening to the wind howl. Morning bought a camp still in tact and so the usual lowering of gear over the edge into the cave started. One of our members had to head for home in the morning because of prior commitments. By the time all the gear was stowed at the waters edge The four of us that were left were coming out for lunch around 11.00 am and to our amazement we saw this mystical light beam shining into the depth and darkness of the cave entrance. Very similar to how the light shines in the Shaft. The light pooled on one rock in particular Anne Norgard and I was closest to that. We immediately clambered to the rock with Mary-Ann (Cook and bottle washer) trying to position herself to take the photo. Click! Click! two shots were taken. The light started to move as if some hidden source was making it skip around the cave as it darted across rocks to the path out, where Gary Norgard was standing. Momentarily Gary was bathed in the same light Anne and I was a split second before. Click! Only time for one more shot and it was gone! Leaving us in Awe! What was it? A chance moment? One point in time? It definitely was the topic of conversation over lunch. Whilst Weebubbie is one of Australia's best Cave dives. I believe and all four of us do! That this is one of those precious moments in Cave diving. When being in the right time and place just makes magic happen. We couldn't wait to see if the Shots Mary-Ann took worked out. I'll let you be the judge of that as you look over the two shots. I hope you are in awe of them as we were. Consider these were not set up but on the spur of the moment with what ever camera and film were available.



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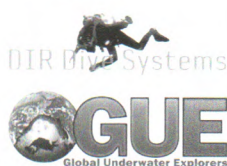
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# NATIONAL DIRECTORS REPORT

Before I summarise the quarter's happenings I would like to wish everyone a Merry Christmas, Happy Holiday and all the best for the New Year.

The elections are over and we have George Yarra as Standards Director and Heike Apps as Business Director who I have congratulated and welcomed to the directorate. Thanks to Tony Richardson for standing as well, I encourage Tony and others who have been nominated previously, to put their hand up again. Next year will see Terri Allen's position as Publications and Records Director, Rob Brennan's as Site Director and mine as National Director up for nomination.

The Directors have already held two meetings and the outcome was very favourable in that we are going to see a change in courses and materials. George Yarra has already approached Instructors for feedback on the Cavern/Sinkhole course and is putting together a new course outline. Changes don't always suit Instructors and the very normal attitude of rejecting change is to be expected, but we will do what is best for the Association in regard to risk and marketing after a committee refers their decision to the Directors.

Tania Yarra has taken over Instructor files, as this area has been previously handled by the Records Officer it was felt that Instructors could be better serviced through a dedicated officer.

The Records area (cards, files etc.) have caused a massive headache this year as most of you would know.

Belinda Kline has advised us that she won't be continuing; in the meantime the position is being filled by different volunteers at a central location until things are sorted out.

The financials again produced an outstanding result, but what was very heartening was the \$500 the Tank Cave account showed in the "black". Work will be proceeding on the shed expansion soon and talks have been held with the Landowner and builder (DW). Mapping of Tank Cave goes on and if divers would stop finding "new" areas we might see the results!

Some may have noted that Paul Leslie has taken over products from Heike whose Business Director position and Instructor Materials Officer take up her time, so something had to give. Paul can be contacted at his shop, DIS in Ringwood, Vic.

Heike has designed new Student Record forms and these will be included in the Cavern/Sinkhole packages. The forms will allow better quality control and tracking, making everyone's job a little easier.

If you haven't looked at the web site for a while check out the new site maps and some of the other areas. Tony Richardson has recently changed the system and it's allowed us to improve a lot of areas.

Keep safe, dive carefully.

Regards,

Warrick McDonald.

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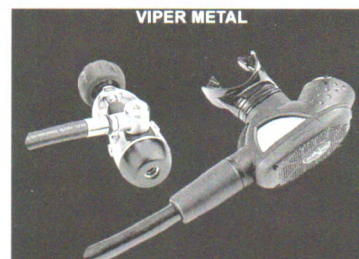
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## Citizen Promaster OZTeK4 and SportDiving Magazine Announce the 2nd OZTeK Australasian Underwater Photographic Competition.

The Second Underwater Photography Competition run in association with OZTeK is now partnered by SportDiving Magazine and will accept entries from all interested photographers within the Asia/Pacific Region. The competition, run in conjunction to the Citizen Promaster OZTeK4 Dive Exhibition and Conference to be held in Sydney, Australia 12-13 March 2005, will feature categories for Best Wreck, Cave, Open and, for the first time, Video, with sections for Amateur & Professional.

To reflect the focus of the Conference & Exhibition on the technology of today's diving, entries will be by digital file and will be accepted over the Internet as well as by post. Judging the competition will be an invited panel made up of SportDiving Magazine, Citizen Promaster OZTeK, Competition Sponsors and Award winning photographers. Prizes will be awarded on the Sunday 13 March 2005 during the OZTeK Conference.

The Citizen Promaster OZTeK organisers are pleased to partner SportDiving Magazine with this, the Second OZTeK Underwater Photography Competition. The growth of digital photography has resulted in the opportunity for divers to be more creative. Cave & Wreck Diving Photos are often overlooked in traditional photographic competitions and individual categories will allow specialist photographers to compete equally with others. The Open category allows for underwater photographers to use their own creativity including the latest in desktop imaging software to manipulate and enhance their images to the limit of their imagination. This category is unique in underwater photographic competitions and calls for creativity and technical expertise along with photographic skills. The Video section will allow entries of up to 5 minutes on any subject and will be judged on Creativity, Videography and Editing.

More details can be found on the official Citizen Promaster OZTeK Web Site at [www.diveoztek.com.au](http://www.diveoztek.com.au), or by contacting the organisers by email at [admin@diveoztek.com.au](mailto:admin@diveoztek.com.au)



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David Alcock, David Bardi, Sandrine Varin, Ian Taylor,  
Christophe Stuart-Andrews, David Murray, Paul Harvey,  
Paul Leslie, Michael Kelly

### October

Dean Johnson, Francis Haden, Terri Allen

**The next Penetration Courses are January 14-18, 2005 and Easter (April 25-29). January is full (emergency list only) and Easter is open for applications.**

**Barrie Heard ~ Penetration Course Co-Ordinator**

## 'Standards Direction'

I would like to commend the expertise in course literature, suggestions in broadening our technical diving skills and assistance of you as members taking time in combining our talents and abilities to create something greater together.

A brief on Standards stepping forward

### **Instructor Advisory Body...**

Has been formed to advise and implement amendments to current courses and material

### **Trimix...**

Rumors are true; implementation is in progress, refer to site director's report

### **Workshops...**

Please pencil the 19th & 20th Mar 2005 into your diaries, location Mt Gambier, details are currently being finalised, will keep you posted

*Thank you for your ongoing commitment and support.*  
**George Yarra, Standards Director**



# WANTED!

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# Technical Diving... How SAFE is It?

By Dr. Richard Harris

Deep (100m) heliox bounce diving in the oil industry was briefly fashionable in the 1960's, before it was realized that upwards of 20% of dives resulted in decompression illness (DCI). Even earlier (the 1920's) the US made the first helium dives but again, a high incidence of DCI resulted. So what has changed now that many thousands of divers seemingly make safe and uneventful deep technical dives annually? Is it as safe as the technical training agencies purport it to be?

Technical diving as we know it had its origins with the cave divers of Florida. Bill Hamilton, the well known decompression modeler, produced schedules which enabled cave divers to dive to over 70m using trimix (a mixture of oxygen, helium and nitrogen) and return safely to the surface breathing different "deco" mixes on the way up. This practice forms the basis of all deep technical diving today.

Technical diving, whilst still being a recreation, is clearly different to the hundreds of thousands of recreational SCUBA dives performed for pleasure around the world every year. Technical divers plan to dive beyond what are normally accepted as recreational limits, use gas mixtures other than air, frequently undergo prolonged staged decompression, often dive in an overhead environment (caves, wrecks and under the ice) and employ more sophisticated technology to fulfill their objective (such as closed circuit rebreathers, dive propulsion vehicles and other redundant safety equipment). The nature of the dives they undertake means that self sufficiency and equipment redundancy is crucial, so that in the event of mishap or accident the surface can be reached without assistance from another diver. So although the buddy system is still strongly advocated by most, there is a strong belief in the ability to save ones self in the event a problem arises. In the overhead environment, or when an artificial overhead is in place due to decompression obligation, it is crucial that problems can be sorted out underwater without recourse to an emergency ascent.

Such diving requires good understanding of diving and decompression pathophysiology and a sound understanding of dive equipment and the diving environment. Hence many technical divers appear to be highly motivated, focused and dedicated individuals. The equipment, training and gas costs are not insignificant, so as a group they are older on average than recreational open water divers i.e. many have reached a point in their career where this type of diving is affordable to them. In this time, they have also gained sufficient diving experience to be comfortable enough in the water.

The technical diving community also contains at one end of the spectrum, a small group who are constantly pushing the limits of the sport by diving further into caves, deeper onto wrecks and try-

ing new equipment technologies often modified to meet their specific needs. No one would argue that this group whilst pushing the limits of the sport is certainly incurring significant risk to do so. Like the pioneer cave divers of the '70s, deaths in this group are not uncommon, but for those who follow the lessons have been hard learned and make it much safer. Nowadays, the majority of "technical" divers perform countless dives with out incident.

But despite the well trodden path that today's tech divers follow, despite the high quality of training and equipment available and the almost obsessive nature of many of these divers, just how safe is it compared with standard recreational air diving? Many would suggest that the risks remain too great, because when things go wrong during a technical dive, the surface is just too far away to hope for a good outcome. To try and find a measure of the risk, I have looked to several sources.

Various websites delight in naming the ten most dangerous adventure sports. The following are consistently mentioned although the basis for some of the claims is not clear: Base jumping (probably a clear winner!), free diving, cave diving, bull riding, mountain and ice climbing, big-wave surfing, rock fishing, street lugging and extreme snow skiing. Activities involving bicycles also rate highly. "Technical" diving per se doesn't rate a mention. Base jumping sources in the USA suggest from 5-15 participants die per annum in the USA, however the number involved in the sport is not known. In 2002, 24 individuals died whilst rock climbing in the USA. An Austrian source revealed that 1170 people died in the mountains from 1986-1997, giving a risk of 6.7/100 000 participants or 0.007% for rock and ice climbing. Since 1960, over 500 divers have died in caves in Florida, Mexico and the Caribbean which averages out to around 11 deaths per annum, although one would suspect that many more occurred in the early days of the sport before good training and equipment advances were established. As the denominator is not known, a percentage risk cannot be given. In the UK, the overall estimated risk of dying whilst diving is 1:200 000 or 0.0005%.

The BSAC have maintained excellent records on diving incidents and fatalities for many years, published each year in the NDC Diving Incidents Reports by Brian Cumming(1). The UK averages 16.3 fatalities per annum, of which a high percentage regularly involve deep diving. This quote from the 2003 report seems representative of most years: "The number of incidents reported in the greater than 50m range is 11 and this is lower than previous years. However 5 of these 11 were fatal incidents, clearly indicating the risks associated with deep diving. There has been a moderation in the number of incidents related to very deep diving, but there is still a clear and very strong correlation between increasing depth and increasing risk. 4 incidents involved depths



of greater than 60m and 3 of these were fatalities." And from 2002: "However the number of incidents reported in the greater than 50m ranges continues to grow. 22 incidents involve dives to greater than 50m and this is the highest number ever recorded in this category. Of these 22, 6 (27%) were fatalities. The message is very clear - Diving at depth brings much greater risk and deep incidents are far more likely to be serious ones".

More data comes from the 2004 edition of DAN's "Report on Decompression Illness, Diving Fatalities and Project Dive Exploration" (2), which reports on the year 2002 and some 5 year trends. Project Dive Exploration (PDE) collects data from recreational dives performed with specific types of computers, whether or not the dives result in injury or fatality. Some 70000 dives have been collected since 1995. In this database (2002 only), about 3% of the divers held a technical diving qualification. 2% of dives were performed with trimix or heliox. The exact number of technical dives performed is not known, but may be inferred to be around the 2-3% mark. Overall, 9-10% of divers dying were making technical dives i.e. technical dives are over represented in the fatality figures. I would emphasise that because of the lack of a denominator, these significance of these figures remains unclear. The final area of interest is that of closed circuit rebreathers (CCRs). CCRs are complex pieces of equipment which demand great diligence, discipline and respect to dive safely. They are enabling tech divers to push back the boundaries of exploration even further, and allow the "average" tech diver to perform dives that were previously too complex or difficult. The most widely used electronic CCR in use is the Inspiration made by Ambient Pressure Diving which was released in 1999. Because it was the first readily available CCR and because of its huge popularity (estimated around 6000 units now worldwide), it has also been involved in the largest number of accidents and fatalities (23 according to one source (3), but possibly more). The unit itself is highly regarded by most in the technical diving community and is CE approved, however by virtue of the number in the marketplace; it has been involved in the most incidents. Should another of the popular CCRs be the market leader, it is likely they would be in the same unenviable position. The 23 fatalities from some 6000 units give a risk of 0.4% or 1 in 240 per owner. Compare this with the 0.007% for Austrian Rock climbers or 0.0005% from UK divers overall.

So what factors may make rebreather diving so dangerous? Closed circuit rebreathers (compared to semi closed rebreathers which are generally not used for deep diving excursions) represent fairly new technology in recreational diving. Breathing gas is recycled around a loop so that exhaled oxygen is available for reuse, so only oxygen required for metabolism is consumed. Carbon dioxide is removed by a soda lime scrubber and metabolized oxygen is replenished into the loop by mechanical, electronic or manual means. A diluent gas is required to maintain volume in the loop on descent, and expanding gas is vented during ascent. All very simple in principle. However the control over the crucial levels of the 2 important gases in the loop (oxygen and carbon dioxide) must be precise or the diver courts disaster. If the partial pressure of oxygen (PO2) stays consistently above 1.4, the risk of convulsion and drowning increases. If the PO2 in the

loop falls to hypoxic levels, unheralded unconsciousness (and drowning) may result. Exhaustion of soda lime or a problem with gas flow through the scrubber will cause a disabling rise in carbon dioxide levels. Any loss of integrity of the unit may cause flooding which will render the unit completely unusable (a situation far less likely to occur on SCUBA). Without meticulous pre-dive checks and adherence to procedure, these life threatening occurrences may occur in any CCR unit. Hence the primary determinant of safety for all rebreathers, is the comprehensive checking of the equipment before a dive. Most fatalities arise because of a problem in checking or maintenance, rather than some inherent fault of the unit.

All of us accept risks on a daily basis. Every year many more than 100 000 people are killed by snakes(4), 960 by crocodiles, 14 by ostriches and 7 by sharks(5). Compare the paranoia about shark attack with the worry over ostriches! Keep it in perspective in other words! However, the (scanty) facts available at present do suggest that technical diving whether deep, wreck, cave or rebreather diving, does have an increased risk of death compared to recreational open water diving. This kind of diving is not for everyone, and to do it safely requires a large investment in time, training, personal fitness and attention to detail. In its present form, it should not become an inevitable progression of advanced open water training following a basic OW course. Certain individuals should never take up technical diving, and most will never wish to. Training agencies must continue to make potential tech divers aware of the risks and maintain standards to the highest level, to avoid the growing tendency for outsiders to over-regulate the sport. Dive shops should be clear at the outset that enrolment into technical dive training will not guarantee successful completion if a high standard is not met.

For the record, I am a passionate cave and rebreather diver. The acceptance of risk is a very personal decision, and for me I cannot imagine a life without diving. But, like all prospective tech divers should do, I have attempted to fully inform myself of the dangers in order to dive safely.

- (1) Cumming B. NDC Diving Incident Reports. BSAC website [www.bsac.org/techserv/index.html](http://www.bsac.org/techserv/index.html)
- (2) DAN Report on Decompression Illness, Diving Fatalities and Project Dive Exploration: 2004 edition (Based on 2002 data). Divers Alert Network. ISBN 0-967 3066-5-5
- (3) Personal communication, Stephen Hawkins. See [www.btinternet.com/~madmole/DiverMole/DMDanger.htm](http://www.btinternet.com/~madmole/DiverMole/DMDanger.htm)
- (4) Chippaux J-P. Snake-bites: appraisal of the global situation. Bull WHO 1998; 76(5):515-24.
- (5) Stark, P. (2001). Last breath: Cautionary tales from the limits of human endurance. Ballantine.

#### Author profile:

Richard "Harry" Harris works as an anaesthetist and physician in diving medicine in Pt Vila, Vanuatu. He has been diving for over 25 years and is an enthusiastic cave and closed circuit rebreather diver. A keen amateur underwater photographer, his images have been published in a number of magazines worldwide. His photos can be seen at [www.divedoc.net](http://www.divedoc.net)

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# SITE DIRECTOR'S REPORT

Things have been relatively busy since the last report in Guidelines and there have been many changes. THE WATER IS BACK. There has been a great increase in the water level in the caves. Pines has again an island in the middle and if you are careful you can probably get into Mud Hole without disturbing the mud too much.

1. The new access plate with gate for Stinging Nettle Cave was installed last week and for those wishing to dive will have to remember to arrange their permit and to pick up the key from the Lady Nelson Visitor Centre.

2. The new pontoon was installed in Kilsby's Cave last week. This will be a great help to those who did not like the old ramp and, hey, there couldn't be many of those who did. Many thanks go to the Underwater Recovery Squad for their efforts in making and installing this.

3. Headway has been made with Tri-mix diving in The Shaft. The first small steps in gaining access for trimix diving has occurred and this should have suitably qualified divers in the site diving in twelve months time. The required guides are currently sorting out what protocols will be deemed to be necessary for you to access this site. They will need to complete some more familiarisation dives so they are aware of possible situations that may arise. So just be patient

a little longer and it will happen.

4. Ongoing site negotiations seem to be proceeding well so while there's light there's hope.

I would like to thank all those who have volunteered thru the year in the clean up days and table installation days. Especially those that spend their time arranging access for you, Noel Dillon and his band of guides for Tank access, Linda & Gary for The Shaft access, George & Steve as Shaft guides, Darren as current South East Rep & Phil as previous South East Rep, Gerret Springer for Kilsby's access, Tony for the web site that helps you divers get the bookings necessary for you to get into the water, the Directors yet again seem to get on well thru the year and many thanks to Max and Richard. I hope they have a good time now that they are out of the asylum. A special thanks to Paul for the many headaches that we might have caused. Last but not least the landowners and their officials who let and arrange for us the access that we have.

To all I wish seasons greetings and safe New Year.

Just remember

"ACCESS IS A PRIVILEGE NOT A RIGHT".

**Safe diving Rob Brennan.**

National Site Director

## INSTRUCTOR MATERIAL ORDERS:

*Procedure for ordering student packs:*

1. Check you are insured & financial.
2. Send order & cheque or by phone/credit card.
3. Allow 14 days from when the order is received - so allow plenty of time.
4. Student kits cannot be returned.
5. Instructors must be active.
6. Please do not pass my number on to dive shops - you should deal with them not me.

## CONTACT:

**HEIKE APPS - INSTRUCTOR MATERIALS OFFICER, PH: 02 6291 0566**

**PO Box 292, Calwell ACT 2905**

Email: [heike.apps@ga.gov.au](mailto:heike.apps@ga.gov.au)

# Let's Go Gardening...

by Peter Horne, CDAA Member #719

The last issue of Guidelines carried an informative article by John Vanderleest which included reference to "gardening" techniques to gain access to otherwise-restrictive areas of virgin cave. I feel that it was timely of John to bring this practice to the attention of the general membership because today more than ever, as 'new' caves become harder to find and sidemount-equipped cave divers become increasingly keen to 'push' those beckoning little question-marks on the bottom of our cave maps, we all need to be more aware of how far we should go in pursuit of new horizons.

### What actually is "gardening"?

From the earliest times, cavers sometimes found it necessary or desirable to move or alter features which impeded safe access to caves and passages; indeed, even just gaining access to an entrance often involved digging through topsoil and stones. While the term "digging" has its uses in certain applications, it conjures up images of wanton destruction, and other activities such as moving a few rocks by hand obviously don't adequately fit this term. Since access to many otherwise-blocked passages can be attained simply by shifting a few boulders or scooping out a bit of sediment, many modern cavers utilize the term "gardening" to describe such actions because removing a few rocks is similar to true gardening activities - lots of little bits of rearranging and no major renovations that seriously altered the natural state of things. One of the main problems lies with defining just how much "rearranging" can be done before it becomes more like an excavation.

I haven't been able to ascertain exactly how or when "gardening" became a part of speleological terminology, but I have learnt that while the term is commonly used these days to describe the shifting of material to explore new areas of a cave, it appears that the original usage of the word might have purely related to safety issues, especially vertical-caving techniques.

It was already well-established as a caving term when I joined the Association in 1979, the year that the Australian Speleological Federation published their Cave and Karst Terminology paper in which "gardening" was defined as "clearing stones or other loose material from a route, usually a pitch, which might otherwise be dangerous to a caver continuing" (my emphasis), and in subsequent decades I noted that the term was also frequently used (often tongue-in-cheek) to describe the action of moving rocks and silt etc that physically impeded or restricted access to new areas.

The meaning of the word "gardening" therefore shifted somewhat away from safety issues more towards access issues, or even simple creature-comfort issues (chubbier cavers found it more uncomfortable to negotiate "squeezes" than thinner cavers!). As an interesting aside here, the "dry" caving community generally doesn't use the word "restriction" the way that the international cave diving community does, namely "a place in a cave where two divers cannot pass side-by-side because the walls are too narrow" (this definition from website <http://awooten.1afm.com/mysite/Glossary%20M-Z.html>) - tight areas that require effort to negotiate are usually simply called "squeezes". An excellent definition of "gardening" as the term is used today can also be seen in Garry Smith's "Glossary of Caving Terms" (<http://wasg.iinet.net.au/glossary.html>, 1998), which he describes as being both "the act of clearing loose rock or debris away from an abseil face or ladder climb for safety and in doing so reduce the risk of objects falling on other people", and the "moving of loose material from a tight or awkward passage to increase accessibility" (my emphasis again).

Irrespective of which definition is used, it's clear that both relate directly to the shifting or removal of relatively minor, non-fixed features in caves; "gardening" was never intended to relate to activities that significantly impact upon the cave or its environment. Moving a dozen boulders a few metres to improve access to a passage is one thing (and even this seemingly-innocent

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action can seriously damage delicate features such as buried fossils and the like), but more drastic activities such as smashing a wall projection or obstructing slab with a sledge-hammer or breaking your way through a stalactite curtain are definitely outside of the "gentle gardening" definition, unless of course you are the kind of person who doesn't mind using half a plug of gelignite to clear out the weeds in your backyard! Nevertheless, the word "gardening" is still occasionally used in reference to such drastic techniques as well (perhaps out of a sense of guilt or embarrassment), so it is timely to discuss these issues now.

### Some Ethical Considerations

The issue of what constitutes "appropriate" forms of "gardening" has rarely been discussed in Australian cave diving circles to date, so it's hardly surprising that what may be entirely acceptable to some may not be the same to others. For instance, while one adventurous cave diver might view a sediment-filled flattener as nothing more than a passage that "just needs a little cleaning out", a palaeontologist might very likely see it in a completely different way ("No, no, don't TOUCH that silt 'til we've checked it and sieved it properly!"). And while some purists (while conveniently overlooking how their own presence in a cave impacts negatively upon the environment) might insist that nothing in a cave should be changed or modified in any way, what red-blooded cave diver would be content to just squat between some boulders to gawk at deep, blue water beckoning a few metres beyond, past a few rocks that could be moved with a little perseverance? It was precisely because of such efforts and the spirit of adventure possessed by cave divers of yesteryear that we can enjoy such places as Engelbrechts West, The Three Sisters, Nettle-Bed, the new sections of The Pines and Stinging-Nettle caves, and the mighty Tank Cave (still going!) today, to name but a few.

There's no doubt in my mind that "gardening" is a valuable tool for advancing our understanding and appreciation of our underground heritage, but perhaps it is time for the Association to consider establishing some kind of policy in relation to this activity. The old-times "pioneering" days are pretty much over and while we all dream about breaking into spectacular virgin passages, many of us have also become much more aware of our obligations towards environmental and conservation issues.

There are a number of other important issues that also need to be considered before one rushes out and moves rocks around the place, or removes piles of rubbish (and associated sediments and rare cave critters, etc.). What is the best and safest way to undertake this kind of zero-vis-inducing work? Have you planned to document or record your efforts for posterity (digital photos/video)? Would the landowners appreciate or approve of such activity? Would your work possibly increase risk for the landowners and/or divers? And very importantly with respect to other CDAA members, could the outcome of your efforts (eg connecting Fossil to Tank, or Pines with Stinging-Nettle) result in a drastic change in the features' ratings or access arrangements (eg an upgrade from Cave to Penetration, or even, possibly, total closure)? These are the kinds of issues that need to be considered to assess whether it's all worth it in the long run! I hope this discussion will provide some useful food for thought and I welcome any constructive debate that may arise from this article.

## TANK CAVE

~ DATES FOR 2005 ~

- December 26/27/28 (Christmas)
- January 1/2/3 (New Year)
- January 15/16
- January 29/30
- February 12/13
- February 26/27
- March 12/13/14 (Vic. Labour Day)  
(Mapping Weekend)
- March 25/26/27/28 (Easter)

## ~ Articles for Guidelines ~

Members wishing to submit articles for inclusion in Guidelines can do so in the following manner:

- Send articles & photos via post, or preferably by email to: Terri Allen, PO Box 7592, Melbourne 8004.
- Email to [pubdir@cavedivers.com.au](mailto:pubdir@cavedivers.com.au) **and** [seapics@alphalink.com.au](mailto:seapics@alphalink.com.au)
- Text files should be saved as Word files and pictures as separate jpeg files. If mailing please send pics and text on CD.
- Pictures saved from digital camera or scanned from photos must be at least 200 ppi at 15cm wide or equivalent, and saved as Greyscale as JPEG's.

## CDAA INSTRUCTORS

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DALLA-ZUANNA, JOHN	Home 03 9434 1216 Work 03 9480 1316 Mobile 0407 887 060	Yes	Yes	Yes	Yes	jdz@smart.net.au
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HEARD, BARRIE	AH (03) 5627 6474 Mobile 0419 401 276	Yes	Yes	Yes	Yes	iantd@dcsi.net.au
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MONACO, RUBENS	BH 03 5984-1799 Mobile: 0413-429-533	Yes	Yes	No		info@idcscuba.com.au
WEALTHY, BOB	Mobile 0417 524 005 Home 03 5985 8338	Yes	Yes	Yes		wealthy@pac.com.au

# RE: SHAFT - DID YOU KNOW...

Some divers are fronting up to dive this site without a harness, carabineer or even a sling. Whilst prior arrangements with the guide may allow for this to occur, please be aware that you may be charged for the hire of those items.

The guides will happily supply the A-Frame, ropes and pulleys but it is highly recommended that you own your own personal climbing equipment.

## SHAFT DATES, 2005

*The upcoming dates are...*

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*For information on the Shaft contact*

Linda Claridge on 03 5565 8793 or email [shaft@tpqi.com.au](mailto:shaft@tpqi.com.au)

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		Cave Diving Communications. A manual from NSS - CDS dealing exclusively with all underwater communications used in cave diving. Including touch, torch and line signals, and use of line arrows and jump reels. A must for all cave divers book shelves.	\$17.50	
		Cave Diving - A Blueprint for Survival. A book by the world-renowned cave diver, the late Shek Exley, this is a case study of a number of accidents that have occurred in the USA and how to avoid them.	\$15.00	
		Caverns Measureless to Man. The story of the passion for cave diving of the late Shek Exley who spent his life exploring underwater caves. Publications Directors pick. Amazing book you can't put down once you start, a must read!	\$50.00	
		Cave Practice & Equipment. Edited by David Judson British Cave Research Association. Updated 295 Page book fully illustrated with over 200 line drawings & 33 pages of dramatic photographs. Full chapter on cave diving by Martyn Farr.	\$40.00	
		CDAA Occasional Paper No. 2. From National Conference 1981. Includes topics such as Fossil Cave, Belay Techniques and Cocklebidy 1979.	\$2.00	
		DAN Emergency Handbook. 1995 Edition by Lippmann and Bugg. Printed on waterproof paper, this essential first aid manual should be part of every cave Divers kit.	\$17.00	
		Deep Into Blue Holes. By Rob Palmer. This is the project manual written about his trips to the Bahamas, diving some of the most advanced and spectacular caves in the world.	\$55.00	
		Diving in Darkness By Martin Farr. Personally signed by the author. Provides a clear, concise and modern overview of the essential equipment, skills and techniques required to dive in caves, mines, wrecks and beneath ice. Published in softback Diving in Darkness is packed with 170 photographs and diagrams throughout its 128 pages.	\$75.00	
VIDEOS		NSS Cave Diving Manual. The standard reference manual in cave diving covering just about every conceivable topic. New Edition. CURRENTLY UNAVAILABLE	\$55.00	
		The Darkness Beckons. By Martyn Farr. The history and development of cave diving.	\$75.00	
		The Cave Divers. By Robert Burgess. Paperback 352 pages. Full history of cave diving in the States and further afield. An interesting mix of adventure and archaeology. Robert Burgess has been diving for over 50 years. He lives in Chattahoochee, Florida.	\$30.00	
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		Mexico "Water of the Gods". An exploration of ancient Maya ruins and underwater caves. Producers: Andrew & Liz Wight. Director: Liz Wight.	\$29.95	
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Remember: Access is a privilege, not a right. Please be considerate of landowners wishes.

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

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Horse & Cart	CN	Peter Cunningham	By phone or mail, 1 week prior. Ph: (08) 8738 4003.
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Little Blue	S	District Council of Grant	Little Blue - permission not required - must carry card.
Allendale	C	District Council of Grant	Obtain key from Lady Nelson Tourist Information Centre.
Gouldens	CN	DEAH	<b>General Diving:</b> Divers to contact DEAH and notify of date and site to be dived. Please make requests by phone or fax only. Divers must have the correct CDAA diving endorsement for the site and carry current financial CDAA membership card. The diver must have signed an indemnity with DEAH before access is permitted. <b>Training:</b> The Instructor is to notify DEAH of the date the sites are needed and to forward signed indemnities from each student and their temporary card number/ membership number. Permit holders by phone or fax. Be aware of delicate vegetation. \$20/dive or annual Permit \$50. NOTE: Indemnity form to be completed with membership renewal.
2 Sisters	CN	P.O. Box 1046	
Fossil	C	Mt Gambier 5290 Ph: (08) 8735 1177 Fax: (08) 8735 1135	
Piccaninnie Ponds	S	as above	
Ela Elap	S	Mr. Peter Norman	Visit the house before diving.
One Tree	S		If no one home - no dive!
Dave's Cave		Dave's Cave - New site, information to come next issue or see website.	
Hells Hole	S	Hells Hole - Minimum of 4 divers to be on site at all times..	
Pines	P/C	Pines - Unrestricted numbers / days	
Mud Hole	C	Mud Hole - Unrestricted numbers / days	
Nettle Bed	P	Nettle Bed - Open every weekend. Maximum of 4 divers, 1 dive per day.	
Nettle Cave		Nettle Cave - New site, information to come next issue or see website.	
Iddlebidy	P	Iddlebidy - Open every Saturday. Maximum of 4 divers, 1 dive per day.	
Owner: Forestry SA PO Box 162 Mount Gambier SA, 5290 Ph (08) 8724 2876. Fax 8724 2885 Email: <a href="mailto:forestrysa@saugov.sa.gov.au">forestrysa@saugov.sa.gov.au</a> Contact: ForestrySA by email, fax or phone to arrange permit. Collect permits from Carter Holt Harvey Mill Gatehouse, Jubilee Hwy Mt Gambier.			
<b>IMPORTANT:</b>			
<ul style="list-style-type: none"><li>• No diving on Total Fire Ban Days. ForestrySA may apply Forest Work Bans if forest fire danger is expected to reach extreme. Such bans exclude the public from entering the forest. If in doubt, check with Forestry Ranger or Forestry Office, although signs are generally erected at diving sites to indicate such bans.</li><li>• Permit also required to run compressors during fire danger season.</li><li>• Keys for Hells Hole, Nettle Bed &amp; Iddlebidy can be obtained from Lady Nelson Visitor Centre.</li></ul>			
Kilsby's	S	Landowner leased to S.A. Police	Restricted access conditions apply - refer to the CDAA Website. Twin tanks, maximum of 40 metres depth. Write to: Gerret Springer, 30 Lorikeet Street, Mt Gambier SA 5290. Email: <a href="mailto:rolukage@ozemail.com.au">rolukage@ozemail.com.au</a> , 4 to 6 weeks prior to wanting to dive. Please enclose stamped self-addressed envelope (Do not contact landowner) or book via web page. Access date now the first weekend of every month. <b>No animals permitted. No mid-week diving.</b> <b>New Access Conditions Apply - see Web Page or Guidelines Number 89 for details</b>
		No Visitors	

## CDAA SITE ACCESS

SITE	LEVEL	OWNER	ACCESS DETAILS
<b>MOUNT GAMBIER - SOUTH AUSTRALIA (continued)</b>			
Shaft	S	Generally open one weekend a month L. Claridge P.O. Box 15 Koroit VIC. 3282 Ph: (03) 5565 8793 A.H. Mob: 0408 052 070	For access dates contact Linda Claridge. Also. See <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> for more info. Nitrox as a diving mix is not allowed in the shaft. Deco mixes ATTACHED to a shot line are permissible. Divers applying to dive in the Shaft must have documented experience of a least 5 twin-tank dives. Post Course Divers must provide their own harness and tank tapes. Email: <a href="mailto:garinda@tpgi.com.au">garinda@tpgi.com.au</a>
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. 2 divers must sign out keys, all divers must sign in advising which groups they are diving with. NOTE: Special conditions apply during March and April. Please book public holiday dives with lessee.
- East	C	Council	
- West	P	Lessee Ph: (08) 8723 2299	
Three Sisters	P	Millicent Council	Download Indemnity from Web Page. 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.
McKay's Shaft	S		Contact Phil Argy at Mt. Gambier access and indemnities.
Tank Cave	P	Mr. DYCE	Access Manager: Noel Dillon Email: <a href="mailto:noel.dillon@macquarie.com">noel.dillon@macquarie.com</a>
Baker's Cave	C		Please write to the Site Access Director to dive in Baker's Cave. Include stamped self-addressed envelope. Climbing equipment required. Only open October to April.
<b>NULLARBOR - WESTERN AUSTRALIA</b>			
Cocklebidy	C/P		Apply in writing for permission to dive at least 4 weeks in advance of trip to: District Manager, C.A.L.M., PO Box 234, Esperance, W.A. 6450.
Murra El Elevyn	P/C		Phone: (08) 9071 3733 Fax: (08) 9071 3657
Tommy Grahams	C		
Weebubbie	S/C		Apply to the Department of Land Information (DLI), now comes under the control of the Department for Planning and Infrastructure. Same location but new contact details Phone (08) 9347 5047 Fax (08) 9347 5004 Email: <a href="mailto:janice.leeman@dpi.wa.gov.au">janice.leeman@dpi.wa.gov.au</a>
<b>N.S.W. - WELLINGTON CAVES</b>			
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 (Antidine)	C		Affected by high CO <sub>2</sub> levels during Summer/Autumn. Access is co-ordinated with the Wellington Caves management by Greg Ryan - <a href="mailto:greg@cs.usyd.edu.au">greg@cs.usyd.edu.au</a> . Phone (02)97434157
Rum Jungle Lake	S		Unrestricted access currently exists - Please refer advice in Guidelines No. 68 or check CDAA website.
Burrinjuck	S/C/P		This is a tri rated site. Please see details in issue No. 73. There are no specific access arrangements.



# UP COMING COURSES

## Cavern / Sinkhole Courses

January 6-9, 2005 in Mount Gambier SA  
Contact Linda Claridge 03 5565 8793 or garinda@tpgi.com.au

February 7-20, 2005 in Melbourne (theory and pool) and Mount Gambier.  
Contact Terri Allen, 0419 17 6633 terri.allen@baker.edu.au

March 7-20, 2005, Melbourne and Mt Gambier.  
Contact Jane Bowman 0407566455 or 03 9579 2600 or info@abocean.com.au

## Cave Courses

Biannual (April & October) in WA, contact Gary Bush - gary.bush@bigpond.com

December 15-17, 2004 Full time in Mt Gambier or part Canberra, part Mt Gambier.  
Contact Heike Apps 0407 230 108 Heike.Apps@ga.gov.au

Feb 4-6, 2005 in Mount Gambier SA. Contact Linda Claridge 03 5565 8793 or garinda@tpgi.com.au

March 14-20, 2005, Melbourne and Mt Gambier.  
Contact Warrick McDonald or 03 9579 2600 or info@abocean.com.au

## CDAA Penetration Courses

January 2005 course – 5 days - Friday January 14th to Tuesday January 18th

Easter 2005 course – 5 days - Good Friday to the following Tuesday

October 2005 course

Weekend 1 : Friday October 14th to Sunday October 16th

Weekend 2 : Saturday October 22nd to Sunday October 23rd

Any further requests for info should be directed to either :

Barrie Heard, Penetration Course Co-ordinator or George Yarra, CDAA Standards Director

## GUIDELINES DEADLINES

If you would like to contribute to Guidelines in 2004 and 2005, you should note the following deadlines for submission of materials:

### Deadlines for publication:

- 20th Feb. for March 2005 • 20th May for June 2005 •

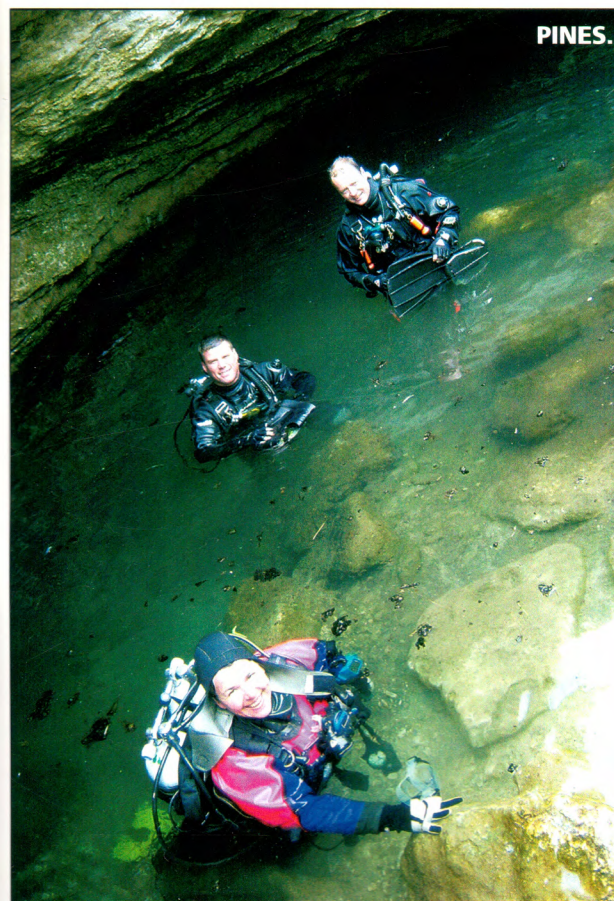
## GUIDELINES PHOTO GALLERY



Engelbrechts East  
by Rob Westerdyk



Englebrechts West



PINES.



IMAGES PHOTOGRAPHED  
BY RICHARD HARRIS





# PHOTO GALLERY



## PENETRATION COURSE



Warrick showing his new white boots to Darren and Dean

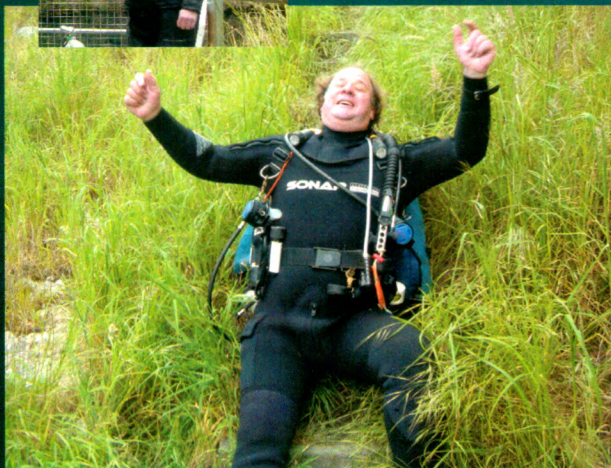


Heike giving JDZ a hand



Linda hard at it!

Barrie relaxing between dives

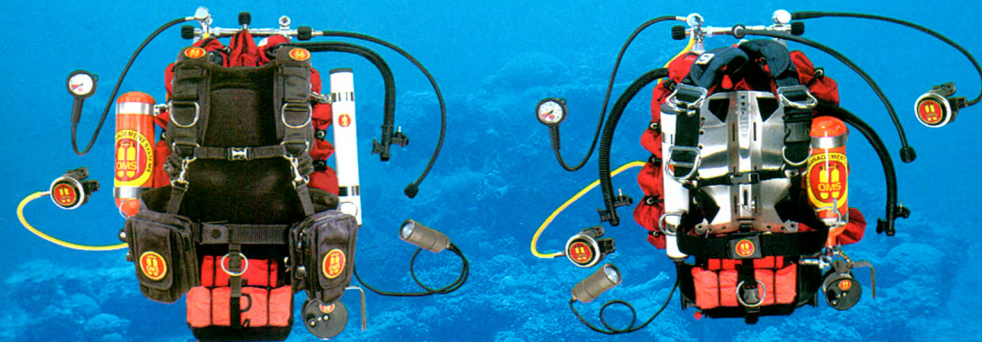


This is serious Mum!

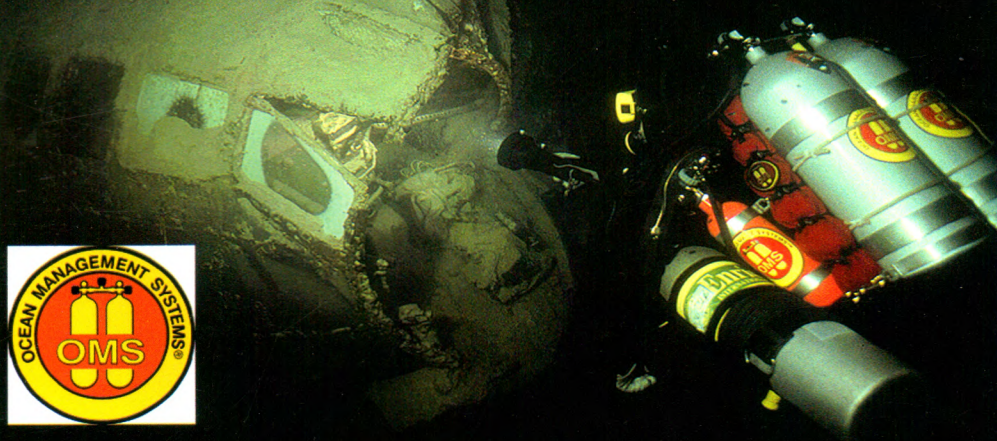


Terri...  
Reflecting  
on the  
Day

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[admin@divesydney.com.au](mailto:admin@divesydney.com.au)

Deep 6 Diving

Ph: 02 9858 4299

[info@deep6diving.com.au](mailto:info@deep6diving.com.au)

### Victoria & South Australia

Diver Instruction Services

Ph: 03 9879 2868

[info@diverinstructionservices.com.au](mailto:info@diverinstructionservices.com.au)

Diving Headquarters

Ph: 03 9510 9081

[info@divingheadquarters.com.au](mailto:info@divingheadquarters.com.au)

Southern Diving Centre

Ph: 08 8382 1322

[soudiv@ozemail.com.au](mailto:soudiv@ozemail.com.au)

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Halcyon Australia

[www.divesydney.com.au/HalcyonAustralia.htm](http://www.divesydney.com.au/HalcyonAustralia.htm)

Email: [halcyon@divesydney.com.au](mailto:halcyon@divesydney.com.au)