

from DIVERNET

<http://www.divernet.com/cgi-bin/articles.pl?id=1638&sc=1045&ac=d>

BEGINNING TO LOSE THE LIGHT



Cavern courses are a necessary precursor to cave-diving. They are also very useful to anyone wanting to improve their wreck-penetration techniques. **Chris Boardman** takes his first steps into darkness with guru Martyn Farr

Why the hell would I want to go down a dark hole in the ground, and is there really a difference between a cavern and a cave? These were two of the first questions to which I needed answers when I arrived at Farr World, located in (and under) the Brecon Beacons, to commence exploration of this strange branch of the diving world.

Before undertaking and reporting on a number of technical courses for Diver, I would not have felt comfortable in an overhead environment, but it helps to have learnt the techniques for sorting problems out on the spot rather than having to return to the surface.

With trimix certification it is possible to go straight into a cave course, but I wanted to start at the bottom with TDI's Overhead Environment/Cavern offering. Who better to teach it than world-renowned cave-diver, explorer, writer and photographer, Martyn Farr?

It is possible to take Martyn's cavern course from the level of BSAC Sports Diver or PADI Advanced Open Water Diver, with at least 20 logged dives, but few divers turn up on Martyn's doorstep until they have logged around 300.

I arrived at Farr World with Craig Nelson, my photographer sidekick, on the dot of nine. For the best part of 50 years, this idyllic spot on the edge of the Beacons has been both Martyn's home and his diving base. Installed in his kitchen surrounded by a new batch of Jack Russell puppies, introductions were made.

Martyn is one of that rare breed of people to whom you take an instant liking. Obviously a very intelligent man, his quiet, self-effacing manner belies his massive experience and achievements in his chosen field.

He has been caving since he was 10 and, to discover just what was under that rock and around that next bend, got into diving a few years later.

For 30 years he has been an educator of one sort or another, but his primary passion remains exploration, enabling him to illustrate virtually every detail of his lectures with animated examples from real life.

Martyn also has a physique well-suited to his chosen pursuit. He is not overly tall but has a practical, muscular frame.

Day one

Over a pre-course cuppa, Martyn introduced us to Pat Cronin, a long-time associate who would be providing safety cover over the next two days. He was built on similar muscular lines to Martyn, which set off distant alarm bells in the back of my mind, though for the moment I couldn't pinpoint why.

Australian Steve Siller, a Research Fellow at Christchurch Oxford, was to be my fellow student.

I discovered that he too was trimix-qualified but was not directly interested in cave-diving. What he wanted was the benefit of Martyn's overhead-environment expertise to help him in safely exploring the interior of deep wrecks.

Martyn's lecture room itself resembled a cave. Here he clarified what a cavern course was all about: "For our purposes, a cavern is an overhead environment not more than 61m distant from the surface and always within the light zone," he explained. "The areas used will be big enough to permit both divers to turn round and swim side by side at all times.

"Regardless of weather, whether we are going to dive in a coral overhang in the sea or a river cavern in the hills behind us, these are the physical parameters governing a cavern course. Although you will never be far from the surface, we will be diving in an overhead environment. This requires the appropriate respect.

"You might for example swim into a crystal-clear room while inadvertently kicking up silt, turn around and find the entrance is just a vague blur or worse. Consequently a lot of the techniques and some of the equipment used for full cave-diving are essential from the outset.

"Think of this course as an awareness experience, a taster that will give you a feel for cave-diving without actually having to do it."

We got going with a solid three hours of theory on everything from line-laying, types of line and specialised equipment to the all-important lighting systems. We also examined some of the main causes of cave fatalities and how to avoid them.

You might expect a theory session of this length to be pretty boring, but as Martyn had meticulously placed every required piece of equipment close to hand and was able to illustrate all his points with relevant stories, the time flew by. I hadn't realised that there would be so much to cavern-diving.

Lunch was an on-the-move affair as we did a few equipment tweaks.

We didn't change anything too much, in an attempt to keep task-loading to a minimum. There would be enough new tasks to master, so only items that were potentially hazardous, such as possible entanglement points, were changed.

We would not need helmet-mounted lights today, but tried them for the first time anyway. Then we set off to the River Neath, a few hundred metres upstream from the cavern Martyn wanted to use for the following day's overhead diving.

This way the water in which we would be practising our skills would offer the same flow rate, temperature and visibility - clever.

Beautiful places by their nature tend to be remote, and to be remote in the UK usually means that you are some distance from a road and everything has to be carried to the dive site. I now understood why Martyn didn't want us to bring twin-sets.

Once in the river, which was just 4m deep in the centre, our first task was simply to follow the 20m course Martyn had laid. We were to take particular note of how the line had been laid to create an unbroken guide, especially at the points at which it had been "belayed" or tied off.

Every 10m there were cable-ties threaded through the line and tape tabs either side to show distance and direction to the exit. White denoted "light" and "out", red was "in" or "wrong".

This was quite a heavy line, the sort typically used in a British cave in which conditions are less than ideal.

Most importantly it would enable a lost line to be relocated in zero visibility by a diver with heavy gloves on.

Steve and I then did an out-of-air drill, swimming along the line to our exit, as we would have to do in an overhead scenario. I had opted to use my normal single-cylinder set-up to simulate the gear which a sport diver was likely to bring on the course, and the short octopus hose proved particularly cumbersome when compared to Steve's long-hose set-up, though this did snag on his helmet when he had to deploy it from behind his neck.

Next we had to follow the line around the circuit with a blacked-out mask. You might think this is the same as closing your eyes, but when you have your eyes wide open yet know that you can't regain your sight if things get a bit uncomfortable, it is psychologically very different.

Following the line in this fashion, with the main sensory input being touch through 5mm gloves, it's amazing how important small things become. The cable-tie line markings should give a sense of distance, letting the diver know how far is left to go and helping to restore a feeling of control in a stressful situation. However, it wasn't to be quite that straightforward.

Along the way, Martyn had made a few deliberate mistakes which our untrained eyes had not spotted earlier. At the furthest point, he had tied off to a fairly large rock, but rather than fasten the line in such a way as to provide a continuous guide, he had wrapped it so that the continuation was from the far side. This meant having to hold the line with one hand while using the other to feel around the boulder for the other end.

This was surprisingly disorientating. If I had let go of the line while searching around the rock, it would have been easy to lose my sense of direction and end up going back the same way. The implications of doing this in a cave are clear.

Next came a "line trap". Martyn had allowed the line to become slack at a point where the direction changed, and the line had drifted sideways into a crack. Without vision, the only way to know in which direction to pull the line free was the memory of how it was laid.

Soon after this came another belay point, where a loose piece of line had also been attached. This served to demonstrate how important it is to be aware not only of the line but also its tension.

In zero visibility, this would be the only way to determine which was the correct line to follow.

Twelve minutes later, I emerged having learnt a powerful lesson on the importance of minute details when laying and following a line. Tomorrow we would be laying polypropylene line, which would have the added hazard of being buoyant as well.

After Steve had taken his turn with the blacked-out mask, it was time to try laying and recovering our own line.

As soon as this exercise started, I realised the importance of having hands free of torches. In fact another couple of arms would have been useful. The line has to be kept taut at all times or you can find yourself at the centre of a pile of spaghetti. At the same time, you need to clear your ears and adjust your buoyancy.

Belay points need to be made about every 10m as a rule, so when I found myself needing to make a tie-off with only small rocks in sight, the value of Martyn's "snoopy loops" (I never did find out why they were called this) became apparent.

Snoopy loops are very strong elastic bands made from old car inner tubes. They are kept tucked into a garter arrangement on the thigh and can be pulled out individually, looped around the line and then around the object in seconds. It isn't a pretty arrangement but it is immensely practical. Accessing them from a pocket would be far too time-consuming.

Line laid, it was time to recover it. When doing this, the buddy diver swims in front of the reeling diver, and as he passes over a tie-off he can undo it, so relieving his already-occupied partner of this task. The snooty loops can either be taken off or, if using a large reel as we were, simply wound onto the reel and sorted out back on dry land.

It was an educational two hours, demonstrating clearly the importance of numerous tiny points. Until now, I had not fully appreciated the difference between knowing how to use a reel and actually doing it. The fact that the whole exercise was done in shallow water had made it even more challenging, because it added in the constant need to adjust buoyancy as well.

After we had humped all our equipment to the car, it was back to base for a final hour of theory.

By the time we set off back to our digs, we had completed an 11-hour training day - not what I had expected from a base-level introduction course.

Day two

Day two started promptly at nine with the final hour of theory, which concentrated on two topics; gas and stress management.

Stress is obviously a big hazard in an environment in which direct ascent is impossible. The main cure seems to be prevention by not over-extending your abilities, being familiar with your own equipment and that of your buddies and being properly trained for what you are doing.

Gas management is governed by the simple "rule of thirds". This means that a third of the diver's air can be used for penetration and a third for coming out, with the final third left untouched in reserve for emergencies.

There are a couple of complications here. If, for example, divers are entering a cavern with the current behind them and so requiring a return swim against it, a larger reserve would be needed.

Divers carrying different-capacity cylinders would also need to be considered but, for the scope of our course, the thirds rule would be sufficient.

Martyn had intended us to dive in a spectacular cavern just upstream from yesterday's diving site but it was out of use because of recent heavy rainfall so we had to use an alternative site a few miles away. This was a long-abandoned silica mine, now largely flooded.

This would not normally be an option for the cavern course, because although we would never be more than the specified 61m from the surface or anywhere near the (in my view ridiculous) 40m maximum depth, the entry point was down into the mine and definitely beyond the light zone.

Fortunately, as we students were both trimix-qualified, this option was acceptable. I'm glad it was, as this proved to be yet another fascinating experience.

Six hundred and fifty metres doesn't sound a long way, does it? Well, when wearing 9kg of lead and carrying cylinders up rocky one-in-three slopes, I can assure you that it is.

This was the route to the mine entrance, just a small, dark hole in the side of a huge cliff. "I've got it!" I cried, as we hauled the second load of kit over the 20 minute walk to the entrance, "This is why it's called Farr World, because everything is so ***** far away!" It had now clicked as to why Martyn and Pat were so muscular.

After assembling our equipment in the cave mouth, we headed down into pitch-blackness to "dive base". The sun was shining outside and the contrast couldn't have been more extreme. The temperature dropped to about 5°C and we could see our own breath in the cold, moist air.

The water was so perfectly still and clear that I nearly walked straight into it; it was definitely the most "different" dive site I had ever visited. Craig was finding it a challenge too; the camera couldn't see anything on which to focus!

Back at the mine entrance, we kitted up and walked to the water's edge for a pre-dive check, which now included lights. Next was a briefing about our route and specific objectives, before we turned on our primary lights and were ready to go.

As we dipped below the 8°C water, a chilly temperature which apparently remains unchanged year-round, I could see at least 30m in every direction. It was like looking at the same passageways through which we had just walked.

I started to reel out the thick, blue polypropylene line commonly used by British cave-divers - not because it's the best, because being buoyant it certainly isn't, but because it's cheap and readily available. Martyn wanted us to experience as many elements as would be comfortable within the 48 hour course.

Laying out the line was not too bad. My own momentum kept the floating line fairly taut as I came to make tie-offs, but trying not to disturb the bottom while keeping the light pointed where I wanted it, and not letting my legs get too buoyant in 2m of water, was a real pain.

With both hands fully occupied, it also proved quite difficult to keep a check on cylinder pressure.

On the way back, the visibility had dropped but was OK. The problem was that momentum was now working against me. As I came to remove a tie-off, my mass kept me moving slowly forwards. Tension on the line was lost

and it started to float off the reel.

It was a big learning curve.

Thirty minutes later, I surfaced feeling relieved that my turn was over. There were already many equipment tweaks I wanted to make. As I accompanied Steve on his mini-mission, I considered the main problem - my hand-mounted light.

Lights mounted on a helmet do free up your hands, but at the same time they make communication between divers very difficult, I could see why this debate has raised so much controversy among cave-divers around the world.

The two dives done, it was back to the surface sunshine and a 15jC increase in temperature. An hour and a half later, all the equipment had been humped back to the car (never have I been so glad not to be a photographer) and it was back to Farr World for a closing discussion and final exam.

Although Martyn's course contains all the standard stuff included in TDI's international syllabus, he has been given dispensation to amend the material to fit British cave-diving which, from what I understand, can often be more like caving underwater than diving in a cave. The most obvious difference is in the final exam, 51 questions compiled by Martyn. Unusually, it is taken home to be tackled at the student's leisure. There are no multiple choices and the student is required to do a lot of research. This unique approach is far more comprehensive than the standard TDI version.

Although there are accompanying slides, again produced by Martyn, he had chosen not to use the TDI manual. However, I didn't feel it was required on this occasion for an introductory course.

Summary

This course was full of surprises. It was 1000 times more comprehensive than I was expecting and I learned far more than I had anticipated. I can thoroughly recommend it to all experienced divers, and even if, like my fellow-student Steve, you are not interested in cave-diving as such, it will undoubtedly assist you in your other diving pursuits.

I do not, however, feel that it would be ideal for an entry-level diver. I cannot imagine having to use a blacked-out mask in cold river water in the UK after only 20 dives.

During my glimpse into this esoteric world, I did find myself wondering what was around that next bend. I can feel another trip to Farr World coming on - and those side-mounts of Martyn's look interesting, too!

Farrworld in Crickhowell, Powys, runs TDI Overhead Environment Cavern Diving, Introductory Cave Diver and Cave Diver courses. The OECD course costs £320. Call Martyn Farr on 01873 811085, or visit www.farrworld.co.uk

Fotos



In the classroom Martyn Farr demonstrates the use of the finer points of the reel



.....and of the helmet-mounted torch



Chris Boardman enjoys some bracing hill-walking while carrying full loads of dive gear



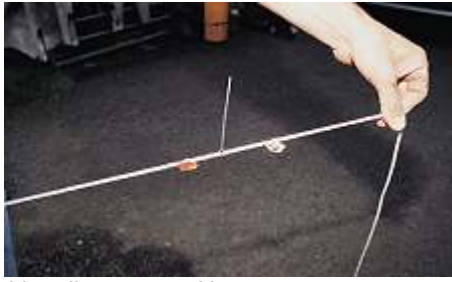
The approach to the cavern



preparations at the water's edge



briefing in the river on day one



Line distance markings



Securing line to stones by means of snopy loops



Preparing to leave dive base, down in the mine



Grappling with an octopus