



Bradford Pothole Club Bulletin

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Editorial

Finally..... Volume 7 No. 7 is here!

As I'm sure you're aware, it's taken far, far longer than I intended to get this bulletin to print. The longer it was left, the more onerous the task became. I could make a list of excuses about life getting in the way (new job, new house (x2), new degree, new baby, etc...) but instead I'll just say sorry! So as to provide better context (and due credit to authors for their timeliness) I have included an approximate date of submission for each article. I'd like to give a huge thank you to everyone who has contributed to this edition. Despite the delay in seeing the results in print, I do hope that club members will continue to contribute articles and that future editions will not take quite so long. In fact the next "Lockdown / Tales from the Past" edition is already in the pipeline and should be following in the not too distant future: watch this space.

This bulletin has turned into a bit of a bumper edition - thanks to my team of proof-readers for making sure there were no major errors: Nick C-S, Chuck, Sally, Terry, Ged, Dave M, Mike S & Dreads. Within, you will find a plethora of articles, many of which relate to our local playground including walks, karst musings, science and exploration in the Dales and surrounding areas. Amongst others, you will also find tales of diving in Wookey, holidays to France and Macaronesia, a history of the drop test rig and the library, as well as a fairly complete history of the Tresviso expeditions, which have included several BPC members, particularly in recent years.

Since the last bulletin, Kevin Dixon took on the mammoth task of digitising the full collection of previous bulletins, which you can read about herein. All of these bulletins are available for members to access through the club website: <https://www.bpc-cave.org.uk/wp/members-area/>

For non-members, direct links for Vol. 7 No. 3 through to No. 5 were given in the previous bulletin.

Volume 7 No. 6 (13 Mb) is available at:

<https://www.bpc-cave.org.uk/wp/wp-content/uploads/2021/04/BPC-Bulletin-Vol-7-No-6.pdf>

Catherine (Cat) Moody
Hon. Editor

The Tresviso Caves Project

Expeditions to the Eastern Massif, Picos de Europa, Northern Spain (1974-2016)

Overview

The past four decades have seen a number of English cavers undertaking expeditions to the Picos De Europa mountain range in Northern Spain. These mountains are 20 km inland from the northern coast of Spain, forming an extension of the Cantabrian Mountains and consisting of three main massifs; Western, Central and Eastern.

The Western is to the west of the Rio Cares and has been heavily explored by Oxford University Caving Club (OUCC) and now the Ario Caves Project. The Central, between the Rio Cares and Rio Duje, is best known for being the location of the Naranjo de Bulnes, popular with climbers. Finally, to the east of the Rio Duje is the Eastern Massif, an area originally explored by Lancaster University Speleological Society (LUSS) and now by various clubs under the Tresviso Caves Project banner.

The Eastern Massif

At the eastern end of the Eastern Massif is a small hydroelectric plant, fed by a canal running along the side of the Urdon Gorge. A track can be followed along the bottom of the gorge, before climbing steeply over 500 m to the small mountain village of Tresviso. If the canal is followed along the gorge, it passes 2 impressive resurgence caves, the *Cueva de la Rio Chico* and the *Cueva del Nacimiento* (Cueva del Agua). The gorge continues westwards for another 3 km, gradually changing into the broader Sobra Valley, passing *Cueva del Marniosa* on the left.

Above the Sobra Valley and to the North, is the area known as La Mesa and Cotera Redonda. Largely unexplored but believed to drain away from the main caves and toward the village of San Esteban. To the immediate South lies the heavily wooded areas of the Sierra del a Corta and the Valdediezma. Beyond these ridges the mountains increase further in height to the Andara area.

Andara contains a number of >2000 m peaks, surrounding 4 historic areas of exploration; the Sara depression (Vegas de Andara), the largest area at 2 km x 1.5 km, the Lake Depression (Pozo de Andara) at 2.5 km x 1 km, the smaller Evangelista depression and the 56 Depression (Cueto de los Senderos).



Andara, looking North West (Phil Walker)

Note: In around 1996, Spanish cavers, via various publications, began to change the names of numerous caves and map features, to bring in line with Spanish naming conventions. Unfortunately, as this took place during a lull in UK exploration a lot of gaps and inconsistencies were created. These can still be seen in depth, length and exploration records of caves in the area.

History of Exploration

The following section is a brief summary of the main activity in the past 40 years.

LUSS (1975–1987)

LUSS arrived in the mid 70's at Tresviso, after hearing tales of cheese matured in caves by the villagers. A number of local caves and shafts around Tresviso were explored before they were directed down a steep track, to the bottom of the gorge and a man-made dam, with a deep resurgence pool behind. This was *Cueva del Agua*, or officially, *Cueva del Nacimiento de Rio Urdon*.

The first year in *Nacimiento* explored a lot of the entrance series all the way up to the large *Boulder Hall* at +150 m. The main



Entrance, Cueva del Nacimiento (Russ Brooks)

streamways and secondary streamways of *Road to Certain Death* and the *Road to Ruin / Wigan Pier* were explored with a total of over 3.5km found that year. The following year (1976) the main way on above *Boulder Hall* was found, down a 22 m pitch to a series of large phreatic ramps heading off (and up) into the mountain.

In 1977 exploration continued in *Nacimiento*, but also the first trips to the Andara range occurred. In *Nacimiento*, new passages and large chambers were being discovered with over 4 km of new cave added to the existing survey. By now trips were taking over 19 hours, so underground camps were started and used for the entire 1978 expedition, for 4 days at a time. 1978, also saw the Madrid based S.E.I.I club joining LUSS on the trips both in *Nacimiento* and on the Andara range. *Nacimiento* was pushed higher, to +392 m and finally the main streamway was



The Ramp, Cueva del Nacimiento (Phil Walker)

re-discovered (having not been seen since the entrance series). Lots of further discoveries were made in the furthest passages, with the cave now over 10 km long in total. However, as the main way on into the mountain appeared to have been lost, attention then turned to the deeper systems on Andara.

1975–1979 also saw the exploration of *Cueva de la Marniosa*, an apparent feeder into the *Nacimiento* system from higher up the valley. A strong draught was followed down a series of pitches to an impressive 3 km streamway, with a large chamber upstream and downstream to a sump, heading in the *Nacimiento* direction. A fatal accident in the cave dampened enthusiasm for much exploration in the cave and it was not until 1986 that cavers revisited *Marniosa*.



Cueva de la Marniosa (Russ Brooks)

The deeper systems on top of the mountain were first visited in 1977, with camps set up in the Lake Depression and then later the abandoned miner's hut, the White House (now the green coloured refugio - Caseton de Andara). Exploration initially concentrated on the mine systems, *SARA*, *TERE*



R.C.A.6 - T91 Lower White House Mine (Phil Walker)

and *R.C.A.6*, all within close proximity of the camps. *SARA* was particularly noteworthy for the discovery of the *Heinous Shaft*, a 280 m wet spray filled pitch, that still remains a serious undertaking today, with no easy way of staying dry for the entire length of the shaft. In 1978 exploration in *SARA* continued, with the added bonus of a successful dye trace to *Nacimiento*. The cave finally ended at –571 m, in a large sump pool, after a few kilometres of large sporting stream passage.

TERE was finally returned to in 1979 and after the initial mine passages, the system broke out into natural passage and was quickly dropped to –487 m. The following year another route dropped to a similar depth and it was 1981 before a concentrated attack on the cave pushed it down to –792 m.

During the same time further deep caves were discovered and pushed by LUSS. *Flowerpot* (*Torca del Picu Boru*) was pushed down to -792 m and *Dosser's Delight* (*Torca del Cueto de Los Calabrerros*) explored down to -831 m. However, it was the discovery and exploration of *Sima 56* (*Torca del Cueto Senderos*) that was to turn the area into a 'famous' caving destination.

Discovered in 1977, a small hole, with a '3 second drop' beyond, was left until the following year when a 122 m shaft from just inside the entrance, led to major horizontal development. Dye tracing soon revealed a connection with *Nacimiento* and the possibility of a +1500 m through trip started to dominate expedition planning. Over the next couple of years, *Sima 56* was pushed down various leads, through huge chambers and horrible tight rifts. It was 1982 before exploration really started to ramp up, pushing the cave to -817 m. The following year it took 5 cavers 8 days just to set up a camp at the furthest point, but exploration that year, pushed the cave past the 1 km mark, reaching -1169 m. The deepest cave discovered by a UK team, the 2nd deepest in Spain and the 6th deepest in the world (in 1983). A book was published about the cave but the core of cavers involved in exploration started to move on to other expeditions and non-student life.

SWCC (1986–1987)

The South Wales Caving Club (SWCC), undertook diving trips to *Nacimiento* and *Marniosa*, loosely in collaboration with the LUSS expeditions of 1986 – 1987. An experienced team of divers, including Rob Parker and Ian Rolland, dived a number of sumps in the area. In *Nacimiento* the *Road to Certain Death*, the *Road to Wigan Pier* and the *Far Upstream* sump were all dived. *Certain Death* going deep almost immediately and preventing further exploration, *Wigan Pier* surfaced after 180 m before meeting the *Parting Friends* sump. The *Far Upstream* Sump was also dived to 162 m long at -27 m deep and left at large ongoing passage. In *Marniosa*, sump 1 was passed to over 500 m of very horrible tight passage to another crystal-clear sump pool.

In addition, a team of climbers found the main way on in *Nacimiento*. A steep section of ramps high above the *Bloody Lake*, was boldly climbed to the area known as *Teeth of Satan* and *Death Race 2000*.



Brain Baru's Place, Cueva del Nacimiento (Phil Walker)

LUSS (1995–1996)

After nearly a ten-year gap Lancaster briefly resumed work in the ‘middle camp’ area. Two expeditions spent time hammering away at a draughting rift in *Cueva del Entre Cuetos* (the Cheese Cave). As a prime location, situated part way between *Nacimiento* and the deeper potholes, it was hoped that a way into the backend of *Nacimiento* could be found and provide a quick and easy means to explore further up the mountain. Success was limited, but the visit was enough to inspire a few of the members to return another ten years later.

AD KAMI (1996–present)

The Madrid based A.D. KAMI club began exploration around the village of Beges but gradually, over the next few years, spread into the Andara region, as English interest in the area dwindled. Initial exploration was in and around Beges, finding smaller, although possibly localised, resurgence caves. A few old LUSS discoveries were revisited, in particular *Fallen Bear Hole (Torca de Branaredonda)*. This was explored to –180 m by LUSS in 1977, then revisited by A.D.KAMI. in 1996 when a ‘small rock was removed at the limit of LUSS exploration’ and the way on found down a huge ramp to a new depth of –456 m. *Torca Hendida* was another major discovery, a high-altitude cave, on the slopes of Samelar, dropped to –452 m.

However, the major discovery was *CS-9 (Torca Jou Sin Tierre)*. Not too far from *Sima 56*, an inconspicuous hole was discovered and explored between 2003 – 2012. The exploration was tackled with military precision, helicopters, huge equipment dumps and a siege mentality eventually pushing the cave down to –1203 m. The depth record of *Sima 56* was surpassed. *CS-9* is currently the deepest cave in Cantabria, 5th deepest in the Picos, 11th deepest in Spain and 47th deepest in the world (as of 2017).

SWCC (1995–1996, 2009–2014)

SWCC revisited the area in the early 90’s. Firstly, a diving trip back to the *Road to Certain Death*, led by Gavin Newman, was unsuccessful due to high water levels and then a visit to *SARA* the following year, met similar disappointment. In 2000 Gavin Newman once more visited *Nacimiento*, along with the BBC, for the “Extreme Lives – Road to Certain Death” documentary. This time *Certain Death* was extended further, but the main success (although not really covered in the documentary) was a change of plan that saw the *Parting Friends* sump passed after 8m to another sump, that was then dived for a further 150 m and continues in wide passage.

In the mid-2000’s, consistent activity was re-started by South Wales members and others (this exploration eventually evolving into the current expeditions). Initially, this was mainly revisiting some of the old leads, with most described as ending in tight rifts and squeezes. Armed with drills and capping equipment, a few quick successes were achieved. *Cueva del Entre Cuetos*, the LUSS 90’s objective, was capped at the draughting rift to reveal three new pitches and an immature stream way. *Torca Seprin*, was similarly attacked, again with new pitches and a rift leading off.



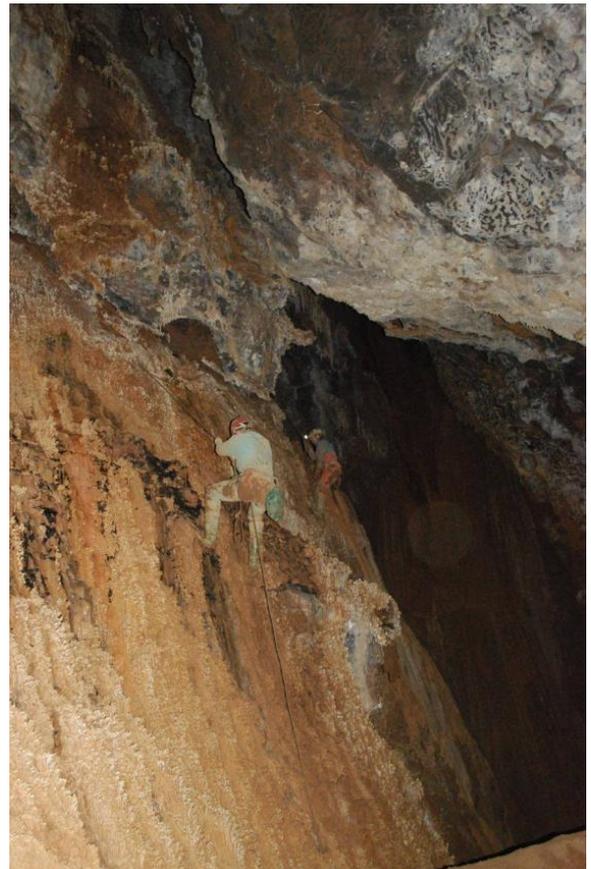
Brain Baru's Place, Cueva del Nacimiento (Jason Gotel)

In 2011 it was decided that a revisit to *Cueva del Nacimiento* might be a good idea. Employing the same techniques of small groups armed with drills and capping gear it might be possible to push some of the more difficult leads. The main objective that year was to reach the *Teeth of Satan* climbs at the back end of *Cueva del Nacimiento* and investigate the leads left by the earlier expeditions. However,

the lack of route finding knowledge and re-rigging took much longer than expected and it took 3 people 4 trips to rig the cave and set up an underground camp to support the *Teeth of Satan* climbs.

The climbs proved difficult in places (a testament to the previous explorers in the 80's) being anywhere from 70 degrees to vertical ramps and it took a lot longer than expected to climb the tricky ones. It soon became obvious that the 1986/87 surveys were not entirely accurate. Although a lot of in-situ rope and other signs (bags of abandoned equipment!) were encountered, indicating the correct route was being followed, the route and descriptions did not match what was being discovered.

As time began to run short, it was agreed to continue to follow the draught and investigate the avens in the *Death Race 2000* chamber. This was the furthest and highest point of the known cave. On the last planned day in *Nacimiento*, the chamber was reached. It was as impressive as described, being approx. 40 m x 40 m, full of huge boulders and 2 x 80–100 m avens entering over the deepest part. The cave was left rigged, ready for the following year.



The Beasts Ramp, Cueva del Nacimiento (Phil Walker)

Buoyed by the excitement of the previous year the 2012 expedition planned an ambitious two-pronged attack, climbing the *Death Race* avens and diving the *Far Upstream Sump*. As the cave was rigged from the previous year, it meant progress should be a lot quicker and a large team of 18 people were recruited for a 3-week expedition.



Far Upstream Sump, Cueva del Nacimiento (Phil Walker)

The main challenge was getting diving equipment into the cave. The *Far Upstream Sump* was a good 8 hours or so from the entrance and it took a number of trips to carry in all the necessary equipment, then over a three-day underground camp, Martin Groves dived the sump, extending it for another 80m and a depth of -46 m. Like the previous year it was discovered that a lot of the 80's information was incorrect and the sump,

described as continuing in wide open passage, only did one of these things, it did carry on in wide open passage, but an underwater shaft had to be descended first. The shaft was beneath the previous tied off dive line, so quite why it was never reported remains a mystery. Despite this, the technical challenge of diving at this location marked a major achievement and the continuing passage heading off into the mountain is a tantalising prospect for the future.

At the same time another team once more made it to the *Death Race 2000* camp and set about scaling the avens. A number of high level passages were encountered part way up one of the avens, but the main discovery was down at the bottom of the *Death Race* chamber. A 60 m pitch down led

to a small immature stream way. This was explored in the 80's and wasn't described as very promising. However, a tight way on was found leading to 700 m of passage and down to -150 m, almost back to the level of the start of the *Teeth of Satan*, again a significant achievement given the remoteness and technical difficulty of exploring in this area.



Main Stream way, Cueva del Nacimiento (Phil Walker)

In 2014 the expedition continued building on the successes of previous trips, but due to reduced manpower, concentrated on the *Wet Aven*, a lead close to the start of the *Teeth of Satan*. The aven would appear to be the final pitch in a pothole entering from the Sierra del Corta range. The aven was scaled for over 20 m, under quite difficult conditions, until increased water levels forced a halt to exploration.

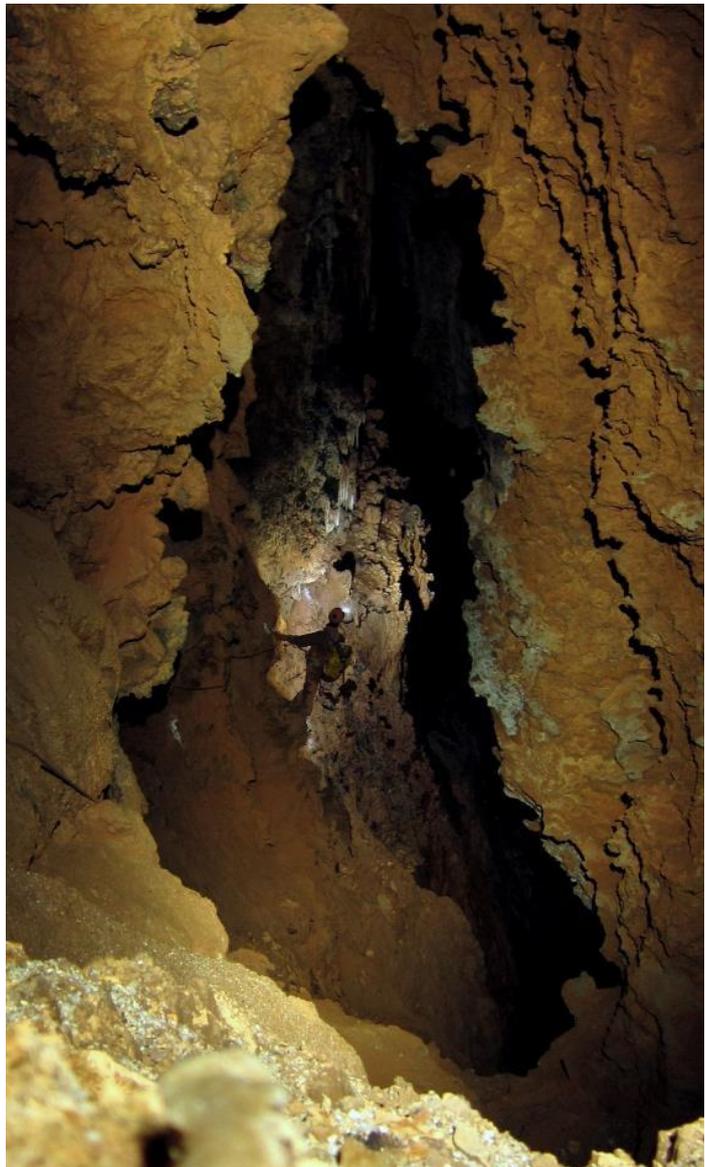
The expedition was also an introduction to the area, for an influx of Cardiff based cavers, who 'volunteered' to take a look at *Torca Septrin*. This is a cave on the Pico Boro, at the time only –110 m deep but close to some of the deep –800 m caves of the area. The still draughting lead from the 2010 trip was still promising and 3 trips of 4 cavers attacked the cave, extending it down to –160 m, through some quite horrible, cold and wet cave.

Another cave, on the Sierra del a Corta, that was originally found in 2009, was finally revisited. The lead was initially just a 20 m pitch to a tight squeeze, however, during the time trying to enlarge the squeeze, a small tree was pushed back to reveal an impressive parallel –120 m pitch straight from the surface. A rare occurrence on the Sierra del a Corta, as most caves are clogged with leaf debris within a few meters. The cave soon narrowed to a tight draughting crawl, but remains promising.

Tresviso Caves Project (2015–present)

As more and more different UK and Spanish clubs began to get involved in the exploration it was rebranded, like so many other expeditions, as the Tresviso Caves Project. The 2015 expedition once more concentrated on exploration in *Cueva del Nacimiento*, finding over 1 km of new passage. The major success was the *Die Hard – Jurassic World* extensions above *Death Race 2000*. The strong draught in the cave was rediscovered here and the way deeper into the mountain appeared to have been found once again.

The 2015 expedition, thanks to an increase in interest from experienced cavers, saw the first attempts at re-visiting some of the deeper caves on Andara, mainly looking at old leads (with new eyes). *T105 Italianos* and *T91A Torca Boulderosa* were successfully revisited and re-rigged and despite not producing any new cave the work has been invaluable in updating and clarifying the 'picture' of the higher cave systems and their relation to *Cueva del Nacimiento*.



Death Race 2000 traverse, *Cueva del Nacimiento* (Rob Middleton)

The 2016 expedition was based around continued work in *Nacimiento* and on the mountain, *Pozo Castillo*. The far reaches of *Nacimiento* were again expanded, with another 0.5 km of cave found and a number of new avens climbed to over 50 m high. In particular the *Wet Aven* was revisited and climbed to just over 50 m to a series of 3 pitches / avens coming in just to the side of the main aven. A small squeeze with a draught and echo beyond is the current limit.



The Wet Aven Cueva del Nacimiento (Joe Daniels)

Pozo Castillo is a network of mined passages and natural passage, reaching -297 m at its deepest point. First visited by a French team in 1983, it's description refers to a roaring sound coming from beyond a tight squeeze. Unfortunately, since that time, a collapse in the entrance series has prevented (or scared off) any further exploration.

The expedition spent a few days beginning, what is most likely going to be a multi-year side project, tentative exploration of the system. The main *Pozo Castillo* route still appears to be collapsed. A concentrated effort would be required to clear the blockage but potentially one of the other numerous entrances in the area may provide a route past. The *Pozo Natacha* route was rigged



Sistema Castillo entrance shaft (Duncan Hornby)

down to the final pitch and an early trip, at the start of the next expedition, should be able to determine the potential of progression at the furthest point. The direction and current depth of the cave places it very close to the end of *Castillo* and most likely it will connect with the hypothesised main feeder system beyond both caves.

Future Expeditions

The latest expeditions are now fully concentrating on the aven climbs at the back end of *Nacimiento*. Gains every year are pushing the cave higher and the surface is getting closer. Ideally, as well as breaking out to the surface, we need the cave to drop down again, so that further progress towards the deep systems can be gained. There are more and more leads being identified, both at the back end, but also nearer the entrance series. Aided by modern technology, maps and surveys are highlighting features within the cave and on the surface that hold promise for some big discoveries. Interest is also building in the deeper systems in Andara and each expedition now concentrates on one of the deep caves.

There are endless combinations of possible deep cave potential (even a middle entrance on the Sierra del a Corta would create a through trip of -800m) but the deep caves are the real goal and the main ones of interest:

- *CC-9 Torca Jou Sin Tierra* to *Cueva del Nacimiento* would create a -1594 m through trip; the second deepest underground traverse in the world, the deepest cave in Spain and the 8th deepest cave in the world,
- *Sima 56* to *Cueva del Nacimiento* would create a -1495 m through trip, still the second deepest underground traverse, but a bit further down the rankings for other deep records,
- The highest known entrance on Andara, *AN-104*, would create a -1800 m through trip to *Nacimiento*, the 4th deepest cave in the world (it's full of snow at -30 m...).

Top Entrance	Area	Altitude (m)	Current Depth (m)	Vertical Range (m)
CS-9 Torca Jou Sin Tierra	Cueto Senderos	2074	-1203	1594
S-33 Torca de la Hendida	Samelar	1975	-452	1495
Sima 56 Cueto de Los Senderos	Cueto Senderos	1975	-1169	1495
T82 Karen – 2.6 Sara	Grajal	1880	-591	1400
T145 - Pozo Castillo	Mazarassa	1870	-309	1390
2.24 Tere	Sara / Grajal	1820	-792	1340
FT39 Compromisso	Mazarassa	1820	-313	1340
T169 Flowerpot	Pico Boro	1785	-723	1305
T173 Dossers Delight	Pico Boro	1706	-831	1226
T190 Septrin	Pico Boro	1696	-180	1216
3.2 Fallen Bear	Samelar	1589	-456	1109
T510 Cueva Entre Cuetos	Sierra del a Corta	1305	-117	825
T69 - Pozo Motilla	Sierra del a Corta	1248	-70	768

Table: Depth potential to Cueva del Nacimiento.

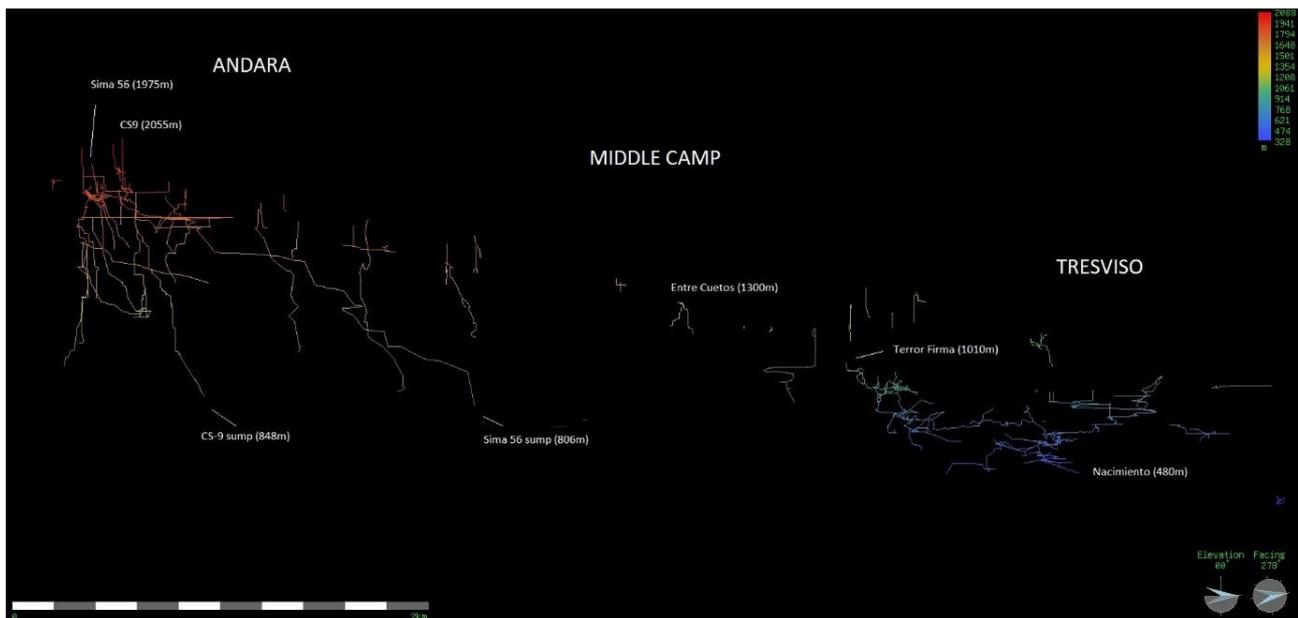
However, in 40 years of exploration only *SARA* and the upper levels of *Sima 56* have been successfully dye traced to *Nacimiento* and the hydrology of the area is still largely unknown. The majority of caves trend away from *Nacimiento* (even *Sima 56*), but as the only major resurgence in the area it is believed that they all feed *Nacimiento*.

Big Data

There are a lot of unknowns, although LUSS and others undertook a lot of exploration and created very detailed surveys of the main caves a lot of the secondary information, that is now quite critical to further progress, was less carefully logged. Since 2010 there has been a concerted effort to bring the current and historic expedition output into a modern and consolidated dataset. This has included:

- creation of a modern database of all data,
- conversion of old Madrid co-ordinates,
- translation of French and Spanish reports,
- begging emails to various clubs / in various languages to gather old reports,
- conversion of old LUSS surveys into digitised Survex files and redrawn Illustrator files,
- survex dataset, version controlled and stored on registry,
- creation of master survex file, combining all data and a surface overlay,
- digitising of surveys into KML and creation of a Google Earth. kmz file,
- updated website and blog (www.tresvisocaves.info).

This has enabled, among many things, accurate stats, highlighted new leads, shown proximity of caves to one another and confirmed 70's guesswork (in many cases very accurate!).



Picture: Mountain range (East to West) with altitudes (Survex)

Some basic statistics (as of 2017):

- 818 logged sites
 - 616 with accurate GPS locations
 - 211 active leads
 - 512 included in Survex overlay
 - 500 included in Google Earth overlay
- >64 km of surveyed caved
- 198 articles and reports (various languages)
- 141 unique surveys

Phil Walker
August 2018

The Shoulders of Giants

Alan Purcell points a heavily laden dive wagon South once again. This time he heads to deepest Somerset in order to pay his respects (and dive in) the spiritual home of cave diving - the world famous Wookey Hole.

I've been compelled to write about a few trips in the past, each time it was something of significance - but only to me. This time however, post event, getting something down on paper feels slightly bizarre. I've dived (and caved) in a place I never dreamed I ever would, a place I've read a lot about over the years and had at the back of my mind more often than not.

I'd never heard of Wookey Hole prior to taking up diving and it was only from reading, "The Darkness Beckons" (soon to be republished) that the most incredible stories of human endeavour spanning the last 70 years came to light. Stories of how men would use the ever improving diving technology of their time (everything from bicycle pumps, bottom walking with hard hats and WWII oxygen rebreathers through to SCUBA and modern day mixed-gas rebreathers) and couple it with the constant of their own will to overcome the challenge presented by this incredible cave system, furthering their own knowledge through its exploration. Sometimes with success, sometimes with failure and sometimes with tragedy.

Why? Because it is there, because they had to. That is why I have to.

These same men went on to form the CDG (Cave Diving Group) and were incredibly forward thinking for their time (1930s), many of the tools and techniques divers now take for granted, what we now call "technical diving" was either developed or perfected here. The fact that one of the principal explorers (using Siebe Gorman hard hat gear) was a woman (Penelope "Mossy" Powell) gives you an indication into their mentality and it's one I greatly admire.

If you can do it, do it.

I want to be clear up front before you read further and make a distinction between these men (and women) and myself - I am not them. For this trip I am effectively nothing more than a tourist who got to pay his respects to the efforts of others. I'm also not going to fill in all the blanks (there's just not enough room in this bulletin to cover 70 years of diving innovation) - if you're curious, you'll find out more.

Wookey Hole - 75 Years of Cave Diving and Exploration – Jim Hanwell, Duncan Price and Richard Witcombe (book)

Wookey Exposed – Gavin Newman (DVD)

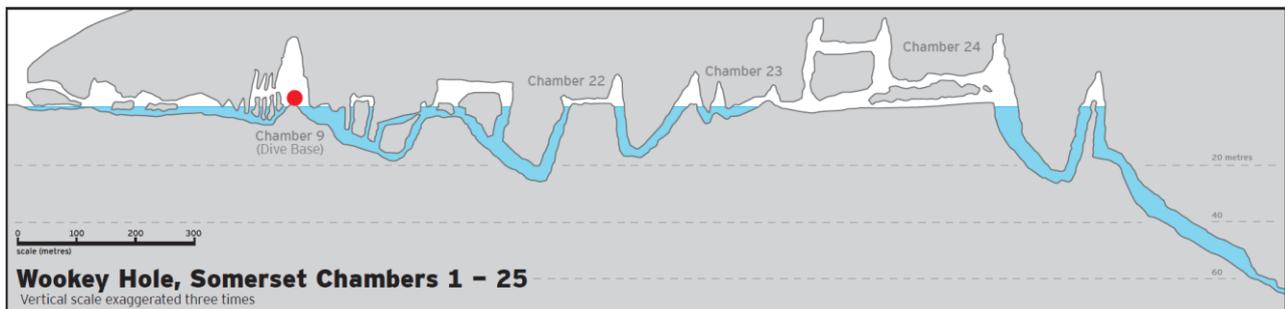
The Darkness Beckons – Martin Farr



The spirit of adventure - Penelope "Mossy" Powell and Graham Balcombe prepare for a joint dive towards Chamber 7 @ The Log of The Wookey Hole Exploration Expedition, 1935

OK - here we go...

11am and I'm already standing on the shoulders of giants. Our trip starts in the hallowed ground of Chamber 9 (first reached in 1948) and has since been accessible via a man-made tunnel directly outside the show cave. Prior to the construction of the tunnel, exploratory divers had to make a dive from Chamber 3 and journey to the same point – so we really do have it much easier these days! Chamber 9 itself is known to cave divers around the world, for this marked the terminus of man's abilities until the comparatively new technologies of SCUBA enabled further exploration. This would be our dive base and we would be setting off from here to break the surface again once in Chamber 22. We'd then revert back to dry caving and repeat the process twice more to arrive at our ultimate goal – the end of Chamber 24.



My equipment for these dives is very similar to that which divers have used here for the last 30-40 years and has its roots firmly wedged in the world of British caving...wellies on your feet (standard caving fair), a 5mm wetsuit, neoprene wet socks, gloves, hood, sidemount harness (which itself derived from the use of single strap caving belts - please visit Duncan Price's excellent [sump4.com](http://www.sump4.com) for more information - <http://www.sump4.com/sidemount/>) A helmet with four lights on, a set of tools, an extra torch mounted on my forearm, my angry eyes and a dive computer. Last but not least, two seven litre bottles and one three litre bottle. Everything was configurable to allow us to adapt and move from environment to environment easily. Nature finds the best solution over time, depending upon the conditions of a given environment and it's the same with the people that dive here. Despite there being subtle differences in each person's configuration, they're all variations on a species, and that's one that's born through necessity (and not wanting to have to carry some bloody thing more that you have to).

All of the gear has been brought into the cave, we climb the railing and descend the short ladder into the pit with the pool of water at the bottom of Chamber 9 - dive base. Despite diving with another TD (CDG Trainee Diver) and two QDs (CDG Qualified Diver) everyone is responsible for their own setup and checking that everything works as they want it - and although we are in a group, everyone is diving "solo" there is no buddy check, we have no buddies and this is correct for this type of diving in this environment.

Everyone has stopped talking bollocks (a sure sign that there is some very careful final checking going on) and we are finally ready. I feel some apprehension, "Good, I am still human" I think to myself...everybody ready and we head down. The apprehension lifts the minute I hit the water and is replaced with relaxed paranoia, it's wrong to call it autopilot because it's not, you are paying very careful attention to the line, the surroundings but perhaps it's part of the training, number of dives

and experience accrued to date that allows you to move through in a less heightened state than you'd expect. This initial part of the dive (progressing through "The Deep" section) is fairly mechanical - although the diver in me loved looking at the reflections in the water from the show cave, the light beams in the other divers' torches and the geological aspects of this part of the cave (passing from Conglomerate into Limestone).

We slowly descended past the oxygen rebreather limits of the bottom walking divers of the late 40s and 50s and pass directly below Chambers 12 and 13 - Bob Davies' famous phrase, "The Devil is a gentleman." floats through my head. I briefly think of him sitting above me in the air bell with his feet dangling in the water deciding what to do...

We pass through a "rattly" diagonal rift (where dive bottles scrape against floor and roof) then through a large downward sloping passage probably 7 metres wide and 4 metres high with a rippled sandy floor, before slowly ascending up the other side to arrive in Chamber 22, we would return here (but exit via the "Shallow" route). One seven litre deposited and it was back on with the job of caving, climbing over boulders and the odd bit of crawling. There are quite a few ladders that have been carried here over the years to help with the transportation of equipment (be it for filming or pushing the limits beyond Chamber 25, "The Lake of Gloom"). We climb up and over a very large boulder to arrive at our next diving destination – a deep flooded rift. The parallel walls tower above us into the blackness and plunge down below the water line out of sight. A platform of scaffolding and planks of wood has been constructed between the walls allowing you to kit up and jump in. This is a static sump and the conditions (on the way in) are excellent. Polyprop located by the side of the exit ladder, I sink below the surface, follow the sloping line down to a depth of 15m and back up the slope at the other side quickly arriving in Chamber 23.



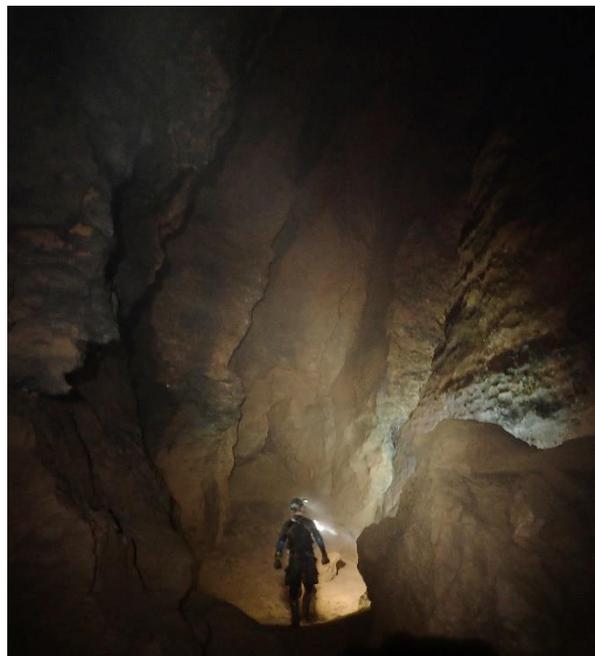
*Alan Purcell at the drop off point in Chamber 23
© Max Fisher*



I was now in for a proper treat - mud and lots of it. Two steps forward, slide back three – all with dive gear on. Another ladder climb and another cylinder drop off, this time leaving fins behind as well, just one more static sump (which is just as glamorous as crawling through liquid mud with a regulator in as it sounds) and we emerge into Chamber 24.

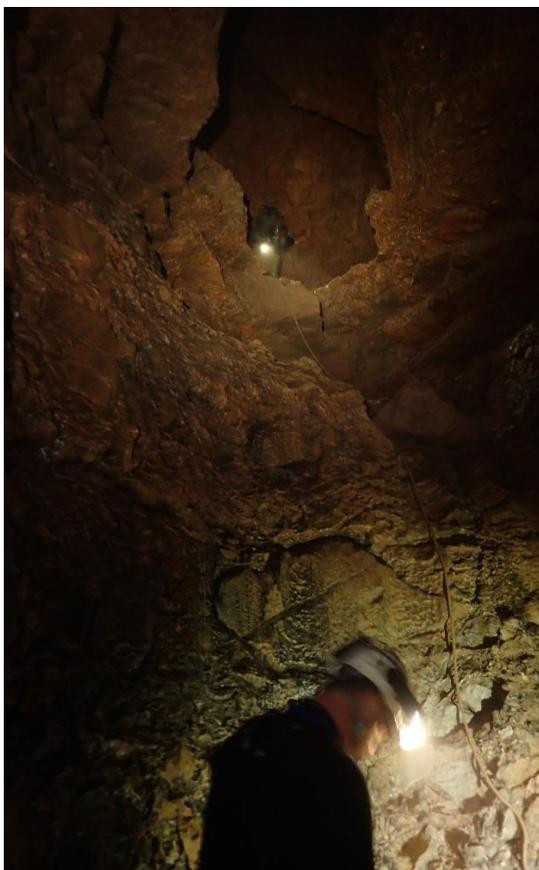
The cathedral of rock that is Chamber 24 with the River Axe calling in the distance © Max Fisher

It was here that the QDs allowed the TDs to go first, with the only proviso that we shut up and listened. It was a special moment, this is what it was like for Geoff and “Bear” back in 1976 - all those years before...and to the cave but a fleeting moment. The sand floor, the giant expanse of the passage – this direct connection with history was almost palpable, this IS what it was like. Torches on full, I slowly gaze around, hardly daring to breath...and then in the distance I could hear a low rumbling roar just as the original explorers had described it. The underground River Axe...it was long and deep, and without saying anything we all quickened pace - I can only imagine at the excitement those original young men must have felt.

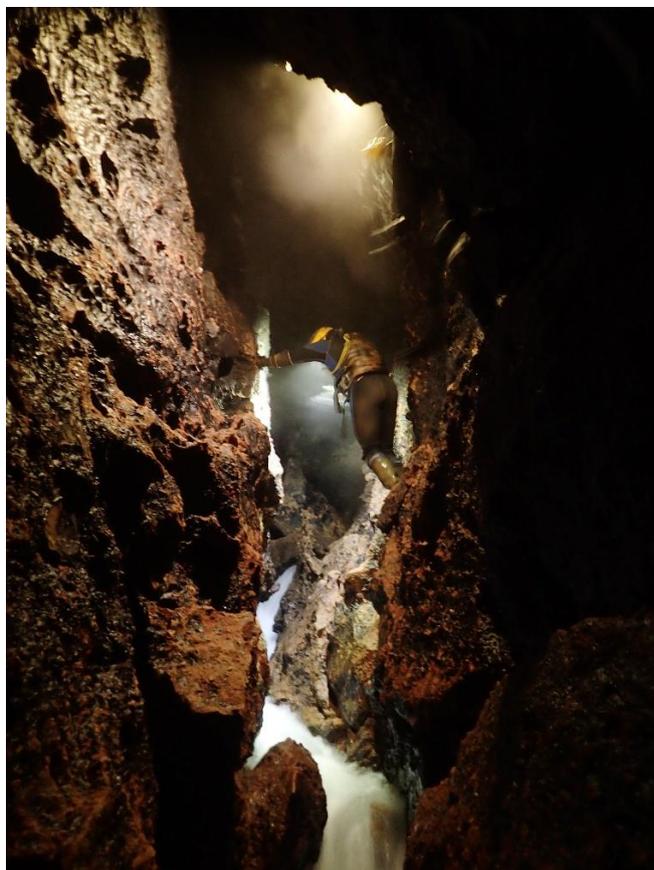


Dave Watts in Chamber 24 with the walls towering into the darkness above him © Max Fisher

More boulders, more ladders and more rifts, were the order of the day punctuated with some nice vertical wall climbs and the odd thoughtfully placed rope. The river was now directly below us and I moved ahead placing a foot on either side of the rift, to arrive at Sting Corner. The water here was very low allowing us to jump in and wade through the chest deep water channel once round the corner.



A very thoughtfully placed rope helps to scale this 15 metre sloping section © Max Fisher



Traversing the rock walls at Sting Corner with the River Axe flowing underneath © Max Fisher

We arrive at another milestone, "The Camp"- used for the 1982 and 1985 explorations which was used as a forward base to push the limits of Chamber 25, this is where it happened, this is where mixed gas diving was pioneered and it was great to see it in real life. During the filming of the aforementioned "Wookey Exposed" by Gavin Newman it was footage from the 1985 limit which revealed a possible way on and thus the most recent assault was launched in 2005 and saw John Volanthen and Rick Stanton obtaining the current terminus of Wookey Hole and a UK depth record of just over 90 metres at the same time. Depth however, is of no consequence...it is the lure of an as yet, unseen Chamber 26 quietly lying in wait for the next generation of pioneers that is the next goal, and even then, the people who dive here will keep going until a physical link with Swildon's Hole can be established – but I doubt that will be in my lifetime!

So that is pretty much it, we've all read tales of diving in absolute zero viz and I experienced that first hand exiting chamber 24 and 23 which I won't bore anybody with here - and despite them not being a good experience, they were good experience.

There is a short video of some of the activities filmed on the day, it doesn't really capture the scale of 24 or the wonderful noise of the River Axe, but it's what I have to remind me of a truly unforgettable experience.

<http://youtube.com/stirlingscuba>

I have the usual very long list of people to thank, so here's to you Dave Watts, Max Fisher (our QD guides) and my fellow TD, John Carter for being my dive buddies for the day. A huge thanks to Duncan Price for supplying some of the historical photographs for the article and a special mention to Brian "Scoff" Schofield, one of the kindest, most talented and (as is usual with all true "greats") most humble men I know.

Alan Purcell
October 2016

Images credited to Maxwell Fisher CDG Somerset Section

Mad about Madeira

30 Sep – 14 Oct 2016

This was meant to be a surface holiday; as it turned out, we were underground every day.

Madeira may be known for its wine, cake and plants but we were there for the mountains and levadas – water channels – which have been cut since the 1500's to capture the available water for irrigation, mills and more recently hydro-power which provides 70% of the electricity for the 300,000 Madeirans and their tourists. Madeira is sub-tropical with rainfall usually from October to May. Clouds tend to build up during the day to cover the highest mountains and moisture from these has developed the distinctive Laurisilva forest, especially on the north side of the island. Levadas tap into this water supply with channels contouring the hillsides and tunnelling through ridges to provide the irrigation for Madeira's fertile volcanic soils on the sunny south side of the island. Potatoes crop three times a year, many Madeirans are self sufficient in fruit and veg, the principal export are bananas – much tastier than the ones we get in the UK.

Our research had drawn a blank on lava tubes except for the one that has been dug out and turned into a show cave near San Vicente and which did not sound inspiring. Emails to them went unanswered so we decided it would be a surface holiday. We got a copy of the Madeira Tour and Trail map 1:40,000 by Discovery Walking Guides Ltd (ISBN 978-1782750-048). We also purchased the Cicerone walking guide to Madeira. Once we realised there was a special symbol on the map for vertiginous sections of levadas, we used them to prioritise our walks in conjunction with the descriptions from the Cicerone guidebook.

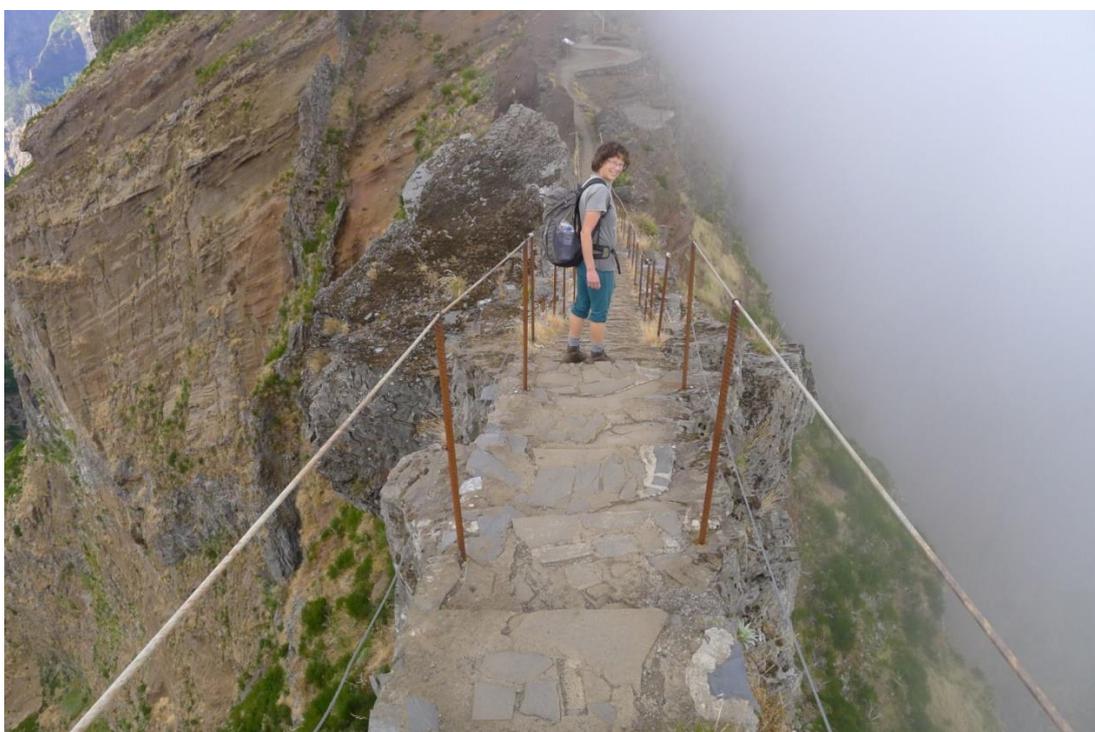
Easyjet flew us there from Manchester, Jet2 also fly there from Leeds/Bradford. We hired a car from a local outfit, Rodavante, who were very thorough with the car check over. The Madeira airport was easy to negotiate.

We self-catered, choosing a property recently renovated in the rural south west of Madeira. This is a quiet, peaceful area with great sunsets into the Atlantic and clear night skies for star viewing. The disadvantage is the driving required to get there from the airport and to many of the walks. Because of the land value, the ExpressWay roads are frequently underground. This limits your view of the island, a brief glimpse of a valley as you cross a viaduct or a quick traverse of a roundabout before plunging once again into another tunnel. The older twisting back roads are much slower going but more picturesque so long as you take care with long vehicles on the numerous hairpins!

Our first day was spent familiarising ourselves with the locale. We visited a couple of beaches – mostly pebbles and boulders – not many people on them. Our first levada walks were 25 Fontes and Risco done on the same day from Rabacal. Both are very popular, featuring large waterfalls at their ends. The car park fills up quickly; cars must be parked off the road. One wheel barely on the tarmac was sufficient for one person to be ticketed with a 30 Euro fine. Much of the walk was done through tree sized heather, making one feel shrunk down to insect size, when compared with the size of heather we are used to in the UK. Our return walk had to negotiate the infamous 'crocodiles', coach

parties of walkers, which are difficult to pass on the narrow levada paths. What was surprising was the large number of speckled brown trout in the levadas.

Pico Ruivo at 1862 m is the highest point of Madeira, we drove up to Pico Arieiro at 1800 m and started the ridge walk from there. At times, this walk felt like you were in a Tolkien book. It is a well engineered path that contours cliffsides, plunges into tunnels that cut through ridges and then popping out on another contoured path with dramatic views down to the valleys below, up at the ridge lines above, the volcanic geology and cliff hugging plants around you. The second of three tunnels was very popular with one moth species. At one point, the path is perched on top of a vertical dike 1 m wide giving a very airy feeling. Erosion has blocked a route variation. The re-engineered path does more height loss and gain than is stated within the guidebooks – our legs certainly felt it afterwards. The view from the summit of Ruivo was limited by the afternoon cloud build-up but we did get close up views of unafraid families of colourful partridges on our way back.



With our knees and calf muscles aching from Ruivo, we chose a two levada circuit with minimal height loss and gain on the eastern slopes of the Rib Ponta do Sol. The Levada Nova was found near the village of Lombada. Like most levadas, this consists of a channel carved from the rock and built up using volcanic rocks cemented together with a cement skin for the water channel and a parapet at one side 15–50 cm wide which can often be walked upon or there will be an earth or rock path alongside. At the more precipitous sections, there were metal posts and wire cables protecting you from the drop. Side gullies are often concreted to capture the water and divert it into or over the levada. Sluice gates built into the wall provide irrigation to terraces below, people are entitled to draw off water for one hour only every 12 days, some direct it into a storage tank. The levadas are state owned and maintained. The end of Levada Nova is at a large dam which captures much of the valley stream water. Concrete steps or a walk along the valley bottom takes you to the start of the lower Levada Moinho which has a steeper gradient taking us back to the Church in Lombada. A good introductory levada walk.

Our next walk was along the northern sea cliffs from Ribeira Seca towards Porto Da Cruz. This is not a levada but spectacularly contours round the sea cliffs providing great views along the coast.

Having now gained a bit of experience with Levadas and Madeira, we thought we would tackle what seemed the most challenging levada walk in the Cicerone guide book but little did we realise what we would be taking on. The Levada Nova de Norte starts with a hike up a side valley from Serra de Agua to a complex sluice system and water tanks. A metal signpost at the start of the levada states in Portuguese and English "WARNING. This trail is closed for your safety". We discussed it and decided to proceed and if it got unsafe, we would turn around. The valley floor quickly dropped away from us until we were skirting round a cliff with the levada carved out of the rock, large vertical drop below, a narrow parapet to walk on and no guard rails. At one point, the levada workers had installed a heavy duty cable for their safety to the cliff face but this could only be used if you were walking in the water channel, seeing Meg ahead of me walking the 20 cm wide parapet with a large vertical drop below and no safety attachment made me nervous enough to consider turning back but instead I took my boots and socks off and walked barefoot for a while in the water and then along the parapet when it had widened to 30 cm. Further along, sections of the levada have been repaired with large diameter plastic pipes and we often had to tread carefully along the curved top, avoiding large holes from rockfalls. We had aimed to get through the large tunnel near the village of Espigao and turn around but decided instead to complete the levada and try to get a taxi back to our start point. As we reached the main road, a taxi pulled into the drive of the first house; the driver was dropping off his wife. Was he available? Yes! Perfect timing. When he learnt what we had done, he was amazed, especially looking at Meg. The levada had been badly damaged by extensive landslides in 2010 and was considered unsafe for walkers. My confidence in the Cicerone guide book (revised 2013, reprinted 2016) was severely dented.



Our next hike started at the Boca da Corrida (very limited parking) with a good path to Pico Grande which provided fine views down to Serra da Agua, Curral das Freiras (Nuns Valley) and the main mountain ridge. Lots of crickets, grasshoppers and some locusts along the way. The very top of Pico Grande requires some scrambling. There is a cable for those less experienced.

Our next levada walk took us to the north side of the island, starting at the hydro power station of Faja da Nogueira. The walk zig-zags up the mountain side through dense, verdant laurisilva forest, passing what are believed to be the two oldest Til trees on Madeira, man-made walls support their damaged multiple trunks. Peculiarly there is a “no swimming” sign at the start of the levada which is initially covered with concrete slabs. This takes you round the head of the valley with guard rail protection where it gets exposed, some guard rails damaged.

We took a day off and visited the Farmers Market at Prazeres, lots of sweet potatoes, prickly pear fruit (bland, seedy and mushy), banana passion fruits which we had seen the previous day on our walk but did not know what they were. Another fruit we could not identify but later learnt it was an avocado variety which can grow to be as much as 1 kg each and feeds a family. Later we visited the Rota da Cal (Limestone route GPS WGS84 N 32 47.833”, W 017 01.356”) where EU money has been used to develop a walking route between two quarried limestone alcoves, a lime kiln and a museum with limestone fossils. The museum and lime kiln were closed off and the area was dominated by free range chickens! Good to know your EU money has not been wasted, at least someone will benefit from the eggs. Further disappointment lay ahead when we visited the entrance of the lava show cave. A huge building behind the ticket counter lies empty except for one plinth with three unlabelled rocks on it, lava, obsidian and basalt. We also found a very dusty display with some unlabelled lava bombs and lavatites – all very uninspiring – we declined their offer to buy tickets for the audio-visual experience and tour of the dug-out lava tube. We asked whether there were any cavers or caving group on the island but were told no and would we like to buy tickets for the last tour of the day?

Our next levada (das Rabacas) started at Encumeada and took us along the drier southern side of the mountain ridge to the start of a 2.3 km long tunnel – apparently this takes an hour to negotiate – we decided against it especially as there was a hand written sign saying the levada was broken on the other side. Something our Cicerone guide book was again remiss upon. Having spent some time photographing basking lizards and tempting them to appear with banana, we walked back to take another tunnel through the ridge to emerge in a different world on the northern side, lush, green and verdant laurisilva forest. A number of tunnels along Levada do Norte kept us busy and we almost 'thanked' someone for their considerate behaviour as they barged past us in a narrow section of one long tunnel – some seemed desperate to get out. This walk well illustrated the botanical difference between south and north Madeira.

Finally the weather changed and it started raining, the first proper rainfall since April. We took the opportunity to visit the Botanical Gardens in the capital Funchal. The top end of these were damaged in the extensive summer fires. Labelling of the plants was disappointing. The central house is a museum with moulting taxidermy, bottled marine life and lots of limestone fossils from the Sao Vicente area (which we had visited) but also from the island of Porto Santo – so there is more limestone about – but presumably recent reefs from volcanic uplift as per the Sao Vicente limestone. Walking down to the old city, the view was dominated by a gargantuan P+O cruise liner in the harbour – a veritable floating prison of retirees – descending like locusts upon the local visitor attractions and cleaning out the eateries. We popped into the cathedral, wandered the old streets, got a freebie tour of the Natural History Museum aquarium, sampled coffee in the central square

with its well labelled plants and trees (better informationally than the botanical garden) before heading to the bus station for a trip up the hill back to our car.

Our plans for the next day were to be Pico Rabacal but the rain and clouds were still densely about as we travelled over the top so we kept going to the North West, visiting Porto Moniz and its lava rock pools naturally heated by the sun and popular for swimming in – the best area requires an entrance fee. We then followed the coast round to the lighthouse at Ponta do Pargo which has an exhibition (in Portuguese) about Madeira's lighthouse service. The friendly naval officer who spoke good English took us on a free tour of the lighthouse where we got to see the original pulley weight system used to power the light rotation, and much to Meg's delight, we got close up to the huge Fresnel lenses of the main light.

The poor weather continued but given the prevailing wind direction, we decided to head for the Nun's Valley and try the Levada Curral which our guidebook reliably informed us had some good exposure. As we walked away from our parked car at Curral das Freiras, a young man at the nearby bar asked which walk we were doing and stated that the levada was not doable after 1 km because there was a gap in the parapet at a vertical section requiring a jump and that 90% of people fall to their deaths – that meant at least one of us would cop it. We politely thanked him, said we were experienced and would take a look and then turn around. At the start of the levada, we met a young British couple who had just tried it and turned around. As we started out, a local man walking down the road, shook his head at us and started wagging his finger; I was half expecting him to cross his body catholic style. We followed the levada, clearly unused for some time, overgrown, prickly pear and brambles growing in it and some sections filled with landslides. After 1 km, we were wondering where the jump section was. A landslide had taken out the levada on one sloping rock section which we were able to traverse on the bit of concrete that was still left, albeit just wide enough for one boot. Later a waterfall was captured and the levada had been repaired for this. Now the levada started to get really high and vertical above the deep gorge below and we found the unguarded jump section – here it was possible to balance on the cliff side of the levada using rock handholds to complete the move – the easier option would have been to walk through the water in the levada channel but where is the challenge in that? Numerous vertiginous unprotected sections later, through bamboo thickets, concrete step by-passes, we went up a side valley and through a tunnel with windows emerging onto a set of steep concrete steps and a cliff cut path which passed through a very drippy and slimy floored section where we got wet through. On the other side was a view of the deserted village of Faja. This was to have been our turnaround point but we decided to complete the levada all the way to the outskirts of Funchal and get a taxi back. We passed under an area of vines which had been trained on trellis to cover the levada and the terraces above and below. Eventually we were passing through people's backyards and small banana plantations with the levada mostly covered by concrete slabs. As we turned a corner, we were confronted with a large shopping mall and the ubiquitous logos of McDonalds, Pizza Hut, KFC and Burger King plastered high on its walls – welcome back to civilisation! A nearby taxi rank provided the means of returning to our car at Curral das Freiras.



Our last day in Madeira gave us the opportunity to travel some of the high roads but views were minimal given the rain and clouds so we descended to the peninsula of Sao Laurencu at the eastern extremity of the island where a very popular walk provides views of the colourful volcanic cliffs, dikes and the distant islands of Porto Santo and Islas Desertas. Returning to the Airport, we passed underneath the runway extension built on massive concrete pillars.

We liked Madeira. To minimise driving, you may wish to consider a base somewhere on the south coast between Ribiera Brava and Funchal. There is an extensive bus network and taxis can be pre-arranged, both will permit more one-way hikes to be completed. The map we used is recommended. The Cicerone guide book was a disappointment, even their online update last changed 2014. We looked at the Discovery Walking Guides Ltd. guide books but did not like their writing style. The Rother guide book appears to be kept more up to date and is better value than the Cicerone guide book. Prior to our trip, we also consulted a Madeira website listing the path closures but these are only for the official PR paths and there was some difference between what was reported and the reality. Irrespective of which guide book and information you take, be prepared for damaged/closed paths, some spectacular scenery, breath-taking exposure and great memories.

Kevin Dixon and Meg Stark
November 2016

Testing Digging Buckets

Several years ago, BCA took the opportunity to purchase a tensile testing rig built by Paul Thorne to provide a capability of slowly pulling things apart. As is usual the project struck a hiatus for a while but picked up steam late last year and recently came to fruition with an improved version thanks to



the generous effort of Paul in rebuilding the rig and BCA's support in funding the parts. The improvements include an electric pumped hydraulic circuit, an increased capacity to hold samples up to 1 m long, instrumentation to measure and record force and extension and most importantly safety screens to permit testing metal work (Figure 1). The rig can accommodate an extension in sample length of nearly 1 m using a 1 m long ram and achieve forces up to 45 kN. The desire to extend the rig was mainly to enable it to cope with rope testing so work could be done on dynamic drops on the Bradford's instrumented rope test rig where the sample sees a load applied in a fraction of a second and compare those tests to tests on the tensile tester where the load is applied over tens of seconds or 'static' testing as it is more formally known.

Figure 1: Tensile Tester Rig - BM

The green uprights reach up some 3 m with the blue 1 m ram at the bottom with an orange bracket on the end of the ram. An orange extension piece can be seen hanging down from the top cross beam. In the left foreground is the red electric hydraulic pump.

By chance, Dave Brook of the Bradford Pothole Club had long ago asked if he could get his digging buckets tested and in a recent chance meeting raised the question again. So a deal was made to test his buckets along with helping reinstate the rig at the Bradford Pothole Club's garage alongside the rope test rig. Although things did not quite go to plan, we were able to do some work on the bucket and its key component, the rope / copper ferrule joint. Initial work using some rope slings whose loops were made with copper ferrules, Fig 2 showed the failure mode was the rope slipping out of the ferrule. On average the rope / copper ferrule joint failed at around 5 kN.



Figure 2: Rope Sling - BM

The screwdrivers mark the position where the ferrules started from with the slightly lighter coloured rope.

Fitting a bucket into the rig proved a squeeze given they are made from 25 litre containers, Fig 3. The bucket was filled with wooden blocks to provide some rigidity to the structure and provide a reinforcing point to fit the U bolt to the base of the bucket. (The U bolt was added to enable the test as it was felt the normal handle would not cope with any substantial pull.) As expected, the rope slipped out of the ferrule at around 5 kN but what was somewhat surprising was the small amount of damage to the plastic, fig 4 with the plastic resisting the ferrule being pulled through it. Given the capacity of the bucket is around 20 litres, then given the density of limestone is around 2.7 grams per cubic centimetre, that means the maximum load a bucket can take is 54 kg which compares very favourably with 5 kN equivalent to 500 kg or in old money half a tonne, a safety factor of around 10.



Figure 3: Bucket - DB



Figure 4: Damage to Plastic Bucket - BM

The light blue marks indicate a slight dimple in the bucket side where the ferrule has been pulled into the plastic.

Dave also asked if he could test his rock net concept, a marvel of rope and copper ferrules laid out in a system whereby one can simply roll the offending rock into the net, gather up the top loops, clip them together and then lift the rock out of the dig. Unfortunately, Dave's pseudo rock was too large to fit between the rig's uprights, fig 5, so the wooden packing pieces were fitted into the net to provide 'bulk'. The net took a

much higher load of 22 kN or over two tonnes before the first partial failure occurred. This high value is in part because the load is shared between a number of ropes making up the net linked by the copper ferrules and that the partial 'failure' mode was the ferrule ripping apart as can be seen in fig 6!



Figure 5: Rock net - DB
The top right ferrule is partially ripped through



Figure 6: Ripped ferrule - BM

My thanks go to the Bradford Pothole Club for providing room to locate the rig and the use of their facilities.

(Editor's note: As of April 2021, due to the BPC Garage rebuild, the rig has been taken over by the BCA and relocated to storage. See Bob's later article for a summary of research over the last 10 years.)

Bob Mehew
January 2017

Photos by Bob Mehew (BM) and Dave Brook (DB)

Weekend Ramble No. 30

Mount Ida

Mount Ida sounds like something magnificent from a far & distant part of the world. Not so, it is a hill of slight significance, rising almost 1000 feet above Brough under Stainmore. The derivation of the name could be from a local who had been on holiday in Crete, on which island it is the highest point at 8057 ft. (There is also a Mount Ida in Anatolia in NW Turkey). Bearing in mind that the Ordnance Survey were first mapping this area in the mid 1800's & seeking names of all the relevant features from the natives, it must have been an enterprising person who had travelled so far in days when travel was limited to horseback. The Ordnance Survey also seem to have got themselves in a mix up, as several Hellbeck features around this area are evenly divided between having one L or two LLs in Helbeck, & also Hillbeck. Possibly Hell on old maps was considered offensive by some, although it is derived from a meaning equivalent to "cave" or "deep recess".

The way up to it leaves Brough to the north, passing underneath the imposing house of Hellbeck Hall (more of which later). Further up the Sherburn Stone Company's quarry clinging precariously to the hillside, a most odd position to have secured planning permission.



Hellbeck Hall

After that there is a MoD warning sign & a flag pole, but the way ahead is a public right of way over

Open Access land. The gravel track winds upwards, ever steeper & the landscape changes into something resembling Ribblesdale's Attermire Scar area, with spectacular odd knolls of limestone & hidden valleys. Eventually it is necessary to veer off the track through a couple of gates & head for the summit.

From there it is a marvellous place from which to view the Eden valley & the fells of the Lake District. Also to the northwest are significant areas of limestone pavements stretching to Hellbeck Wall End & on to Musgrave Scar in MoD land beyond their boundary warning signs. If there had been a geocache somewhere near the summit it would not have had many visits recorded.



Benarm Hidden Valley

Returning directly down to the hidden valley at Barnarm Scar below, there is the Fox Tower, looking like a Cornish engine house chimney. This was constructed by a certain John Metcalf Carlton, the same guy who built Hellbeck Hall in 1776, (Pevsner calls the Hall “Georgian gothic” style). The tower is built of local stone, tapers towards the top & is easily visible from the A66 road. Carlton is said to have intended the

tower to be an observation post for watching foxes, hence the name, The Fox Tower, but that all seems a bit far-fetched.

Whilst I could never admit in a public document to having been to the top of the Fox Tower, which is on private land, what I can say is that the gate at the bottom of the tower is unlocked, the metal steps are safe, & the view from the top is spectacular.

By way of return, a most pleasant footpath leads down from below the quarry & through fields into the back streets of Brough, finishing alongside Swindale Beck.



Fox Tower

From the photos you will see that one does not have to climb the highest hills in the land in order to appreciate hidden corners of the Pennines.



Looking south at the summit



*Rock formation Mount Ida
21st Aug 2016*

Further reading:-

Portrait of the Howgills and the upper Eden Valley by Michael Ffinch

Nikolaus Pevsner – The Buildings of England – Cumberland and Westmorland

Neil Dyson
March 2017

The BPC Digital Archive

The club has a rich history of exploration, discovery and travel, not to mention quite a few characters, captured in photographs and the paper records of the Bulletin and Journal. These data detail the development of the club plus caving equipment and techniques - a valuable historical resource. Paper and photographs deteriorate with time and with an ever increasing reliance (and expectation) of information being online, I decided to create a DVD with digital versions of the Bulletins, Journals and photographs; this could then be sampled to create online versions for access by the club and others.

The photographs had already been digitised by Dave Ryall so that was taken care of - Thank You, Dave.

What to do with the Bulletins and Journals? First things, first, get a full set, preferably in good condition and that could be unstapled as much as possible. Martell Baines - Hon. Librarian - put this package together for me. Do not tell Basher, but Martell appears to have some experience arranging mysterious rendezvous on route from work, (did I just hear the installation of a GPS tracker in someone's car). We met at a Garden Centre near Selby where a very heavy blue bag was reluctantly handed over as special agent Martell whispered in my ears - that is the only complete copy - the history of BPC is in your hands - look after it! With a glance round to check who was watching (were those pensioners hiding their faces behind a tray of pot plants agents for YSS?), the package was deposited in my car boot, now safely in the hands of a double agent for CPC!! (Evil cackle in the background.)

Safely back in my lair, would my CPC membership assert itself and consign the fate of the BPC history to the wood burner? No, I remained true to the BPC! The wood burner would have to be fuelled by scavenging wood from my volunteer days with the Yorkshire Wildlife Trust because I had given my word to digitise the BPC archive.

The tools at my disposal were:

1. A rather old high resolution flatbed scanner, EPSON Perfection 1200PHOTO.
2. A second hand Dell E6410 laptop upgraded with solid state hard drive, extra memory and Ubuntu operating system.
3. LibreOffice for word processing.
4. XScan software to control the scanner.
5. OCRFeeder for optical character recognition (OCR).
6. GIMP for scan editing.
7. Scribus desk top publishing software.

The workflow was to do a few documents at a time to try and avoid boredom by changing what I was doing every few hours. Where possible, documents were unstapled to make scanning easier. Stapled documents often produce scans that are skewed and/or have shadowed areas. Both create additional work at the graphic editing stage.

I considered what digital format to use for the documents for the best long term outcome. Not an easy decision given the preponderance of formats that have evolved within my 36 years experience of computing. EBooks have several competing formats and are not the best for documents with both text and graphics. HTML was considered for a while but I finally decided upon Adobe Acrobat PDF because of its ubiquity. The raw material, graphic files, text files and compilation files would also be saved so that someone might in the future translate or recreate the documents in another format.

Workflow

1. Use XScan to capture each page at 300 dots per inch (300DPI), which is a standard resolution for printing, and store each page as a .JPG in a file hierarchy based upon Volume, Number (within the volume), 'Scans' sub-directory and page number for the filename.
 - 1.1. A text only page was sampled as a binary monochrome, black or white.
 - 1.2. A page with graphics was sampled as a gradated monochrome.
 - 1.3. Highly detailed surveys were sampled at 600DPI gradated monochrome.
 - 1.4. The colour front covers for Volume 7 were scanned at 300DPI in colour.
2. Use GIMP to edit the scanned .JPG's.
 - 2.1. Bulletin Volume 1 was on legal size paper which required the manual stitching together of two scans to form each page because the scanner flatbed was not much bigger than A4 size.
 - 2.2. Manually rotate each scan to ensure it is horizontal.
 - 2.3. Edit as appropriate to remove shadows, specks, scratches and scanning artifacts. The majority of material had been typed and was often on poor quality paper with faded reproduction. I was often using the Contrast/Brightness tool and the Pencil tool to clean things up. That sounds easy but it involved a considerable amount of time especially with the graphics.
 - 2.4. Graphics and photos were captured in separate .JPG's and edited individually. The resultant files have been stored for future use.
3. Edited scans with text were then fed, 15-25 pages at a time into OCRFeeder which would then attempt to recreate the text from all those dots. The resultant file was saved as a LibreOffice Write document and saved in an OCR sub-directory. The OCR was never straightforward, sometimes completely failing even after additional graphical editing, often mixing up letters and numbers depending on the original font and print quality.
4. Scribus was then used to recreate the original but in digital form. Scribus is a dedicated desktop publishing software, very different from the way that a word processor like Microsoft Word works.
 - 4.1. A big part of Scribus was recreating the page, original fonts, styles and layout which changed throughout the years as the Bulletin morphed from Legal, was abandoned for the Journal, then resurrected again in Quarto before finally becoming A4. Each Honorary Editor stamping their own style upon it.
 - 4.2. All the text was checked against the original because the OCR process often got it wrong.

This was also an opportunity to read the full history and correct any original typo's. I have tried to be as diligent as possible with this but may have inadvertently introduced some new typo's. There was common miss-interpretation, swapping of a, e and o. Also capital eye and lower case ell. Three, five and capital ess.

- 4.3. Page numbers have been replicated as per the original although it was sometimes necessary to put a few words on adjacent or following pages to ensure spacing. Where page numbers were not on the original, these have been added but in such a way as to distinguish from the original numbering, for example i, ii, iii, iv etc. or 12A, 12B, etc..
 - 4.4. Original blank pages have been annotated to indicate that they were blank.
 - 4.5. A frontispiece has been added to each document to indicate some of the above and also provide appropriate statements regarding reproduction and copyright.
 - 4.6. The Scribus compilation documents (.SLA) have been saved for future use.
 - 4.7. Each document was output as a .PDF (1.4 compatible) at both 150DPI (for web use) and 300DPI (for reference).
 - 4.8. All the digital documents have been copyrighted 2016 or 2017 Bradford Pothole Club Limited with all rights reserved.
5. All the documents created total 4.6 GBytes and have been backed up to my personal external hard drive and two DVD copies. The resultant PDF's were distributed by email to a few club members as a backup precaution during the processing. All PDF's have been burned to DVD's for storage in the BPC, CPC and BCA Libraries. Copies have been stored on the BPC Library PC and it is intended that a set will be made available on the club website via the club Google Docs directory. In this way, it is hoped to preserve the club history

This has not been easy, taking a few months of work with far too many hours. At times, I have regretted making the offer to digitise them and felt like giving up. To anyone contemplating such an endeavour for some other organisation, make sure you have plenty of time, patience and a good dollop of sheer bloody-mindedness and insanity. Do not despair if you lack the latter, you will develop it during the process.

Reading through the history of the club has been an illuminating experience, learning about the development of equipment, the Mossdale tragedy, introduction of female members, the search for Brackenbottom, development of the winch, discovery of the Whitsun series, trips abroad and the many characters that populate a caving club.

If you find yourself with time on your hands at Brackenbottom (maybe weather related), why not dip into the archive for a read or look? Or download them for later perusal at your leisure. The Classic elevator cartoon is an example from Bulletin Volume 6 Number 7 (1989).

Long live the BPC, now fully digital and in colour (eventually).

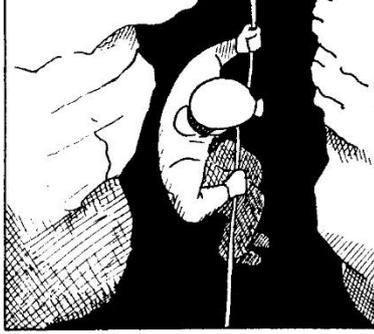
Kevin Dixon
February 2017

THE CLASSIC

THE CAVERS ASSEMBLE ON THE LONELY MOOR.



THE DESCENT,



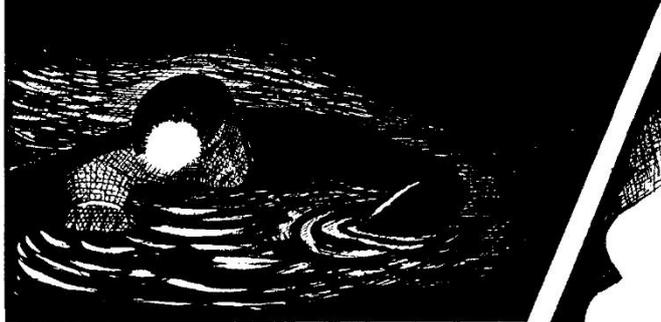
AND CLASSIC CANYON.



THE LONG, WET BEDDING CRAWL, "DUCKS" AND SQUEEZES



ALL GUARD THE MAGNIFICENT FORMATIONS



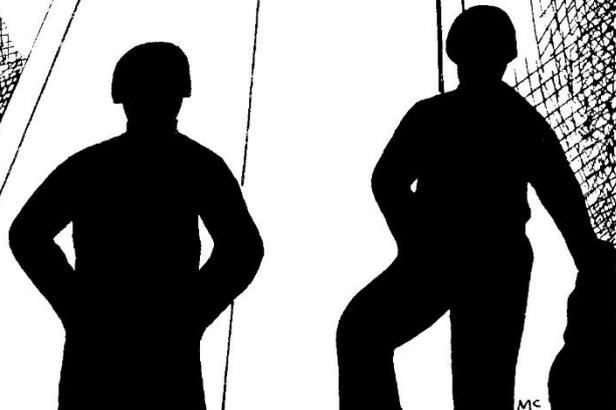
OF THE FINAL CHAMBER BUT

WHAT ON EARTH ? IS THAT LIGHT ?



THE CAVING ADVENTURE PLC
LIFT FOR USE OF AUTHORIZED PERSONNEL ONLY.

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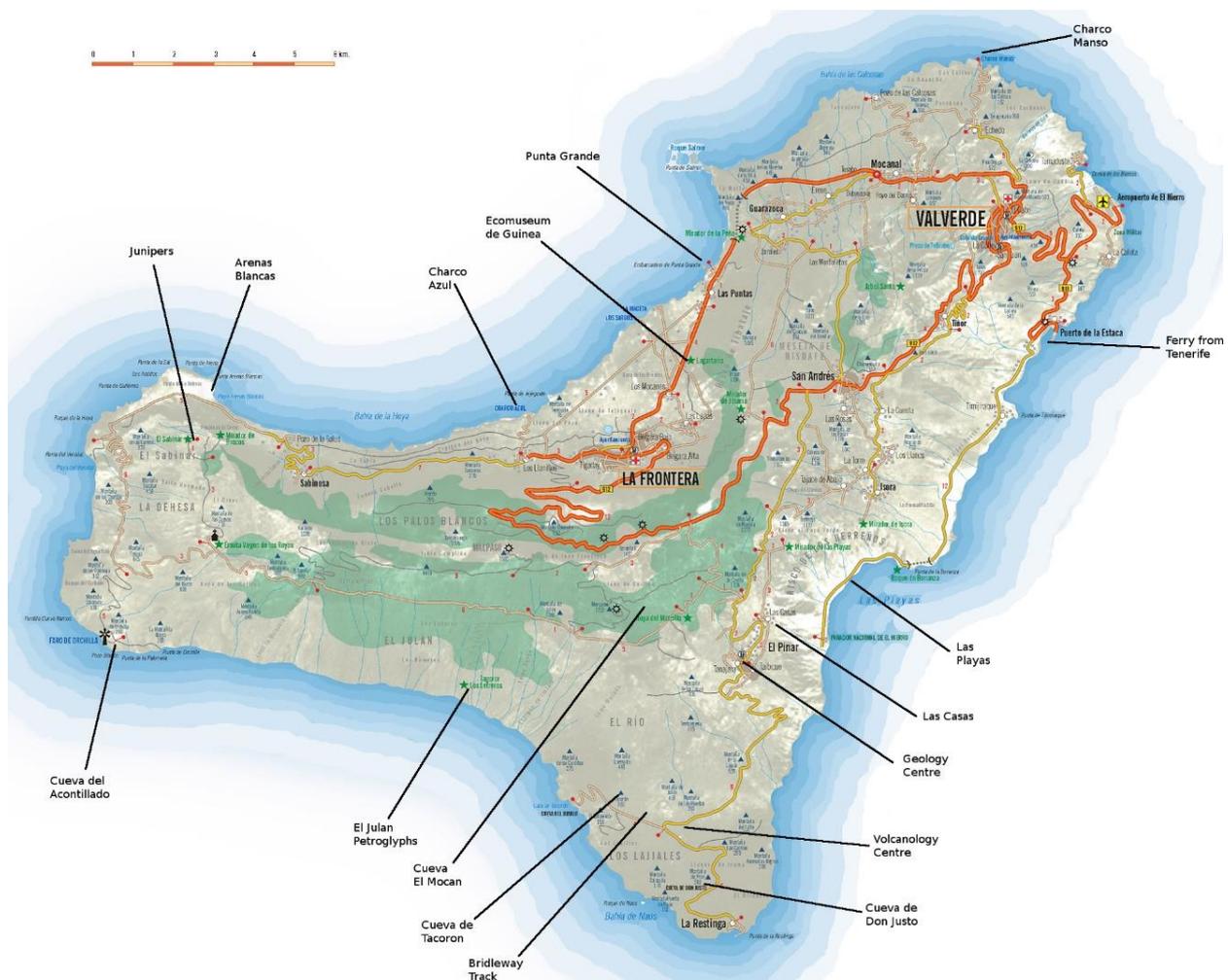
MICK McNAMARA

El Hierro, Canary Islands

19 February – 06 March 2017

Our exploration of the Canary Islands, caving and walking wise, continues. Of the seven islands, El Hierro was our fourth. Like the Hawaiian island chain, the Canaries are the consequence of a tectonic plate moving over a magma hotspot, which punches through the crust creating new volcanic islands. El Hierro is the most recent of the Canary islands with major volcanic activity as recent as 2011 when a seamount grew off the southern coast near La Restinga. Much of the volcanic scenery has not yet had sufficient time to erode and this includes the lava tubes.

At 27 km east, 22 km north, 1501 m high and only 269 km² surface area, El Hierro is small, our host Reuben, stated that of the 10,000 population, 4,000 were working elsewhere on Gran Canaria or Tenerife in tourism related jobs. Easier money than the more traditional agricultural subsistence existence, which explains why many of the rural terraces in El Hierro are overgrown. El Hierro is considered to be the most traditional of the Canary Islands with a development plan that limits buildings to two storeys. Having both UNESCO Biosphere and Geopark status, tourism has been dominated by German visitors, British appearing more in recent times. In 2015, there were 2444 Spanish tourists plus 3655 tourists from other countries. The total number of tourists to all of the Canary Islands in 2016 was close to 15 million which has raised the prospect of limiting visitor numbers.



A combined wind/hydro pump storage power system was supposed to make El Hierro, the world's first self-sufficient island for green energy with diesel backup generators for emergency use. This 54 million Euro project has proved to be wildly optimistic, the diesel generators have never been switched off, the wind generators have rarely had spare capacity to pump water back up the hill. Given the amount of sun this place gets especially on the South side of the island, I was surprised to see so few private solar water heaters and photovoltaic panels, for example, our cottage had an electric boiler.

Getting there takes a bit more effort because there are no international flights. There are flights with Binter Canarias from Gran Canaria or Tenerife or there is a ferry from Tenerife. We had left our bookings a bit late so local flight prices were expensive so we decided instead upon the ferry from Los Cristianos in Tenerife. Flights were with Ryanair from East Midlands to Tenerife South, with an overnight stay in a swanky (for us) golf resort hotel near the Airport - we had no choice about being 'entertained' by the Vic Reeves pub singer impersonator across the hotel grounds to 11pm.

The next day was a chance to explore the Tenerife coast, initially we went the wrong way but it gave us an opportunity to view the beached red whales displaying themselves, being fed and watered, occasionally taking a pool dip and kept from going stir crazy by reading the latest ebook, all safely ensconced from the outside world behind their hotel fences protected by constant video surveillance - it felt like we were walking past an endless concrete zoo.

We managed to get to some non-concrete coast by going the other way, found a bit of a tent commune on the beach, climbed up an old volcano for a view of the banana plantations and a very closeup view at regular intervals of the Boeing 737's and Airbus A320's delivering more whales to Tenerife South airport.

Los Cristianos is clearly popular for some reason that we could not understand so we got onboard our ferry as soon as possible, arriving 2.5 hours later in El Hierro. CICAR quickly dealt with the paperwork for our hire car and we were on our way to Las Casas on the south side of the island albeit in the dark. We managed to find our car parking spot but where was the Casa Rural we had booked? A 100 m walk up an overgrown rough lava path - this was really rural - led us to a tastefully renovated cottage.

Our first day was a chance to get our bearings, the cottage had a prickly pear hedge, cacti garden, almond trees and slightly overgrown terraces and house walls - lots of plants were growing out of the lava constructed walls. Construction was such as to direct any rainfall to an underground cistern, not big enough to explore - we checked ! A visit to Valverde, the main town of the island, gave us the opportunity to shop



at the main supermarket and visit the tourist information centre where we collected some free road and walking maps and were given the phone number of the keyholder for Cueva de Don Justo - a 6.3 km long lave tube - one of the World's longest. Coincidentally, Veronica, the keyholder, lived in Las Casas, but met us in El Pinar. With the key in our possession, we decided to do it the next day, after a brief visit to check where the entrance was and a quick look at the nearby fishing community of La Restinga.

Cueva de Don Justo is a short walk from a tarmac stand off the HI-4 road immediately south of Montana de Prim. The entrance was even marked on our Freytag and Berndt 1:30,000 map - the best available map for the island. The air emerging through the gate is hot and humid, like a sauna, and has severely corroded the gate - someone has removed part of the grill allowing slim people to access without the key. We had managed to find a copy of the cave map online, at places there are up to 8 parallel tubes. The main route is obvious with a thread running along it from about the 200 m mark to the 1000 m mark. With the labyrinthine quality and guidance string, it felt like you would suddenly meet the Minotaur round the next corner - although it would have to be a Mini-taur given the size of passage. Two seismometers in the passage are part of the island's seismic recording infrastructure, one of the most extensive monitoring networks worldwide, they are spaced apart to distinguish visiting cavers from seismic events. A flat-out section follows, the remainder of the cave is predominantly crawling on Aa lava with some stooping and an occasional standing section with a small section near the end on smooth Pahoe-hoe lava, before becoming a tight Aa floored tube at 1.4 km in, where our will to continue had been sapped out of us. We found four spiders (same species) and also a 5mm long white centipede like creature. Many of the lavatites have been broken, the best are near the end where we suspect that many people do not get to. There are numerous side passages and graffiti, we spotted some messages in German and also large "KAMEO 2016" inscriptions in at least four places. There are several places where ash has run in through roof cracks,



often coinciding with plant roots. We took 1.5 litres of water for two, which was grossly insufficient for the conditions especially with non-acclimatised people. After 4.75 hours, we emerged to dry off in the sun before heading off to get more drinks, purely for hydration purposes.

The key was later handed back to Veronica, who has a lot of information about the cave, was instrumental in setting up the Geology and Volcanology Museums as well as obtaining Geopark status. Well worth the time meeting with her.

Our first walk in the Island was PR EH-9 from Ermita Virgen de Los Reyes, which features the nearby cave (actually a series of rock shelters), the walk is best known for the windblown Juniper forest - some trees are estimated to be 1000 years old and are bent over by the predominant North Easterly winds. This walk features in the Cicerone walking guide book for La Gomera and El Hierro but frankly, you do not need this book, there is the freely available tourist walking map and very well marked trails. The view of El Golfo was clouded over but more about this later.



Meg was ill all next day, so having made sure she was comfortable, I took the opportunity of revisiting Valverde for photography, walked through a section of the Canary Pine forest to find Cueva El Mocan - this has a large undamaged and secure grill - historically the cave was a frequent dump for rubbish and human waste from walkers on the nearby PR EH-1 path. The cave entrance is marked on the Freytag and Berndt map as are many others. The cave signboard states that it was locked by the Parque Rural, the cave map I had found online was not inspiring so we did nothing further about gaining key access. The Canary pine is very fire resistant with a bark that protects the

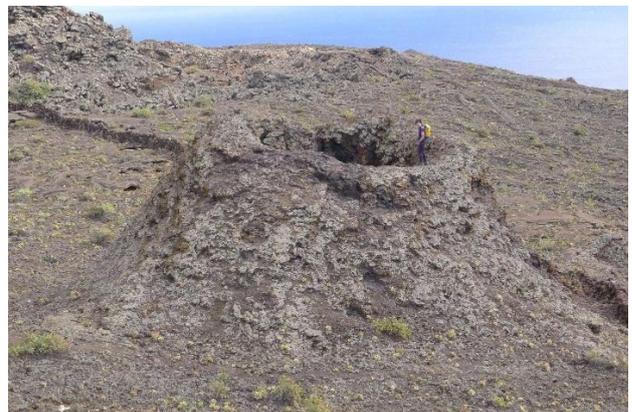
tree, pine cones and needles which burn very quickly and are excellent wood burner fire starters. The winter rains produce a lush grass carpet under the trees and the fire blackened tree bark makes the forest look like a herd of monochrome giraffes. We had a large section of Canary pine for our wood burner and it was somewhat of a challenge to get it to fully burn, the bark spits and splits off in micro layers to protect the trunk, whilst the trunk itself turns to a thick carbon that slows the fire down.

With Meg feeling a bit better, we took an easy day, buying ourselves a Passport for 17.90 Euro each. This gives access to nine island attractions. The first was the Geology centre in El Pinar above the local bar. This had very good displays (excellent English) about the island geology with numerous examples. It was not about quantity but quality and is well worth a visit at the start of your stay in El Hierro as it provides plenty of suggestions for places to go to for those with an interest in rocks and the island. We followed this up with a visit to the volcanology centre further south, but not before stopping at the roadside just before it, where there are excellent examples of Pahoe-hoe lava runs and numerous channels and micro-tubes. The volcanology centre has examples of lava features including a lava tube but is most memorable for the use of interactive displays. The first building has Kinect controlled displays, waving your hand for control to explore the different volcanology story boards, whilst the second building uses large flat top touch screens to explore the recent 2011 eruption, most notable of which is the bizarre video of steaming floating football sized rocks on the sea surface being netted from fishing boats. Such is their bizarre nature that they have been named Restingalitas (after the nearby settlement) with no known mechanism for their formation but at least one hypothesis - unfortunately in Spanish only - was on display at the geology centre. We followed this up by finding a cave (household rubbish filled) by the side of the road to the coast at Tacoron where we walked along a cliff base to an isolated beach which we had to ourselves.

Our next day was to continue our Passport destinations with a visit to the North Coast and El Golfo. This is the result of a series of landslides totalling 150-180km³ of material and may have generated a tsunami big enough to reach America. The NE winds mean that the top of the steep wall of El Golfo is usually covered with cloud, this often tips over to the South of the island to deposit some light rain late afternoon. We visited the Eco-Museum at Guinea where tunnels have been driven to access the main chamber of the Sima de Guinea, other lava tubes have been adapted for use with restored traditional surface buildings including a large underground cistern and elaborate water collection mechanisms. At the same site is the Largartario where there is a captive breeding program of the Giant El Hierro lizard. This was for many years considered extinct because of feral cats and rats but a small population was found on the nearby steep cliffs. New Giant Lizard populations have been established on one of the Salmor islands and at a couple of other sites. We also walked the rugged volcanic coast from La Maceta to Punta Grande along PR EH 8.1 walk - so popular that almost the entire route is boarded. There is a spectacular arch at Punta Grande along with the world's smallest hotel - only four rooms. Our route back was diverted around the closed off streets of La Frontera, men dressed as Rams, complete with bells round their neck and some with shepherd's crooks, were chasing after children along the streets and when caught would blacken their faces, if there were no children handy, they would turn their attention on tourists - a long held tradition associated with their carnival. I thought it was only the Welsh that had peculiar sheep associated practices.

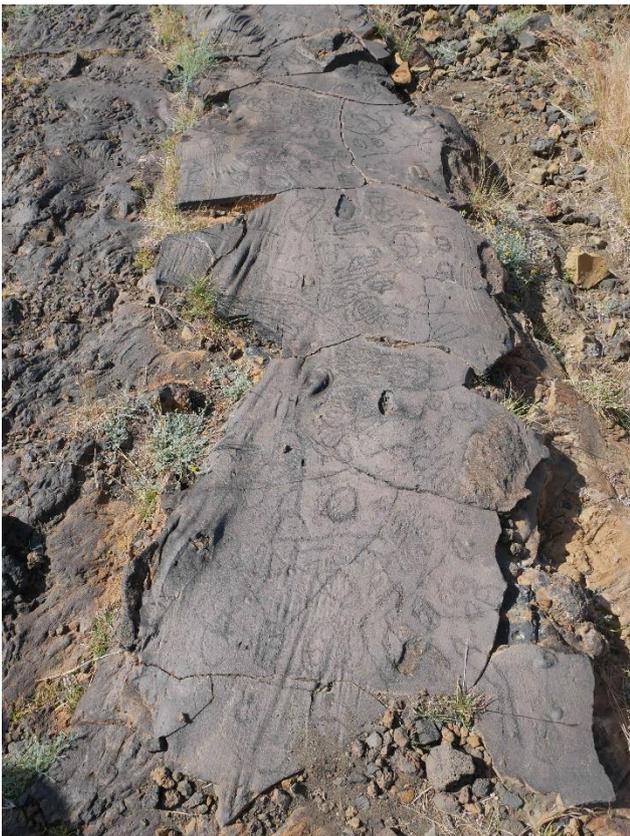


With Meg recovered, we tried to find Cueva de Roja but the available coordinates were not so good. We walked all round Montana de Julian without success and then decided to walk what was marked as a bridleway on our map parallel to the Tacoron road. What an excellent decision, the surface lava forms were spectacular and at the top of Tacoron mountain, we found an old lava vent with a cave, subsequently identified as Cueva de Tacoron (old coordinates way out again). Easy one to visit and it connects through to the entrance we previously found by the road with two intermediate entrances although Tacoron 2 is best used as an exit only. The Tacoron vent features numerous small lava tubes radiating from it's top, we could get into several of these but none of any length worth recording. Still trying to find Cueva de Roja, we approached Montana de Julian from the south and found an excellent Hornito - the best example according to the Geology museum - but we failed to find Roja.



Our next area of exploration was to be the North West which featured a recorded month long eruption in 1793. Orchilla Lighthouse is now fully automated but nearby is the Meridian 0 marker which celebrates the fact that for many centuries this marked the western most extent of the old world. Close to the lighthouse is Cueva de Acantillado, easy one to visit, has been equipped with steps at the main entrance and exit and only one place to stoop. Currently used for tourism by a German outfit. The coastline at Tosca is suitably dramatic especially with a rough Atlantic, care had to be taken walking the arch at Tosca because of the winds and spray.

Next day, we had pre-booked a guided walk to the petroglyphs at El Julan. The passport provides access to the museum but it is 20 Euro extra per person for the guided walk down and Landrover trip back up - well worth it - the museum is good but you have to visit the real thing to fully appreciate the setting. The original inhabitants, the Bimbaches, left carvings on smooth lava runs at the base of the El Julan area, limpet shells litter the ground with deep middens, caves have been used as animal shelters and human cemeteries. The walk down was also an opportunity to learn about local life now and historically from the guide Reuben - who incidentally was also the owner of our Casa Rural. Afterwards, we walked the Canary Pine forest near the main island ridge and to a southward viewpoint at Mercadel taking in Pino Piloto, a large live pine that has been burnt through at its base.



We had a North of the Island tour visiting Mirador de la Pena for a view of El Golfo, Pozo de las Calcosas with mysterious blue bags (later identified as Portuguese Man o' War), very poisonous even when washed up. Charco Manso is a popular swimming location but clearly too cold today, Casa de la Quinteras has interesting displays of weaving, metalwork, historical implements. Our day ended with a visit to the Fuente de Isora, one of the main springs of the islands, and the Mirador de Isora which provides a spectacular view down to Las Playas and another large landslide area.

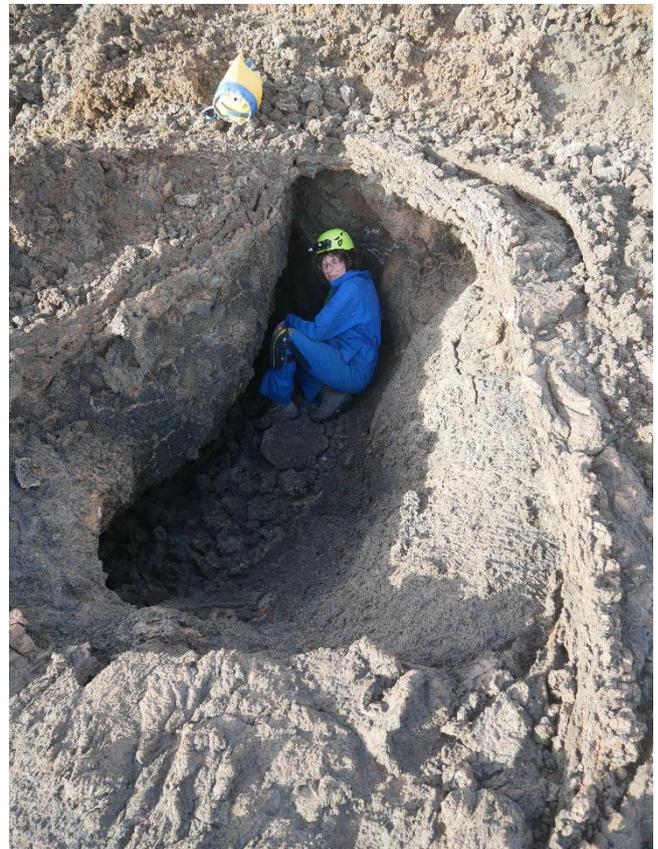
We liked the bridleway walk to Tacoron so much that we did it again, this time parking at the road junction from HI-4 to Tacoron. We also searched for Roja again and yet again failed. Irrespective, we got some good photos of the surface lava formations.



Now that we were acclimatised and soon to be UK bound, we decided to go for a hard walk. PR EH-3 is a circular walk which can start at Las Casas so meant

a drive free day. This started at 850 m elevation, went up to 1100 m, then down to sea level before returning back to 850 m. We decided to do this clockwise so that the sun was shining on our climb down and would be low in the sky on our climb up which is a relentless slog, head down, keep aiming for the next electricity pylon. Carry plenty of water for this walk, some great views.

Our final day and we did an anti-clockwise tour of the island revisiting some sites, Meg took a dip in Charco Azul which also has a pool in a rock shelter - too cold - good example of basalt columns nearby. Lots of blue blobs washed up on Arenas Blancas, the only white beach on the island at the western end of El Golfo where the shells accumulate and get ground down. A final visit to Cueva de Tacoron - to recover my gloves - and also an opportunity to see if the cave extended to the slope below the road - it did - we found three entrances for discontinuous sections - none of which were significant but nice to find - coordinates (Tacoron 5,6,7) recorded below.



We had overlooked the fact that it was a 2.5 hour ferry crossing on the Atlantic in winter, the outward leg had been fine but the return was different - the ferry staff clearly knew what was coming and were busy making sure everyone was in the middle where there was less pitching. Even so, there were still plenty of queasy faces about until we were in the calmer waters of Tenerife's wind shadow.

We spent the day at the ferry terminal as we figured there was more to see there than stuck in an Airport. Whilst walking around the marina, an elderly and rather portly British couple in their hired mobility scooters were throwing bread for the fish. The gentleman was sporting a well creased, brown leathery top, mottled with growths, the lady was thankfully not topless like her partner and was busy loudly discussing the latest medical test results on her mobile, whether obesity or melanoma related was unclear - could easily have been both for both of them. It was interesting to note how the bread would soak up the diesel on the water surface before being consumed by the fish, the fish to later be caught by the marina fishing boats which had spilled the diesel and then those fish would be served some time later as a 'healthy' Fish and Chips to the people throwing out the bread and thus contributing so much to the local medical industry - such is the circle of life in Los Cristianos.

A quick taxi ride to the airport and we had the quickest check-in ever for a Ryanair flight - something must be wrong. It was, we had studiously avoided all news for two weeks and were unaware of the French air traffic controller strike and this was their first day to kick le boot in. The screens reported a one hour delay. Lured to the gate at the new time, people started getting emails from Ryanair with free coupons for Burger King - very worrying - when has Ryanair ever given something for free? On enquiry with smartphone equipped passengers, we learnt that the delay was now estimated at nearly four hours, completely different from what the screens and local staff were saying as they set up the queue boards and most of us lined up. Despite the email delay warnings, we were boarded with everyone cooperatively getting sat down as quickly as possible for a quick getaway - then the captain's announcement - first the bad news, there was a four hour wait for our departure window, then the good news, this had been brought forward a tiny bit and was expected to be brought forward some more! We eventually departed two hours late, was this because it avoided automatic compensation claims after 3 hours? A 4am arrival time back in York - thank you French air traffic controllers.

As well as hiking trails and caves, there are potholes where ladders or SRT will be required, the deepest we know about is less than 40 m pitch-wise. There are definitely more caves to discover. Mountain biking is popular and there is apparently good diving at La Restinga which has now recovered from the 2011 offshore eruption. Plenty of walking trails - regular bus services can be used to get back - although most of the routes go to Valverde which can make returning to places like El Pinar time consuming.

El Hierro takes that extra effort to visit but for those that like the outdoors and geology, it is very well worth it.

Useful Information:

Flights UK to Tenerife, www.ryanair.com

Armas Ferries, Tenerife to El Hierro, www.navieraarmas.com/en/home

Binter Canarias inter island flights, www.bintercanarias.com/eng

Car hire, www.cicar.com/EN

Freytag and Berndt 1:30,000 Map of El Hierro. ISBN 9783707912883, note this map is on the REGCAN 95 Datum but it agrees with the WGS84 Datum within 0.5m.

Cicerone walking guide book to La Gomera and El Hierro. ISBN 9781852846015

Our Casa Rural, La Jarita in Las Casas, El Pinar.

El Hierro tourist information office, they respond to English emails even obscure ones about Cueva de Don Justo from crazy English cavers, turismo@el-hierro.org

El Hierro Geopark, useful for geological feature information, geoparqueelhierro.es/en/

El Hierro official island information elhierro.travel/en/

German run cave tourism who also rent out mountain bikes, hoehlenelhierro.de

Recent cave finds in Vulcania 5 and 8 available at vulcania.org, cave coordinates are wrong.

Catalogue of El Hierro caves 1991, vulcanospeleology.org/sym06/ISV6x31.pdf, *cave coordinates are not good enough.*

Cave Coordinates - WGS84 Datum, UTM Grid as determined by Garmin eTrex 30.

The local mapping datum REGCAN 95 agrees with WGS84 Datum within 0.5m.

El Hierro lies on the 18degree West meridian so uses two UTM mapping zones, 27R and 28R.

Elevations are GPS derived so may not be calibrated properly especially Mocan.

Cueva del Acontillado Top	27R 0781400 3067872 119m	Easy access through tube
Cueva del Acontillado Bottom	27R 0781518 3067767 99m	
Cueva ?	27R 0781654 3067841 96m	Tube alongside track
Cueva El Mocan	27R 0795069 3069501 1016m	Gated cave, key unknown.
Cueva de Tacoron 1	27R 0795049 3064038 294m	Entrance at hill top
Cueva de Tacoron 2	27R 0795020 3063958 284m	Rubbish filled exit by bridleway.
Cueva de Tacoron 3	27R 0794970 3063854 249m	Entrance close to 4
Cueva de Tacoron 4	27R 0794947 3063813 240m	Rubbish filled entrance by road
Cueva de Tacoron 5	27R 0794845 3063758 206m	New segment below road
Cueva de Tacoron 6	27R 0794836 3063747 207m	New segment below road
Cueva de Tacoron 7	27R 0794819 3063736 206m	New segment below road
Cueva ?	28R 0204111 3063471 287m	~8m long triangular tube at road
Cueva de Don Justo	28R 0205113 3062020 160m	Gated cave, keys required.

Kevin Dixon and Meg Stark
March 2017

New Discoveries in Hartley Quarry Cave

NGR NY 79067 08183



In 2015 I was introduced to Noel Pearson, a member of the Cumberland Geological Society. His interest was in the hydrology of the limestone around the Hartley area near to Kirkby Stephen in Cumbria, as he was preparing a guided walk for the members of his club. As a non-caver he wanted to know what I knew about Hartley Quarry Cave. This was easily answered being that I knew nothing, other than that a cave in the quarry had been discovered in the early 1990s whilst blasting, and it had been explored by some

local cavers at that time. I moved to the area in 1996 and during these times the quarry was very active with regular blasting being heard as I only lived a mile and a half away. I therefore had assumed the cave had been totally quarried away during these operations. How wrong I was.

On our first visit in mid-2015 with Noel I found a large entrance in the quarry face and just inside passages going left and right. A short climb up to the right led down and into a chamber, and from here a climb up and through a boulder choke entered another chamber. Here a flat out crawl in the right hand wall went a short distance before turning left and heading down dip until it reached a sump. This had been the extent of the original exploration by the E.M.R.G and here we found a date in the mud of 23 March 1991. Some months later it was dived by David Ryall, and went for 13 metres before surfacing



Tim in the flat out crawl

in a hands and knees crawl for about 40 meters passing a short blocked passage on the left and

ending at another sump which is blocked by a flake. This flake would be easily removed but at the time of writing (Dec 2017) has not been.



Turning left on entering the cave takes you along a walking size passage before turning right down dip. Again this had been the extent of the previous exploration by E.M.R.G in 1991 as at this point they had met another sump. On our first visit there was no sump just a gentle down dip slope to a duck. It

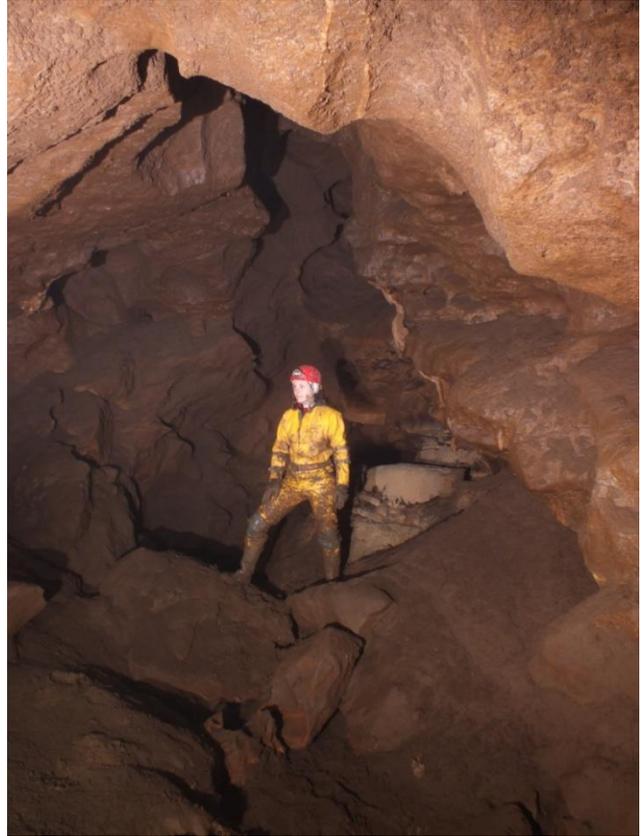
wouldn't be until the winter storms of 2015 and in particular storm Desmond that we would witness this as a resurging sump. This was the extent of exploration on our first visit.

On our next trip we passed the duck and through the knee deep clay sludge crawling into Flowstone Chamber, being named so as it is the only place with any stal to talk of. What is clear here though and from the pictures is this cave has formed phreatically.



Tim in the water just before the Duck

From Flowstone Chamber a crawl down through the rocks on the left and then a short climb up on the right takes you through another hands and knees section to the next chamber. Here the dimensions are an impressive 8 metres wide and 4 metres high. Not bad for the area where caves are normally joint controlled and sideways going or squirmy little wormholes.



Nic in Flowstone Chamber



Looking back towards the large chamber from the sump pool

From the chamber the passage beared left, and a short walk brought us to a large sump pool which drained through some boulders and a small, too tight to enter passage in the right hand wall. This we will come to later. Next job here was to get Dave to dive the sump as it looked very promising that this would lead onto caverns measureless to man, judging by the size of the passage we were standing in. It is interesting to note here that from survey detail, this section of the cave would be totally submerged in extreme wet conditions.

Meanwhile back at the sump we had Dave and all that gear it takes for our bubble blowing man to go exploring our rather impressive sump. With a line belayed to an old bit of bar we had hammered into the mud, all valves masks and computers checked, Dave set off in to the crystal clear water which would resemble gravy on his return trip. It wasn't long before his return to report that the sump was around 20 metres long, calculated from the marks on his dive line, and a max depth of around 2 to 3 metres, reaching surface in a boulder choked chamber. His description suggested that if you were to dig it then the first boulder to roll out would probably block your way back out. So that was the end of this leg. Dave later named the sump Rubbery Duckery in honour of the Rubber Duck Caving Club who were celebrating their 40th Anniversary that year, and with whom he had started his caving career some 25 years earlier.



Dave kitting up in what was the crystal clear waters of the sump pool.

So now we were back to the hole in the right hand wall where the sump drained. Work started first clearing some boulders to enter a tight awkward passage which passed through a letter box to a tight drop into the continuation. With just three of us now actively digging here it was found too



Tim and Russ getting into The Groove with a little known Diggers dance

small for Russ, too tight for my recently mended ribs broken whilst on expo in Greece, and Tim using his joker card saying that at his age he shouldn't be tackling such awkward moves. So that is where it ended until 2017.

On our return we took along our newly recruited digger Stu (Dreads) Coxon and shoved him into the hole. He popped in no problem at all and so I followed. It went just over a body's length before a 90 degree turn started you off down dip again

passing through 2 cross rifts, one of which had an aven yet to be fully climbed, and finally reaching another sump/duck pool after around a good 30 metres or more. Lying on our fronts in the water we have had our legs the other side waving in the air but it will need some more digging before we are through.

Below are some more pictures from this latest find, what it looks like as an overlay on Google Earth, and a model of the cave from our survey. Also here is a link to a You Tube clip telling the story up till the latest find with video footage of Dave returning from his dives and explaining what he has found. https://www.youtube.com/watch?v=wgFIT_ZPpoU

The team were Fred Rattray, Russ Brooks, Tim Sullivan, Dave Ryall, Nicola Brooks and Stuart Coxon



Stu entering the new passage



Russ laying line in the new passage



The Google Earth kml file for the above image can be downloaded from:

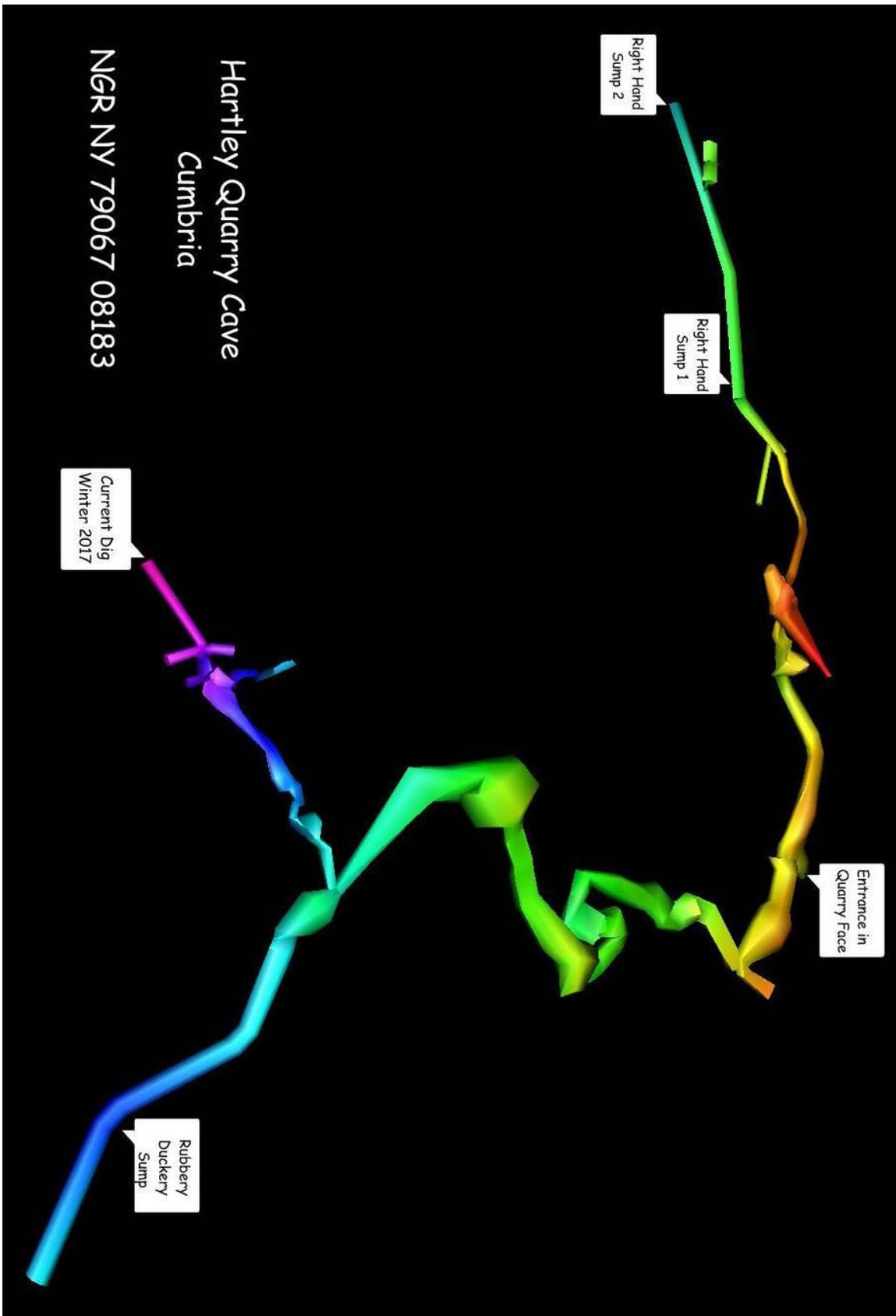
<https://drive.google.com/open?id=1583V31kM7eHhPxaC5DHPHiaXdvw12zZY>

References:

The Cumberland Geological Society Proceedings Vol.8 Part 3 2014-15 page 355-359

Cave Diving Group - Newsletter CDG197 page 6

Northern Caves - The Three Counties System and the North-West pages 402-403



Fred Rattray
December 2017

Underground Beacons on 7 Mhz



Assembled Pixie beacon

Following on from the successes of through rock communications on the 7 MHz band reported in BPC Bulletin Vol.7 No.6, it was decided that further study was required to try and understand the propagation properties at this frequency. Rather than carry expensive commercial equipment underground a simple beacon approach was adopted. This would also give the opportunity to miniaturise the aerial system and compare to a standard half-wave dipole.

A Search of E-Bay found the Pixie transmitter/receiver available for as little as £2.30 for the board and components. This along with a bought in microcontroller board from <http://www.piccircuit.com> for about £6.50 and a transistor and relay formed the basis of the Pixie underground beacon. The power supply being made up from 3 x 18650 Li-ion cells in series.

As the beacon uses a coil for its aerial it can be stood up on end to give us an omnidirectional signal for testing of different aerial arrangements on the surface such as standard dipoles, coil aerials and earth current aerial arrangements.

It was also hoped that with its miniature size it may prove useful as a radio locator beacon for positioning of cave passages when checking surveys, and for locating potential dig sites just as previous beacons have been used.

With a dipole aerial deployed underground the range can be considerably improved and is useful for checking propagation paths back to surface for possible future HF datalinks.



Building the Beacon Aerial

Results 31st January 2017 Valley Entrance, Kingsdale

The beacon was first tested at the start of the Duck and that performed well with signal levels of 20 dB over S9 achievable at the receiving station. It was next moved to the chamber before the Milky Way turning where again good readability of the signal was achieved, although S meter readings were not attainable due to interference from other stations. The next position was where the Stal formation is formed floor to ceiling in the centre of the passage, and again readability of the signal was easily achievable, so it was then decided to move the transmitter onto the location used for the communications experiments on 7 MHz at the August 2015 CREG field meet. Location SD 69785 77598 from survey.

Again the signal could be heard through the interference of all the other stations. Leaving the transmitter at this point the surface station first moved down the valley but by the first layby the signal faded into the noise. Turning around and heading up valley the signal first increased as we got nearer to the transmitter. Beyond this point the reception was better for a longer range than down valley.

Returning to the layby at Braida Garth it was decided to take the transmitter to the pitch head and set it up with a half wave dipole and return to the surface and drive the valley. Location of Transmitter SD 69830 77690 from survey.

Heading first down valley the signal was only received as far as the right hand turn into Westgate Lane SD 68980 75063 giving a distance of 2.7Km.

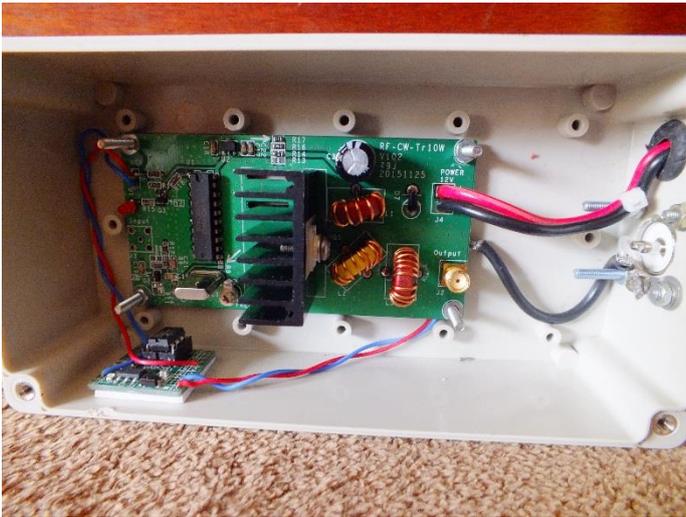
Heading up valley the signal was received as far as location SD 72323 82264 giving a distance of 5Km

Results from Field Meet 28th October 2017 Valley Entrance, Kingsdale

During this meet 2 beacons were deployed with the 1 Watt Pixie transmitter on 7.023 MHz left at the junction to Milkway Passage and a 10 Watt Transmitter on 7.003 Mhz at the pitch head into the master cave.

A table of signal levels at the receiving station located just outside of the entrance.

Beacon	Half wave dipole	Gnd probes @ 5 metres	Loop
1 Watt	S8	S6	S6
10 Watt	S0	Not received	No Received



The 10 Watt Beacon Transmitter

Using the loop aerial we attempted to radio locate the 1 Watt transmitters position and whilst doing this noted some strange results. At the receiving station the loop orientation did not concur with what we would get using an 87 KHz beacon; in that all orientations were 90 degrees different. On approaching the area above the transmitter it was found that the orientation became what we would expect i.e. the same as an 87 KHz beacon. From this I assume that we were initially in the far field of the signal but had moved into the near field as we approached closer the

beacons position. It was also very difficult to get the nulls. More work is required here and we plan to return with both 87 KHz and 7 MHz beacons to repeat this exercise and get a better understanding what is occurring.

References and Resources.

1. BPC Bulletin Vol.7 No.6, pages 24–25.
2. Cave Radio and Electronics Group Journal 100 December 2017, pages 29–30.
3. ebay.co.uk search terms: 'Pixie QRP' and '10 Watt CW Transmitter'

Fred Rattray
December 2017

Caving Poems

Editor's note: These poems were found by Ged; the author is unknown.

Un-named

Said a Naturist Caver, "I find
That acetylene lamps are a bind
When you're in a low crawl
With no clothes at all
And there's one coming up close behind."

INFRA DIG

I wish they'd all stop digging, and take a good look round,
If they carry on much longer, soon there'll be more holes than ground.
When GG's joined with Easegill, and Lost John's a part of Dow,
They'll wish they'd left the wretched things the way that they are now.

I hope I'm not around to see that miserable day
When five-day trips are common, and you hear the poor souls say:
"We went down Bar on Sunday, but alas our memory fails
And we missed the Giant's Exit,
Is this Mendip or South Wales?"

Anonymous

Felix Trombe 2017

The Felix Trombe Cave System is the longest system in France, being well over 100 km in length with around 45 entrances and a vertical range of over 1000 m. I have been several times before and done some superb trips including some 12 hour through trips between classic entrances.

As usual the main emphasis is caving, but we always try and make this in an area that provides a mix of activities to suit everyone. The village has plenty of shops, bars and restaurants; the area also offers good walking and cycling routes for those that want to take part in a variety of outdoor activities. The caving is superb and we have surveys and a comprehensive guide book along with loads of other info about the area in library at Brackenbottom.

There are plenty of walking and mountain bike routes and possibly some scope for climbing in the surrounding area. Although we didn't do any climbing on previous visits, we have stayed at the Le Cagire Municipal Campsite before, it is close to the village of Aspet and there is a public swimming pool nearby.

Thursday 27th July

Travel to Dover. Had lunch at the usual café before boarding the ferry to Calais and driving on to stay overnight at Hotel Bal in Tournehem sur Hem, a great place to stop just a few miles outside Calais. In addition to the hotel, there's a campsite for tents and some with hard standing and electric hookups for campervans. The restaurant does good food and beer at reasonable prices too. We had a walk down to the village pub then a wander round the village, which apart from the sports centre and park seems to be stuck in a time warp.

Friday 28th July

After breakfast we set off on our journey South. The plan was to stay overnight at Vatan but we travelled on and ended up staying just outside Limoges, not a bad campsite, easy enough to find just off the motorway. They didn't have a bar, so we got a few cans from the camp shop and went for a meal in the large rather rustic looking restaurant across the road. The food wasn't brilliant and I ended up honking in the middle of the night and no I hadn't had a skin full so it wasn't the beer. I don't drink much anyway and I was driving early the following day.

Saturday 29th July

We arrived at the campsite in Aspet just after lunch. It used to be a Municipal Site but it's now owned privately; the new owners have added a bar and a restaurant that does mainly pizzas and a wide range of beers and wines. They have also planted plots of vegetables and herbs between the emplacements and campers can help themselves to anything they fancy. You can hire a pack donkey for trekking and there are some rather dodgy looking bikes for hire if you haven't brought one of your own.

We had reserved several emplacements, but when we looked we found that 2 female campers had pitched their small tent on the biggest one. The campsite owner told us that they were leaving the following day, but that didn't happen until the following week and we had to manage on a much

smaller one, so we couldn't put our tent awning up. One of the other large emplacements we were told that we could use had a tent on it already, with a sleeping bag in it and he told us that we could use it if we wanted, all very odd. So that was two emplacements that we should have been able to use but couldn't because of the lack of organisation, so we all ended up on smaller pitches that were infested with moles. All I can say is that it was all very laid back if nothing else.

There are several very old neglected caravans that look as if they have been there forever and some of them don't look as if they get used nowadays. The emplacements and hedges need tidying up, everything seems to have become quite overgrown and the toilets lack maintenance since the campsite went into private ownership. Anyway, never mind. I have been four times now, so I doubt if I will be going again. If any BPC members go in the future, it seems to be the only campsite in the area and even then, it's quite a drive to the cave entrances.

Sunday 30th July

We drove up to the parking at Fontaine De L'Ours in Rachel's little hire car, which struggled a bit on the steep mountain roads with four of us on board. When we got there, we went for a walk to locate the entrances to Trou Mile and Heretiques, which we found easily enough. Which wasn't all that surprising as I came there in 2003, 2004 and 2012 so this was my fourth visit, which came about because other members had suggested coming again and then quite a few of them didn't bother coming at all.

On the way back we went to look for the entrance to Grotte Du Goueil Dy Her. We parked near the outdoor centre at the top of the track just past the paraponting landing area, then we went down a path to the stream. We spent a short while walking along forest paths with overhanging branches festooned with long dangling filaments with caterpillars on them and ended up covered in them. Rachel found the entrance, although she didn't choose the easiest route and had to clamber down a steep slope to reach the gully leading to it before following it upstream. She shouted to the rest of us and we climbed down a cascade and soon reached the gully, crossed the stream and followed it up on the right hand bank. Now we knew where some of the entrances were, we could return to camp and think about doing some caving the following day.

Rachel Martin, Cas, Sharon and Terry.

Monday 31st July Rigging Trou Mile

Terry, Chris and Rachel set off after breakfast to rig Trou Mile, which is about 20 minutes walk from the carpark at Fontaine De L'Ours; there always seems to be plenty of people around so cars seem quite safe here. The entrance pitch is only about 3 metres and the rope can be belayed to a tree and there are a couple of spits for a rebelay just over the edge, to avoid the rope rubbing.

All the other pitches are supposed to be free climbable but we had brought ropes and rigged them using the best of the many spits at the head of each pitch. Most of these were either stripped or had broken bolts in them, so we had to use a couple of naturals as well. We made fairly quick progress down the pitches, along ever descending passages, occasional climbs and the odd squeeze, until we arrived at what we thought was the last pitch. The passage continued with various

obstacles, including a bit of a squeeze through a narrow section or the option to crawl past at a slightly higher level, to find we were halted by yet another pitch which obviously needed a rope. We had no alternative but to turn round and head out. Some of the pitches we had rigged were more clearly free climbable when viewed from below and I must have climbed down some of them back in 2003 when we did the Trou Mile to Pont De Gerbaut pull through trip, but we felt safer rigging them on this occasion and obviously miscalculated how much rope we needed. So we didn't get to the connection with Heretiques, which we were thinking of doing as an exchange trip once both of them were rigged. Nevertheless, we had a good trip with some rigging practice for me as I don't seem to do quite as much these days and some SRT practice for Chris and Rachel.

Rachel Martin, Chris Devaney and Terry Devaney.

Tuesday 1st August Trou Des Heretiques

This was essentially a rigging trip and an opportunity for those who had not been before to visit the Grande Salle of the Trou du Vente. The entrance was found quickly due to Rachel having marked the turn off with twigs in the letter 'H' on Sunday on a visit to Trou Mile.

There was a groan when we saw that the rigging was still on spits, so after finding two that seemed ok plus a nice natural backup, we were ready. Unfortunately, as there were two rope bags to choose from, I picked up the wrong one and started off down using a further spit for the second vertical bit and then I spotted something shiny, a pull through chain, things were looking up (for a while!).

The next pitch is a little constricted to begin with and soon opens into a nice fluted shaft when Oops! Knot in hand!! So I had to climb back up to change the rope and after much cursing & faffing, we descended into a chamber with a large scoop and at least two ways on. Up and to the left led us to the P30, which is well set up with P anchors & chains and lands in a high rift leading onto a meander, soon arriving in the Salle de la 2nd Aix, which develops into the Grande Salle.

This chamber is something like 200 m long, 20 m wide and 20 m high, all set at an angle of about 30 degrees, with the LH wall a series of flat hading slabs of a major joint or fault. Rachel Martin, Tam & I made our way to the bottom of the slope and found a small hole on the left with a howling draught, where we scrambled down some rocksteps to a large shaft, which is the link to the various through trips which can be made. The black polished limestone in this area indicated that regular floods with a high volume of water came through from inlets in the Grande Salle. The return to the Heretiques inlet entails a 100 m slog up a rubble heap and then it was up the ropes and out, leaving the route rigged for later in the holiday.

Tam Rennie, Rachel Martin, Glen Walker, Rachel Albrecht and Stuart Heseltine.

Shopping in St Gaudens

We were all in need of a visit to a supermarket and the mini casino in the village was closed for stock taking, so we had no alternative than to take a trip into St Gaudens to the Leclerk hypermarket. I had been before so I thought I knew where it was, but the signs sent us back out of town to a retail park with biggest Leclerk in this part of the world.

We filled two large trolleys with essential supplies of food, beer, wine, and bought a few extra bits and pieces. The tourist information bureau in Aspet had sold out of large scale maps of the area, so

we spent ages looking for one in the supermarket and bookshops, but couldn't find one anywhere. Then we went looking for the fuel station; there were signs for one but the retail park was so big, we didn't manage to find it, so we gave up and headed back into St Gaudens, where we eventually found a garage with diesel at a reasonable price. The drive back to Aspet was straightforward enough once we had negotiated our way out of town, following several diversions because of lots of road works.

When we got back to Aspet, most of the others were sat outside the our favourite bar in the market square (Eric's), so we drove back to the campsite and walked back up. Our group were his best customers and we were rewarded with free drinks; each time we bought three 3 we got one free.

Terry, Chris and Sharon



Wednesday 2nd August Derigging Trou Mile

We parked in the usual spot at Fontaine D' Lours and walked for 20 minutes up the track to the entrance. It didn't take long for everyone to descend the pitches and negotiate any obstacles and cascades, before arriving at the final pitch that we were unable to descend because we had run out of rope on the rigging trip earlier in the week.

Sharon had done the trip with me in 2004 and didn't remember free climbing the pitches that we had rigged and agreed that we had done the right thing in rigging them this time, although according to the route description, vague as it is, you can free climb all of the pitches apart from the first and the last. Maybe we did climb them back then we were a lot younger and perhaps more daring. You can't rig them as a pull through because there aren't any fixed anchors.

Anyway, we hadn't brought another rope, so we turned back and started derigging, packing and hauling bags between us until we arrived back at the surface. Sharon and Cas said they enjoyed the trip and it reminded them of a Yorkshire trip. So then it was back to the car for a steady drive down the narrow winding mountain road, taking care to stay clear of the men and machines that were cutting back overhanging trees, presumably in preparation for snow in the winter. Once we were back in Aspet, guess what, we ended up at Eric's bar with everyone else again. It seems that whenever Brian, Ian and the others go out on their bikes, they always seem to come back this way and can't resist the temptation to stop.

Sharon, Cas and Terry

Thursday 3rd August Gouffre Pont de Gerbaut

Tam & I sweated our way through the forest, in the mist, with three rope bags and easily found the path to the entrance as there is now a reflector nailed to a tree. Climbing down into the shakehole

using tree roots and handfuls of grass is probably the most dangerous part of the trip, but the cooler air was most welcome.

It is an awkward pitch head, over a slippery boulder and rigged from a series of permanent hangers & resin anchors which all seem to be in the wrong place, but much better than spits. The descent is in a large shaft with a hanging rebelay, just over half way down and the landing is close to a col at the top of a rubble slope. One side is blind, but the route is a roped scree slope to the next bolts for the final part of the pitch. The next section of passage is a bit odd and the best advice is to take the least obvious way, until you come to a large open shaft, then look behind you. A series of short scrappy pitches follow with a mixture of hangers, resin anchors & naturals and at the bottom an awkward little drafting fissure led us into Gallery Bugat.

This is the start of the fossil series and as we progressed, the passage enlarged with first a fixed traverse line and then another, terminating in a short drop of about 5 m . We passed a large sloping descent to the river connection with Pene Blaque and a little further along is a passage off to the right, marked as the route to the Ogre. The route is marked with reflectors and it was just beyond here that we lost them and spent some time in passages large & small, with Tam & I going round in circles, following cairns which we soon realised were just built for amusement rather than navigation.

After regaining the main passage, we followed the 'obvious' route to the top of a slope overlooking a chamber, with a large, well watered shaft dropping through it, which was a place I remembered from a previous trip. The way on was open & inviting but it was time to turn around and start out. We retraced our steps to the bottom of Gerbaut and from there we were out in less than an hour, and phoned the camp site comfortably ahead of our call out time.

Tam Rennie and Stuart Heseltine

GROTTE DU GOUEIL DY HER

Luckily some of the group had done a recce early in the holiday, so we knew where to go. Awkwardly, the parking spot was right outside a children's holiday centre and dozens of French kids were playing in the gardens while we were trying to be discreet about getting changed. They got a bit of extra education anyway. Once kitted up, the walk to the cave was short but interesting, thanks to some silkworm-like bugs that had spun webs and were lurking ready to catch unsuspecting cavers.

The cave entrance is an impressive, wide open cavern with a strong draught billowing out. We scrambled in and soon came to a tricky looking climb down with a dodgy handline. It turned out to be much easier than it looked, so we were soon heading into the cave. The passage led up and down a few interesting slippery slopes, up another climb and then became quite frustrating. One way led back over the previous passage, although at a higher level, with several holes in the floor, allowing for popping up and down in various places.

Another way led to a beautifully clear pool which appeared to be a sump. I waded in up to my armpits to make absolutely sure there was no way on, as the guide book said it was passable in dry weather. Unfortunately, there was no airspace at the far side at all. Backtracking up the passage

behind us, we found the start of the high-level sump bypass. The climb up was over slippery flowstone and we all had a go at it, eventually using combined tactics to get Glen stuffed into the bypass. He briefly disappeared but quickly came back, reporting that the passage was blowing a gale, but he wasn't inclined to push it as it was rather snug and trending steeply downwards. Sadly, this was the last trip of the holiday, so we didn't get the chance to return with reinforcements and rope.

Glen Walker, Rachel Albrecht and Rachel Martin,

Friday 4th August

Tam Rennie and family left and headed for the Berger. It was a nice day, the cyclists were going off for the day, so some of us decided to go for a walk on the hills. We parked in the usual spot at Fontaine d'Lours and walked up the familiar track past the entrances to Heretiques and Trou Mile. After the gate and cattle pens, the track continues to climb in more open countryside, with herds of horses and cattle grazing freely on the hills. There were lots of areas where the earth had been turned over, presumably by wild boar in search of food. Because of the many areas that were dug over, there must be a lot of them although we didn't actually see any. We eventually reached a refuge at a remote farm building which was still quite obviously a working farm and the refuge a bit of a sideline to earn some extra money. The track started to climb more steeply to the left and it was quite hard going, we came to a signpost at where tracks crossed but the sign was broken off and we weren't sure which way round it was meant to be. So, knowing we needed to reach the ridge and head back towards Fontaine D' Lours, we went left and continued climbing past several false summits until we reached the ridge path. The views over the Pyrenees were breathtaking and well worth the effort getting there.



As the track started to drop again, we reached a wooded area, with groups of sheep and goats sheltering from the sun under the trees, guarded by aggressive Pyrenean Mountain dogs. There were signs warning walkers to stay away from them, so we did as instructed to avoid being attacked. We knew that we need to descend at some point but there was a steep drop on the left, so we asked a group of French walkers to direct us. They told us to go right at the next signpost, but when we got there it was clear to us that we needed to go left. We ignored their advice and walked through the woods, past several more groups of sheep and guard dogs and when we reached an open area



we could see a large sunlit clearing, which could only be Fontaine D' Lours several hundred feet below. We then had to find a route down. The path was not all that well used and it wound steeply down through the forest. There were several sections where we had to hang on to trees and roots at times. As we got lower we noticed that the track became much wider and heavily trod, the bottom section was easy walking and led back to the carpark, where there is a signpost but it looks as if most people follow the path as far as it starts to get steeper, then turn around back to the carpark. Anyway, we completed the circular walk and enjoyed the fresh air,

sunshine and at times strenuous exercise. Our route finding had worked well despite the lack of a decent map, broken signposts and being given the wrong directions by the French walkers. So after a photo session in the carpark with a group of Dutch backpackers, consisting of two men in their late 50s and two 20 year old girls, who I can only presume were their daughters, unless they had struck lucky, we drove back to Aspet and guess where we met the cyclists.



Rachel Martin, Stuart Heseltine and Terry Devaney

Saturday 5th August Trou Des Heretiques to Trou Du Vent

Rachel leaves for home. Her tent was quite wet and she couldn't really pack it in her luggage as she was flying back to the UK, so she left it for Glen to pack up when it had dried out and he was going to take it back for her.

The plan was to bottom Heretiques and go as far as the tunnel du Vent that connects to the rest of the Felix Trombe System. Heretiques was still rigged and we weren't due to derig it, so we should have been in and out in no time. Unfortunately, Sharon changed her mind after the first pitch when we had to pass a bit of a squeeze. To be honest she could have got through OK but she wasn't happy with it, so she went back to the carpark and spent the day playing boules with Mama Cas.



The three of us carried on down the pitches once we were at the bottom we made our way down a short climb and along a passage with a few small obstacles, until we reached a short climb into a large chamber with long boulder slope. A short lower section at the bottom led to yet another even bigger chamber and another long boulder slope followed by a massive chamber with mud banks, a bit like Gaping Gill Main Chamber. Several big chambers and boulder slopes eventually led to the Grand Salle du Trou du Vent. Cas had turned back at some point to start making his way to the surface as we were a long way down and he commented that he hadn't been as deep since we went to the Berger.

So there was just Chris and I left. We found the Tunnel du Vent and stuck our heads through to have a look. To be honest, the draught is so strong it almost sucks you through. Then we went along the passage to the right that leads to the connection with Trou Mile and got as far as the fixed line with footloops, leading up to the passage to the bottom of the final pitch, Laffranque, which we were unable to rig because we didn't have enough rope with us. Chris and I started the long trek back up the boulder slopes. Some have well worn paths with cairns, like climbing Scafell Pike. When we got near the top of the last one, we followed the cairns to a climb a bit like the one we had negotiated on the way down but once we were up, we realised it wasn't right and not very safe at all. We carefully climbed back down, followed the cairns back for a while and realised that we needed to be going up to the left instead of right as the top most cairns had indicated. We found the correct and much more stable climb back up into the passage leading to the bottom of the final pitch and could hear Cas, who was almost at the top of the pitch. He shouted 'rope free' and we followed him up the pitches to the surface. One of the ropes had been damaged on a previous trip when Rachel Albrecht had fallen a short distance while fortunately attached to the rope. Glen had knotted the damaged section, which was on a short slope between rebelays, so still safe enough to use.



When we were out, we walked back down to the carpark to find Sharon and Mama having spent a pleasant day in the sun, after the morning mist had cleared, still playing boules and probably having a drink or two. We got changed and had a

go with the boules ourselves before setting off on the steep, narrow, winding mountain roads back down to Arbas and then on to Aspet, to finish the day off, as was often the case, at Eric's bar in the market place, with the rest of the crew. When we told Stuart about the misleading cairns, he agreed that there were far too many and that some of them were off route, so perhaps we should have destroyed a few of them to avoid anyone else making the same mistake.

Derek Castleden, Sharon Kelly, Chris Devaney and Terry Devaney

Sunday 6th August Derigging Heretiques

Sharon, Ian, Brian, Chris and Smiley decided that they wanted to move on to the Ardeche so they drove off in their campervans along with Cas and Mama who were going to head north and stop at one or two places along the way. It's not quite as easy to move on when you have to pack a tent and camping gear away and anyway we still had to derig Heretiques and Gerbaut.

We set off with the intention of giving Glen the opportunity to complete the trip to the Tunnel du Vent. However, for some reason, he changed his mind after a couple of pitches and waited for Stuart and I to derig. I went to the top of the final pitch but the bag got stuck and I couldn't haul it up, so I had to go down to release it.

When I got back to the top of the pitch, we carried on derigging and Glen helped to haul the bags up the entrance pitches to the surface. Before we returned to the car we looked for another entrance to the system that Stuart had heard about, Gouffre des Indomptables. It



took some finding, but after clambering about up and down steep gullies and hacking our way through thick undergrowth, we found it and it didn't look particularly inviting, so we decided to give it a miss.

Terry Devaney, Glen Walker, Stuart Heseltine

Monday 7th August De-rigging Gouffre du Pont de Gerbaut

It had rained a fair bit in the night and it didn't look as if it was going to improve when Stuart, Chris and myself set off to derig Gerbaut in the morning. We drove to Labaderque and into the forest, along the narrow muddy track, then we parked up at the junction where another track leads off towards Gerbaut and the Col de Pene Blanche. We carried our caving gear in rucksacks, wearing wellies and waterproofs and walked for about an hour in the rain, along slippery muddy tracks and up the steep slope finally leading to Gerbaut.

We carefully descended the massive doline, spanned by the enormous rock bridge that gives it its name. The head of the first pitch is protected by some fixed ropes, in an attempt to prevent anyone slipping down the loose slope leading to the 43 metre pitch. Stuart and I got kitted up to go down to derig and Chris stayed on the surface to help with hauling the bags up the entrance shaft and of course carrying them back to the car.



Our rope is rigged to a series of spits on the left, leading over a large boulder to several awkward rebelay, before descending into the shaft with another rebelay about two thirds of the way down. The rope then continues as a

traverse line down a steep slope of loose stones, to the head of the next 13 metre pitch. An unlikely looking passage on the right leads down some short climbs to four further pitches, 2 at 20 metres and 2 at 5 metres. Finally, a short crawl provides access to the gallery Bugat; this provides direct access to the major galleries of the Gouffre du Pont de Gerbaut, the backbone of the Trombe network.

As Stuart had done most of the rigging, I went down the final pitches and started derigging from the bottom. Between us, we packed the bags and hauled them to the bottom of the entrance shaft. I went up first and Stuart derigged the big pitch, with the tackle sacks daisy chained on the rope at the bottom of the shaft. We did it this way because of the awkward manoeuvres necessary to pass the rebelay at the top and getting over the large boulder on the left at the head of the pitch, that avoids the loose slope mentioned earlier. We then rigged a pulley system and the 3 of us hauled the tackle sacks up to the surface, where Chris had waited patiently under an overhang, away from the rain. It was even wetter on the way back to the car. Sections of the tracks were running with water and it was very slippery underfoot. It was like trekking through the rain forest in the rainy season, so we were glad when we got back to the car. The journey back to the campsite was uneventful and we were glad to get back. We were fortunately able to dry some of our kit out in the afternoon, when it brightened up a bit.

Terry Devaney, Chris Devaney and Stuart Heseltine

Tuesday 8th August

There were very few of us left now and we had derigged everything. The weather wasn't brilliant either, so we decided to start packing our gear, with the intention of leaving the following day. As far as I recall, we went for a walk up the hill behind the campsite and checked out a couple of entrances marked on the map. There doesn't seem to be any mention of them in the guide books, but one of the shafts was fenced off in the middle of a high level pasture and it looked pretty deep, although we couldn't see any way of getting a closer look without a rope.

Then we had a last visit to Eric's bar in the village, before doing some more packing, now that things had dried up at the campsite. In the evening, we went to the campsite bar for pizzas and beer, with the intention of getting an early night, so we could get off in the morning. About 10 O'clock, we looked up to find Jan Karvic and Chris Stott had arrived. I said 'you're a bit late, we're going home

tomorrow'. They had shown interest early in the year, but I hadn't heard from them since and they were late setting off because Chris had been invited to a wedding. I suppose they were only 10 days later than the rest of us.

They stayed a short while, then drove their campervan down the road somewhere instead of using the campsite. In the morning, they came back and I fixed them up with some rope, rigging topos and directions to the cave entrances and they said they would camp at the Fontaine de L'Ours car park. When I saw them back in the UK, they returned the tackle and said that they had done a trip in Heretiques to the Tunnel Du Vent and another trip in Penne Blanche, which I had recommended, then drove over to join a trip in the PSM.

Wednesday 9th August

Chris and I managed to get away just before lunchtime and drove to Oradour Sur Glane. On 10 June 1944, the village of Oradour Sur Glane, in Nazi occupied France, was destroyed, when 642 of its inhabitants, including men, women and children, were massacred by a German Waffen SS company.

The village has been preserved as they left it, in ruins, as a memorial to all those who died. It's a very sad reminder of the atrocities that were carried out there.



We stayed overnight at the municipal campsite at Vatan. It's a good campsite, but the town

was deserted. Everything was closed, hotels, shops and houses were up for sale. The last time we stayed here in 2012, it was quite a lively place. However, it seems that many of the younger residents have moved to the big cities, businesses are closing and visitors don't call as often as they used to. We couldn't find a bar or restaurant that was open, but we had a few 25 cl bottles in the back of the car to go with a pizza from the only takeaway that was open. All that said if all you want to do is stop for the night, the campsite is good and easy to find from the A20 motorway.

Thursday 10th August

It had rained a bit during the night, so the tent was a bit wet. We had a brew and a couple of pain au chocolat that I managed to get from the meagre display of stuff in the one and only boulangerie that was open. We packed the car and continued our journey north. The plan was to stay overnight at Hotel Bal again and possibly meet up with some of the others who might have the same idea. The weather was constantly changing and we had several heavy downpours. We had a burger at a McDonald's somewhere along the way. We were using the sat nav, which suggested going via the Périphérique, which because of the heavy traffic and hold-ups we ended up hitting during the rush hour and about the same time there was a terrorist attack somewhere in Paris. As we got nearer to Calais, it started raining again and we decided to head for the ferry port instead of pitching the tent

in the rain. We paid the supplement for the early ferry and headed across the channel to Dover, thinking that we would be home for about 22.30 at the latest.

All went well, the M20, M25 and M11 were moving reasonably well, then we headed north on the A1. We stopped for a short break at Huntingdon services and were still on schedule until we found the A1 was closed and we were diverted via Melton Mowbray, then back onto the A1. We carried on to find yet another diversion at Grantham that took us onto the M1 via Nottingham city centre at about closing time. The M1 was reduced to one lane for miles and miles, with thousands of traffic cones blocking the other lanes off with no evidence of any roadworks, machinery or men at work. It took forever to get home and we arrived sometime well after midnight, so it wasn't really worth paying the extra for the early ferry. We may as well have stayed at Tournehem Sur Hem, where most of the others ended up that night.

Brian Rhodes, Christine Rhodes, Ian Wellock, Sharon Kelly, Cas and Mama Cas, Tam Rennie and family, Jan Karvic, Chris Stott, Stuart Heseltine, Rachel Martin, Glen Walker, Rachel Albrecht, Chris Devaney, Terry Devaney.

Terry Devaney, Rachel Martin and Stuart Heseltine

January 2018

(Photos by Rachel Martin and Chris Devaney)

Tresviso 2017

Summary of the 2017 expedition to Picos de Europa

The latest Tresviso expedition to the Eastern Massif of the Picos de Europa, Spain was undertaken over two weeks in July 2017. It included 16 people from various UK clubs, including 6 from the BPC. The expedition is the latest in a series of trips extending back to the early 70's, concentrating on exploration of a major resurgence cave, *Cueva del Nacimiento*, at the foot of the mountain range and the deeper potholes higher up the mountain that will hopefully connect and create a significant +1500 m through trip.



FT16 entrance shaft in the Andara region (Phil Walker)

The main objective in 2017 was to continue work in the furthest reaches of *Cueva del Nacimiento*, around the area known as *Jurassic World*. The area was discovered in 2014 and, with a number of unclimbed avens and promising draughts, has been the site of most work in the past couple of years. At the end of the 2016 expedition the current highest point in the cave had been established at +486 m above the entrance, following one of many aid climbs.

On the top of the mountain a number of caves drop to depths of -300 m to -1200 m, with multiple leads still outstanding. A lack of available expedition cavers over the years has prevented any serious work in these potholes since the mid-1980's. However, the latest expeditions have started systematically revisiting some of the more promising systems and with, better lights and more readily available rigging equipment, have started making significant finds.

In particular the 2017 expedition concentrated on a cave known as *Sistema Castillo*, where multiple entrances give access to a network of mines and natural passages. The furthest limit, as of 1983, was at -298 m in a tight rift with the sound of a 'roar' beyond. Unfortunately, the way down to this end point appeared to have collapsed by 1987 and no further progress was ever made.

The inclusion of a couple of divers within the expedition membership also meant that diving in the *Cueva de la Marniosa* system was a possibility for the trip. Firstly, to examine an unclimbed +80m aven just beyond the first sump and a more ambitious task of diving sump 2, only ever visited in 1986 by a handful of cavers.

Cueva del Nacimiento

The expedition actually began much earlier in the year, with 5 cavers spending a long weekend trip setting up the *Death Race* camp in *Cueva del Nacimiento* with food and camping equipment. A 24 hour overnight trip to the back-end enabled the camp to be set up with over 50 (heavy) ration packs, 4 sleeping bags, bivvy bags, stove, rope, bolts, hangars and some surveying kit. A normal trip to the back-end, with camping equipment and exploration gear, can take up to 12 hours, so the hope was that by setting up the camp ahead of time, teams could get to the backend with just equipment needed for exploration and cut the travel time drastically.

Fast forward to the summer and the first group, comprising Hannah Moulton (BPC), Chris Jones, Alex Hannam and Dave Powlesland, had high hopes of exploiting the camps but before that there was the small matter of getting



Death Race camp, Cueva del Nacimiento (Chris Jones)

into the cave. *Nacimiento* is a large resurgence cave and the main way into the cave involves crossing a rather cold entrance pool. Although no more than 5 m across it's extremely cold and a dinghy is the best way across, especially to keep equipment dry. After crossing the pool, a small climb up leads to a nice large phreatic tube across some deep potholes. It was here that the group was stopped immediately by partly flooded passage. Totally unexpected in all but flood conditions. Potentially worrying for getting beyond the main streamway. A traverse needed to be rigged and it was the following day before the team could attempt to get into the cave once more. Luckily the flooded stream did not materialise and the team were able to get into the cave and to the back-end in around 5 hours.

About an hour back from the camp is the area known as the *Teeth of Satan* and *Hellsmouth*. The area was first entered in 1986/7 when some bold climbing for over 100 m upwards reached a number of interconnected ramps and pitches. Although, the main way on to *Death Race* was discovered on the same trip, a number of steep climbs had been left unexplored. This year the team spent a good afternoon exploring and surveying a new series of passages (*Satan's Chode*), finding 189 m of cave and still a number of undescended pitches, although the survey would suggest these areas all head back down to the known cave below.

On the second day the team moved onwards to the *Jurassic World* leads. This area is another 4–5 hours on from *Death Race*, largely due to some airy and time-consuming traverses / pitches that follow the *Death Race* chamber around one side to the ongoing passage. At the far end a couple of avens were tackled.



Satan's Chode, with on-going, unexplored passage (Chris Jones)



Pterodactyl Crumble, Cueva del Nacimiento (Alex Hannam)

The first, *Pterodactyl Crumble*, follows a chossy climb to some large ramps descending down. The passage closed down, but did have a number of bat skeletons, indicating that some way in from the surface exists (or existed). Another 60 m of passage was found and surveyed in this extension.

The final aven proved more successful, initially been scaled to over 35m high and left with ongoing leads for the next team.

Boats 'n' Hose

At the same time as the first camp was being undertaken, another team of 2 BPC cavers (Sam Deeley and Dan Workman) made their way into the cave. The intention was to get to the *Death Race* camp, picking up an extra sleeping bag from an old camp on the way, and from *Death*

Race, attempt to climb the *Wet Aven*, a promising large aven in the *Teeth of Satan* area, scaled previously to +50 m, to a small calcite squeeze with a draught and loud echo beyond.

The team had never been beyond *Teeth of Satan* before and, following the standard (albeit dubious) advice of “follow your nose”, spent 3 hours searching for the way on. By now a 7+ hour trip was becoming increasingly grim and the team headed back down to the *Teeth of Satan* and made an emergency bivvy with minimal equipment. Luckily the sleeping bag, collected on the way, made a makeshift ground sheet and as the pair were carrying in more food to stock camp, they didn’t go hungry. A rather cosy but unpleasant night sleeps (in one of the draughtiest places of *Nacimiento*), left the team more dejected and dumping all equipment they made a hasty 6-hour trip back to daylight.

Terror Firma and Joes Crack

Dan bravely decided to go back into *Nacimiento* the following day, this time armed with Dave, who knew the way. Starting late in the afternoon they arrived at camp within 7 hours and had a good night’s sleep before setting off to the end and the leads in *Terror Firma*. It took another 5 hours for them to get to the end, but a lot of re-rigging of the traverses was achieved. Due to the length of time to get from the back-end to camp, they decided to have an epic 18-hour trip and climbed an additional 20 m of the *Terror Firma* aven. The aven splits into two, with one of the leads ended at a tight squeeze, the other wet route continues. The pair returned to *Death Race* for 6.30am and slept until 7pm before exploring and surveying some leads near camp, finding 200 m of passage and some unclimbed avens.

At the same time, myself and Alex arrived at camp. The plan was to explore a small rift behind camp, that had been looked at the previous year to a pitch. Unfortunately, no one had told me this was one of the tightest bits in the cave so I spent a good proportion of the time in camp, making tea and food for Alex, while he explored. The passage leads down a tight rift and pitch, to another rift and the head of an undescended pitch (12 m). Another 110 m of passage was surveyed and although there is potential for more discoveries, the general trend of the new passage is heading down under the chamber to the known lower *Death Race Pitch Series*.



Belaying at Terror Firma, Cueva del Nacimiento (Chris Jones)

South Bristol pathfinders

The final planned pushing trips into *Nacimiento* was undertaken by 2 teams; Bob Clay and Arwel Roberts and once more Sam and Dan, attempting to not repeat their previous attempt.

Dan, now armed with route finding knowledge, had no problems getting himself and Sam to the end. However, the same could not be said for the South Bristol contingent. Bob had not been beyond *Consort Hall* (about 1/3 of the way through) before, but Arwel had been to the *Teeth of Satan* on 3 occasions. It didn't take too long before they became lost. Although on the correct route, the cave was not appearing familiar, and before long they retraced their steps to *Consort Hall*. After a brief discussion they resumed on the same route and made it to the *Hall of the Green Domino* (the start of the climbs up to the back-end). Unfortunately, they couldn't find the rope up for the first climb. After exploring the chamber multiple times and now 8 hours into the trip, with probably at least 4 more hours to Death Race, they had dinner and decided to exit the cave.

In the meantime, Sam and Dan, had made it to camp and settled in for the night, awaiting the arrival of the others. Morning came and no Bob or Arwel, so rather than travelling to the end of the cave they explored some avens near camp, that lead to around 70m of cave and more unexplored avens.

Nacimiento Summary

Although there were 7 planned pushing trips into *Nacimiento* over the 2-week expedition, only 4 were successful, route finding being the main culprit for failure. However, the 4 pushing trips discovered and surveyed over 700 m of new cave and increased the height of the cave to +534 m above the entrance. There remain multiple climbs at the back-end and a number of promising leads closer to the entrance.

Sistema Castillo

Exploration in *Castillo* began with some surveying of existing passage. The original 1980's exploration by a French team was quite poorly documented, with co-ordinates missing, entrances excluded from the survey and new caves 'created' that were actually the old cave, with a different name. It's taken a few years to piece together various descriptions and survey notes to provide a more accurate picture.

What is known, is that *Pozo Castillo* ends at -292 m in a tight rift, with an encouraging sound beyond, described as either a waterfall or a large draught. However, a potential collapse in the near reaches of the system has prevented access since the original exploration. In order to try and find possible ways past the collapse, some systematic surveying has been instigated, in order to try and fill in gaps on the survey and connect some of the other entrances / mine passages in the area, that are known to be part of the system.

Pozo Natacha is a series of pitches within *Castillo*, which ends at -282 m in a small rift. The end is at similar depth and heads toward the limit in the *Pozo Castillo* series, so potentially may end up in the same place. The pitches were rigged in 2016, so a team of two tackled the cave over the first

couple of days of the expedition. The end was found to be very tight, as expected, and it took nearly 2 hours to enlarge the rift enough to allow Arwel (very skinny) to pass. Immediately after the enlargement a 6m drop led to another tight rift above a 20 m pitch! Unfortunately, the rift was too tight for Arwel and it's reckoned that nearly 2 m of the rift would need to be widened to get to the pitch head and the person doing the enlargement would have to be inverted! A rather disappointing end to the cave, although it now means the *Castillo* system is slightly deeper at -309 m.

The re-surveying project was going well, adding over 1km of passage to the cave. In general, this was 50/50 between existing cave and unexplored leads. The majority of new passage trended back to the surface and, with more pushing, would in all certainty connect with other known entrances. *For context, there are at least 15–20 surface sites in the immediate area above Castillo, but only 6 that have definitely been proven to connect.*

Despite finding new passage in the upper reaches of Castillo, the way on past the known blockage was still illusive. The collapse is reached via a tight, flat out crawl, just off the main passage. A small window leads to a snow-plug with a rather dangerous looking boulder above.

The snow plug has a small gap down one side, which is the believed way on, but some digging would be required and the nature of the collapse is worrying and has scared off any



The collapse (looking up) in Pozo Castillo (Phil Walker)



FT16 snow plug (Hannah Moulton)

effort to dig so far. However, directly above the collapse, small shafts of light can be seen high above. Another way in to the same area, and beyond, is a possibility. The 1980's reports also mention further large snow plugs further into the cave, at the bottom of subsequent pitches, suggesting other routes in.

One of the first teams into *Castillo* inadvertently missed the turning to the collapse area and carried on exploring into further mine workings, reporting another large snow plug at the end and daylight above. This part of the cave was explored over another couple of days. The snow plug proved to be at the bottom of a 30m shaft, later identified as FT16, explored in the 80's to the same connection point, with no way on. This time round it was possible to traverse around the

snow plug to the head of a series of pitches, dropping down the side of the snow. At the bottom a short horizontal level, over wooden ladders lead to a final pitch down to a sump / flooded level.

The next day, another mine level, Segura 1 was explored for 20 m to an extremely dangerous looking 'spongy' floor with a winch platform. This turned out to be above the same FT16 entrance shaft.

Castillo Summary

The way on past the blockage still remains elusive. The subsequent drawing up of surveys has highlighted some further possibilities, but the shoring of the boulder collapse may still prove to be the best option and this is something that will be attempted in 2018.

Cueva de la Marniosa

Marniosa is a 5 km system, a few kilometres upstream from *Nacimiento*. It's almost certainly a feeder system to *Nacimiento* and prior to this year's trip the downstream end of the cave was only 500 m horizontally and 35 m above the closest point in *Nacimiento*. Unfortunately, this point in *Marniosa* was beyond sump 1 (35 m long) and ended at the un-dived sump 2. Progress beyond sump 1 has been limited ever since the original exploration in 1986, with the passage described as "unconducive to bottle carrying". An attempt in 2016 failed to get to sump 1 but the cave had been left rigged, so with 2 divers in the team, it was hoped that this year would be more successful.



Cueva de la Marniosa (Russ Brooks)

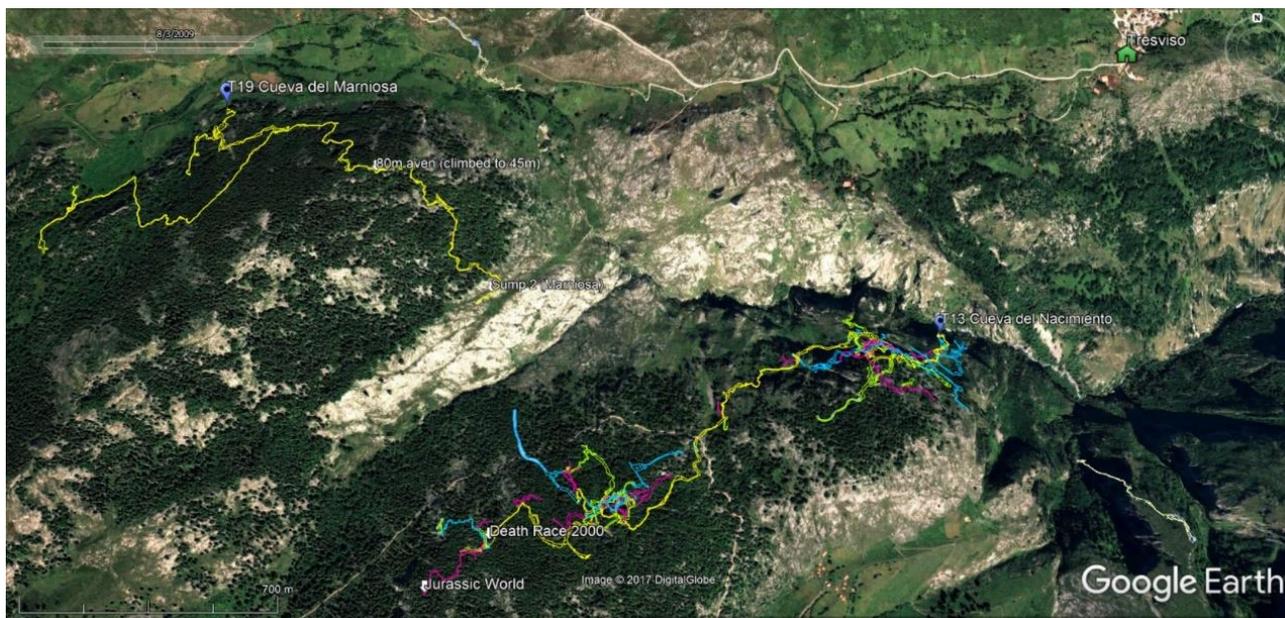
A team of 4 carried in the first divers diving equipment, making quick progress to the dive base just before sump 1. A few days later another team took the remaining equipment and undertook the

first dive. This took the form of a number of dives back and forth to ferry equipment through, ready for the arrival of the second diver later in the week.

A 2-man team (one of which was a press-ganged non-diver) dived the sump to look at the first objective, an unclimbed aven just beyond sump 1. The aven is around 80 m high, and sits in a good location close to some known draughting surface sites. If a connection could be made, it would enable non-divers to enter beyond sump 1 and support diving at the downstream end. It took over 3 hours to climb around 26m from the bottom on very loose rock. The aven still continues up for at least 30 m, but with increasingly fragile rock a halt to exploration was called.

The second official diver arrived and undertook a solo trip to transport in more equipment before a final go at sump 2. The push took place with Josh and Arwel on an epic 18-hour trip. Neither having gone much beyond sump 1 on their previous trips meant route finding and the unfriendly passage proving an issue. However, the pair reached sump 2 (unvisited since 1986) and Josh kitted up to dive. The sump was crystal clear and large (2 m x 4 m), surfacing after 25 m into ongoing stream passage. A quick recce of around 40m of new passage showed ongoing leads and no apparent signs of a further sump just yet.

The survey when drawn up showed the passage turning away from *Nacimiento* and heading up the valley, unexpected but more encouraging than a potential sump all the way to *Nacimiento*.



Nacimiento & Marniosa

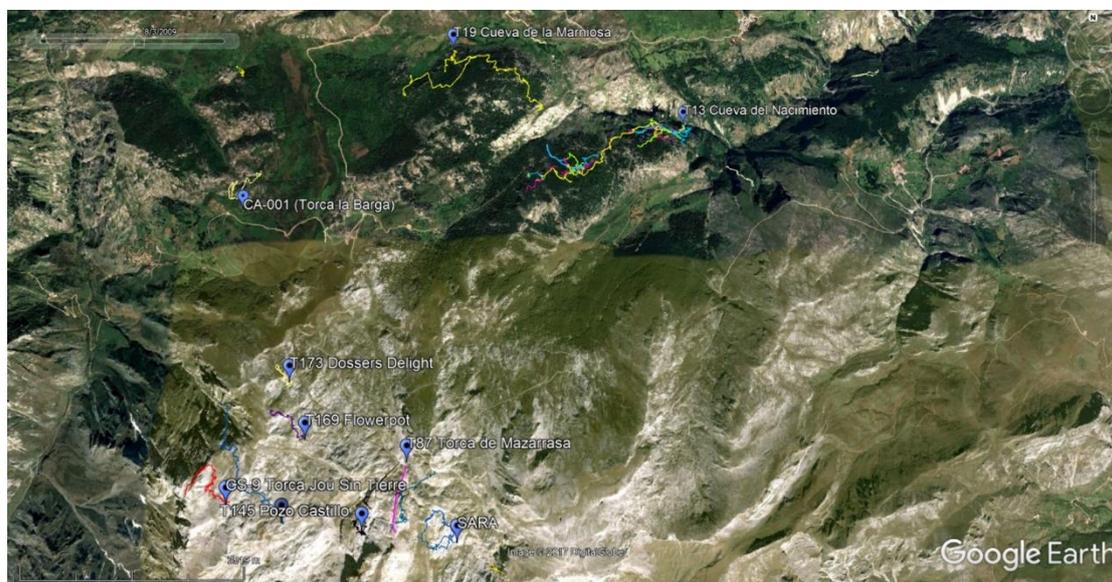
Summary

In total over 2 km of cave was surveyed in 2017. Exploration of *Nacimiento* encouragingly continues pushing ever higher into the mountain range. Passing the second sump in *Marniosa* is a major achievement in its own right, and unexpectedly has surfaced in passage heading away from *Nacimiento* and into the mountain, possible towards a hypothesized trunk route that may also feed the upstream sump in *Nacimiento*. *Sistema Castillo* continues to prove a challenge, but now with a modern survey and digger expertise planned for the 2018 trip, a breakthrough might be on the cards.



Expedition members 2017

*Standing L-R: Hannah Moulton, Derek Cousins, Josh Bratchley, Jason Lock, Elaine Moulton, Dave Powlesland, Gareth Davies, Alex Hannam, Michael Young, Tom Lia, Phil Walker, Anna, Fernando de la Fuente.
Seated L-R: Arwel Roberts, Chris Jones, Sam Deeley, Dan Workman, Bob Clay, Emma Battensby*

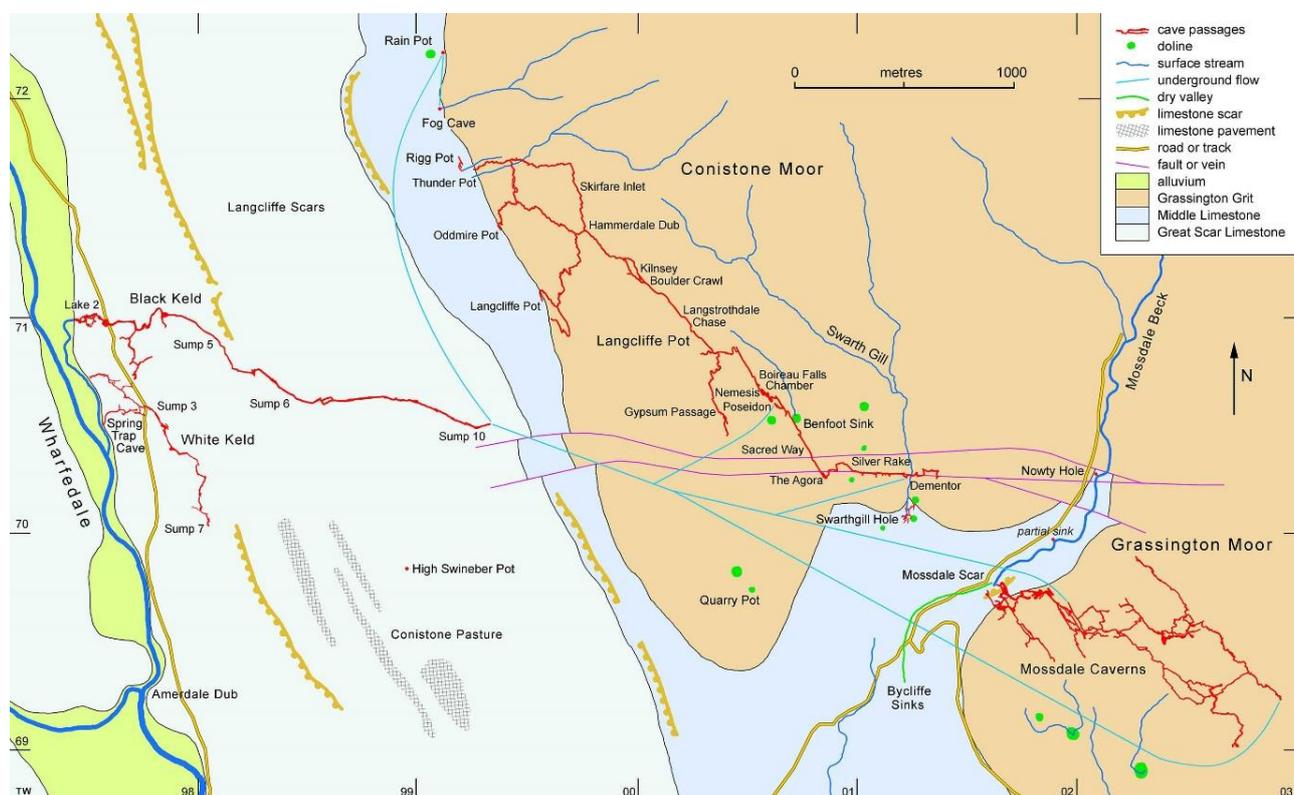


Andara – Tresviso range

Phil Walker
August 2018

Musings on the Black Keld Catchment

On the Eastern slopes of Upper Wharfedale lies an underground drainage system which is the match of any system to be found in Britain. The caves found on the slopes of Great Whernside and Grassington Moor add up, in the case of Mossdale Caverns and Langcliffe Pot, to over 21 kilometres of navigable cave passage, this added to the minor known caves in the area probably reach a total of about 25 kilometres. The fact that the end of both major caves are perched at, in the case of Mossdale at about 150 metres above the rising of Black Keld, and in the case of Langcliffe Pot about 180 metres above Black Keld, combined with the fact that both caves are trending away from the resurgence, in the case of Langcliffe the end is some 3 km from the resurgence and in the case of Mossdale some 6kms from Black Keld, implies that a huge cave system awaits discovery.



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In Mossdale the major discoveries were found from the late 1940s (BSA Bob Leakey etc.) through the late 1950s and the 1960s (ULSA, BPC/Happy Wanderers) and in Langcliffe the late 60s and early 70s (ULSA/YURT). Apart from diving at Back Keld and White Keld where significant, mainly underwater, extensions were made by the Cave Diving Group in the 80s, 90s and 2000s, nothing of significance has been found since. When you consider the major discoveries found in other areas of the Yorkshire Dales, this is a surprising fact. The nature of the passages of the two major systems has to be a partial explanation, they are both unrelenting, dangerously flood prone and contain, in places, some horrific boulder chokes, but Mossdale contains at least 5 draughting and /or boulder choked terminus's and in the case of Langcliffe, significant inlets and high level possibilities in the lower reaches of the cave. Langcliffe in the lower reaches beyond the Nemesis choke (Gasson's Series) has the distinct atmosphere of a continental cave system, the passages are large, remote and one can make rapid progress. Geoff Crossley, Dave and Thursa Hyde, Bob Bialeck, Mandy

Glanville and myself visited the bottom of this cave in the 1980s, it was intimidating, particularly the Nemesis choke, however the rest of the cave was only “severe” (to paraphrase Bob Leakey, on his traverse of Leakey’s Marathon in Mossdale Caverns), this was in the days before the second entrance of Oddmire Pot was found, which I believe makes the entrance series a little easier. We should have had another go at the bottom, although shorter trips were made subsequently.



Langcliffe Pot



Mossdale Scar

Mossdale was visited by Brian Judd and myself in the late 1970s when our first trip in 1978 reached the terminal choke in Stream End Cave, we entered it through the original entrance and although the continuing cave was very obviously flood prone it did not seem extraordinarily difficult, in fact many of the passages were quite uplifting. Our route through the cave was *via* Far Marathon East a much easier route than

Leakey’s Marathon although flat out in many places. Subsequent visits were all made via the new entrance, we looked at Western Passages, where even the worm like Brian could not make further progress through an ever lowering draughting bedding plane, Ouraborous, a nasty tight wet suit shredding passage ending in a draughting choke, avens in Broadway, Siphon passage with little chance of progress and the upstream Thin Stream Passage where a only a few metres of new ground was made, Brian Sellers joined us on these trips, there is a possibility that we may have made progress in the avens above Broadway had Brian not fumigated the place with cigarette smoke! (Only joking Brian)



Swarthgill Hole

During this period visits were made to other small cave and pots in the area, Swarthgill Hole, again I pushed Brian forward into the terminal choke (his life expectancy mattered less to me than mine!) where a few metres were made when even Brian withdrew declaring it to be too dangerous, (it was bloody awful!) Today armed with scaffold this might go. We looked at Lunar and Spider Pot, How Gill Nick and the sinks up on Black Edge, all pretty solidly choked.



Howgill Slnk



Gill House Pot

Gill House Pot was the one sink that had significant potential, we looked at it but the entrance was well and truly choked by a recent inundation of catastrophic proportions, blocking off the lower reaches of the entrance pitch, again a scaffolding exercise would open the previously explored cave, I believe the Craven had a go but without success.

The whole of Mossdale lies firmly within the Yordale limestone series of the Askrigg Block, it is sandwiched in the Middle Limestone of that series though does run for considerable distances on sandstone and cuts itself a little channel in Rough Passage, Marathon and Kneewrecker series. Progress in Marathon is surprisingly easy as one slides along the lubricated and gently descending passage. Faults are not far away to the south and there is every possibility that once certain limbs of the cave reach these, vertical development will take place passing through the Simonstone limestone and the Dirt Pot Grit entering the Harddraw and Great Scar Limestone with all the opportunities for major cave development taking place. It is not possible to visit Stream end Cave now without major excavations through shingle deposited after major flooding, however the final boulder choke did draught strongly, as do the chokes in High Level Mud Caverns and Ouraborous.

The entrance series of Langcliffe, as far as Boireau Falls Chamber, also runs through the Middle Limestone of the Yordale series in places touching the thin sandstone. At Boireau Falls Chamber the stream way cuts down through the sandstone and shales over about 50 metres in length and enters the next limestone layer beneath, the Simonstone Limestone. The stream way drops down through this band of limestone and the Dirt Pot Grit via the 22 metre Nemesis pitch. The chaos of the Nemesis choke follows immediately, and the cave enters the Harddraw Scar band of limestone, thought to be contiguous with the Great Scar limestone, through to the Sacred Way, a much larger passage, through to the Agora. From the Nemesis choke to the end of the cave, depth would appear to be just around the corner, but the large passage does not produce the expected depth. The Silver Rake does descend, but no pitches are found, the descent is not much more than the dip of the rock would suggest. Given that the Harddraw Scar and Great Scar limestones are as one, in this area of Wharfedale, it is surprising that pitches are not found. The stream way followed through most of the cave sumps at Poseidon Sump, just beyond Nemesis. At the final reaches of the cave an inlet is met coming towards you, it too sumps, at Dementor Sump, 180 metres above Keld Head. The CDG and ULSA have dived both these sumps on epic trips but to no avail. The potential at the end of Langcliffe is enormous, routes could be forced in the roof area of the Silver Rake, but a high degree of commitment would be required to pursue this.

The Lost Caverns of Grassington Moor are a known and defined series of fossil cave 230 m long located at a depth of 55 m below the Old Turf pits shaft, unfortunately inaccessible due to run in of the entrance shaft. These were found by lead miners and surveyed, whether they form part of the Black Keld catchment is unknown, for obvious reasons they were never dye tested, however it is doubtful as sinks, including that of Fossil Pot emerge at Low Mill Rising (Brow Well), the fossil passages could however connect to the fossil passages in Mossdale.

It is only by diving have major extensions been made to both Black Keld and White Keld, in the former over 3 km of passage is known, much of it sumped, and in the latter over 1.5 km have been discovered.



Black Keld

So that's the state of play in what will one day become one of the greatest cave systems in Yorkshire. The Bradford have a long and dignified involvement with the caves in this area, the tragedy of 1968 should not be a reason to ignore the potential of this tremendous area of limestone.

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Jim Abbott
August 2018

Whitsun Series – Gaping Gill

Editor's note: 2018 marked the 50 year anniversary since the discovery of the Whitsun Series in Gaping Gill. This article, republished from Volume 5 No. 4 (Winter 1968/69), tells the exciting tales of the discovery; now with the addition of some excellent photos taken by Ged Benn shortly after the discovery. What then follows is a report of Ged's anniversary trip, 50 years on.

Ever since the East Passage of Gaping Gill was discovered it has been the opinion of many potholers that one of the keys to the passages between Gaping Gill and Ingleborough Cave must lie along East Passage. Many attempts have been made to discover these extensions, and some were partially successful in that new ground was broken. Two which spring to mind are the scaling of the aven at the upstream end of Far East Stream passage and the extension of Avalanche Pot, both by the C.P.C. But in the last 60 years no real headway has been made along East Passage towards the Cave. That is, until Whitsuntide this year.

According to Monty Grainger he attempted the sump at the end of the branch passage in Far East Passage before the war but was too large to get through. After the war, during one of the early B.P.C. G.G. Meets someone drained the sump with a hand pump and got through but did not push their success.

In 1965, Neil Thorpe and Derek (Cas) Castleden examined the passage, passed the 'sump' which was actually a canal by then, and found a mud slope which led up to a boulder choke through which a strong draught blew. During the two years which followed Dave Brook mentioned this boulder choke to me several times but at Whitsuntide in both '66 and '67 we both had exams and no digging party was organised. Our interest became further aroused in 1967 by a rumour which said that the H.W.P.C. had broken through the choke into about 600 ft of stream passage followed by a sump. Rumours of a Clapham Bottoms Master Cave were also flying around at the time.

During the Craven winch meet in August, Dick Glover (C.R.G.) had a look at the boulder choke and it looked to him as though someone had dug through and then replaced the boulders (or it had fallen in) but being alone he did not investigate further.

One night in the New Inn at around Easter time, Dave and I came into conversation with John Hallam of Imperial College Caving Club, who was particularly interested in the G.G./Ingleborough Cave area and the branch passage was mentioned during a discussion about the end of Far East Passage. Then a few weeks before our G.G. Prelim., whilst he was in G.G., rescaling the Craven Aven previously mentioned, Hallam examined the boulder choke and told us that it had not been dug before! (We found out later that he had broken through the choke and had found two chambers beyond).

With all these stories and rumours about the place it was obviously the prime objective when the winch was erected. Thus, on the Sunday of the Members' Meet a party of five members set out along Old East Passage, intent mainly on a 'tourist trip' for the benefit of a young lady. I decided to take the opportunity of looking at the ubiquitous boulder choke. When we arrived at Mud Hall no-one, including our female visitor, seemed to want to go back so, rather than split the party, we took

her with us. As most people know, Far East is not the cleanest of places and very soon she was plastered in mud, but she seemed quite impressed with her first trip down G.G.

However, back to the story. I had never been much beyond Mud Hall and John Greene who had been on the B.P.C. scaling party (in Craven Aven) in '65, could not remember the exact layout so we proceeded to the final chamber and worked back from there. We eventually found a passage which led off from behind a mud barrier in the left hand leg of a Y-junction in the stream passage. A very muddy passage brought us to a hole in the floor into a pool. This turned out to be the canal which had a nice comfortable air space. There followed a mud slope up to a low squeeze and a short vertical shaft of 3-4 ft of which three sides were composed of mud and boulders - that was the demolished boulder choke.

The boulders and mud formed the floor of a small chamber about 6 ft wide, 15 ft long and about 15 ft high. At one end there was a hole in the floor half full of water which was either a sump or a backwater pool. A short crawl of a few feet in length opposite the point of entry led to another chamber of similar dimensions to the first. At the left hand end (S.E.) was a rift which closed down and in the opposite wall near that end was a hole at floor level leading down to the pool. It seemed that apart from one tube in the roof of each chamber (probably phreatic) there was no way out.

The mud bank at the entrance to the second pool was undisturbed so I slid down head first to examine it more closely. The pool was only a yard wide and apart from one V notch in the roof there was no air-space. I came out rather disappointed and had a word with John Greene who was with me. It was obvious that the rumour about 600ft of stream passage was untrue. Before we left I had second thoughts about the pool and went down again, this time feet first. There was a hole under water and as I thrust my feet into the opening a small slab fell from the roof onto my feet - if this was the way on no one had been through before. I managed to pull a few more pieces out of the roof and by getting right down into the pool I could see through the triangular hole and between my feet to an upward slope of some kind.

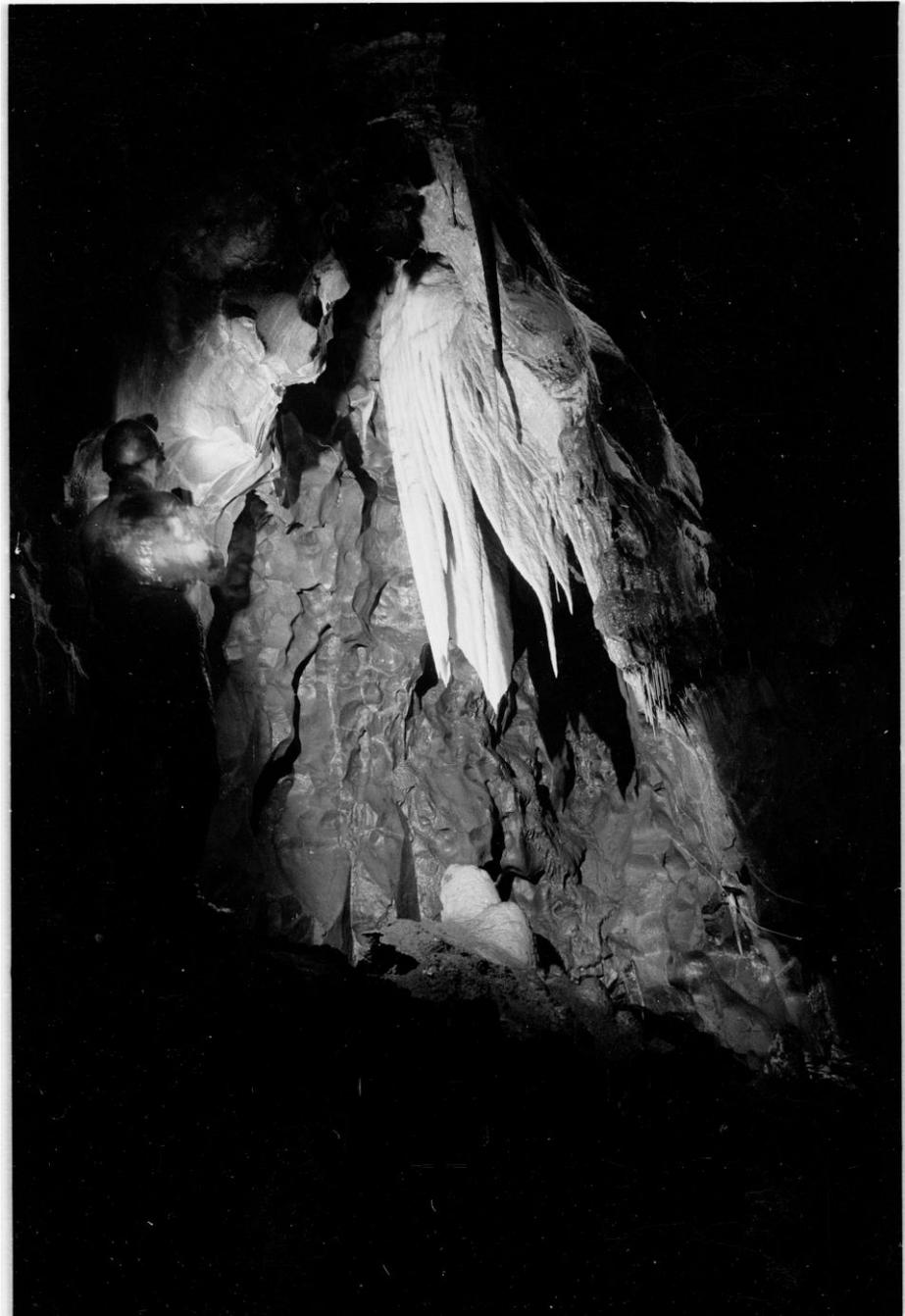
I decided not to duck through as the whole thing was fairly constricted and there was little or no room at the other side. It was clear that another trip, this time with a hammer and chisel, was required. We retreated to the main chamber, dispatched the young lady and one of the probationary members up the winch and John Greene, Mick Bycroft, Graham Midgley and myself came out through Bar to de-ladder it.

Although there was now the prospect of a few feet of new passage, I thought (being an optimo-pessimist like most cavers - hoping for the best, but knowing deep down that there was little chance) that it would probably close down or choke with mud. But, nothing ventured etc. and on the Saturday of the Bank Holiday a party of four, consisting of John Greene, Alan Brittain, Mick Bycroft and myself, descended and headed straight for Far East with a further party of three (Dave Brook, Carl Pickstone and Chris Davies (M.U.S.S.)) to follow later.

We left Mick at the beginning of the canal to wait for the other three and John, Alan and I went through to the pool. Five minutes' work on the loose lumps in the roof with a hammer and chisel

gave a triangular hole with a maximum of 6 inches of air space. There was then enough room for me to slide through on my back, head-first with my mouth in the roof. At the other side a mud slope started almost immediately and led up to a letterbox slot about 2 inches high but a yard wide and whistling up the slope into the blackness was a strong draught.

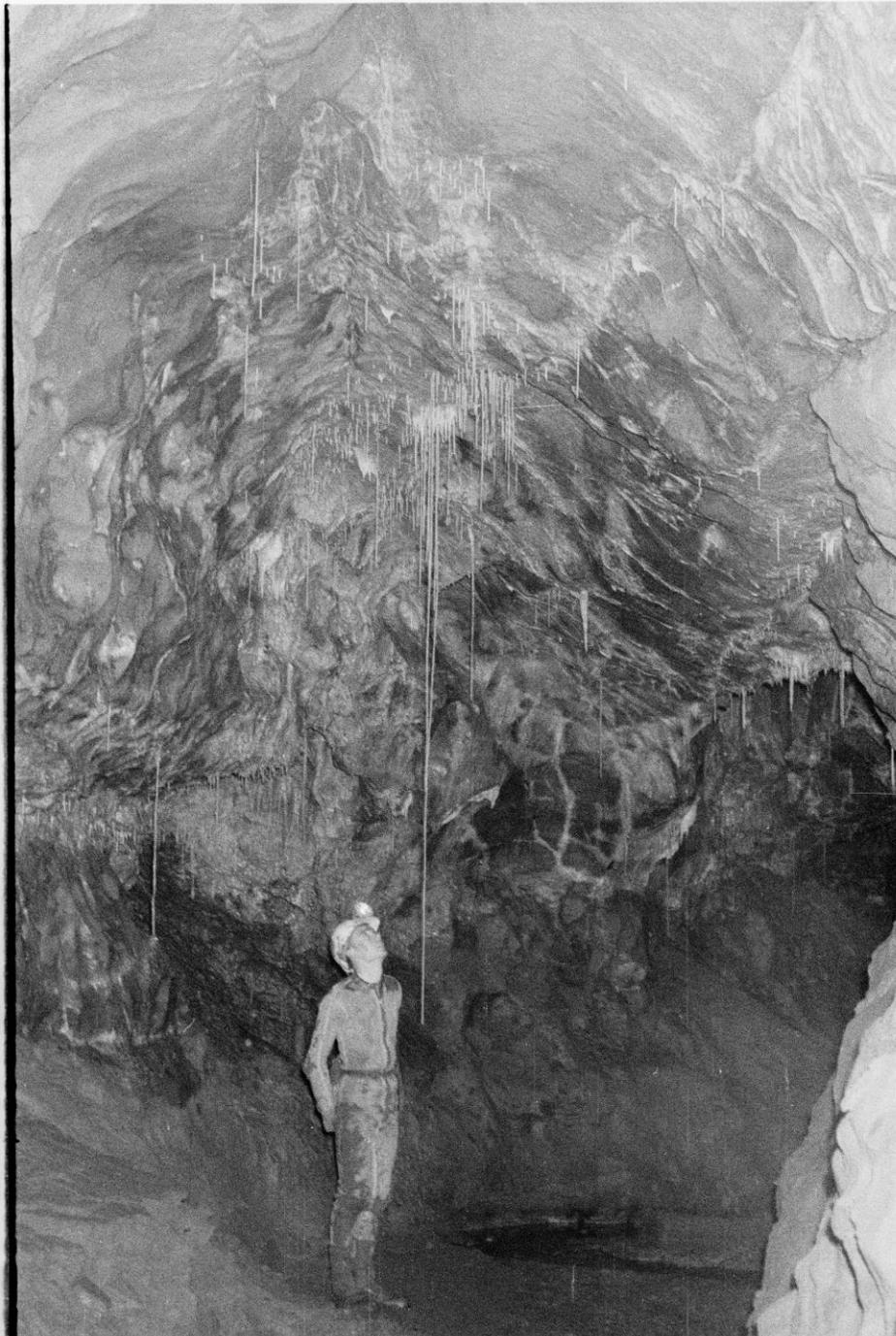
About ten minutes was spent digging up the mud slope before I became too cold to continue and after knocking off a few more lumps in the roof I slid back into the small chamber. Alan then took over digging as John hadn't got a wetsuit. For about thirty minutes all we could hear were the sounds of digging and much thrutching, until eventually a shout from the other side announced that he was through. I followed on as quickly as possible and Alan had to drag me up the mud slope through a tight squeeze as there was virtually no grip on the mud. John shouted through that the other three had arrived and that they would all follow on as soon as possible.



Straws Gallery, just beyond The Font

The hole emerged directly into a large chamber with some very fine stalactites immediately in front. The chamber stretched away to the left with large mud banks on either side. After about 30-40 ft a small trickle of water which ran towards us under the boulder floor turned down to the right and Alan went down to follow it. The pebbly floored passage soon closed down but digging may make it go. Continuing forwards the chamber became more of a large passage with a gully in the floor full of tumbled boulders under which the trickle of water ran. On the mud bank to the left were some very fine stalagmites of varying shapes and there were some straws in the roof. At a kink in the passage were the two longest straw stalactites I have ever seen, the first was about 6-8 ft long and the

second was an estimated 10–12 ft long. Around them were many more of 2–5 ft!! A large mud bank on the left reduced the passage to a narrow gully for a few feet to a small chamber. A series of cracks in the roof discharged a small trickle into a pool whence it flowed down the passage along which we had come.



Dave Brook admiring the long straws in Straws Gallery

The floor of this chamber was covered in lumps of eroded flowstone the like of which we had never seen before. The lumps were covered in sharp spikes almost as if it had crystallised like that. In front the passage was filled to within a yard of the roof with a big stratified mud bank. Climbing up we followed this for about 30 ft to where the mud had been washed away by a stream flowing from right to left to form a sort of T-junction. The right hand passage curved round to the right and ended in a blank wall.

In the left hand wall was a narrow meandering crawl for 30-40 ft to a small calcited aven. The way upwards was very tight but a good draught was blowing down it.

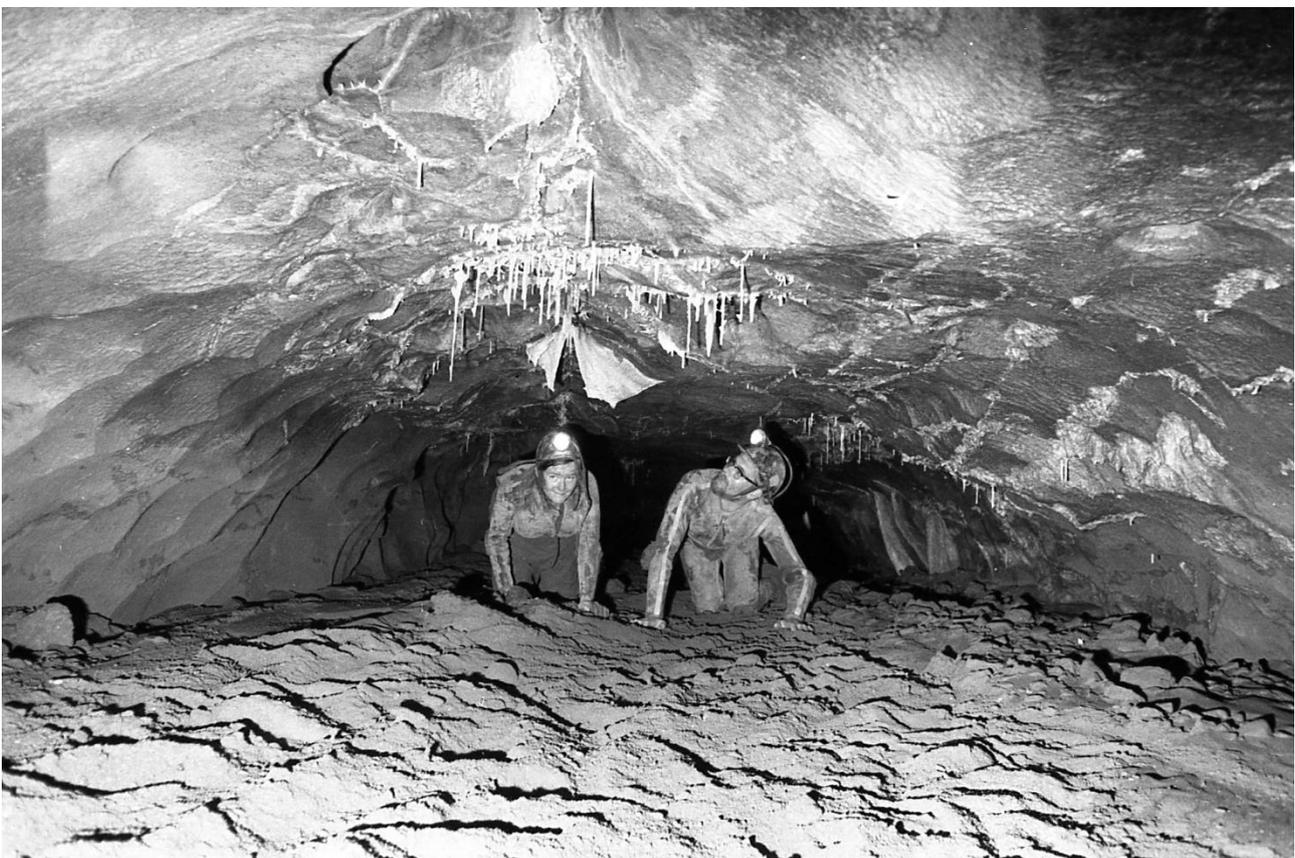
Back at the T-junction Alan went along the left hand branch to an impossibly tight vertical slit. It appeared as if there was no way on at the time so Alan and I made our way back to the Chamber and met the other five on their way along Straws Gallery. The two of us continued on our way back and left them to go and have a look at what had been found.

Back at the entrance to the new passage we had a look at the passage to the right behind the big stalactite. This went for a short distance to a small chamber and a smaller passage continuing to a

tight squeeze which looked as though it might go with a little digging out of the floor. The others seemed to be away a long time and we went to see what was delaying them. When we got to the T-junction there was no sign of them and the muffled voices did not appear to be coming from the passages we had explored. Eventually we tracked them down in a low crawl which went up the steep mud slope at the left hand side of the narrow vertical slot.

Apparently Mick Bycroft (on his first meet as a full member – he was elected the previous Thursday) had gone exploring on his own and had found the low, steep crawl. At the top we found the rest milling around in a bedding plane. To the right was a steep mud slope leading down to a boulder floored passage. The right hand branch sloped steeply down under the way we had come and ended in a boulder choke through which a small trickle of water disappeared. The left hand branch went up steeply over jammed boulders and eventually emerged from under the side wall of a very big rift formed on a N.W.-S.E. joint. At the left hand end the small stream entered from a gully about 20 ft up. This aven should be climbable and may provide another entrance to the system.

I made my way back to the bedding plane where I found that Carl and Dave had set off along it and that the passage was still going. The passage was mainly hands and knees crawling with occasional flat-out and stooping sections. This was later called Anagram Passage after an attempt had been made to form a name from the initials of the party's Christian names. The crawl was mainly along the line of the jointing and although it seemed to bend occasionally it was because the passage stepped sideways into another parallel joint.



Chris Davies (now Chris Benn) and Ged Benn in Anagram Passage



Chris Davies (now Chris Benn) in Anagram Passage

Large areas of the roof were covered with straw stalactites and helictites; one particular straw had bunches of helictites growing out of it at several points, for all the world like a Christmas Tree. The floor of the crawl was of sand and quite pleasant to crawl on. Shortly after a large calcite pillar had been encountered the

passage ended abruptly but we crawled down through a slot at the left hand side and then up again through some boulders into a similar passage as before. This was christened Rhubarb Corner by Chris, whose imagination was taken by a stalagmite at the bottom of the 'U' tube. A little further along, past some nice crystal pools, a crawl was encountered on the left and as everyone had gone round to the right I crawled in, but unfortunately it turned out to be an oxbow (slower than the other route).

The passage swung down to the left as at Rhubarb Corner and a flat out section brought us to a beautifully decorated grotto with masses of helictites and straws. Everyone halted for a rest here and, as time seemed to be running out (as far as the lamps were concerned) Carl, who was struggling through a tight bit just beyond, was given five minutes to see if the passage continued. He returned after the allotted time with tales of much larger passages beyond. A conference was held and in view of one or two people feeling tired and the state of our lamps we considered it prudent to return (hence Prudence Cairn). The retreat was uneventful except that the duck brought many comments and curses which were often repeated in later trips. It was a tired but excited party that was hauled out on the winch at approximately 11 pm after about a ten hour trip.

Because of the unfinished exploration it was obvious that the discovery had to be kept quiet. Four of us were in camp at G.G., but Carl, Dave and Chris had to go back to Clapham, where their exhaustion and mud-bespattered condition excited a certain amount of comment, especially when told that the trip had been a mere tourist one on East Passage.

A return trip was obviously desirable as soon as possible but our lamps were flat and the members of the team needed time to recover from their exertions. The following day (Sunday) I took several lamps down to Clapdale for charging and set about getting another team together for an early start on Monday morning so that the dismantling of the winch would not be delayed. (Little did we know how early on Monday the trip was to be). There were only three 'definites' from the original team (John, Alan and I) with Dave and Carl as 'possibles'.

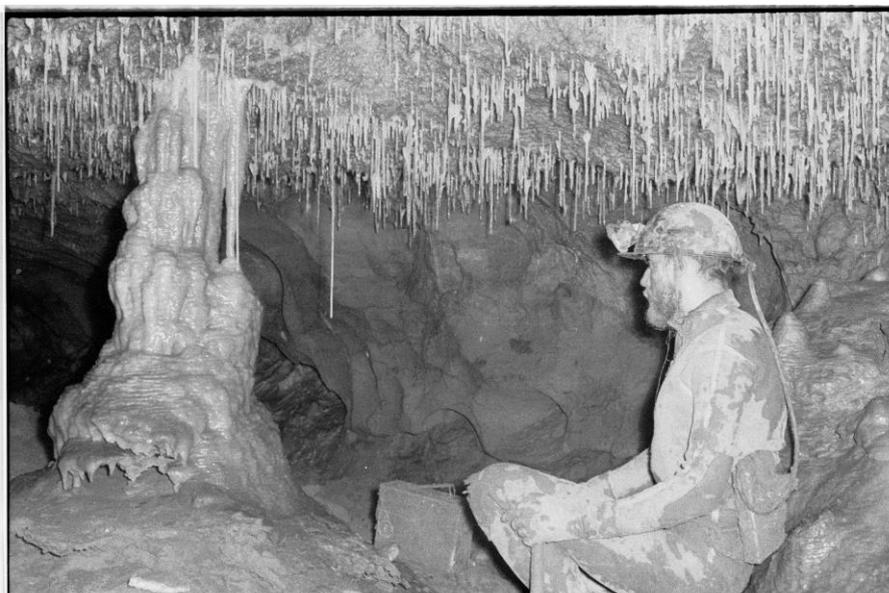
That evening I stayed in camp to help man the winch and John went down to the village, returning with a disturbing story. Apparently whilst down at the 'Shoe' with Dave and Carl, the Brook Brothers and other U.L.S.A. members had been talking quite openly about an extension in G.G. which they had come across at the end of East Passage. On being questioned they said they had found it accidentally and were going to survey it early the following day. The Happy Wanderers and others also knew about the new extension and a 'phantom' trip was obviously possible by any or all of these interested parties.

On returning to Clapham, Dave and Co. met up with Dick Glover who said that he would go down with us if no others were available. As a result John set off back to G.G. to warn us of possible 'phantom' trips, Dave and Bob Jarman parked their vehicles at the bottoms of Long Lane and Clapdale track to make access difficult for would-be phantoms and Dick Glover went back to Carnforth to pick up his gear.

On hearing the news, we arranged with Pete Faulkner and Jonah to lower us down the winch when we were ready. They went to bed to get some sleep before winching us down and we went down to Clapdale to collect our lamps. On the way back we removed the ladder from the first pitch in Bar to make entry difficult and Raymond Lee and Mick Bycroft went down Dis. to take out the top two ladders from there.

Eventually we were all kitted up, Jonah and Pete were aroused from their slumbers and at about 3.30 am the four of us (Alan, John, Dick and myself) descended. We didn't know how long the trip would last so we took spare lights and also some food in an ammo box as well as a ladder for the pits which Carl had reported (Pickstone's Pits). Steady progress was made along East Passage and the Font (so named because it was now my birthday) we passed with little more than the usual curses.

Dick was very impressed by the formations as we made our way to the bottom of Bradford Aven. Here he gallantly told us to carry on along Anagram Passage whilst he stayed behind so as not to slow us down. Alan had been behind us on the way to Bradford Aven and,



Carl Pickstone in Anagram Passage

not realising that we were there, had continued along Anagram at a high rate of knots, expecting to catch us up. It was not until John and I had reached Prudence Cairn that we overtook him.

The low section just beyond Prudence Cairn was fairly tight and the rocks and floor were very sharp because of a layer of dog-tooth spar. The passage then opened out at a T-junction and the right hand branch continued as a sizeable gulley cut in the enormous sand-mud banks. (The left hand branch was more or less a dead end. The sand floor gradually rose and where the passage was about 3ft high we reached a deep but narrow rift in the floor, running along the passage. It was about 30-40 ft deep and at the left hand end through an eyehole was a beautiful circular shaft which connected with the rift at the bottom. The shaft also continued upwards out of sight as an aven.

Continuing on over the rift, the floor rose a little and we reached a chamber named Hollow Mountain Chamber because of a large sloping area of thin calcite which had formed on a sand bank before the sand had eventually been washed away. A well-hidden aven at the far end was climbed by John to a passage which continued, but fairly small. This was not pushed.

The floor kept on rising and eventually we dropped out of the bedding plane into a transverse gulley cut in the deposits by a small stream flowing from right to left. This trickle was the first stream we had seen since leaving Bradford Aven and the sight of this quite large passage going away to the left set my heart pounding. I really thought we had found a feeder which would lead us straight to the Clapham Bottoms Master Cave. However, after going round a couple of bends the stream sank into a boulder ruckle in the floor. Up a mud slope to the left we reached the bottom of a fine aven which both John and I climbed without reaching the top. Following the stream back we found that its source was a spout of water issuing from a small fissure into a natural rock basin.

To the left of this another crawl led on past the foot of a boulder-filled rift (some of them gritstone). A little further along, John pulled a few rocks out of a bedding plane and ducked under a ledge to the right, then crawled over a hole in the floor and gained the top of a boulder slope in a large chamber. At the bottom of the slope the dimensions were about 30ft square. An upward mud slope in front had a line of quite good stal bosses corresponding with a well decorated enlarged joint in the roof. Continuing along the left hand wall in a gulley we reached a continuation of the Chamber (Farrer Hall). A small stream flowed from an opening in front, ran across the floor and disappeared into a pothole against the left hand wall which was full of loose blocks.

John and Alan investigated the inlet in front whilst I had a look at the choked sink and also at an alcove to the right of the inlet. All these possibilities drew blanks, although John said that the inlet, which had a calcited floor and ended in a boulder choke, might go with some digging.

It was now about two hours since we had left Dick and we decided to return as quickly as possible in case he was beginning to wonder what had happened to us. We made our way back, marvelling once more at the myriads of eccentric formations along Anagram, and found Dick dozing off near the Font. Apparently he had gone along Anagram as far as Rhubarb Corner, made a rough survey of it and then returned slowly to wait for us. After taking one or two photos we collected our gear and returned through the liquid mud of the Font.

Whilst returning along Far East Passage we met the Brook Brothers on their way in to survey the new series. When we reached Mud Hall we met a party of Imperial College Cavers led by John

Hallam. I have never seen anyone look more dejected than he did after we had told him what he had narrowly missed discovering beyond the pool in the two chambers which he had found.

Because of the time of day we were able to be winched out immediately and we finally surfaced at about 2 pm after another ten-hour trip.



A happy explorer! Ged Benn exiting after the first trip to the end of the Whitsun Series

Since that time, to my knowledge, there have only been about four trips - all by Club Members - of which only one or possibly two were with the intention of digging. There still remains some work to be done, *i.e.*, the avens require climbing and one or two digs attempting. Unless the winch is in position an average party can expect to take 10 to 12 hours to reach the end of Whitsun Series from Bar Pot via the main Chamber and Mud Hall, particularly if any photos are taken.

Several interesting points have arisen from the discovery of Whitsun Series, not the least being the method of formation of Anagram Passage. Nowhere in the main passage between the Font and Farrer Hall is a solid floor visible despite the dimensions of the latter. It would appear that Anagram could well be at least 10ft square in section. This estimate comes from the size of Straws Gallery, Farrer Hall and in particular from an exposed section of the deposits which occurs at Pickstone's Pits. Here, in a vertical exposure of 10-15 ft there is a continuous gradation of alluvial matter from fine sand and silt at the top through gravel and pebbles to sizeable water worn boulders at the bottom.

According to the Brook Brothers' survey (who I thank for their permission to reproduce their survey as we saw fit) the roof and sand floor of the passage gradually rise throughout its length. It cannot be ascertained with any accuracy whether the solid floor of the extension rises or falls. Because of the survey, the Brook Brothers suggest that the passage may come to the surface at the dry cove in

Clapham Bottoms. However, whilst I wouldn't agree with this theory, until a study has been made of the flow markings and an accurate position and depth measurement made for the end of the extension, it is difficult to decide the part which Whitsun Series has played in the development of G.G.

One final point, not previously mentioned, is that according to the survey the end of Whitsun Series is within about 200 ft horizontally and just over 100 ft vertically of the Club's dig in Clapham Bottoms. It is possible that this shaft is in some way connected with Whitsun Series and may be the cause of the strong draught through the System. On the final two trips the draught was inwards through the Font but on a later trip the draught was initially outwards and then it reversed during the night.

We were naturally very pleased that the Club had made the first breakthrough in G.G. for many years but it was with great astonishment (and perhaps a little jealousy) we heard that a few weeks later the Brook Brothers and U.L.S.A. had discovered over a mile of passage beyond the downstream sumps in Hensler's Stream Passage. Thus, in about a month nearly two miles of new passage had been discovered in a system long considered by many to be played out. The 'Far Country' as the Leeds called their extension, ends very close to Terminal Lake in Ingleborough Cave - the separation is variously put at 100 to 600 ft. It would appear from this that a connection should be not long in coming. When it does it will certainly be a very sporting trip with at least three Wallows (two in the Cave and one in Far Country) and probably in the region of 2 to 3 miles of passage to negotiate.

Now rumours are flying about concerning an extension from the end of Stream Chamber, presumably towards an old sink on Newby Moss. The story has it that half a mile of large size passage has been discovered without reaching the end. With G.G. expanding like this in all directions it will soon be back in its rightful position as the longest system in the North.

In conclusion, I would like to thank all those who helped in any way to make this discovery possible. In particular, my thanks to Jonah and Pete for winching us down at 3.30 am on the Monday morning.

Gerald P. Benn

(Photos added for reprint)

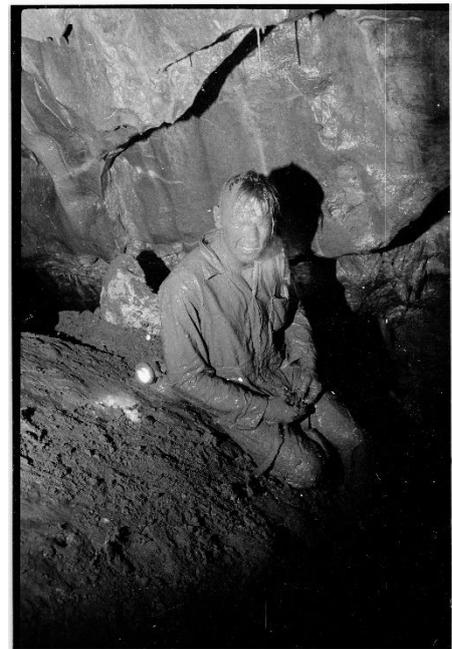
Whitsun Series – 50 years on

In April this year (2018) there was a full page spread in the Craven Herald about the CPC's discovery, in 1968, of the major extensions to Birks Fell Cave. (It should be remembered that the original cave explored by the YRC was extended by our own members in 1947.) There was no mention of other significant discoveries that were made in 1968 and the accompanying article from the 1968 BPC Bulletin is a reminder of one of them.



I'd had this anniversary in mind for some time and decided I would like to make an anniversary visit to, what was at the time, our greatest discovery. I managed to persuade my digging partners (Fred & Tim) to accompany me and so it was on Thursday 31st of May we made our way along to the start of Whitsun Series. Inevitably there was a lot of reminiscing as we started down the passage from the main streamway. In 1968 the approach to the Font was over fairly firm mud and even the bed of the

canal was not too soft. Now, because of the passage of many cavers, the floor has become a morass of liquid and semiliquid mud. We arrived in the small chamber where the Font is and I described what it was like then. I went through on my back with helmet on and hood up as I always did with very little ingress of water into my greensuit. The others followed without too much problem in the Font although Fred did struggle with the tightish exit. By contrast with 50 years ago the Font remained just a pool of water whereas in 1968 after the passage of the first caver it became liquid mud (see photo). We then proceeded along Straws Gallery where my companions were suitably impressed with the formations. I described the long straw (around 2.5 – 3 m) which was broken early on by a clumsy caver with a scaff pole despite us having built a cairn of stones under it. At the end of Straws Gallery I revisited Draughty Aven which I am convinced is linked with Glissade Pot in the South Craven Passage of Car Pot. We then climbed up to the start of Anagram Passage and after a short detour to Bradford Canyon started the long crawl. The formations along here are still very fine and in positions that should preclude further damage. I managed to find the solitary green stalactite boss that we had noted all those years ago. After Rhubarb Corner we reached the area approaching Prudence Cairn and remembering how tight it had been then decided it was not worth the struggle and that we had come far enough and turned for home taking photos as we went along.



*Alan Brentnall just beyond The Font –
Ged Benn*

The return through the Font was still reasonably clean but the squalor of the approach passage made up for it and is certainly the worst part of a trip to Whitsun.





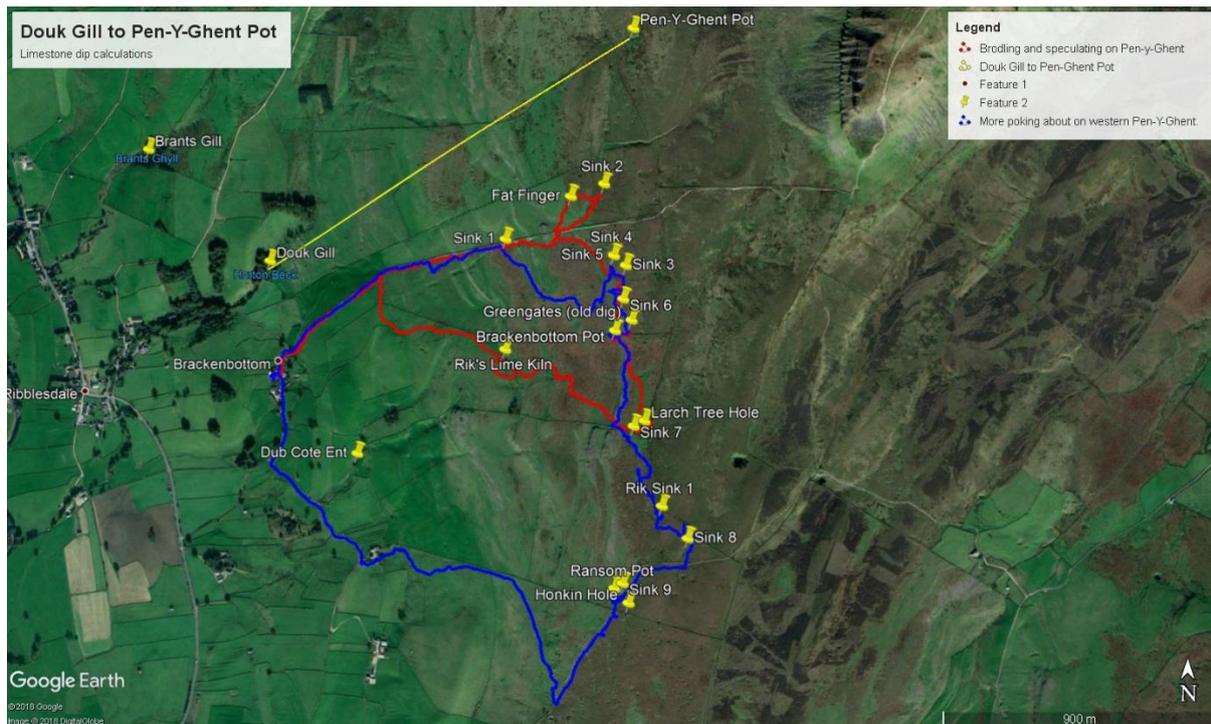
So there we are, I doubt if I will be making many more anniversary trips but the memory of our first big discovery is still as strong as ever.

Ged Benn
September 2018

(Colour Photos by Fred Rattray)

Douk Gill to Pen-Y-Ghent Pot and their Relative Horizons show Limestone Dip.

Whilst checking out various sinks around Pen-Y-Ghent I had some discussions with Dave (Swampy) Haigh on the fact that Pen-Y-Ghent Pot sump flows up hill to resurge at Douk Gill, so I did some calculations to prove it. As Google Earth was my main source of data there will be some inaccuracy, but given the lengths of the legs are long and the heights are all taken from the same source it should give us some indication. Below are my results.



Distance is approximate from Google Earth and is found to be 1.48 km or 1480 m, on a bearing of 058 degrees. See image above.

Altitudes taken from Google Earth so again only approximate are as follows:-

Pen-Y-Ghent Pot 428m

Douk Gill 278m

From Northern Caves 2 Pen-Y-Ghent Pot has been dived to 196m below entrance.

So now for some maths:

$$428 - 196 = 232$$

Therefore the altitude or horizon for Pen-Y-Ghent Pot sump is at 232 metres whereas Douk Gill is at 278m.

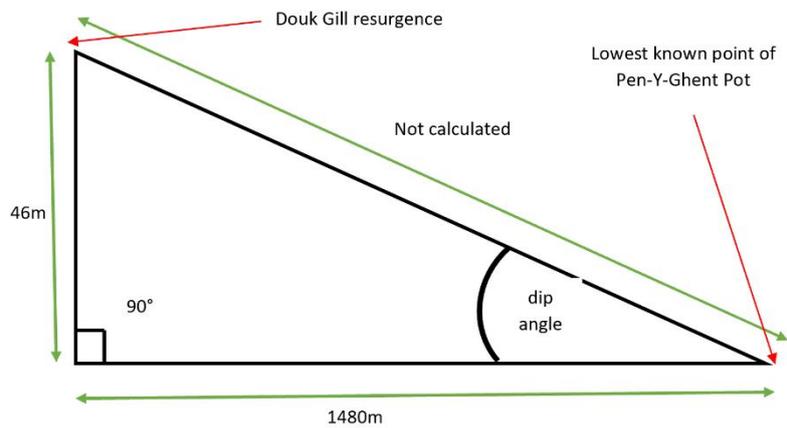
$$278 - 232 = 46$$

Therefore Douk Gill rising is 46 metres higher than the lowest known point in Pen-Y-Ghent Pot.

So now for a bit of trigonometry to calculate the dip angle.

If we now take the inverse tan of the opposite over the adjacent we will get the angle I've called dip angle.

$$\text{Dip Angle} = \tan^{-1}(46/1480) \\ = 1.78 \text{ degrees downward dip.}$$



Conclusions

From the data gathered there is a 1.78 degree dip to the north and east from Douk Gill to the lowest known point in Pen-Y-Ghent Pot. Why to the north and east. Well Pen-Y-Ghent Pot is on a bearing of 058 degrees from Douk Gill.

Now reading an article here <http://www.mudinmyhair.co.uk/WPGeol.html> on the geology of Western Pen-Y-Ghent it tells us: 'The limestones are substantially horizontally bedded but with a gentle tilt to the east attributed to post-Cretaceous movements of the Alpine orogeny. The net result is that the limestones of Western Pen-Y-Ghent dip at around two degrees to the north and east; consequently the underground drainage has a tendency to be up-dip.'

Well there we go, 2 degrees. Not far off with my 1.78 degrees.

The same article also reads that the Great Scar limestone is around 200 metres thick, and if Pen-Y-Ghent Pot is 196 m deep then this is the bottom of the limestone which ties in nicely with thoughts that it is probably bedding level development from here to the resurgence.

'Above the basement rocks lie some 200 m or so of thick bedded Carboniferous limestone. It is of special interest to us as it comprises the strata likely to be encountered by the caver prospecting on Pen-Y-Ghent being the sequence in which all the major caves and potholes are found: this is the Great Scar Limestone.'

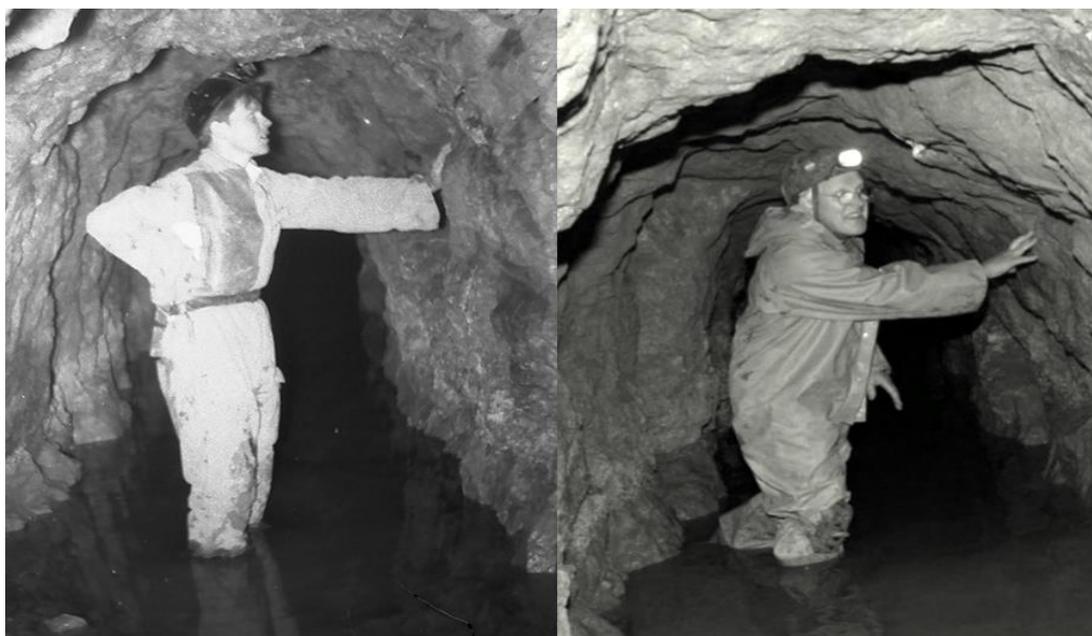
As a final part I also calculated the dip for Brants Gill and got 1.24 degrees, and 1.75 degrees for Dub Cote which is at a higher horizon than Douk Gill, whereas Douk Gill and Brants Gill are on the same horizon as per Google Earth.

Fred Rattray
October 2018

Ashknott Mine, Bowland

My first entry into Ashnott Mine was in 1962 when I was cycling over Marl Hill Moor towards Waddington Fell. It was a hot summer day and looking over to the right I saw a hole in the hillside perhaps a quarter of a mile away, across private farm land, but too tempting to resist. Leaving the bicycle on the roadside I set off and arrived at the entrance to a mine. Without a torch I ventured in. It was a pretty foolish thing to do but once out of daylight I had the sense to venture no further. It was a good job I didn't for a few feet in front of me was a fifteen foot shaft.

I returned with Pete Monk, John McKay and Paddy Crompton on October 28th and we traversed round the fifteen foot shaft to Bat Hall and then followed the passage to the incline down to Main Chamber. Below, a drop led to a short section of rotting timbers holding up tons of deads. I remember poking my fingers into the soggy pit props that had held up those rocks for well over a hundred years. How much longer could they stand the strain? Beyond lay iron rails – the Tramway - and then water.



Pete Monk in 1962 and again in 2009

It was much the same in 1970 when a few of us started to survey Ashnott, an exercise we lost interest in after a couple of trips. John Cooper had asked why we were doing it and we must have reflected on what he had said and wondered why indeed. We had just finished surveying Whitewell Pot and maybe it seemed a good idea at the time.

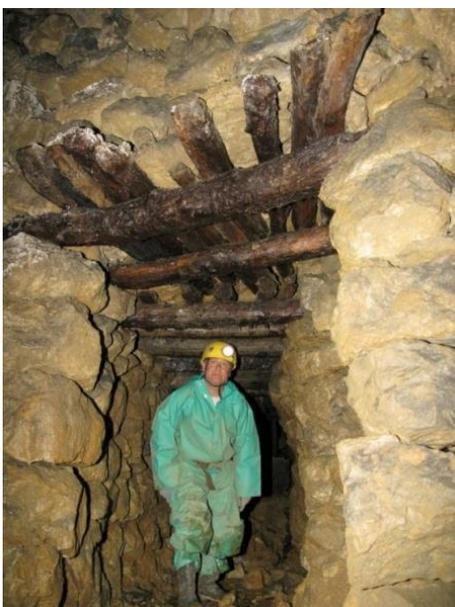
In 2009, Beardy of Red Rose asked for help compiling a complete list of caves in the Bowland area for the new edition of Northern Caves. Ashnott had natural features, and was actually included in the 1965 edition of Pennine Underground. It was a potential candidate. On July 17, BPC members Tony Brown, Pete Monk, Stu Ingham, Fred Rattray and Tim Sullivan along with Ken Geddes went to have a look.

We had some background information. Cannell (1966) describes workings at four different levels. A descent of the 15 ft shaft leads to System 2. Traversing round the shaft leads to Bat Hall and System 1. Right at Bat Hall continues to an incline to System 3 which includes the Main Chamber. Below the Main Chamber is the Tramway and System 4. The passage between the entrance and the bottom of the Incline are not apparently included in Cannell's four systems although they have evidently been worked. The sketch plan in Gill (1987) has it a little differently and also uses different terminology. He depicts System 1 as in Cannell, but also includes the passage between the shaft into System 2 and the top of the Incline. He depicts an Entrance System comprising the passage up to the shaft into System 2 and all the passages below the top of the Incline including the Main Chamber but not the Tramway. I have followed Cannell's delineation of levels (systems) but note that the 1966 NCMRS sketch map in Gill (1987) uses a different terminology, referring instead to systems.



With a survey provided by Bowland Pennine Mountain Rescue Team, supplemented by the NCMRS sketch map, we succeeded in exploring most of the four levels described by Cannell.

We found spits and hangers to ladder the 15 ft ladder a pitch I could easily have fallen down in 1962 and also to provide a traverse line to gain access to the continuing passage to the right of the pitch. I'm not quite sure how we managed to get round this 47 years earlier but we were younger then and used to do all sort of things that no longer look possible.



Descending the incline to the passages below, we gained the most interesting area but also by far the most unstable and dangerous with a number of areas taped off to discourage entry. Down here, was the old wooden tramway with iron runners I'd first seen in 1962. The pit props and horizontal sections supporting the many tons of deads looked just the same, black and exceedingly rotten. We didn't dare touch anything but couldn't resist a few photographs. This part of the system was recorded by Cannell in 1966 thus: *"The whole of this area has been overstoped and is now in a dangerous condition. The weight of the deads has been added to by the shafts above collapsing and the huge weight has caused massive buckling and crushing of the timbers. Parts of the roof, indeed, are in a state of disheartening delicacy."*

The Bowland and Pennine Mountain Rescue survey was extremely useful but is mostly confined to the main passages. It omits a lot of insignificant side workings that we explored, mostly to dead ends. It doesn't include Level 2 and much of Level 1. The NCMRS sketch map does include some of these details but is very inaccurate, for example, placing the Main Chamber 100 metres from the entrance rather than almost directly underneath it. It does however show a number of passages not on the Bowland and Pennine Mountain Rescue survey. The NCMRS scale is totally wrong too.

Tony Brown, Pete Monk, Fred Rattray, Tim Sullivan and Andrew Farrow returned on 25 November 2009 with the intention of doing a rough survey of length and direction to complement the Bowland and Pennine Mountain Rescue Team survey. When surveying you see things you would otherwise miss and we spotted fossils – a brachiopod and a gastropod (pugnax and euomphalus). More importantly we strayed into passages we had failed to note last time where we saw formations that surpassed anything previously seen.

Of great interest to those into photography was Andrew Farrow's very expensive Nikon camera. With a maximum ISO capability of 6500 he was able to photograph everything without flash. Sadly the handle on the case came away when Tim was handing it to Andrew across the pitch into level 2. The case and camera fell a full 15 ft onto rock. Even though the case wasn't well padded the camera survived without any apparent damage and still worked perfectly.



After that first surveying trip we upped our game a little. Fred borrowed BPC surveying gear so we had a decent compass and clinometer plus Andy Farrow's laser. Ged Benn and Dave Brook subsequently joined us and we completed the work in three more trips on 23 January, 10 February and 23 February 2010. During our explorations we got to know the mine quite well and on January 23rd we had a good sighting of a Natterers bat which flew out of Bat Hall and settled in the roof of the passage to the Incline.

There are plenty of places where we could burrow and ferret about but I think we found most of the natural features. Indeed, on February 10th Pete and Stu entered what is probably the only undisturbed natural inlet in the mine. It isn't very long, and constricted at that, but even in the mined passage where the inlet enters there is a

nice collection of flowstone and calcited pebbles. In the Main Chamber area we found a hole in a chamber wall that draughted noticeably and through which we could see a spacious area that intrigued us as it was somewhere we hadn't entered from elsewhere and could only have been gained by the miners from somewhere now blocked with deads. Who knows, there could be lots more passage still to explore but to blast a way in might attract the attention of the farmer who was decidedly uneasy about us being in there at all.



The lower tramway ended in a blockage which had occurred many years ago but on February 23rd Ged managed to dig a way through without too much effort and regain the tramway beyond a small natural cavity with walls and ceiling of loose material, no doubt the cause of the collapse. We finally made it almost to the surface where another collapse prevented our exit but we resisted the temptation to dig our way out in the interests of preserving the farmer's good will.

Including the earlier work by the Bowland Pennine Mountain Rescue Team the total length of passages surveyed is around 880 metres. Although our survey overall cannot be more than grade 2, much of it is better than that and some of it as much as grade 5. Its alignment with the surface will be a good approximation and will compare much better than with Cannell's rough sketch map used by Gill (2014).

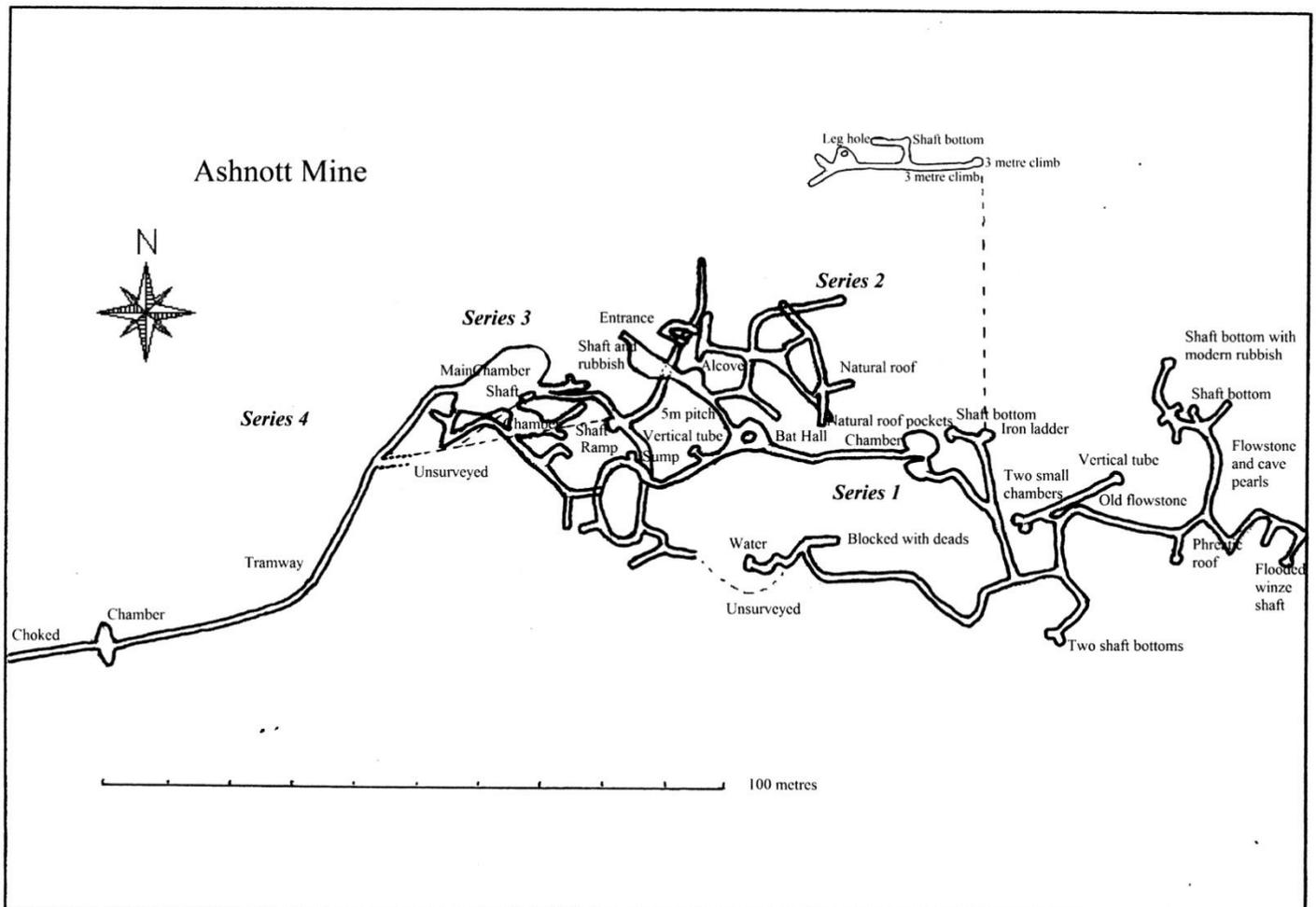
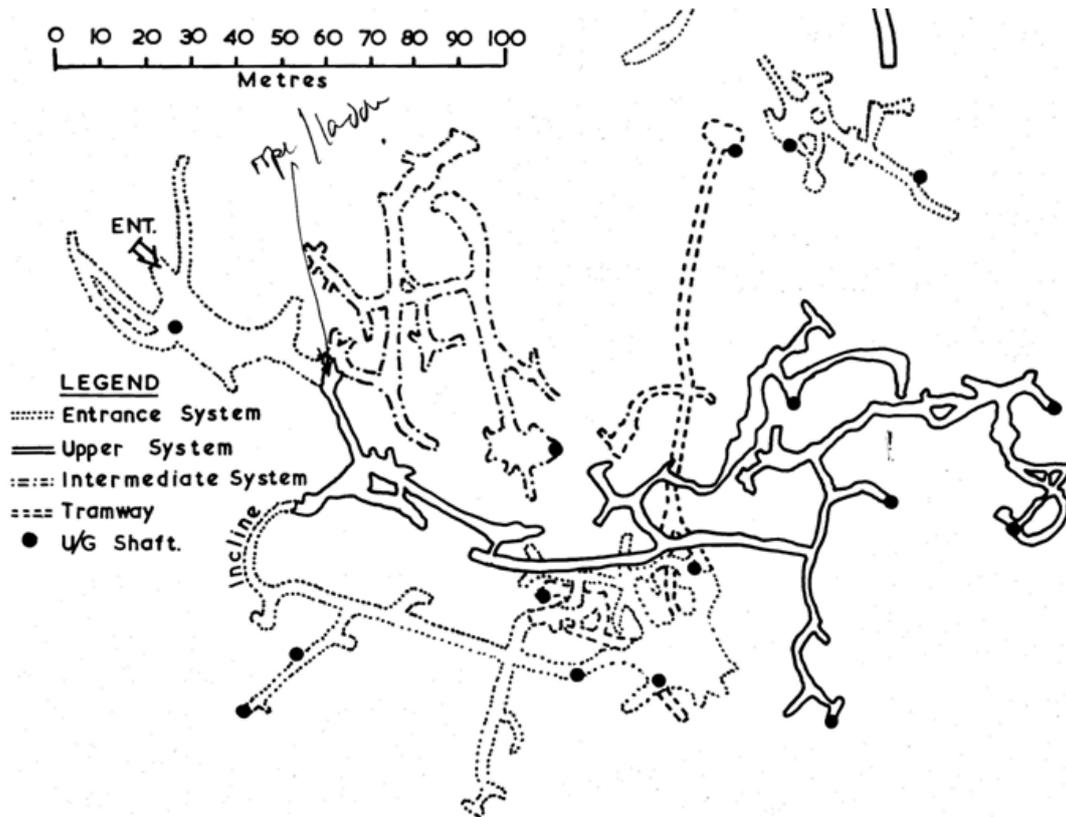
References for article:

Cannell, A E and M (1966) 'Ashnott Mines near Newton, Bowland, Lancashire'. Memoirs 1966 Northern Cavern and Mine Research Society, 46-47

Gill, M C (1987) 'The Yorkshire and Lancashire Lead Mines: a study of lead mining in the South Craven and Rossendale Districts'. British Mining 33. Sheffield: Northern Mine Research Society

Went, David (2014) Ashnott Lead Mine, Ribble Valley, Lancashire: An Archaeological Survey of the Landscape Evidence

Compare our survey with Cannell's sketch map below.



For a full description see below:

System 1 starts at Bat Hall where 2 passages go off to the left uniting on the other side of what is essentially a large pillar of rock separating two hewn tunnels. 30 metres from Bat Hall a chamber with a pool is reached and in the right hand wall is a body sized hole into another passage hewn from the other side and connected when the two passages met. 18 metres further on a T-junction is reached.

Left at the T junction continues for 15 metres to a choked end at a shaft bottom but 4.5 metres from the end a 3 metre climb up an iron ladder to a hole in the right hand wall gives access to an upper level. This continues above the passage heading in a direction back towards Bat Hall. After 25 metres a small chamber is reached where there is a "leg hole" into the passage below. Just beyond this point the way forks. Left goes for 4.5 metres and right for 3.5 metres. 2 metres back from the fork is a 3 metre passage to the right and 12 metres back a 3 metre climb gives access to the base of another blocked shaft and a short length of passage heading in the same direction as the passages below it.

Right at the T junction leads to a second T junction after 11 metres. Turning left here passes a passage on the left after 6.5 metres before continuing flat-out in rubble, ending after 15 metres in a small chamber with run-in from two shafts above. The passage on the left 6.5 metres after the second T junction goes for 7 metres to a Y junction. Left here goes to a third T junction. Left ends in two small chamber after a short distance and right goes for 10.5 metres ending in a vertical tube going up 2.5 metres. Back at the Y junction, right starts as a hands and knees crawl through old flowstone before sloping down steeply and then becoming flat out to gain a larger passage and then rising up for a short section. A passage 4 metres long ending in a small chamber goes off to the right after about 20 metres and a fourth T junction is reached after a further 2.5 metres. Right continues from this fourth T junction and goes for 6 metres in a passage with a good phreatic roof before turning sharp left. 7 metres on the passage turns sharp right at 3 metres passing a 4 metre long passage on the right before turning sharp right after 7.5 metres. The passage continues for a further 6 metres ending in what appears to be a flooded winze shaft. Left at the fourth T junction goes for 8 metres past an tight inlet on the left with good flowstone and some formations with cave pearls in the main passage at the point of entry of the inlet. After a further 5 metres a 3 way junction is reached. First left goes up a slope where Ged dug out a passage which went for 14 metres to a shaft bottom blocked with modern rubbish, after passing a short passage sloping up on the left after 4 metres and a short passages going off left and right after 6 metres. Second left goes for 3.5 metres to the bottom of a shaft with run-in and third left goes for 5 metres in a low passage under a hanging death boulder.

Turning right at the second T junction the passage continues for 40 metres, mostly hands and knees, and starts to slope down after the second of two small chambers, finally becoming steeper and flat out on rubble. Where it emerges into larger passage there is a 4.5 metres long passage linking back to the right around what is essentially a pillar of rock but the way is blocked with deads. Continuing sharp left for 4 metres reaches a sharp right bend with a crawl sloping up straight ahead. Beyond the sharp bend another 8 metres of passage leads to a pool of water, which may be a sump, at the

bottom of a slope. The upward crawl at the sharp right hand bend, is very low on loose debris and breaks through into a series of small chambers with short climbs where the miners exploited natural pockets. There are still some traces of galena. A crawl through loose debris in this area connects with System 3.

System 2 lies below the 5.2 metre shaft near the entrance and contains a number of natural features where phreatic passages have been enlarged. It is often difficult to discern what started as natural and what has been totally hewn out by the miners.

At the bottom of the 5.2 metre shaft a low passage leads to T junction. Right is a dead end after 6 metres whilst left is a complex area with four passages leading off. First left, slopes down steeply and reaches a T junction after 7 metres with short passages going off at right angles in opposite directions. Second left, continues for 19 metres. Third left, through a small hole in the wall slopes up steeply for 8 metres to a T junction with left ending after a further 6.5 metres. Right continues steeply for 13 metres, levelling off at the end and terminating in an alcove with natural roof pockets. 5 metres from the end of this passage a branch to the left goes for 4.5 metres in a passage with a natural roof whilst 6 metres from the end a flat out crawl on rubble descends steeply and joins the fourth passage close to where it ends. The fourth passage from the four way junction slopes up steeply for 11 metres with passage 3 entering on the right 3 metres from the end.

Turning right at Bat Hall leads to System 3 but before exiting Bat Hall a passage slopes up steeply in the right hand wall and extends for 7 metres. The main passage out of Bat Hall loses height and passes through two chambers, one of which is 4 metres high, before reaching a ramp after 16.5 metres. The ramp descends steeply for 13.5 metres to **System 3** which starts as a square passage 1.5 metres wide with a 3.5 metre passage going off at right angles on the right ending in a sump pool. The main passage continues at mostly stooping or walking height round a series of bends for 40 metres until it breaks out into the Main Chamber. The final section is flat out. Along this 40 metre section of passage there are three junctions. The first passage goes off to the right after 6 metres and reaches a T junction after another 7 metres. Left and right here both end after 6 metres. The second passage is on the left 8 metres beyond the first junction and is very short at 2.5 metres length. A much more significant junction is 9 metres further where there is a large passage on the right and a shaft on the left whilst straight on continues for a further 15 metres, mostly at stooping height but finally flat out before emerging in the Main Chamber. From the junction, the shaft on the left descends through loose and dangerous boulders into a complex area connecting with the tramway (System 4). The passage on the right appears to be the most obvious way on and is roomy in places with plenty of deads but ends abruptly after 30 metres. 16 metres along this passage a passage slopes up on the left for 3.5 metres where one branch comes back over itself ending after 4.5 metres in a tube less than half a metre in diameter. The other branch turns sharp right and runs parallel to the main passage below, rising for another 3 metres. It then takes another sharp right and terminates after a further 5.5 metres having crossed over the main passage below at right angles..

On entry into the Main Chamber there are three ways on, one to the left, one to the right and straight on down to the Tramway. The passage on the left is a hands and knees crawl for 2.5 metres

in a hewn out tunnel which emerges into pocket in the base of a chamber 6 metres in diameter which has three outlets. First left slopes up for about 3 metres to a Y junction. Left at the Y junction continues more steeply for another 7.5 metres, the last few metres flat out on rubble. Right at the Y junction slopes up at stooping height for 3 metres. Continuing clockwise in the chamber the second outlet left attains walking size in a square passage with deads on the left, before reaching another Y junction at 10 metres, having passed a 6 metre long passage on the left after about 4 metres. Both passages from the Y junction end after about 5 metres. Continuing clockwise in the chamber the third outlet is to the right of the point of entry to the chamber and slopes down for 8 metres before turning back on itself and dropping down into a small chamber with a hole in the floor looking down into the Main Chamber. A short climb up on the left from the small chamber gains some roof pockets.

Entering the Main Chamber, the short passage on the right goes for 7 metres to a small chamber with a 2 metre branch to the left after 6 metres.

System 4 is gained by exiting the Main Chamber at its bottom end and comprises a Tramway and a complex area of loose boulders and deads. It is gained from a branch on the left of the Tramway a few metres in, or from two shafts, one in the Main Chamber and the one already referred to in System 3. We did not survey the area between the tramway and the two shaft into it. The passage from the Main Chamber to the tramway, and the tramway itself extend for about 80 metres with a partial blockage about 15 metres from the end where the passage enters a natural chamber with collapse debris on the floor.

Tony Brown
November 2018

Tresviso 2018

Summary of the 2018 expedition to the Picos de Europa

The 2018 Tresviso expedition to the Eastern Massif of the Picos de Europa, Spain, was undertaken over two weeks in September 2018. This time round the expedition was a rather grand affair with 54 people from 12 different clubs, including 24 members of Sheffield University Speleological Society (SUSS), hopefully starting a regular participation for future expeditions.



Vegas de Andara, Andara (Phil Walker)

There were several objectives in 2018 but the core ones were, in summary:

- Exploration in the furthest reaches of *Cueva del Nacimiento*, around the areas known as *Death Race 2000*, *Die Hard* and *Jurassic World*, exploring numerous leads, generally requiring aid-climbing.
- Exploration beyond *Sump 2* in *Cueva de la Marniosa*, passed in 2017, and left at ongoing passage.
- Re-investigation of *T169 Torca del Picu Boru (Flowerpot)*, a -723 m deep pothole, last visited in the early 1980's and containing a few worthy leads. *SUSS leading on exploration of this cave.*
- Ongoing surface exploration, shaft bashing and multiple leads in 'smaller' caves.

Cueva del Nacimiento

Cueva del Nacimiento remains the main objective of the expedition. Although, choosing the more difficult route of exploring upwards from the resurgence, the cave is slowly giving up secrets and we edge higher up the mountain on each trip.

Actual Terror

Jurassic World is the current highest horizontal passage in *Cueva del Nacimiento*). Originally discovered in 2015, the passage ends in a draughty dig where the ceiling meets the mud floor. Around 20 m before the end is an inlet aven, *Terror Firma*, where an obvious 6m deep choked pot has formed from the water entering via the aven. The aven is gained from a bridge between the pot and a muddy slope down. A swing out under the dripping inlet leads to a dry 15 m pitch up a water inlet.

The top of the *Terror Firma* aven is currently the highest point in the cave, at +535 m, and with an obvious wet inlet entering at the top, a good site for further progress.

Unfortunately, the wet inlet ended quickly in an impassable slot, so another route was attempted from lower down. This wet and muddy route was followed up to *Actual Terror*. The passage is easily free climbable for 3 m and a way on through a window followed the water to another ledge. An awkward exposed step enters the ledge, and continues with another awkward climb, but this ends after 10 m with the water entering through a narrow impassable crack. This was the end of exploration and unfortunately no new height gain was achieved.

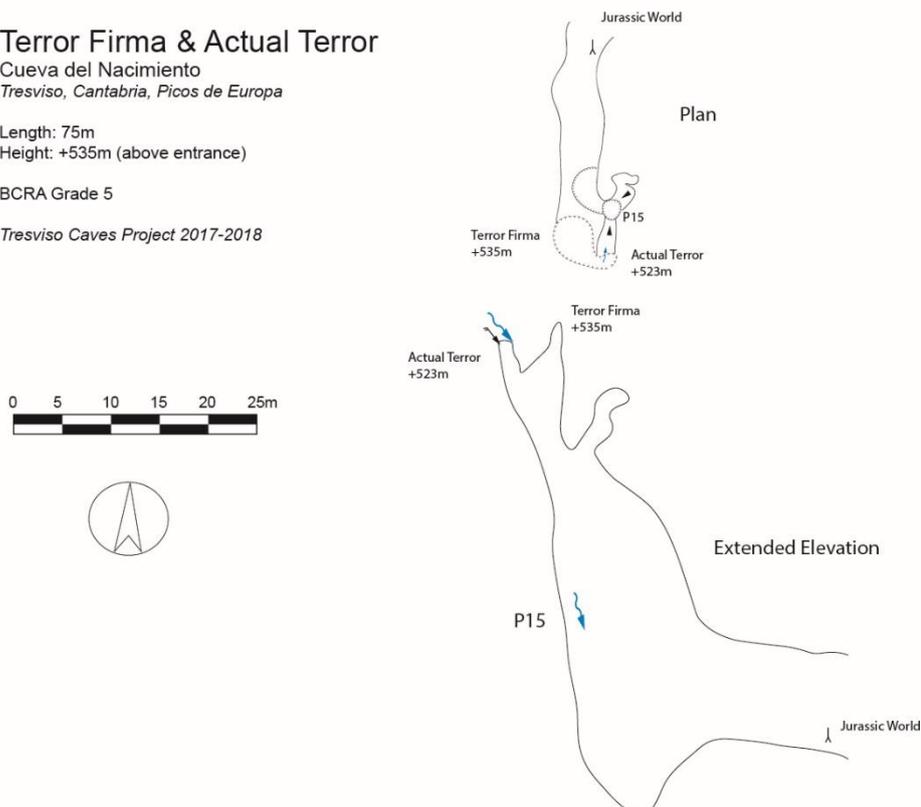
Terror Firma & Actual Terror

Cueva del Nacimiento
Tresviso, Cantabria, Picos de Europa

Length: 75m
Height: +535m (above entrance)

BCRA Grade 5

Tresviso Caves Project 2017-2018

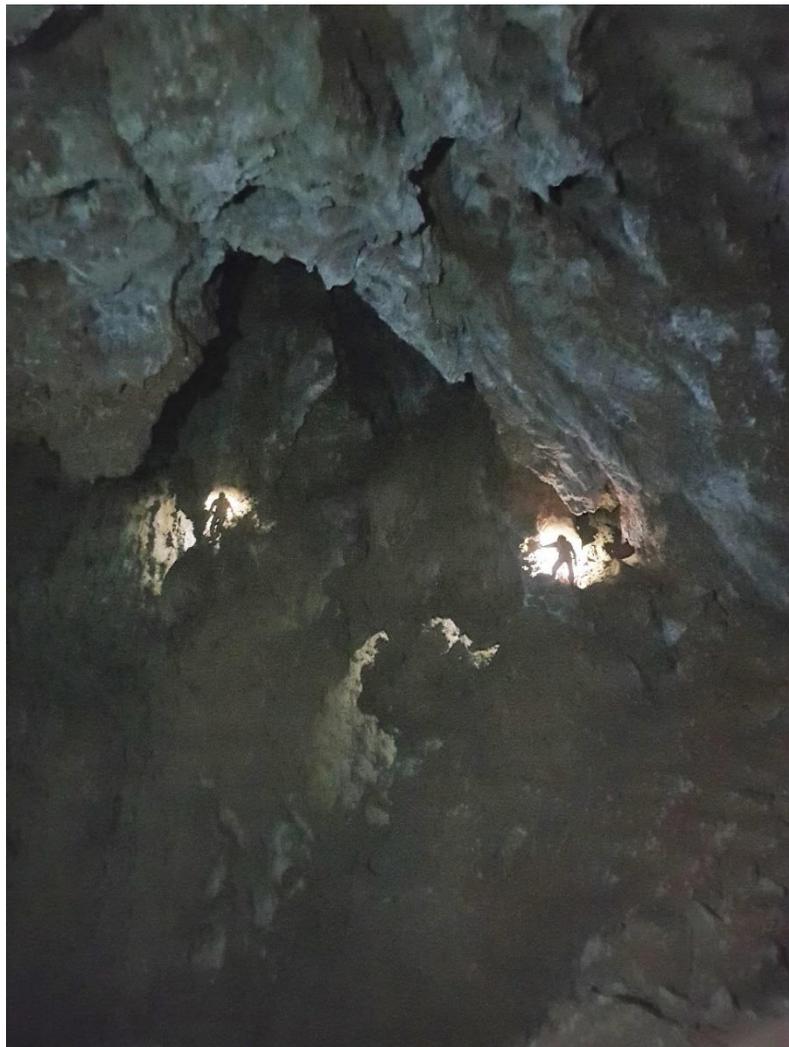


M6 Toll Bypass and the Jurassic Highway

Access to the far reaches of Nacimiento, starts from the Death Race chamber, a good 8–12 hours from the entrance when carrying equipment. An airy 30 m traverse and multiple up and down pitches around the chamber give access to the main route on toward the end of the cave, but it can take well over an hour to scale and traverse the chamber, there is then the small matter of 4–5 hours of further caving to the very end.

This all changed in 2018 with two major discoveries. First the *M6 Toll Bypass* route was discovered. This route starts at the beginning of the 30 m traverse and involves some short scrambles and a 20 m pitch to a mud ramp that allows quick access to the continuing *Die Hard* passage, reducing the traverse round the chamber to around 20 minutes.

The *Die Hard* passage itself eventually degenerates into a tight rift like meander that can take well over an hour to traverse. A short climb at the start of the meander gives access to a 2 m wide easy walking passage, that has reduced the time to around 5 minutes, and the continuation of the main cave.



M6 Toll Bypass, Cueva del Nacimiento (Sam Deeley)

Here's What you Could have Won

The *Death Race* chamber also contains a pitch series that descends back down to stream level. The *Pina Colada* sump was discovered on an earlier expedition and was revisited this year.

Bold climbing above a large murky sump pool of unknown depth, gave access to an ascending series of ramps and large passage. One branch of the passage leads to a large chamber large (20 m x 15 m) chamber with an attractive gour pool in the floor. A large flowstone feature enters here from approx. 30 m above. This is a promising lead and would be a large bolt climb to find the source of this flow.



Here's What You Could Have Won, Cueva del Nacimiento (Rob Middleton)

Here's What You Could Have Won

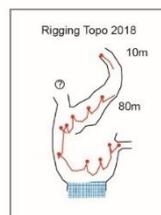
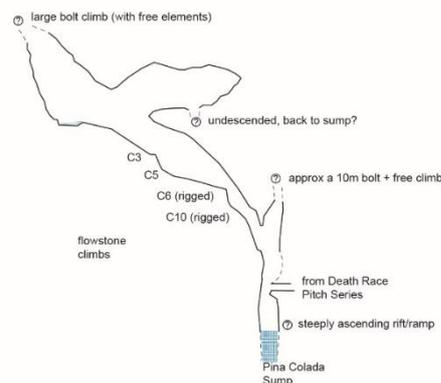
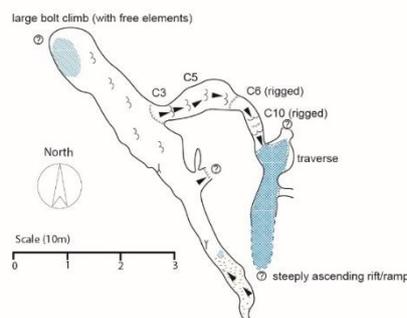
Cueva del Nacimiento
Tresviso, Cantabria, Picos de Europa

Length: 133m
Height: +50m

BCRA Grade 5

Surveyed by:

Tresviso Caves Project, 2018



Cueva de la Marniosa

In 2017 Sump 2 was passed and surfaced into a continuation of the streamway, but unexpectedly turned south, away from *Nacimiento*, and into the mountain.

Beyond Sump 2

The diving contingent quickly started on pushing beyond the sump from the beginning of the expedition and passed the second sump once more on the second day. Two leads from last year were investigated. The first one initially entering further streamway before choking but the second route was large and impressive and followed the streamway further, down several climbs to a 6 m pitch.



Sump 2, Cueva de la Marniosa (Joe Daniels)

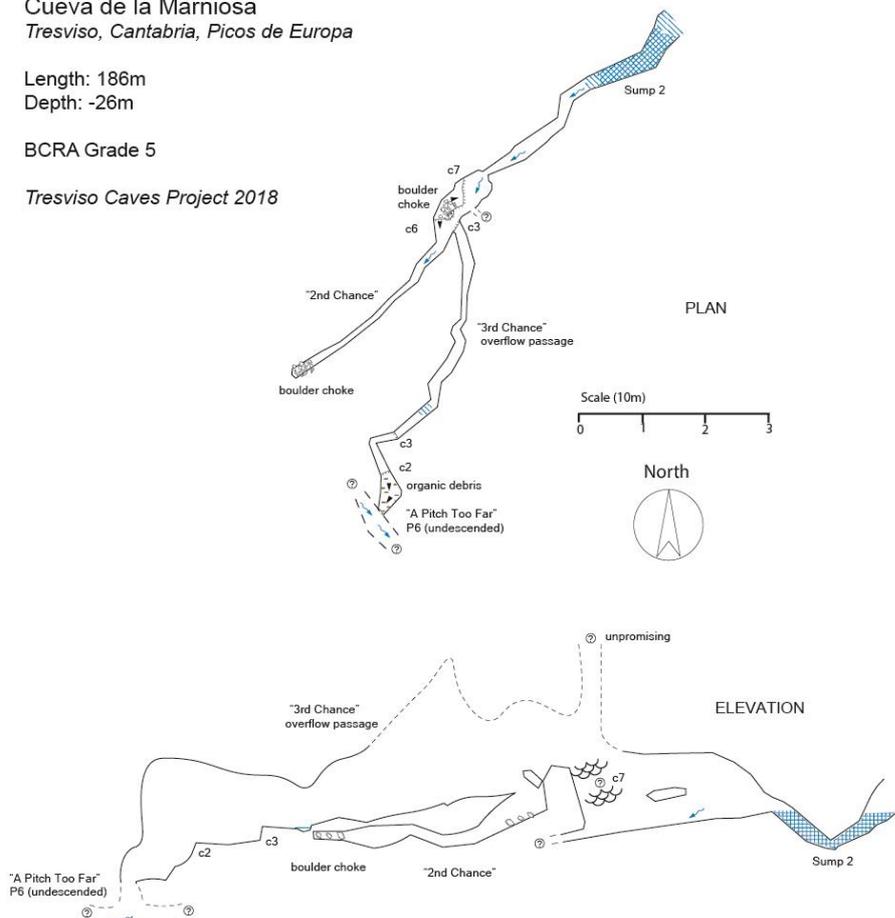
Sump 2 & Beyond

Cueva de la Marniosa
Tresviso, Cantabria, Picos de Europa

Length: 186m
Depth: -26m

BCRA Grade 5

Tresviso Caves Project 2018



Unfortunately, with no SRT kit or rope transported this far into the cave, exploration ended here, with the pitch undescended and a streamway below, awaiting a revisit.

Although only one dive was completed, over 180 m of new passage was pushed by the team, beyond sump 2, and has extended *Marniosa* much closer to *Nacimiento*.

Extra Caverns Series

The *Cueva de la Marniosa* entrance series generally contains large, old passage, reminiscent of *Cueva del Nacimiento*, before it suddenly drops into a lower immature rift-like streamway that cuts across the general trend of the cave. The likelihood of further large passage continuing above the streamway, into the mountain cannot be discounted and there a few leads, left from the 70's exploration that warranted some further exploration.

The *Extra Caverns Series* starts about halfway between the entrance and the streamway and mainly consists of some roomy passage with a few low crawls and rifts, but also several unclimbed avens. 3 avens / climbs were scaled, each about 60 m in height continuing over existing cave but exposed conditions necessitate better rigging and equipment to push any further.

T20A Cueva de la Silvestre

The upstream end of *Cueva de la Marniosa* ends in a large chamber, the *Hall of the Mountain King*, with two 50 m avens entering in the centre of the chamber. The chamber lies under the head of the *Sobra Valley* and exploration on the surface for possible ways in has always been difficult due to the nature of the surface in the vicinity, being heavily wooded and difficult to navigate.

A reference in the 1970's journals has always been at the back of the mind for further exploration, but the past few years have always ended in groups lost in the trees or wasting hours going in circles.

Finally, this year, with a lot more people and more time for a systematic approach, a better search of the area was conducted, and several possibilities were discovered.

In a change from the previous years of wandering aimlessly across the surface, somebody had the bright idea of following a stream down the side of the hill, which ended in an obvious sink. In the immediate vicinity another 14 possible entrances were identified, but it was another 2 days of dropping these sites until one looked particularly promising.

KJ1, as it was originally known, started with a 25m shaft down to a rift chamber and eventually a streamway. The stream then starts to drop steeply down cascades and further pitches. This was the initial limit of exploration, with limited rope and hardware available to the team, as the bulk of equipment was being used in *Nacimiento*. After some begging back at base, a bigger and more equipped team set off the following day, to continue exploring and surveying.

No. 20 Numerous sinks

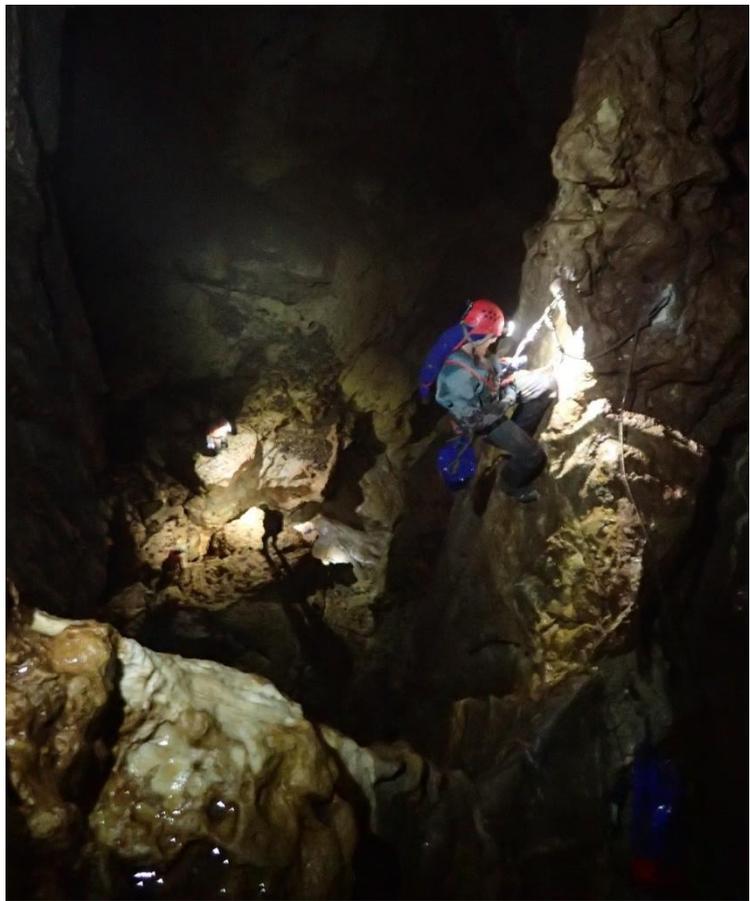
Lat 43°15' 0" Long. 1°1' 40"

Location: A number of streams form on the sandstone at the head of the Sobra valley. Several of these form the headwaters of the Sobra stream, but all of those forming below the track, on the south side of the sandstone, sink into the limestone. If the main stream is followed down for 2km from the junction of the sandstone and the limestone, there are at least four large sink holes and numerous shafts to be seen.

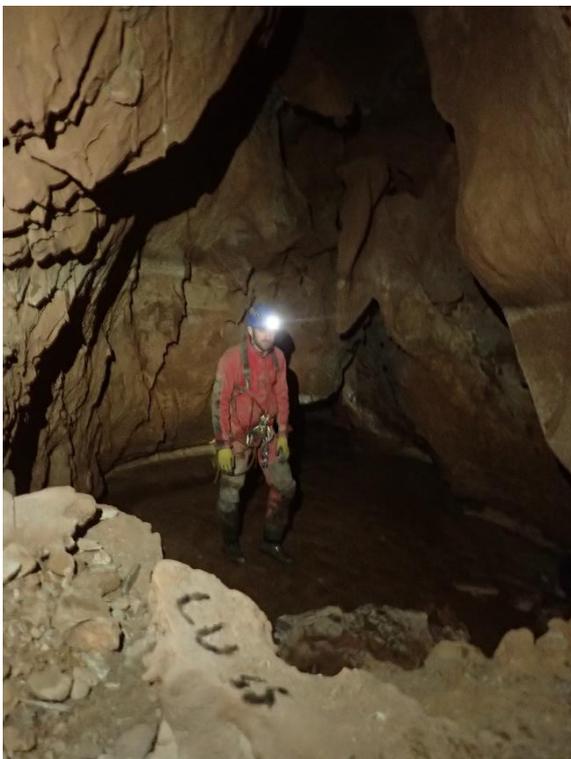
LUSS 1974-1977 journal (LUSS)

After each trip, the survey was gradually pieced together, initially showing that it was heading straight towards the *Hall of the Mountain King* in *Marniosa*. However, after some more improved surveying was conducted (a working DistoX and tablet) it became apparent, although heading toward *Marniosa* it was not towards the chamber as originally thought.

The exploration continued down numerous pitches, including an impressive wet 60m pitch to a more complicated area of dry passages, sumps, and multiple ways on. As exploration stalled, largely due to 'rigging best practices' conversations taking 2 days at a time, the *Nacimiento* team, taking a rest from exploration at the far end, were ordered to go and finish it before the cave was derigged for the end of the expedition. The team found the way on up a climb and into further old dry passage the started to descend once more, down further climbs and two final pitches of 25 m and 20 m.



T20A Silvestre Pot (Jason Gotel)



Harrison Chamber, the connection point between Cueva de la Silvestre and Cueva de la Marniosa, Silvestre enters from the rift in the background (Jason Gotel).

None of the exploration team had ever been into *Marniosa*, so it was fortunate that after another climb the words *LUSS* were found drawn in carbide on a handy rock. A few meters further on a streamway was met, right leading to the *Hall of the Mountain King* and downstream towards the rest of *Marniosa*. Time was against the team and a planned last minute attempt to exit via *Marniosa* was abandoned and they returned the way they came.

Although the through trip was not possible this year, it is a guaranteed connection and will be attempted in 2019. The length and depth of the *Silvestre – Marniosa* system is 5.5 km long and -463 m deep (*as of 2018*) and is now the 7th deepest cave in the *Andara* range.

T20A Cueva de la Silvestre

Cueva de la Marniosa
Tresviso, Cantabria, Picos de Europa

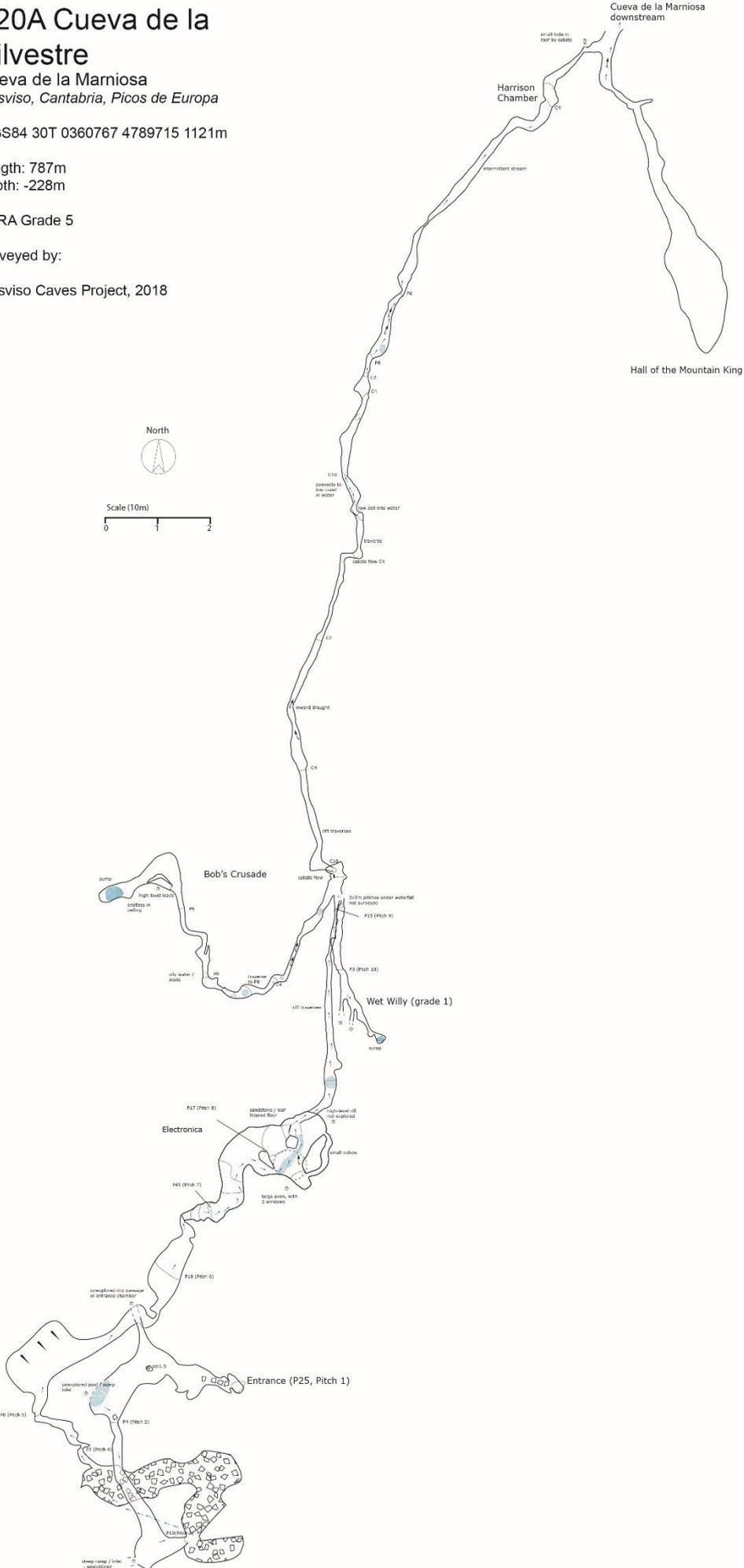
WGS84 30T 0360767 4789715 1121m

Length: 787m
Depth: -228m

BCRA Grade 5

Surveyed by:

Tresviso Caves Project, 2018

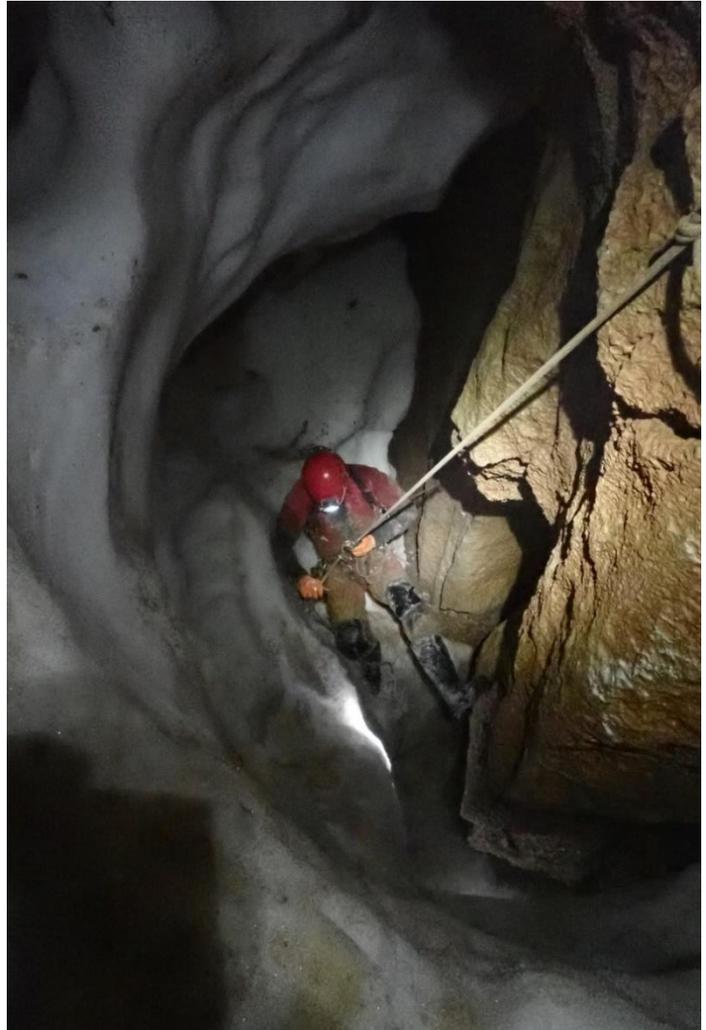


Sistema Castillo

Pozo Castillo has remained an elusive lead for nearly 35 years. Reports of a 'howling draft' or maybe a 'raging waterfall' at the bottom of a -292 m cave have never been satisfactorily confirmed due to a snow collapse, not far into the cave, that has thwarted exploration since 1986. This year a pile of scaffolding was taken out, to Spain, with the intention of shoring up some fridge sized boulders precariously placed above the start of the snow plug and to try on digging through the snow plug.

On the first day of the expedition a small team visited the cave and much to everyone's surprise found the snow plug has receded for the first time since the 80's. Joe Bones, being the youngest and bravest, was press-ganged into drilling some bolts just below the dodgy boulders and sent down the pitch beside the snow plug, under an even more precarious 100 year old winch mechanism that had appeared out of the melted snow.

A couple of short 3 m pitches traversed round the side of the snow plug into some further mined passage. The following day the traverse round the snow plug ended in a 5m pitch into a small chamber and further mining debris. Unfortunately, this proved to be the lower series of *FT16* (explored in 2017), which would suggest that the entire snow plug is part of the same one seen from the surface entrance of *FT16* and must be over 60 m in height and 10–30 m in diameter, depending on the level of the cave.



Joe Bones in Pozo del Castillo (Lisa Boore)

This also suggests that the way on into the main *Castillo* series remains firmly underneath the snow plug.

T169 Torca del Picu Boru (Flowerpot)

This was the first time in Tresviso for the majority of the SUSS group and seeking some form of independence from the wider group they were directed to camp high up in the *Andara* range at the site of the original 1970's LUSS camps.

A lot of objectives were assigned but the main area concentrated upon was *Flowerpot*, a deep cave from the LUSS exploration, that contained several possible leads in the upper parts of the cave.



T169 Torca del Picu Boru entrance (Lydia Leather)

The cave split into two routes quite quickly after the main entrance pitch, the *BILL* and the *BEN* series. The *BEN* series is the main route into the deeper cave, and this was resurveyed down to -304 m (although drawings have never appeared!) Several avens were scaled and some alternative routes, totalling around 100 m, were found.



However, the *BILL* series was more rewarding. At the limit of previous LUSS exploration (-150 m) a tight crawl led to a 35 m pitch, followed by a superb 87 m deep shaft, passing the previous depth of the *BILL* series, and ending in an ongoing wet rift at -260 m.

Invasive Species, T169 Torca del Picu Boru (Tommy Moore)

Summary

The 2018 expedition discovered over 2.5 km of new cave and several new leads. Over 3km of existing cave was also resurveyed to improve the accuracy of old data and provide a better picture of the interconnected systems. Exploration in *Cueva del Nacimiento* remains a challenge. The distance and nature of the cave has prevented numerous cavers from reaching the end and thunderstorms during the expedition produced some unexpected reactions at the far end.

The large *Pina Colada* sump was crossed to give access to an ascending rift / climb that led to another 150 m of passage, and an aven at the end remains **unclimbed**. Given the ramp like nature of the system this area is of particular interest, not only has it dropped back down to stream-level, but it is also now heading back up and in large fossil phreatic passage.

In *Cueva de la Marniosa* Sump 2 was dived again to the previous limit of exploration. Another 150m of cave was explored over a 3-hour trip beyond sump 2 by two cavers and was stopped after encountering a 6 m pitch into the continuing streamway. Logistics for diving at such a remote site (with full SRT and rigging equipment requirements) prevented further exploration.

An unexpected discovery was a *T20A Silvestre Pot* surface sink in the Sobra Valley. Sites have been known in this area since the early 70's exploration but with no real systematic exploration occurring. One site provided a series of pitches into an active stream and on the last trip a connection with *Cueva de la Marniosa* was achieved.



Tresviso team

Sitting L - R: Emma Battensby, Chris Jones, Emily Mackinven, David Powlesland, Adam Spillane, Tom Chapman, Lisa Boore, Joe Daniels, Sam Deeley, Dan Workman, David Collins, Hannah Moulton.

Standing L - R: Derek Cousins, Jason Gotel, Ian Clay, Kelda Jones, Arwel Roberts, Al Gott, Phil Walker, Ana Moradiellos Barreiros (Phil Walker).



SUSS Andara Team

Top row L-R: David Botcherby, Michael Woodward, Jack Dewison, Conor McGurk. Standing L-R: Jolene Pollard, Glen Sankey, Craig Hamer, Helen Fairclough, Antonia Headlam-Morley, Lydia Leather, Leo Bradley, Michael Holliday, Rob Middleton, Corin Donne, Ben Thompson, Jake Sturgeon, Olly Hall, George Breley, Dave Cattell.

Sitting L-R: Brendan Hall, Rachael Rix, Louise Baddeley, Max Kenworthy

Phil Walker
April 2021

Silvestre to Marniosa: First Through Trip

Tresviso, Picos De Europa, Spain

So this year I did something that I started accidentally a year ago and only 6 other people have done. Rewind to the 2017 BPC AGM at Crooklands. Those of you that were there for the pre-dinner talk will probably not remember that Sir Phillip of Thirsk entertained us with tales of an expedition to the Picos de Europa. This was well before all of that Ario Dream nonsense! (Sorry Steph!) The pictures showed a couple of large cave systems with what looked like lots of opportunities for more to be discovered. Chatting with a few other members afterwards confirmed this, along with the promise of staying in a hut and being in close proximity to a bar. That's probably why there were a good number of BPC members who I could ask about the expedition...

Fast forward a little to September last year. I was now out in Spain in the Picos, battling my way through a six foot high mix of Bracken, Bramble and Forest. We were prospecting for new entrances. This seemed a little tricky when the only way I knew the other three were still with me was through shouting a series of 'boop' sonar like noises! Comments from the day include: "A lovely walk in the park", free acupuncture received by all from girls called Holly, Rose, Gorse and Bramble. "A top day's holiday had by all".

The following day I returned for another session of acupuncture and with a few new team members and some kit to explore the leads we had found the previous day. This resulted in Adam Spillane finding a large rift hole which he descended some way before passing the excitement of discovery to other members of the team. A tractor track was soon found 200 m away, which made the access a considerably more manageable. So much so, Al Gott, Kelda Jones, Will Burn and Myself returned for a third day, only with actual caving, bolting and surveying kit! Myself and Al got straight to work bolting a small stream sink, with various comments from Al, such as 'pass the screwdriver' causing much frustration for Al and more amusement for me.



Al Gott Bolting in Practice Pot

Having descended 30 m of clean washed Yorkshire style cave, ending in a rift chamber and a passage that became too narrow for either of us to fit through, we returned to the surface having called it Practice Pot. Kelda quickly stole us, our rope and moved us over to another new lead, that we must have walked within 10m of on both of the previous surface days in the area. We quickly got a rope tied to a tree and Kelda took over the bolting. Upon going to place her first bolt we



Silvestre Entrance

quickly worked out that Al had the most bolting experience, having placed around 10 bolts previously, myself having learnt to bolt 3 days earlier and Kelda having placed none! Returning to the hut late on, but with tales of caverns measureless to man (but no survey data!) there was rightfully some sceptical words about our discovery. Thankfully Bob and Jason took a chance on what we were telling them and came along the following day to show us how to bolt! Two more

days of rigging and surveying followed with only two real areas of crawling for about 2 m each, both of which involved a puddle!

We went on to discover a series of small pitches and scrambles down boulder slopes which eventually led us to the top of a 70 m pitch into a large aven chamber. The way on then narrowed down into a rift which led out of the chamber and down a couple more small pitches. At this point the cave reaches a small junction with three ways on. One was very wet, one was very dry, the other was somewhere between the two in moisture levels! With all of us wanting to avoid a soaking we discussed various options, such as returning with an umbrella, before deciding to follow the dry way that had some puddles. This provided a series of small pots to traverse over, bolting into popcorn calcite. It became a bit of a battle and ended in a sump after a fair bit of work. We called this Bob's Crusade. Meanwhile Jason and Al had gone for the dry abandoned passageway which seemed to go. Whilst waiting for Jason to return to the junction, we unpacked the orange package he'd been

carrying, thinking it was a group shelter, only to find it was his warm jacket. As a result of this disappointment we decided that Jason should give the wet way a look, especially as he now had his jacket unpacked! He confirmed that it was worth a look the next day. A team returned the next day to find a sump and named the way under the waterfall as "Wet Willy". This left the dry way Jason had previously looked at. From looking at the survey for Marinosa, another cave in the area, it was looking like the two would link together...



Marniosa Survey, Silvestre in bottom left corner

Skip forward to September this year. The time was booked off again and out I went to Spain to finish off what I'd started. I think the write up from the time speaks for itself:

Silvestre – Marniosa – through trip

Bob Clay, Arwel Roberts, Lydia Leather, Stu Dreads

We got to the Silvestre lay-by at about 11am, kitted up and started walking down the track. This time round it was a lot easier to find having been well travelled. Stu's white tape on silver birch trees was not so great in the day light as it had been the night before. Whilst we were doing the through trip, Joe Daniels and Rob Middleton were diving the sumps in Wet Willy and had stolen Al Gott for the day to carry for them. As Stu and I weren't carrying much we took two of their bags down for them (on the basis that Rob would later repay us with a crate of beer, but failing that, Dancing Bear coffee liquor).



Dancing Bear Coffee Liqueur

The Silvestre entrance had been rigged the day before down to waterfall chamber, where Bob needed to re-bolt a few belays before we continued on with the through trip, so Bob and Arwel headed in, whilst the rest of us followed on behind. The day before Stu had found the jaw of what we think is horse, to match the skull he'd found the year before. Now Bingo (see photo for scale) lives happily in the entrance chamber.



Bingo

Following through the rest of the cave, Rob who hadn't been in the cave before grew increasingly more impressed at the fact that it was indeed a cave. We took our time marvelling at the finest boulder I've ever seen that sat in the middle of the stream way and is a conglomerate, at first I assumed it was originally the floor of the stream way and had been eroded away, but not all that convinced, think it might just be a boulder.



Lydia and her favourite Boulder



Rob frustrated at the idea of waiting

When we reached Bob and Arwel, there was a short wait for the bolting to be finished before we could reach the bottom of Waterfall Pitch.

When everyone was down Waterfall Pitch we left the diving team and their bags and continued on. From waterfall

chamber we continued up the aided climb and through into old streamway rift passage. This continued on, getting slightly small in places (for Bob and Stu) and down climbs then eventually leads to a junction, left being the way on and right being Hall of the Mountain King.



The continued passage towards the connection

As Stu and I hadn't been before we went to Hall of the Mountain King which is an aven roughly 50 m in height and 20 m width, with a mud slope to the left of the chamber and 2 water inlets coming in through the aven above to the right. Here was where we stopped to take a group photo.



Group Photo in Hall of the Mountain King, Marniosa

From Hall of the Mountain King back to the Silvestre junction we followed the stream and continued down the active passageway. The passage continues onward with multiple down climbs, some more exposed than others.

Eventually the passage follows a fault and here the boulder choke began. Al Gott had been in Marniosa the day before and placed reflectors along the boulder choke which were extremely helpful and saved a lot of time as there are multiple ways along the choke in which you can go wrong. When the choke ends, the passage re-joins to the streamway and this follows straight towards the bottom pitch of Marniosa.



Arwel in Marniosa Streamway



The Bottom of Marniosa Entrance Pitches

We headed up the muddy pitch out of the stream way, where Bob showed us "the boulder", which must not be touched or moved in any way as it was wedged right between the wall and multiple boulders which became the false floor of the next slope.

Following this onwards the passage is a very well decorated series of chambers, with various calcite flow slopes and formations, including this flying pizza-like disc thing... eventually reaching the bottom of a 22 m pitch.



Bob and Lydia and some big stal



Arwel and the Flying Pizza Disc



More big stal



Another small pretty bit!

From here there are 3 more small pitches until eventually you get into the Old Cheese Chamber and we were at the Marniosa entrance. The trip in total took 6 hours and we got out with plenty of time to spend in the bar drinking celebratory beers and eating local cheese. Rob and Joe eventually turned up and kept the promise of buying Stu and I a Dancing Bear coffee liquor.



Celebratory Beers and Cheese

Stu Dreads and Lydia Leather
Originally printed in the November 2019 Newsletter

(Photos by Stu Dreads)

Tresviso 2019

Summary of the 2019 expedition to the Picos de Europa

The 2019 Tresviso expedition to the Eastern Massif of the Picos de Europa, Spain, was undertaken over two weeks in September 2019. This time round the expedition involved 14 cavers from 8 different clubs.

There were several objectives in 2019 but most work was concentrated on two caves:

- An attempt to dive the *Parting Friends* sump in *Cueva del Nacimiento*.
- Complete the first through trip from *T20A Cueva de la Silvestre* to *Cueva de la Marniosa*.

Cueva del Nacimiento

This year there was a lack of good cavers with the necessary aid-climbing experience to make exploration at the back end viable. However, we did have an experienced contingent of cave divers once more, so exploration was concentrated on supporting a dive in the *Parting Friends* sump, located about 2 hours from the entrance, and left ongoing from the previous dive at the site, in 1996.



Entrance series, Cueva del Nacimiento (Stuart Coxon)

Parting Friends

The *Road to Wigan Pier* to *Parting Friends* series of passages were originally explored in the late 1970's to *Spangle Junction* and the *Wigan Pier* sump. In 1986 S.W.C.C. dived and passed the sump to more passage, several bypasses to the *Wigan Pier* sump and discovered the *Parting Friends* sump. *Parting Friends* was dived as part of Gavin Newman's *Road to Certain Death* documentary for the BBC, in 1996. The sump surfaced quickly and then in to another sump almost immediately. Gavin explored this for around 150 m and turned around with the passage still ongoing.



The Road to Wigan Pier, Cueva del Nacimiento (Arwel Roberts)

The main challenge facing the divers was getting to the sump. The preceding passage, full of sharp rock, raging water and steep waterfalls has been the scene of at least 3 accidents, one of which was captured in the documentary. A cautious and methodical approach over a couple of trips saw the team slowly progressing up the streamway, using various tyroleans and high traverse lines. Finally on the third trip, the final 8 m waterfall (*which is a nearly 60 m high cascading waterfall at >60 degrees in most places, before the final 8 m section*) was climbed and the first sump pool encountered.



Parting Friends sump 1, Cueva del Nacimiento (Arwel Roberts)

Rob Middleton passed the first sump on the next trip, followed by Joe Daniels. The 8 m sump was closer to 25 m (either differing water levels from 1996 or bad information). The second sump was found at the top of another cascade and Rob dived again into a large 4 m diameter tunnel, dropping to -20 m, before rising and falling a few more times. 115 m of line was laid out in the sump before a return was required.

The following day the line was extended to 230 m before a confusing area of passages halted progress.

The final dive located a way on, following some true *Nacimiento* style ramps to surface in an air-bell. The continuation of the sump was dived for a further 30 m to surface in another air-bell. Although a few dry sections spread out from the air-bell, the way on was another sump. This sump remained un-dived.

The exploration was completed just in time, as shortly afterwards a 24 h thunderstorm turned all *Nacimiento* into a raging torrent, washing away a few thousand pounds of equipment.



Picture: Cueva del Nacimiento entrance in flood (Derek Cousins)

A dye trace conducted this year, from *Cueva de la Marniosa*, has proved a hydrological connection between *Marniosa* and the *Far Upstream Sump* of *Nacimiento*. The trace subsequently proved some of this same water appears in the *Parting Friends* sump.

Parting Friends is the continuation of the main *Nacimiento* streamway and is following the main line of the cave, at a lower level. It is assumed that further dives at this site would probably follow a similar pattern to the 2019 dive, a series of shallow sumps interspersed with short dry passage, eventually emerging in the *Far Downstream Sump*. For this reason, it is unlikely that any further dives will be conducted at the site.



Cueva de la Marniosa

The plan this year in Marniosa was to check out some of the avens discovered in the Extra Caverns Series and complete the resurveying of the cave, started in 2018.

Extra Caverns Series

In the *Extra Caverns Series* of *Cueva de la Marniosa*, several leads were explored. The *Free Willy Aven* was aid climbed to a height of 23 m across 3 separate avens, the first one becoming impassable, the second one leading to a further unclimbed aven and the main aven still continuing, but with a possible lip to the aven in sight, a further 10 m higher. This will be revisited on the 2020 expedition.

At the southern end of the series, two small avens were climbed to a continuation into *Forgott Passage*. 23 m of passage leads to two more unclimbed avens.



Free Willy Aven, Cueva de la Marniosa (Phil Walker)

Alien Weaponry and the 42 Streamway

During a surveying trip a large void above the main streamway was scaled and entered the large *Alien Weaponry* chamber. Not shown on any previous surveys, this chamber was a significant find, over 100 m x 50 m x 25 m in dimensions and multiple leads discovered.

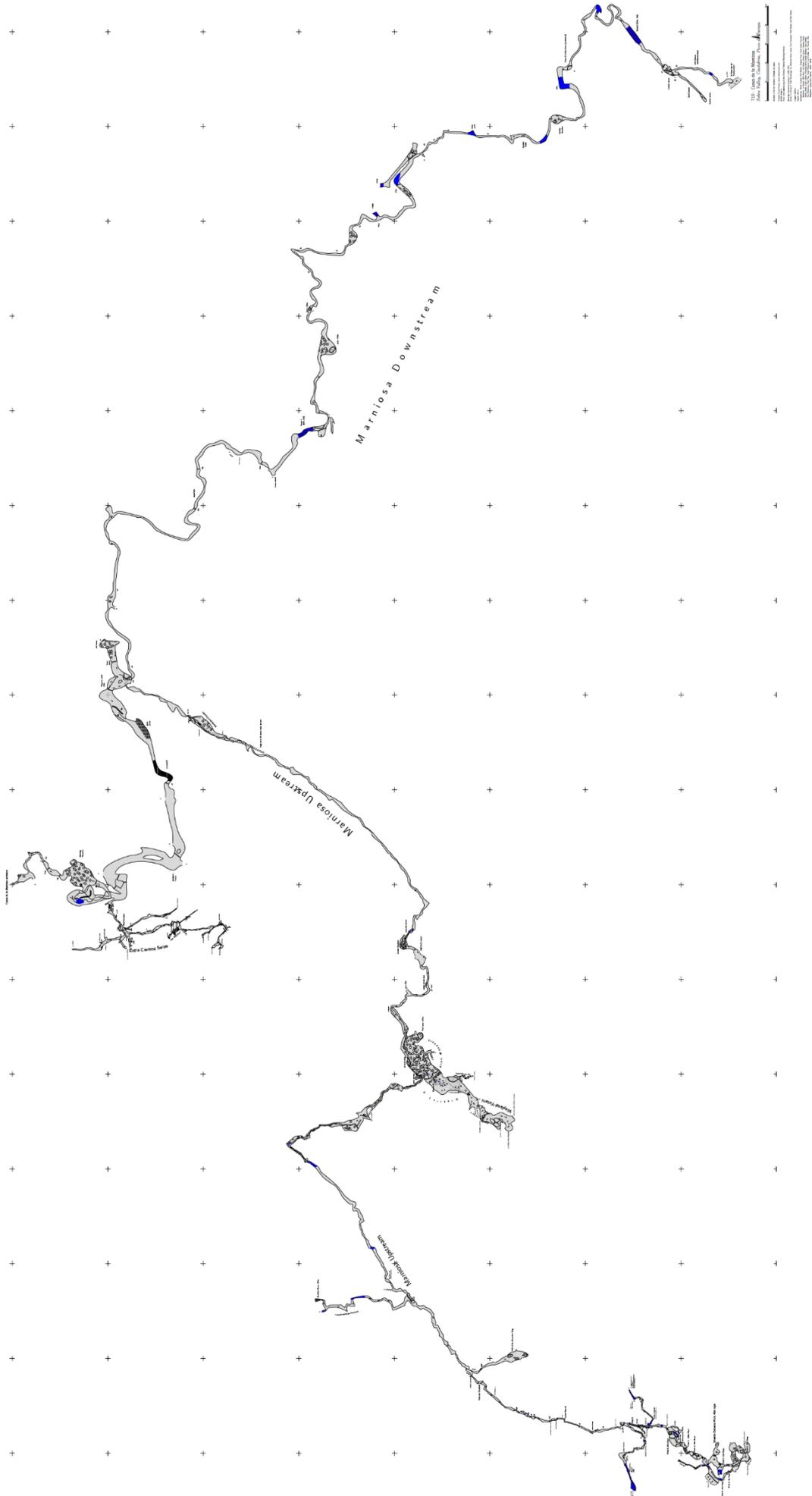
Similarly, below the entry point to the chamber a new inlet streamway was discovered. Again, this is not on any survey and appears unexplored. The passage was named *the 42 Streamway (for the closest surveying station)* and heads south into the Valdelafuente Ridge. These will also be major objectives of the 2020 expedition.

T20A Cueva de la Silvestre

Cueva de la Silvestre was rigged on the first day of the expedition and the first through trip was undertaken the following day. A team of 4 completed the trip in just under 6 hours. One further through trip was completed before the *Silvestre* side of the trip was de-rigged. After 41 years of exploration, these were the first subterranean traverses of the mountains in the area.



T20A Cueva de la Silvestre (Stuart Coxon)



The overall cave system is now 6,300 m long and –423 m deep (from the *Silvestre* entrance to the furthest point beyond sump 2 in *Marniosa*). It is now the 2nd longest and 10th deepest cave in the Tresviso – Andara region. A more detailed story is written up elsewhere in the bulletin.

Sistema Castillo

After being able to pass the snow plug in 2018, that finally had receded for the first time in decades, a return was planned in 2019. This was very brief; the snow had returned, and it was impassable!

The future

At the time of writing, it is now 2021 and the 2020 expedition was cancelled due to the Covid pandemic. The 2021 trip is planned for September and hopefully will go ahead. The climbing teams and the SUSS contingent have returned and upwards of 50 people may be attending the trip.



Morning Chamber, Cueva de la Marniosa (Joe Daniels)

Phil Walker
April 2021

Tresviso 2019 – Dye Trace Results Summary

Author: Derek Cousins (2019) and edited for publication by Phil Walker (2021)

The caves of the Eastern Massif (Andara) mountain range cover an area of 100 km² with numerous small sinks and a reasonable number of resurgences. The largest resurgence is *Cueva del Nacimiento de Urdon (The Source of the River Urdon)* which was first explored in the 1970's by Lancaster University Speleological Society (L.U.S.S.) and currently leads to >15 km of cave passage. The resurgence averages 2 m³/s over a year making it a good-sized stream.

The resurgence cave is known to be fed by potholes up to 6 km away, and perhaps even further. Of note are *Torca del Cueto Senderos (Sima 56)*, *Sistema Sara*, *Torca del Pico Boro (T169 Flowerpot)* and *Torca del Cueto de Los Calabrerros (T174 Dossers Delight)*. All these caves are 1 km or more above the resurgence and some are already known to connect by dye tracing done in the late 1970's.¹

Alternatively, about 2.5 km further up the valley, from *Nacimiento*, are several sinks at the head of the *Valle de Sobra (Sobra Valley)*. *T20A Cueva de Silvestre* was discovered in 2018 and links into *Cueva de Marniosa* via dry passage.² *Marniosa* has a small but long (>2.5 km) streamway that disappears into a sump, heading towards *Nacimiento*. The sump was dived in 1986 to further tortuous passage and a second sump.³ Recently, in 2017 the second sump was passed and leads to further streamway.⁴

In *Nacimiento*, there are several sumps that lead further into the mountain and may represent the water from the various sinks and potholes in *Andara*. Heading in from the cave entrance, there are a series of sumps (that can be bypassed) leading to the *Parting Friends* sump (150 m ongoing, -20 m deep,⁵ 2 hours into the cave) that emits a powerful stream, flowing back to the entrance. Further upstream this water is met again at *Colin's Climax* and just upstream of here is the *Far Upstream Sump* (260 m ongoing, -46 m deep, 5–6 hours into the cave). There are other sumps in the system, *Road to Certain Death* (210 m ongoing, 68 m deep) draining to the main streamway below *Parting Friends* and the recently found *Pina Colada* sump (un-dived, 8–10 hours into the cave).

There are two other resurgences in the area. *Cueva de la Cabeza de Vaca (Cowshead Cavern)* which is at a higher altitude than the *Marniosa* streamway) and *Cueva de Rio Chico*, at a lower altitude than *Nacimiento*. It is not clear whether further investigation of the Urdon gorge and possible other resurgences have been undertaken in any serious fashion.

The water from *Marniosa* has also assumed to drain into *Nacimiento*, initially believed to enter somewhere around the *Parting Friends* area. However, since the improved surveying and location tagging of caves the *Marniosa* stream would appear to head closer to the *Far Upstream Sump*.

¹ 'Tresviso 1978'. L.U.S.S. (1978) and 'The Karst of the Eastern Massif, Picos de Europa' Hugh Firman (1979).

² 'Tresviso 2018', Tresviso Caves Project (2018).

³ 'Agua 86 & 87', S.W.C.C. (1987).

⁴ 'Tresviso 2017', Tresviso Caves Project (2017).

⁵ As of the start of the Tresviso 2019 expedition.

UK Trial Run

Following an advertisement for a dye tracing course run by the BCA, a couple of expedition members were sent on the course. The course was presented by Dr Paul Hardwick who talked through some of the options for water tracing. Following the course, a plan was devised and the necessary equipment researched. Tights were bought from the local supermarket and activated charcoal, chemicals to create the elutant and bottles in which to store the elutant were purchased online.

A couple of weeks before the expedition everything was 'tested' and Derek Cousins, Alastair Gott and Howard Jones met up in the Dales on a damp Saturday morning. Howard had turned up the night before and put two detectors in Yordas Main Chamber. On the Saturday morning, Alastair and Derek met for breakfast at Inglesport and then proceeded to Yordas to remove one detector (*to test the background*).

The detectors were attached to the far wall of the main chamber, and a paddle across the chamber was required to inspect Howard's attachment. After removing one detector, the team went to the top entrance and saw a large amount of water entering the cave; a lot of rain had fallen the previous night and was continuing to fall. Derek turned the somewhat-brown-stream green for a short while by pouring fluorescein into the river (*and over himself*). Everyone then drove down the valley to Valley Entrance for a quick play; it was quicker than expected: Howard sent himself down the pitch to the main drain only to find that the streamway was over waist-deep.

Right then, back to Yordas to pick up the detector. Derek was banned from entering the cave as he was now 'contaminated', so it was down to Alastair and Howard to retrieve the second detector. On entering Yordas Main Chamber the water was now backed up so Howard (*already being wet*) chose to wade across the waist-deep pool. Only one hour, what a change!

Back at home, the detectors were dried out over a couple of days and then the elutant was added to extract the dye from the detector. Oh dear, both were positive! In fact, the charcoal tested positive straight out of the packet. More shopping then and three different charcoals were purchased and tested; two were suitable.

Ready to go then, and just three days before expedition started.

Spain

There was plenty of time on the ferry to make a simple plan of action: Day one would be the day to place detectors, day two add the dye.

On day 1 some people ran down to La Hermida; the mouth of the Urdon, but just upstream of where the canal enters the river; some people went to *Cueva del Rio Chico* and put the detector at the entrance. A total of five locations had detectors, but we wanted one more, *Colin's Climax*, the main stream at the far end of *Cueva del Nacimiento*; however, it was a few days before anyone went that far into the cave.



Detector placement, Cueva del Nacimiento entrance canal (Toby Dryden)

Finally, Howard and Derek were able to visit *Marniosa* streamway to add the dye. The 500 g of dye turned the streamway, the rock and Derek very green. On leaving, they drove to below Sotres so

that equipment could be washed without risk of contamination. The following day, Derek passed the spot where the dye was added and found the streamway and the rock were back to the correct colour.

Two days later, some of the detectors were replaced. Everyone could now relax a bit, until the end of the expedition. Four days later it rained, in fact, it rained a lot. Apparently, 66 mm fell in a day and the resurgence of *Nacimiento* overflowed the weir. On that day it was not possible to spot the detector placed in the Urdon steamway just upstream from the weir, and down at Chico the detector was out of the water, having been washed over the weir at some point in the last few days.



Dye being added, Cueva de la Marniosa (Howard Jones)

The following day *Nacimiento* was visited again. This time the detector upstream of the weir was located.

The final expedition day and there were several detectors still in place. Lisa, Toby and Derek collected the detector at *La Hermida*. Joe, Arwel and

Rob collected the detector at *Parting Friends*. Leo and Lydia collected the detector at *Colin's Climax*. That has left the detector at the entrance (still under 2 m of raging water) for collection (next year!).

All detectors were placed in re-sealable bags and stored in the dark (a cheap plastic tool box) and taken home. At home they were dried hanging from Derek's bicycle frame and come the following Sunday the elutant was added and left in the various pots in Derek's cellar. On Monday evening, Derek went to have a look. What would the results be? Was the effort put in by the Tresviso Caves Team going to pay off?

Results

There were three positive detector results; *Colin's Climax*, *Parting Friends* (Day 2) and the *Nacimiento* entrance (Day 2). All others were negative.

The water in the *Marniosa* streamway, reappears in the *Far Upstream Sump* of *Nacimiento* and travels down to *Colin's Climax*, it continues under the known dry cave passages and reappears in the *Parting Friends* sump.

The results suggest less than a day (0.73 days) for the transit time, so there would appear to be no major volume of water in the way of the route.



Left pot (positive); right pot (negative) (Derek Cousins)

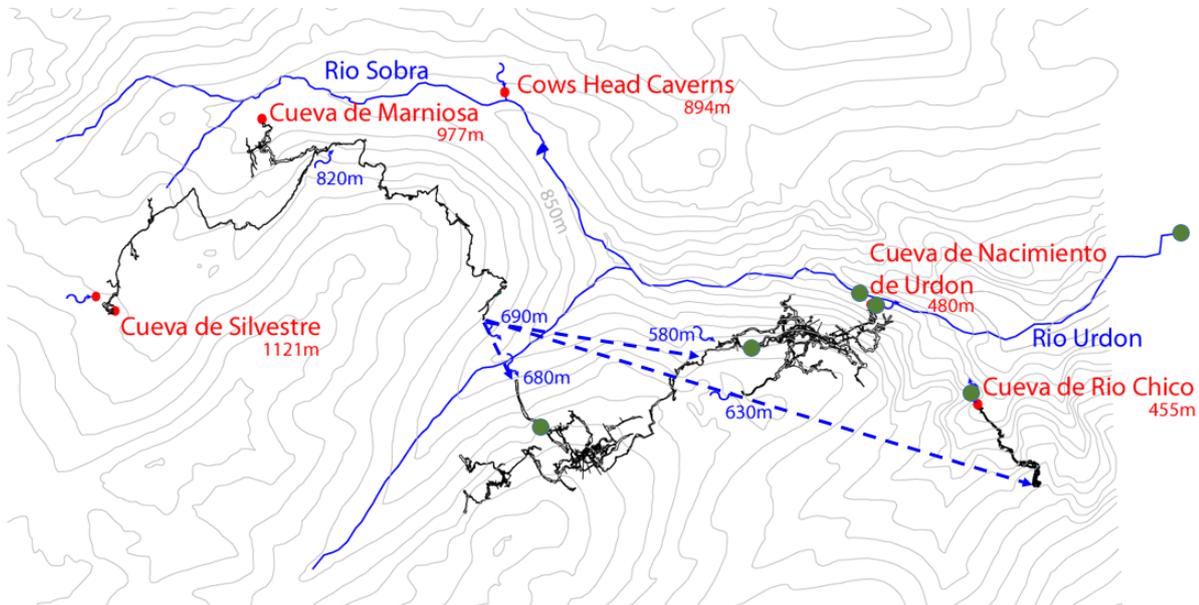
Equipment

Stockings	A pair of stocking will do for four detectors
Granular activated charcoal (GAC)	Place some GAC into the cut stockings - aim for a 1 inch ball. Double bag.
Cord (make it visible!)	To tie detectors to cave
Plastic sealable bags	To store detectors after collection
Pen (permanent marker)	To write on bags
Notebook + pens	
Dark box	To store used detectors- Sunlight destroys fluorescein
Scissors	to cut stockings, cord, and open dye
Dye – fluorescein	
camera	To record the goings on
Bottle of IPA	
Bottle of KOH (20g KOH/litre ~0.36 molar)	
Bottle of distilled water	To make up the KOH
Bottle for mixture KOH and IPA (50:50)	Eluent
Small jars for analysis	
UV torch	
torch	

Note: Cut each leg of the stocking into two. Tie a knot in one end, if needed. Add the charcoal. Tie the other end and 'double-bag' by folding back on itself and tying the other. Tie a 2 m length of cord to the detector.

Detector Placement

1. *Cueva del Nacimiento* – entrance canal
2. *Cueva del Nacimiento* – *Parting Friends* sump
3. *Cueva del Nacimiento* – *Colin's Climax* (mainstream)
4. *Cueva del Rio Chico* – entrance canal
5. *Rio Urdon* - surface stream, below the *Nacimiento* canal
6. *Rio Urdon* – surface stream, bottom of the *Urdon Gorge* (La Hermida)



Map- possible destinations for the Marniosa water and detector locations (green dots)

Dye Trace Timetable

- Day 1 (01/09/2019) detectors placed at 1, 4, 5 and 6.
- Day 3 (03/09/2019) detector placed at 2.
- Day 4 (04/09/2019) detector placed at 3.
- Day 5 (05/09/2019) dye added at 12:00AM bottom of *Papoose Pitch*, *Cueva del la Marniosa*.
- Day 7 (07/09/2019) detectors collected and replaced at 1 (**Positive**) and 2 (**Positive**)
- Day 10 (10/09/2019) major thunderstorm, 66mm of rain in 24 hours
- Day 11 (11/09/2019) detector collected at 4 (**Negative**)
- Day 12 (12/09/2019) detector collected at 5 (**Negative**)
- Day 13 (13/09/2019) detectors collected at 6 (**Negative**), 2 (**Negative**) and 3 (**Positive**)

Additional Thanks to Paul Hardwick and John Gunn

Derek Cousins & Phil Walker
2019/2021

Lost Caverns of Grassington Moor

This title has always fascinated us.

Why were they lost?

Can they be found?



Grassington Moor Panorama

So started a series of field visits from 2016 onwards, to determine fact & fiction, followed by a trawl through the archives, culminating in the submission of this article in the summer of 2018 for publication in the next BPC Bulletin.

However, events have moved on whilst waiting for the Bulletin to appear in print, such that we now feel that an Appendix is timely to bring the article up to date, & it is therefore attached as a postscript at the end.

To give an outline of our “project” in a meaningful way would be to first look at what previous authors have had to say about the subject. Therefore instead of listing the references conventionally at the end, it would help our story if we made them the subject of various paragraphs, so here they are in chronological order. We have repeated for the benefit of this article, exactly what they said at the time of their publications.

1. 1923 R.G. Carruthers and A. Strahan

Memoirs of the Geological Survey. Special Reports on the Mineral Resources of Great Britain. Volume XXVI. Lead and Zinc Ores of Durham, Yorkshire and Derbyshire, with notes on the Isle of Man. (Filed as C47 in BPC Library)

Plate 1 between pages 34 & 35 entitled “Section at the Bycliffe Mine, Grassington” frustratingly depicts the various shafts in relation to the cross section of the caverns. The text describes the geological sections, but the authors make no reference as to how the cavern section was obtained, or drawn. So, in relation to this article, if they exist, they were not “lost” in 1923.

2. 1953 A. Raistrick, *Half-forgotten Caves in the Craven Hills, Craven Pothole Club Journal, Volume 1, No. 5 (with survey)*.

Dr Arthur Raistrick's article is gracefully entitled "Caverns the old lead miners first saw – Half forgotten caves in the Craven hills". He repeats (after a passage of 30 years), the plan of Carruthers & Strahan (aforementioned in Ref 1), but adds to it the relative lead miners passages which is most helpful. He describes the 3-dimensional relationship of everything, demonstrating that these caverns were entered via Turf Pits Old Shaft, then down, along & up (via a mining "rise"), which, by chance, hit the Caverns. The rise was from the 40 fathom, level, (i.e. 240 ft below the surface, & 180 ft above the shaft bottom). The level & cross cuts which he marks on the plan having an interception with the Caverns on plan view, were made at the 30 fathom level, (i.e. 180 ft below the surface). In that missing 60 ft of strata not containing any horizontal passages lie the Caverns.



Old Turf Pits

The question remains – did Arthur Raistrick draw the original cavern which appears in Reference 1? He would have finished his degree courses by 1923, and would be entering the world of academic publishing.

The Raistrick papers currently remain for safekeeping in the University of Bradford archives. The cavern plan may well be there,

but is its shape fact or fiction? Anecdotal evidence suggests that the "survey" was drawn up by Arthur Raistrick rather than the miners themselves, and based upon details recorded by the miners at the time.

He concludes therefore that the only entry was ever from Turf Pits Old Shaft & not any other way. The inference must be that these original passages need to be re-entered if the Caverns are to be explored today, & a "top-down" approach is unlikely to succeed.

He says that Turf Pits Old Shaft & related mines were abandoned after the middle of the century & the site is now marked by a large pond. We have been unable to confirm this precisely, but there are some shallow ponds scattered around.

So, 30 years on, the caverns are now "half lost".

3. *1965 Northern Cavern & Mines Research Society Memoirs, Grassington Moor Cavern.*
This publication records the attempts by the NCMRS to locate, successfully, the Caverns by way of identifying the various shafts on the moor, & then descend, unsuccessfully, all shafts which might connect with the Caverns. But, as Raistrick had outlined previously, this approach would be unlikely to succeed - & in fact, it didn't. NCMRS are not calling them "lost" at this stage.

4. *1972 Mines & t'Miners, by J.M. Dickenson, (A History of Lead Mining in Airedale, Wharfedale & Nidderdale).*
There is plan on page 18 identifying "Cavern Vein", & "Slanter Vein", & positioning 3 shafts on that vein, namely "West Turf Pits Shaft", "Henry or Turf Pits Shaft", along with "Old Turf Pits Shaft" (to the east). The text states that these various shafts were connected at a depth of 40 fathoms.

5. *1980 BM13 Mines of Grassington Moor & Wharfedale, NMRS Records.*
There is a reference on page 9 to an assay of Minerals at Turf Pits Shaft in 1942, implying that the shaft might have been open or that there was sufficient mineral lying around on the excavated spoil heap. A plan on page 23 entitled "Section at the Bycliffe Mine" shows the caverns in section, (again after a gap of almost 30 years), connecting North Vein to Cavern Vein and another un-named vein, with adits extending to Turf Pits Vein. Page 91 shows a plan of the caverns in relation to adjacent shafts. However, page 92 – Appendix IV – is entitled "The Lost Cavern and Howgill Fissure", giving explicit details of the Caverns; it is to this reference which most attention should be paid as it details the various attempts to get underground by members of NCMRS over the years. So, here is the first evidence in print of the caverns being "lost".

6. *1985 British Geological Survey, Geology of the Northern Pennine Orefield, Volume 2, Stainmore to Craven.*
On page 109, Figure 23 shows a plan of the Lost Caverns in the Middle Limestone, the title of the figure giving reference to Carruthers & Strahan, (Reference 1 in this article).
Page 193 – amongst the list of veins is North Cavern = Slanter Vein.
Direction N64 – 45 Deg. West, throw 45 ft, (13.7 m) South West beyond Moss New Shaft.
On the same page there is a mention of Bob Leakey & others from the BSA descending and surveying various shafts (in 1941?), but not those shafts connected with the Lost Caverns. Sadly there is no indication if the BSA published anything. Being wartime, their publications are far & few between.
On page 194, Figure 34 shows the caverns in section (reproduced at a larger scale in British Mining No. 13 – Reference No. 5 in this article)
On page 197 there is a mention of the exploration of the area by miners and the interception of caverns, but no date.

7. *1988 Northern Caves, Volume 1 – Wharfedale and the North East, D.Brook, G.M.Davies, M.H.Long, P.F.Ryder*
Grassington Moor Caverns, never seen by any author, is accorded an Ordinance Survey Grid Reference!
Incidentally, there was no mention of these caverns in the 1972 version of this publication.

8. *1989 A History of Lead Mining in the Pennines, Arthur Raistrick & Bernard Jennings.*
Page 215 says, in relation to Grassington Moor, they state that “new shafts sunk after 1790 were, amongst others, Sarah and Henry shafts on Slanter Vein”. All connected underground.

9. *1993 BM 46 Grassington Mines, Mike C. Gill.*
Page 79 in relation to Turf Pits, he says “This area was part of the Duke of Devonshire’s exploration programme, with Old Turf Pits Shaft being sunk in 1829 and workings developed at the 40 fathom level. It was around 1830 when miners making a rise from the former level found a cavern which apparently followed the joint pattern like similar caves found by miners in Swaledale. The Grassington Moor Cavern, as it has become known, has two long legs. The first, which runs east to west, is 160 metre long, and the second, running north-west to south-east, is 130 metres long. It is the largest of a series of caverns which miners found near the top of the Middle Limestone on the Out Moor. Work at Old Turf Pits had stopped by November 1839, when the rails were being taken out.”

Mike has described various options for walkabouts. His Option Two, page 145, instructs the visitor to “go to the large tip from West Turf Pits Shaft”. Then he states that “east of there, miners found a series of natural caverns at about 30 fathoms”, but that they are “now inaccessible”.

10. *1996 M Roe, Grassington Turf Moor Pits, Bradford Pothole Club Bulletin, Volume 6 No. 10 (with survey of Manway Shaft).*
Martin Roe describes his own personal surveying of the Manway Shaft at Turf Pits on 25th July 1995, having found 2 areas of collapse which might, or might not, have connected to Old Turf Pits Shaft. Further exploration was terminated.

The next two references, Nos 11 & 12, relate to Cove Hole – a supposed bottom entrance to the Grassington Moor system.

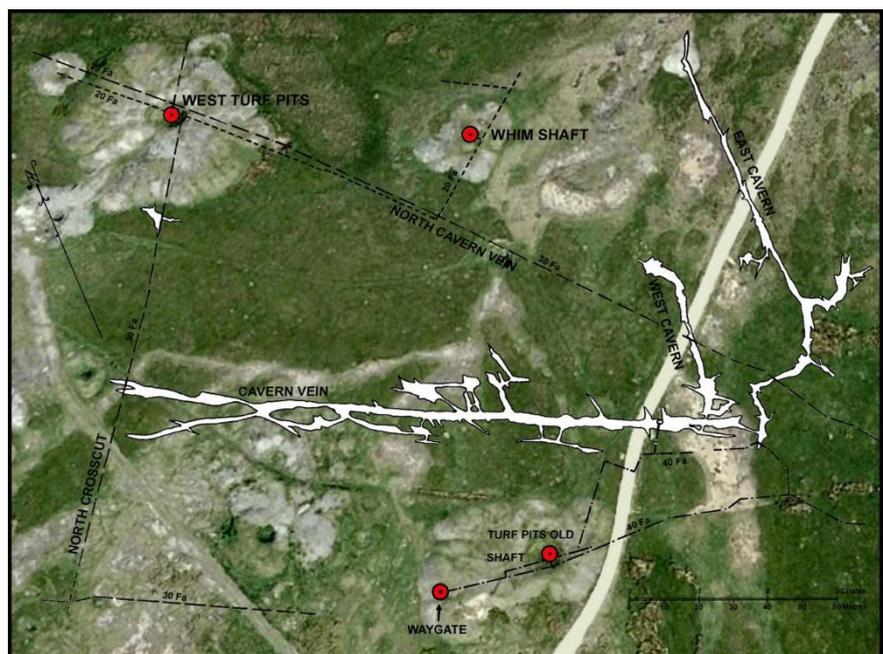
11. *2003 Exploring the Limestone Landscapes of Upper Wharfedale, Cave Studies Series 13, Phillip J. Murphy*
Walk 2, page 18, he says “Cove Cave may be all that we can see of a very old cave drainage system that ran extensively beneath Grassington Moor”.

12. *2011 Prehistory in the Yorkshire Dales, Ed. R.D. Martlew.*
These are papers & reports from a conference held in Grassington on 31st October 2009. Paper No. 3, Caves in Context, by Tim Taylor, refers to Cove Hole at Grass Woods as NOT being the bottom entrance to the Lost Caverns.

13. *2017 Caves & Karst of the Yorkshire Dales, Volume 2, The Caves, BCRA*
This book was published as we were concluding our field work for this article, and Chapter 27 gives a complementary overview.

So, what do all the references tell us?

- a) Are they secret? Given the range of references, the whole world knows about them.
- b) Are they lost? The miners around 1830 were the last people to see them. If that is true, then they haven't gone missing; we can assure you they are probably still there below the Moor. Let's say they are half-lost in the half-light of history!
- c) There has been no progress with any plans or sections since 1923 when the Geological Survey came by. We do not know who drew up the original cave survey & if it still exists, or where it is archived. The plans & sections make a regular 30 year appearance in the references, but are almost as elusive as the Caverns themselves. Thus although various authors have attempted to rewrite the subject, no new material has come to light. The cross-section depicted back in 1923 is repeatedly reused. In fact there are an amazing number of references to something that has never been seen within living memory. (Possibly including this article?)
- d) Attempts by the NCMRS to find a way underground into the caverns proved impossible.
- e) Surprisingly no photographs of the surface location have ever appeared in any publication.
- f) Any assistance via the internet only represents a scramble by various bodies to get something uploaded (e.g. ukcaving.com). For instance, they call the caverns "lost", but assign them a 10 digit Ordnance Survey Grid Reference! However Wikipedia does give a balanced view by providing original references.
- g) Magnetic North – The Lost Caverns survey according to Raistrick superimposes with excellent agreement on to both Google Earth and Ordnance Survey maps of Grassington Moor area. However it has always puzzled us that the North indicator on the survey does not agree with North on either Google Earth or Ordnance Survey. A search of the internet has provided an answer to that conundrum. Currently the magnetic North Pole is a degree or two shy of zero; in 1800 it was 24 degrees West of zero. Correcting for this variation now brings Raistrick's North indicator in agreement with both Google Earth and the Ordnance Survey.



Google Earth + Raistrick Cavern + Identified Shafts

Finally, what are the unknowns?

Firstly – the bottom entrance to the Lost Caverns at Cove Hole down in Grass Woods is based on supposition. Its phreatic shape of passage is the only tangible evidence. Water from the southern area of Grassington Moor certainly emerges at the fish farm at Linton Falls. Cove Hole (listed in Northern Caves) is something of an enigma. Murphy (ref. 11) thinks it is connected to the Grassington Moor area, whereas Martlew (ref. 12) does not. We would prefer not to take sides in an academic argument.

Secondly – why did the miners, whose object in life was to win ore, spend so much time on making a detailed survey of the Caverns, & where is that Plan? Everyone refers to it, but no one gives its location in the archives. However the miners would have been unlikely to have “pushed” the ends of the caverns to pursue an onward passage if no lead was evident.

Thirdly – are the caverns isolated or are they part of an extensive system? Could How Gill Nick shakehole be the top entrance, & what about Black Edge Shake Hole, a little way upstream? All these align nicely with the lost caverns fault line.



How Gill Nick



The Massive Black Edge Shake Hole

One more thing – is the whole thing a hoax (on the lines of Piltdown Man)? How amazing that the 1924 plan shows the caves developed in a convenient anticline in the limestone. Where could the dissolving waters have come from so high up on

Grassington Moor? A hoax seems doubtful, because there is another reference to natural caverns in our Reference No. 5 where Mike Gill records a cavern being found in the sinking of Derbyshire Founder Mine.

In relation to this publication we have provided on site photos of the locations used by NCMRS back in 1965, so that modern surface explorers can easily identify the locations. To aid this we include our GPS readings of the various features that we have visited.

How Gill Nick	SE 02296 68299
West Turf Pits	SE 02692 67656
Whim Shaft	SE 02767 67656
Old Turf Pits	SE 02790 67542
Waygate	SE 02770 67532



Waygate-Manway with Old Turf Pits in background

All it needs now is pots of money, a JCB, & some concrete manhole sections with step irons, or is that wishful thinking?

Postscript

Since our original submission in 2018, following many surface visits from 2016 onwards, events have moved on, particularly in relation to Grassington Moor.

The most significant of these is the creation of an interested gathering of people known as the “Grassington Moor Appreciation Group” which was inaugurated in mid-2017. Since then they have shown a particular interest in all the shafts, most of which have not been descended since the days of the lead miners. More effectively they have joined forces with English Nature and the National Park Authority to try & make safe a number of these shafts. Indeed, during the summer of 2019 they all looked at the manway into Lee’s Mine with a view to backfilling the manway in order to make it safe, rather than fence around the open shaft.

As far as this article is concerned at the present time of writing (Spring 2021), from our own on-the-moor observations, the manway alongside Turf Pits has a scaffolding tower constructed within the shaft, & work to descend further is in progress, hopefully progressing beyond the point where Martin Roe terminated his exploration – see (Reference 10) earlier in this article.



John Robinson & Neil Dyson

August 2018

(Updated April 2021)

History of the BPC Library

The true origins of the Library are, to an extent, lost in the depths of time. It would be quite likely that in the early days of the Club the Founder Members would possibly have shared their personal copy of the only guidebook of the day, i.e. A. Mitchell's - Caves & Potholes - Part 1 Ribblesdale, and Part 2 Ingleton. Eventually an old unwanted book would be passed to other members to keep, and behold - a Club Library was under way.

Though, in fairness, Arnold Patchett has assured me several years ago, that the 'Library' was already in existence in 1935 when he joined the BPC, and it was in the charge of Vincent Shackleton.

However, the written evidence is otherwise. In the Minute Book of the Bradford Moor Caving Club, a meeting on 7 July 1936, resolved that the then Librarian should buy:-

- The Geology of Yorkshire (by P.F.Kendal & H.E.Wroot),
- Gleanings from a Yorkshire Valley, Kingsdale (by Frederick Riley),
- Gleanings from a Yorkshire Valley, Chapel-le-Dale (by Frederick Riley),
- Gleanings from Hamlet & Village, Feizor, Austwick & Clapham (by Frederick Riley),
- & Caving (by E.A.Baker).

Amazingly, all except the geology book still remain today in our Library at Brackenbottom.

A Librarian is recorded as giving his report to the AGM on 8 February 1936; alas the Minute Book fails to reveal the Librarian's name in each case. The first recorded Hon. Librarian would appear to be, briefly, Vincent Shackleton in 1938, confirming Arnold Patchett's recollections.

Bill Gott, writing about the early days of the BPC in our recent "A Short History of the Bradford Pothole Club" book, said that when the war came, Godfrey Wilson, a master at Giggleswick School took the BPC library books into his safe keeping at Stainforth where he lived. But then there is an obvious gap until Hugh Browne, who took up his post war position in 1947. There have not been many Librarians in the history of the Club, 2 or 3 have only remained in post for a year, but others remained for a decade or so, (or 3 decades in my case). Nine Librarians in nearly 70 years isn't bad going.

The first published record of a Library List, as such, which I have been able to find, is in 1949 when already some nine books had been amassed. That's not a great increase on the five books acquired in the inter-war years. It should be remembered that in the early days the Club was not rich and spending hard earned pocket money would have gone essentially on caving equipment with little left for luxuries such as books.

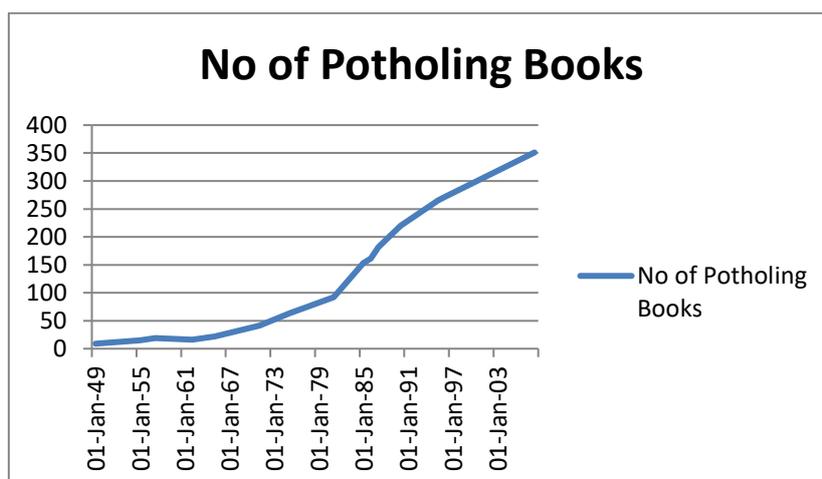
Nevertheless, the contents of the Library gathered momentum and the various Bulletins indicate a steady increase in numbers, related presumably to the available expenditure authorised by the then Committee of the day. The rate of increase of the books in the Library has progressed steadily ever since. Indeed a graph included with this article dramatically shows how the Library, in common with many other Club activities, took off during the 1970's and 1980's.

A number of reasons for this exist; the number of authors has increased over the last two decades, as has general knowledge on the many facets of potholing. Photographic techniques underground have also kept pace enabling books to be suitably ornate and attractive, culminating in colour underwater photography. Also the well-established boom in leisure pursuits has increased the market for potholing books and hence driven their production.

So much for the economic forces, a large Library creates its own problems, perhaps not so difficult with the BPC, which has facilities at Brackenbottom to store books, but one has only to read articles from kindred club publications to understand the difficulties of storing club libraries in Members' houses, in damp cottages in caving areas (Red Rose at Bull Pot Farm), in rented accommodation (Craven Pothole Club at Skipton), or in public libraries (Yorkshire Ramblers club at Leeds).

Fortunately, the demand for books has fostered specialist traders in this kind of publication, such that it is now possible to acquire by mail order virtually any caving book or periodical, new or old, thanks to the likes of Tony & Ann Oldham in South Wales. Tony once boasted a catalogue of 320 caving books, but I am pleased to say that the BPC Library has at long last matched that. I should also hint at my pet AGM topics of insurance and the value of the Library. Its worth is, of course, only that which the BPC ascribes to it. It will always be debatable as to whether the value of each publication should be "as new", or "market value", a dilemma seen over & over on the "Antiques Road Show". It would be meaningless therefore to value the Library for the purposes of this article.

Finally, what is a Library for? A fine row of books on the shelves may be impressive and at times one might be spoilt for choice, but in reality the higher the proportion of Club books on the shelves, the lower the proportion of the Membership actually doing any reading! If the past should be any key to the future then the Library should, in the foreseeable future enter another golden age, with the aid of Information Technology. I leave it to a later generation of Members to update this article in relation to how Information Technology changed the Library.



Neil R. Dyson
(Onetime Hon Librarian)
April 2021

Rope Testing – In Memoriam

It was back in 2010 when the late Dave Elliot handed over to me as the then BCA Rope Test Officer various bits and pieces associated with the rig he had persuaded the Bradford to build inside their garage in around 2001. I was also put in contact with Roy Rodgers who as a retired Physics Teacher had a passing interest in the topic. So we started work by measuring the speed of the falling test mass using a ticker tape set up he ‘borrowed’ from his old school. (The concern was whether the friction which the test mass was subject to when sliding down within the upright channels would slow it down so as to not meet the requirements of the European standards for testing rope.)

The ticker tape set up was a long length of ticker tape which ran past a pen which was vibrated at 50 times a second to strike the paper. A simple measurement of the distance between the marks of the pen allowed us to calculate the speed of the falling test mass and discover that the value of the earth’s gravity at Brackenbottom was much higher than the usual value for small g of 9.81 metres per second per second. It took some while for us to find an explanation for this observation as well as focus on alternative ways of decreasing the friction on the test mass. That also quickly taught us that manually hauling the test mass



Figure 1 – The drop test rig in the garage

back up whilst good for our arm muscles, was better replaced by an electric winch. We also pushed the load cell set up to get a system recording the force on the rope at ten micro second intervals (that is equivalent to taking 100,000 recording every second). Given a single drop resulted in over 30,000 pieces of data, we wrote a computer program to take the data, present it in a meaningful way and permit analysis of various pieces of information including the amount of energy involved in the rope arresting the falling test mass, see CREG Journal No 75 p24 to 27, 2010. One experiment

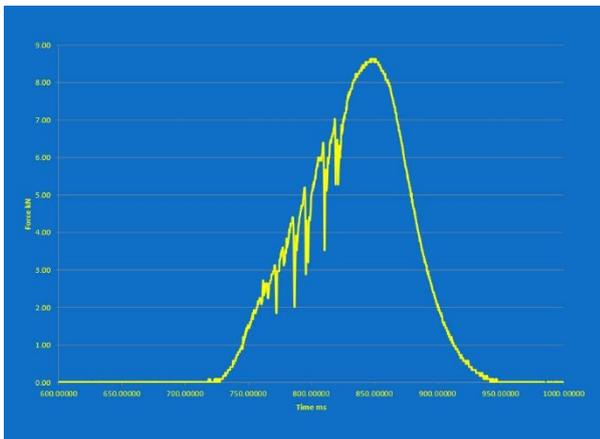


Figure 2 – Force/time data

did show that the load cell system was behaving as predicted for a piece of elastic in place of a rope which was very encouraging.

Previous high speed camera work shows the knot tightens up in a series of jerks. Figure 2 shows that the force time data often showed up these jerks.

This led to the hypothesis that the knot would initially ‘stick’ so the force would rise as the rope slowed down the descent of the test mass. But the

force would grow to such a size where it would overcome static friction of the rope within the knot and then the knot would 'slip' allowing a dramatic reduction in the force until the knot was tight enough to stop further slipping. Figure 2 shows at least five such stick / slip events.

We were computing energy from knowing the force at a particular point in time and computing distance and thus using the relationship that energy is equal to the force times the distance over which the force is exerted. But unfortunately, progress was abruptly halted when our results



Figure 3

indicated we could extract energy out of thin air. A detailed analysis eventually turned up an incorrect assumption in the computer program. That assumption pointed to the need to measure the location of the test mass which was required to calculate energy from knowing force and location.

So we then turned to ways of measuring the distance the test mass had fallen in order to improve our means of measuring energy. Our first attempt was to use a long exposure photograph of the falling test mass with a fast flashing light attached. The result was a blurred image of the test mass but a set of points showing the location of the test mass at every four hundredth of a second. We then realised that this image would require substantial effort to analyse it to measure the location. We then tried using a notched white plastic pipe coupled with a simple infra-red emitter and detector combination which could pick up the variation of reflected light. However, the pipe was found to not be sufficiently rigid enough, such that its bending would hide up to 10 cm of movement. We then tried using a stack of magnets in a pipe around which we placed a coil of wire to pick up the induced current flow as the coil attached to the test mass moved down or up. This idea was developed into a resulting device which contained a stack of some 700 disc magnets within a 3 metre length of copper pipe together with a special electronic sensor of magnetic fields to give us an accurate measurement of the position of the test mass to within 2 mm, see CREG Journal No 90 p14 to 17, June 2015.

Figure 3 shows the rig with the copper pipe which contained the stack of magnets and brass washers shown in an insert. This development also required writing another computer program to extract information. And coupled with an improvement in our

data recording system, we now were routinely dealing with one million data points per drop. A limited literature search did not reveal that anyone else has developed such a capability.

Having thus got a reliable set up we started looking at the energy which a rope and its knots consumed in being broken by the falling mass. One of the minor problems with this work was that the overall length of the sample was limited to around 1.2 metre which was shorter than that specified in the European Standards for testing climbing and caving ropes. Figure 4 shows the knots consumes a sizable proportion of the energy used to break it when dealing with short length samples and why samples of 2 metres or longer were preferable for reducing the presence of knots.

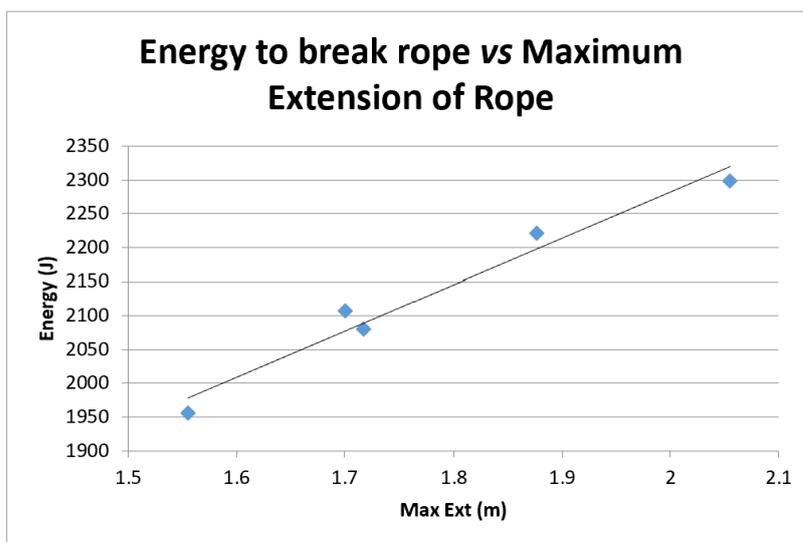


Figure 4

In 2015 BCA was offered the opportunity to obtain a rig which could slowly pull on a rope sample until it broke. The Bradford Pothole Club kindly agreed to host this device and in 2016 the 'static' rig was delivered to the garage after being extended by its builder, Paul Thorne. (The name static was adopted since it would take a minute or more to break a rope compared to a tenth of a second for the 'dynamic' rig.) The high speed camera work and force time data suggests there should be a difference in energy required to break a knot if it is done slowly. Sadly, the Covid 19 pandemic has meant that we were not able to complete work to make direct comparisons of the energy to break a rope sample to test whether there was a difference.

Whilst doing all the above, we have been asked questions and passed numerous samples of rope for testing. Dave Brook asked to use the static rig to test his digging buckets. The results of that day's work were published in the Bulletin in 2017.

One of the early questions was whether polypropylene rope was as good as nylon. A simple test confirmed a much lower strength for polypropylene rope but led us to look at the difference between hawser laid and kernmantle rope. We deduced from the way the rope broke (one strand after another in a three strand hawser rope) that the added strength of a kernmantle rope is due to the sheath compressing the cores within the kernmantle rope to cause a more efficient load sharing across all parts of the rope, see *Speleology* 17, p15 to 17, March 2011.

We were asked about Y hang knots following an alert by the French. They had observed that in a fall it is possible that if one just clips into a single loop of a bowline on the bight, then the loop would not hold a person falling. Our work on the rig showed that this could occur and a look into alternative Y hang knots did not come up with a clearly superior knot. It was clear that clipping into

a part of a knot which was not a designed load point may well cause unexpected failure of the knot. The take away point is to clip into both loops of a bowline on the bight, see Descent 230, p6, Feb/Mar 2013 and Descent 231, p6, April/May 2013 and Descent 233, p20 to 21, Aug/Sept 2013.

A more recent question arose with the potential use of 'soft' shackles; soft because they are based on tying a largish knot to create a small rope loop and then threading the knot into the loop and placing the set up under tension. Figure 5 shows one sample on the static rig before being broken.



Figure 5

The concept is used in sailing and has been found to be reliable. The results were encouraging but further dynamic work was required to determine their strength under shock loading. But a concern remained as to whether under little loading the shackle could undo itself.

In late 2018, the BCA Training Committee came to us with a question over the impact of a fall when using jammer and pulleys in various combinations. Apart from the expected finding that falling on a jammer connect to a rope will damage the sheath of that rope, what did come as a surprise was how one suggested set up for belaying people using a pulley and jammer (see Figure 6), where the



Figure 6

idea is for the jammer to trap the rope as it is pulled through a pulley. What we found is that drops even as small as 20 cm could result in damaging the pulley. Further research indicated the suggested set up had been withdrawn by the manufacture some while ago. But unfortunately the technique still features in many historic and current forms of literature as a means to belay a second when ascending a climb or

ladder. The result was the subject of a notice by BCA to alert cavers, see the Safety page on BCA's web site at <https://british-caving.org.uk/documents/warning-using-pulleys-and-jammers/> .

And again in late 2019, the Qualifications Management Committee of BCA sought advice on the differences of Alpine verses Cavers Butterfly knots following an inconclusive debate at one of their meetings. A small set of drops were carried out to simulate the normal usage of these knots in a traverse situation. Three out of three Alpine Butterfly knot samples broke whilst four out of five Cavers Butterfly knot samples survived. Although the Cavers Butterfly knot samples which survived the tests, saw higher peak forces, they also absorbed some 15% more energy without breaking when

compared to the energy absorbed in breaking the Alpine Butterfly knot samples. This is in line with the observation in Marbach and Tourte's "Alpine Caving Techniques" book at page 73 which states that the Cavers Butterfly knot "is ideal as a shock absorbing knot".

A second test was conducted with a single sample of each of the butterfly knots tied midway within a lanyard made with sewn loop ends as shown in Figure 7, so the majority of the energy measured would have been absorbed by the butterfly knot.

This set up was designed to simulate using the butterfly knot to tie out a damaged section of rope when in use. The Alpine Butterfly knot sample broke in the knot with a peak force of



Figure 7

11.5 kN with the sample consuming some 2000 J of energy. In significant contrast, the Cavers Butterfly knot completely undid by 'pulling out' with a peak force of 7.5 kN with the sample consuming some 1000 J of energy. For a typical caver of 100 kg mass, that is equivalent to a fall of around just 1 m. This scenario would lead to the damaged section of the rope having to cope with the remaining energy of the fall arising from the additional distance that the caver was to fall. It is considered that the observed weakness of the Cavers Butterfly knot makes it a knot to avoid. Again a notice was published on the Safety page on the BCA's web site at <https://british-caving.org.uk/documents/comparison-of-alpine-cavers-butterfly-knots/>.

Perhaps the most significant point to come out of all this work is that the knot can absorb a lot of energy and thus reduce the risk of being injured (or worse) from having a fall. So please remember to relax the knots in your cows tail after each use. (By relax I do NOT mean undo, just ease any tightness out of each knot and then dress the knot as usual.)

Sadly, the rig is now being decommissioned after some 20 years of work. Whilst we had developed it to the point where first class research could be carried out, such work will now fall to others to conduct elsewhere.

In conclusion I would like to acknowledge the help and advice from the late Owen Clarke, Jim Evans, the late Alan Latchford, Steve Richards, Roy Rodgers, Paul Thorne and Nick Williams and of course you, the Bradford Pothole Club for putting up with me and the rig for so long.

Bob Mehew
April 2021

Hells Bells Hole, Cumbria

NGR NY 76876 04643

In 2017 we were invited to look at a Cave near to the town Kirkby Stephen. I first found out about it from a lad I know called Hamish who worked in a local Pub; his brother Charlie had dug it out using a JCB after he kept finding a river flowing past his house in very wet weather. Both had, in days gone by, done a bit of caving and mine exploring and were disappointed to find it didn't go far before it got too small.



Hells Bells Hole in full flood



Russ Brooks in the entrance passage

On my first visit, having never seen the water flow, I was amazed at how big the entrance passage was. Some 20 metres long and up to 3 or 4 metres wide, with an easy hands and knees crawl at worse over what looks to be calcited breakdown with stalagmite bosses. I thought this has got to go somewhere but, at the end of the large passage it turned 90 degrees and dropped down a metre or so to a flat out crawl. Here it became too tight and was blocked by rocks all glued together with calcite that was as tough as concrete.

After a couple of digging trips we got through the squeeze to about another 10 metres of dry passage before another 90 degree turn into a low roofed sump pool of about 5 metres. This was to be the end for now until we could persuade a diver to take a look. With other digging projects on the go it wasn't until February 2020 that we next visited with Rob Middleton.



Rob Middleton getting into Sump 1



The start of Sump 2

After a short carry to the hole, Rob kitted up next to Sump 1 in a bit where you can actually sit up. His first attempt to pass the sump had him return and report that he had gone about 5 metres at a depth of 1.5 metres but it had become too tight. On his second attempt he headed east at a slightly higher horizon where he was able to move rocks in the zero visibility, and after 6 metres he had passed the constriction to an enlarging of the passage, and still at a maximum depth of only 1.5 metres he surfaced 12 metres from base. Here the dry

passage first climbed up and then back down again for 12 metres where a second sump was encountered. Shortly after this dive the country was locked down with the Covid 19 epidemic and so it wasn't until September 2020 that we returned.

Once again kitting up in the cramped conditions next to Sump 1 Rob set off with flippers and line reels in tow in his tackle bag. On entering Sump 2 it was found to be a roomy 3 metres by 2 metres with excellent visibility until stirred up. Laying line though he surfaced after 21 metres and at a max depth of 3.5 metres in a stooping passage. This then changed to a wide bedding heading up dip for some 10 metres before once again becoming walking size passage, and eventually ending at a large choke. It was noted that there were some



Large Passage beyond Sump 2

holes through the choke and black space beyond but, it was going to need a large wrecking bar and balls of steel to tackle it. This would have to wait for a further dive and some help.



Just before the choke on the left hand side Rob spotted a small descending rift which he climbed down and here he found Sump 3. A quick check with his feet proved it went but it would have to wait until the next time. All in all a good day and another 70 metres of passage found.

Climbing through the choke to enter the rift Splendid Isolation



The rift Splendid Isolation

October 2020 we were back again and this time armed with the usual diving paraphernalia, a large bar, survey kit, camera, an extra diver and a couple of sump donkeys, it was to be the longest day so far at Hells Bells Hole. Rob was first to dive and Mike Butcher was to follow helping to get all the gear through the sumps 1 and 2 to the walking passage beyond. The first task was to tackle the choke with the large bar, and after half hour or so they had opened it up enough

to enter the rift. The rift “Splendid Isolation” was very well decorated and a small aven there was checked out but it became too tight.

Returning back to the main passage whilst surveying and photographing, the diving equipment was next transported down the climbs of the left hand rift “An Excel-ent ending” to Sump 3.



Formations in Splendid Isolation

Rob passed Sump 3 first after just 5 metres at 1 metre depth and so quickly returned to get Mike to join him for further exploration. The passage named “16000 More” (see BBC News for 17th October 2020) started as off as a muddy and stooping but very soon ended in a choke. A small muddy crawl that had been spotted on the left was then followed for 30 metres where it split with one side becoming too tight and the other ending at a terminal choke. Rob and Mike then photographed and surveyed their way out to join up with the survey Fred and Tim done from the Entrance to Sump 1.



The final day was a long day, and after a breakdown in communications on how long the divers would be, a Callout was initiated as the Sump Donkeys Fred and Tim were only expecting Rob and Mike to be 4 hours or so. With Tim in the entrance passage and me (Fred) sitting outside in the shake hole COMRU called to get the latest. Just as they did Mike surfaced from Sump 1 with the usual

Mike Butcher at the final choke

clanging and banging of bottles so we were able to stand them down. COMRU held the phone line open until Rob was also out of Sump 1 before shutting the callout down. It turns out neither of the Divers realised they had been gone for just over 7 hours. All's well that ends well though, and another new cave in the Westmorland Dales.

I'd like to thank Charlie Bell for allowing us access and opportunity to explore, and to Rob for his excellent survey.

The team were

Divers:

Rob Middleton and Mike Butcher

Diggers and Sump Donkeys:

Tim Sullivan, Russ Brooks, Helen Fairclough and myself Fred Rattray

Other References:-

BPC Newsletter Issue 541 November 2017

BPC Newsletter Issue 581 April 2021

Descent Issue 279 pages 36 – 37

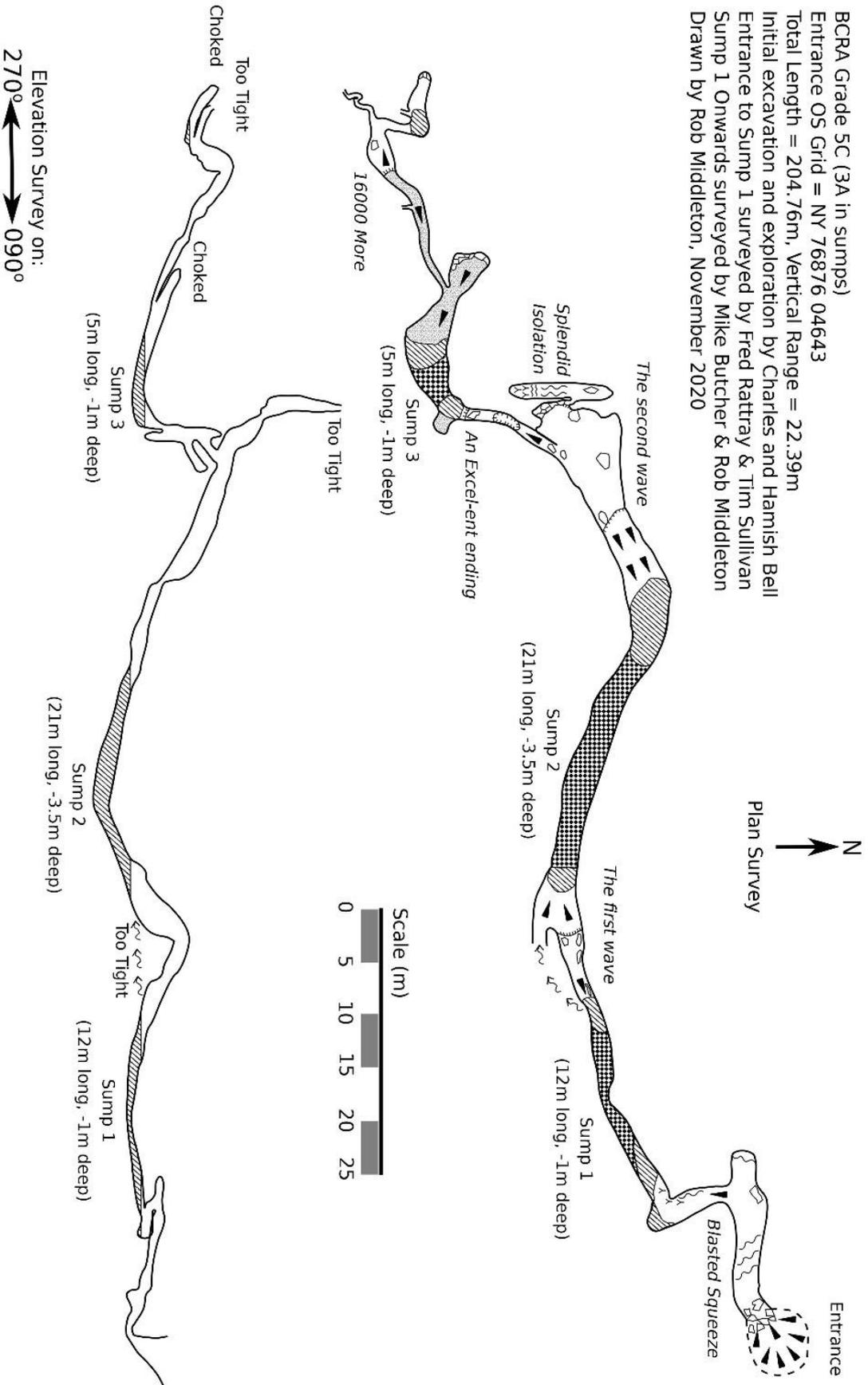


Tim Sullivan coming through "Blasted Squeeze" towards Sump 1

Fred Rattray
May 2021

Hells Bells Hole, Wharton, Kirkby Stephen, Cumbria

BCRA Grade 5C (3A in sumps)
 Entrance OS Grid = NY 76876 04643
 Total Length = 204.76m, Vertical Range = 22.39m
 Initial excavation and exploration by Charles and Hamish Bell
 Entrance to Sump 1 surveyed by Fred Rattray & Tim Sullivan
 Sump 1 Onwards surveyed by Mike Butcher & Rob Middleton
 Drawn by Rob Middleton, November 2020



Absent Friend - Martyn Scatliffe

Whatever our nationalist affiliations or even possible disdain of British institutionalism or politics altogether, one thing we can all delight in whilst living in this country is our rich and vibrant English language. One person who stood out in my mind to be a great orator and exponent of communication was Martyn Scatliffe; his sheer eloquence and ancient historical erudite knowledge was indeed quite remarkable considering his humble education at a Bingley Secondary Modern. I first met him in the late summer of 1973 shortly after I became a probationary member of the BPC. As a young impressionable caver with a passion to explore and somewhat abstruse sense of humour – I quickly became a member of his “Pythonesque” retinue.

A quite mundane and muddy caving sortie with a minimum of Martyn’s intervention would often develop into a side-splitting soiree of rapture – one occasion that springs to mind was the tenacious conquest of “High Gill Caves” in the summer of 1974. Described in volume 4 of the newly published “Northern Caves” as providing “walking passageways and wallowing chambers with good formations” they were temptations beyond appetency for Martyn as the clubs newly elected Honorary Photographer. Kitting up in Gawthorpe with black neoprene wetsuits, thigh-slapping steel ammunition boxes packed with cameras and multitudes of blue flashbulbs, a group of ten set-off in search of High Gill Farm to seek the landowners’ permission to enter the aforesaid alluring caves.

Our first stop was at a ‘Poodle White’ cottage owned by a couple of young yuppies who had only just moved into the area in the last two years and therefore had no idea of the location of High Gill. Next we followed our gut instincts and assuming it must be in close proximity to the beck, mistakenly ventured off the security of the metalled road. This soon had us floundering in marshy meadows and woodlands with our steel-clad cargo of cameras and Mars Bars. Martyn proclaimed it resembled the ‘Chindits’ which made me think he was a little young to reminisce about a WW Burmese jungle expedition, perhaps he had watched the same b/w episode of “World at War” as myself?

At last a man repairing a dry stone wall stood at the corner of the field, “Follow that stream up above barn, across the bridge and it’s up there on’t left”. He chortled on being surrounded by our perplexed helmeted and tattered neoprene clad marauding mob resembling medieval armoured extras from a Terry Gilliam and Michael Palin film.

The farm was rapidly becoming as elusive as any clandestine cave entrance. The clock was ticking and nearing twelve – Sunday opening hours at the ‘Sportsman’. With foaming flagons of “Younger’s Bitter” forming tantalising mirages in our minds the whole trip was rapidly descending into a fiasco or as Martyn put it “utter debacle” so he took control of the situation saying if he were to fail in his quest he would immediately “fall upon a sword”.

Finally our goal came into view, a crumbling residence with peeling paintwork, covered in a patina of green slime – a true Dale’s farmstead. After knocking on the front door Martyn was pushed forwards, as a crone like lady stood there in floral pinafore garb.

“We have been sent here by routes devious.” Martyn proclaimed in his usual flamboyant way, gesticulating with his right arm outstretched in the direction from which we had travelled.

“By who?” Came the reply as she inspected our cavorting group now reeling about with laughter at her bewildered expression from Martyn’s voracious theatrical performance. It must have been a one-and-only lifetime experience for the old lady to be confronted by such a dusty, dried muddy neoprene wearing orator.

The caves themselves proved to be quite an anti-climax with the usual failing flashguns and passageway visibility fogged-up with steaming sweaty wetsuits, but it did see the birth of the eponymous “Route Devious”, who would no doubt be destined to move on to greater aspirations and become a future arch “Bond” villain or adversary for “Batman”?

One of Martyn’s overwhelming skills was his ability to bring life to the fearsome carbide cap lamps. Manufactured by “Premier Lamps” these provided the luminescent mainstay of many novice cavers in the early sixties and seventies. A small quantity of calcium carbide in chipping form was added to the base container, screwed together with a top containing a reservoir that was filled with water which gravity fed the carbide via an adjustable spindle, producing acetylene gas that when ignited by a flint wheel produced a bright jet of flame. Sounds simple, but like all mechanical appliances with multiple moving parts, it was bound to fail at the most inappropriate moment – for example free-climbing an underground waterfall.

Most cavers of the period seemed to possess an inherent lack of preventative maintenance etiquette together with wetsuit husbandry and carbide lamps fell well into that category. When a team member’s lamp failed on ignition Martyn would grasp the nettle, iterating his usual platitude, “Ther’s now’t wrong wi’ carbide.” Unblocking the jet and sealing his mouth over the filler cap, wheeze into the orifice until it hissed and effloresced; then strike the flint after first cupping the escaping gas in his hand. This always resulted in producing a loud resounding flash and bang with sooty fallout. The lamp was then re-affixed to the still trembling and naive probationary members helmet bracket – a potential bomb located approximately two inches from his cerebral cortex, the safest place for it to be providing it was on someone else’s head.

Martyn met his nemesis when after re-charging his own lamp with fresh carbide he forgot to fit the rubber flange washer that sealed the upper and lower sections. On ignition the insidious device detonated with a roar that sent a wrick of orange flame engulfing his fine coffered beard; leaving him sporting a sooty “Buster Keyton” face with a pungent odour of singed hair. Next week he’d upgraded himself to a shinning new electric ‘Oldham Lamp’ deeming they were far superior for photography.

His crowning glory excelled and shone its brightest in the pub where he could retain his composure despite consuming considerable quantities of “Ale” as he used to refer to his drink. Here was the thing that he craved, cordial company and most of all an audience. Sitting at the table with a cigarette in hand he would recite poetry, ancient anecdotes and historical extraordinarities to the bemused gathered guzzlers. If a new young club member happened to join the group he would

stare them profoundly in the eyes and iterate a Latin or foreign phrase demanding they translate its meaning like some pedantic old school master. It was usually just some boring old platitude or inscription from the Royal Coat of Arms but it had the point of terrorising the poor novice into thinking there was far more to this potholing malarkey than he first thought.

As the ale flowed in copious quantities Martyn's voice would become more strident not to mention ribald and if a fellow member would pipe-up with an amusing anecdote Martyn would counter it by booming the phrase "Sideshow" then recount something much more bizarre. During one lull in the insobrieties, he took a pack of three darts from the bar and plunged them into his upper thigh – one onlooker sneered that they must be trick darts until Martyn invited him to pull them out, one by one, at which point the heckler turned a paler shade of puce. Martyn explained his impromptus actions when quizzed by myself by stating, "It was mere penance for my iniquities of the past."

One adventure I recall with Martyn was the occasion a small group of us were invited to crew John Robbo's cabin cruiser on a trip along the Leeds Liverpool Canal. It was early October in the late seventies and the plan was to travel from Bingley to Skipton and back taking in as many beverage providing hostelrys on route. An innocent venture it seemed at the time, as there were no suitable carboniferous caverns in Airedale for us to explore – a plausible excuse of course! Along the way there were few obstacles involved like locks but to our dismay an unprecedented twenty-three swing bridges.

A small farm access bridge failed to yield to human brute force so John said his only option was to ram the old wooden structure. Martyn piped up with the phrase 'ramming speed' recalling the trireme sea battle from "Ben Hur" – Jola, (Johns boat) sidled forwards at about duck-paddling speed, far less impressive without the Nubian drummer beating time and the balusters of 'Greek Fire', but it worked. Our triumphant entrance into Skipton at around tea-time was announced by a stirring "Sousers March" played on Martyn's 78 r.p.m. wind-up gramophone, conveniently placed on the deck house structure.

After a meal in the "bridge chippy" the boat was manoeuvred along the back waters of the town and moored near the small road bridge adjacent to the parish church. The salty sustenance was beginning to have a profound effect on the crew in the same way old seafarers suffered after months of cured meals. Ale was needed in large quantities so as a marauding mob we headed into town to slake our thirst.

Several pubs were visited and all in turn subjected to Martyn's incorrigible witty remarks likened to old-time parodies of a musical nature. Our last port of call was at an old bar near the bus station aptly named "Chews Bar", this was the place where Martyn felt at home in a way "Leonard Sachs" did at Leeds City Varieties. His flamboyant demeanour (probably enhanced by the fact that his was the only one in the room wearing a bright red fez) soon attracted Skipton's version of "Onion Jonnie", a local old chap who grew Chrysanthemums on his allotment as a hobby. Martyn enquired if the old man knew any good songs. The shabby chappy doffed his greasy flat cap belting into an old campaign song beating the rhythm with his fingers on the table – to Martyn's amazement, including our own, about hardships and events not in WW2 but the Zulu war! "I shall procure a copy

at great expense because it must surely have been released on a cylinder”, Martyn commented later.

The evening of rapturous entertainment did not end with the tolling of the pub time bell because on retracing our footsteps along the canal towpath we were to discover the Jola had vanished in an ironic twist of fate of the “Marie Celeste”. At first I concluded it had been stolen by ‘Water Gypsies’ but John assured me that like King Arthur drawing the sword from the stone – he was the only one in Christendom who could get the engine started. In our rush to get to the pub, it appears that the hasty mooring rope work had come undone because the yellow and green craft had drifted along the canal and lodged perpendicularly across the water way beneath the precarious castle ramparts. The problem now was the towpath at this point was six foot below the deck so Bones volunteered to rock the bow loose after being lowered down on our knotted together jackets. The whole incident was being casually observed by two surly police officers from the road bridge. No doubt the paperwork would have been too incredulous, as they never bothered to intervene.

Something that I must confess to and that is I inspired Martyn when I suggested it was a shame someone did not own an old campaign tent on a smaller scale than the GG beer tent (this was an old dark and dank green army one at the time). This could be pitched in close proximity to any Dale’s pub providing a communal temporary base for both caving and liquid refreshment. Martyn immediately purchased a “Giant Pearl” tent with the luxury of a sewn-in ground sheet. In his inimitable way he christened it ‘Sevastopol’, not after the besieged town of Crimea but a shanty-town that was used in the construction of the Ribbleshead Viaduct on Batty Moss. Here as he put it much debauchery and intemperance took place – a fitting prelude of what was about to be unleashed on tourists and denizens of the Dales.

To describe the intemperate events that took place in that canvas citadel or “rag palace” as Martyn often referred to it with affection, would require much censorship and redaction as to render the events unintelligible. To protect the good name of the individuals involved they shall remain untold! Unless you wish to ask Jim Abbott about his beard or indeed myself after being overtaken by a bout of incontinence after having awakened and mistaken it for a toilet tent, (a simple mistake as you could indeed stand up inside whilst hooking an arm around the centre pole).

Sevastopol inflicted its reign of terror throughout the countryside for about 5 years, revered by pulicans and reviled by peace and tranquillity seeking campers. To my knowledge we only received one lifetime ban from the campsite in Kettlewell but we were probably formative in the ‘Caravans but no tents policy’ implemented in Hawes.

By far the most memorable caving occasion with Martyn was the famous “Wine and Cheese Party”. In his capacity as Hon Photographer he decided to photograph the main chamber of Gaping Gill at the 1974 Spring Bank meet. The plan was to illuminate the scene using large Edison screw blue flashbulbs, utilising a time exposure to capture the incoming daylight of the shaft. The problem was there needed to be no one else in camera shot with a cap lamp which would have created a light trail and thus ruin the image. This would mean getting up at a not only an unreasonable hour but also muster a winch crew to let us down the shaft.

The solution was to go down in the evening and spend the whole night down there at the same time providing entertainment and refreshment for the army of helpers. Martyn, as master of ceremonies, decided on a party with a difference – something that he concluded had never been attempted before in the annals of caving history. Paper plates and serviettes decorated a lurid floral table cloth spread out on the floor of Sand Cavern. Cheeses on offer included Wensleydale, Cheddar, Cheshire, (not Lancashire, as Martyn was a staunch Yorkist), Leicestershire and Sage Darby. Red and white wine was accompanied by sweet sherry as an aperitif of course! All the aforesaid had to be carefully transported along the constricting confines in cardboard boxes to the campsite together with a wind-up gramophone and several 78 recordings.

The photographic trip was a resounding success with lots of cracking images taken both candid and inspirational and the party was the highlight, though Martyn begged his humble apologies at having forgotten to bring finger bowls, resulting in leaving everyone with a slight gritty aftertaste. One mistake we made was to attempt to burn all the cardboard and paper underground – this resulted in creating an inimitable smog that permeated throughout most of the older system over the next few days.

O me, Martyn was not only one of the most colourful of the BPC characters but also very sincere. On rare occasions he would confide in his feeling about his life and at one period he admitted he was growing tired of always playing the court jester and having to orchestrate so many of his outlandish events. When he discovered an escape from his reticent masquerade by marrying Melanie and setting up a home it turned sour – it seems quiet sobriety and domestic dignity were not the reasons why she chose Martyn as a husband and so the relationship failed.

On attending his funeral last December and looking upon his coffin I was saddened that our paths had not crossed again for over twenty years. What hit me most when informed of his illness was he did not have the company of so many of the people whose lives he helped to enrich in his final days – myself included, especially on realising his name was still listed in the Bradford phone directory. This leaves me to conclude that whatever we choose to do in our own lives never forget to cherish friendship.

Goodbye Martyn and thank you for your care, concern and above all, friendship.

Steve Dudley

Obituary – Brian McGavin

10th May 1986 – 4th June 2016

Dear Lord but how could one do this man justice.

So many people, both dazzlingly accomplished and larger than life have walked through the doors of the BPC, so many people have swung from the bars of the ale tent, yet few have captured the hearts of us all as much as Brian McGavin did.

Now just because the feckin eejit isn't here to defend himself, and our hearts still ache doesn't mean I'm going to romanticise what an annoying little shit he was when we first met him in DCU caving club, geeky with a ferocious enthusiasm no one could keep up with. I could have skimmed over that fact but then this wouldn't be a fitting write up because the one thing for me that defined Brian was his incredibly witty, don't take anything too serious, refreshingly honest sense of humour. If there is another life and he's watching, he'd be cracking himself up right now and calling me a bitch LOL. He wouldn't have had it any other way and it was especially evident when faced with the unimaginably shit diagnosis of having a brain tumour. The physical symbol of his legacy is most fittingly immortalised in his "Brianna Broccoli"s, an Ikea stuffed toy, the story of which I feel captures his spirit best. So, you imagine the scene, he's had brain surgery and what they found wasn't good; he was in pain and frankly facing his own pre-mature death. As a close friend going to visit him, you'd be bricking yourself: this is a solemn, grim and heart wrenching moment. What do you say, what do you bring him? Well, the DCU lot who knew him best brought him a stuffed Broccoli because it was so mad looking it resembled both his wild hair and a brain tumour; he pissed himself laughing and loved the cheeky irony

of it so much that he gave one to each of his closest friends and he had loads of us, because, quite frankly, he was such an amazing friend to so many, he bloody well deserved it. Still having a sense of humour in the face of that is something else. The dignity of his dying was befitting of the dignity with which he lived his life.



Brianna Broccoli in the Ale Tent

I knew Brian from when we were both pasty faced, nerdy eejits in Dublin City University Caving Club. He was a man of action and certainly had his priorities in order. To the dismay of those more conditioned than him, and despite his admirable work ethic, work wasn't what defined him, and money was for spending on people and experiences not for accruing. To some it was frivolous or immature but in the too few years he was with us he achieved and experienced more than most people three times his age. I'm sure he was one of the few who could stare into death knowing that you'd made the absolute best with the time you had. I really admired him for that, for his bravery,

the pure-heartedness that drove his endeavours and his ability to just make shit happen. No excuses, just doing it! That's what doing a Brian is.

You could rely on Brian to be there, bleary-eyed LOL (he did our country proud up at GG), cheery and bushy-tailed. I started canyoning, "oh that sounds cool", next thing the UCD lot are telling me, the last space in the car to the Alps had Brian in it. I went to Yorkshire caving, he was there, king of the party in the dump, smashing through his Dales potholes to-do list and taking all the attention away from me LOL. I took on leading an expedition, he not only comes out for the whole month caving but he takes a week off before and comes over to the Dales to help me do all the unglamorous preparations. One of my favourite pictures of him is from the week before Ario 2013, carrying a wheelbarrow full of rope down to Brants Ghyll for soaking, his hair as wild as he was and that infectious big grin. Now you don't get many friends like that.



Brian at Brants Ghyll

Every big thing I do, I miss him especially because I know he'd have been there in the thick of it with me. He was the type of friend who'd have been on a flight over to see me, neck deep in paint, helping us renovate the barn; supporting me on a long run, being an amazing friend when the chips were up or down. Whatever daft thing I'd have decided to take on, he was always there, supporting me, making it happen and being such an incredible friend every step of the way.

I have countless stories to tell, too many for here but one story that best describes Brian for me was the year of our first GG; I had moved to the Dales and devastatingly for me, lost my job. To the dismay of his employer, he took most of May off (obviously!) to see what all this GG hype was about. I needed cheering up and after all I was now free as a bird to get as much caving in as possible. I will always remember him for his insatiable thirst for adventure. He came over before the winch meet started and we went shopping to Tesco for all our camping food. He kept asking my preference for things and putting what seemed like

too much stuff for one person in his trolley and when we came to the checkout, knowing I was seriously strapped for cash, asked me to fetch something from the very back of the supermarket.

By the time I was back, all the months food was paid for including a bottle of Gin and Moet. I had been feeling really down and he knew what would definitely cheer me up. That month of May in 2011, we all had the best time in the world with the legend that is Brian McGavin. For those of you who don't know, that's where the GG camping quarters of Tipperary got its name. We were the newbies, banished to the back of the beck, waiting for BPC members to die before we'd sleep closer to the Ale tent LOL and it was a long long way, so we called it Tipperary. There were many the morning we stumbled back to Tipperary, the Ale tent behind us and the sun rising before us. Sometimes even under high flow conditions it was even too far and perilous for Stemple and him to even leave. Epic nights of singing, drinking and having the craic, and drunken daft decisions like agreeing to bringing a radio locator to the arse end of P5. Thank God even Brian was too hungover for that!



Brianna at Tipperary

Brian was always remembered and always liked, despite being an irritatingly giddy fresher I never knew anyone to say a bad word about him. He was adored by the BPC for being so friendly, jovial, helpful, kind, and envied for his ability to drink us all under the table and still be up for a hard caving trip that ~~morning~~ afternoon.

We all choose our friends cause they're ace and we love them but there really was something extra special about the force that was Brian McGavin. Life without you is just a little duller, a little less epic and certainly quieter. You will be missed and remembered forever my dear friend. Thanks for everything you did for so many of us and for all the epic adventures.

Steph Dwyer

Obituary – Dr John Peter Farrer

1948 – 2016



What can I say? John Peter as he was known, was one of the nicest people I have ever had the privilege of meeting.

I first met him after the death of his father - John Anson Farrer, who I had known for over 50 years - when responsibility for the Ingleborough estate fell on John Peter. Like his father, John Peter was a practicing doctor and lived and worked on Vancouver Island, Canada for many years as the local GP.

When I first met John Peter and his partner Jane, who later became his wife, I was impressed by a quiet but authoritative man with a ready smile and a warm personality.

One of his main interests was photography and Clapham and its environs provided a rich canvas for him to explore. I can still remember his excitement and wonder when he first descended Gaping Gill and the BPC, true to form, made sure he had the main chamber all to himself to enable him to take some wonderful shots underground, a new challenge even for a photographer of his skill and experience.

The BPC only had him as a friend for a short period of time but I am sure he will be fondly remembered for a long time to come.

Derek Castleden (Cas)

Obituary – Brian “Scoff” Schofield

13th January 1956 – 12th August 2017

I'd been away from the caving scene for a year or two, so Scoff was already an established member of the BPC when I first met him in the dump kitchen 35 years ago. He was wearing a big smile, wooden clogs, a rather garish hand-knitted green and yellow sweater and a matching pompom hat, which, as all BPC members well knew, was his normal weekend gear, and would be a trademark throughout his caving life. He told me he'd knitted them himself because it helped to pass the time during undercover operations - an essential part of his job with HM Customs and Excise.

It turned out he worked with a team from the National Crime Agency, tracking down national and international criminals: drug dealers and the like - and some very nasty characters at that. He was often undercover disguised as a tramp, an occupation that sounds distinctly scary and not for the faint-hearted.

Scoff was far too modest and discreet to talk much about his job. Though very occasionally when we'd had a good day caving and sat enjoying a few bevvies in the pub, he'd regale us with one or two enthralling incidents which he'd encountered along the way. Bearing in mind Scoff had a very full, long greying beard at the time, this story always makes me smile. It concerns the time his team were rounding up and arresting a very dodgy gang of drug smugglers. The baddy that Scoff was trying to cuff, raised his arms and shouted “The game's up - but I'm not being arrested by a bloody Santa Claus.” Scoff was very popular with his work colleagues and was given the nickname “Q” as in the James Bond films, alluding to his inventiveness and ingenuity.

Anyway - I introduced myself and he said with a grin, “Dave Haigh eh – you may not have heard of me, Bryan Schofield – Scoff to my friends, but I've heard of you. Geoff Crossley told me some tale involving you and Pete Faulkner being set upon by German football hooligans outside a pub in Munich but you saw 'em off.” Slightly taken aback I said, “Well, these tales get taller with the telling don't they”.

Scoff joined the BPC in the early '80s after thankfully being transferred from his job in London up to Accrington and, more importantly, within easy reach of the Yorkshire Dales. He could now fill his boots with caving aplenty, a sport he loved with a passion. He was already an expert caver, and having become proficient in the art of SRT whilst on trips to Europe, was willing and able to instruct the BPC on its use, and wean them off ladder and lifeline at last.

Having played a leading role in the support team which led to the breakthrough between Ingleborough Cave and Gaping Gill, he got bitten by the cave diving bug, for which he'd always had a hankering. He teamed up with another BPC member and cave diver, Brian (Biffo) Smith. The pair were very successful, particularly in Chapel-le-dale, discovering the secrets of the Hurtle Pot–Jingle Pot system and also terrific finds in Thorn's Gill, situated in the shadow of the Ribbleshead Viaduct. Unfortunately, Biffo became seriously ill and had to give up cave diving.

Eventually, Scoff took Dave Ryall under his wing. They formed a great friendship and had a lot of success over the last twenty years or so, pushing Deep Well in Gaping Gill particularly. Dave pushed on here from Scoff's pioneering dives, urged on of course by the redoubtable Mr Schofield. They found lots of cave between them in Spain also, where Scoff's Bog-o-Zepp came in mighty useful.

They also played a major supporting role in many large international cave diving expeditions, one of which was the 1997 project in the Doux de Coly, a huge clear water cave in the Dordogne. Scoff made his own electric underwater scooter (to ferry himself and heavy diving equipment) out of old lavatory plumbing and christened it the Bog-o-Zepp, which was named after the professional and very expensive Aquazepp scooter commonly used abroad on large expeditions. It hugely entertained other members of the expedition, but Scoff had the last laugh as, despite its looks, it lasted over many expeditions and never let him down.

Later that year, at Buckingham Palace, HRH the Duke of Edinburgh honoured him and six other divers for their part in the project. What a tribute to Scoff's ability and modesty as he never ever mentioned it, as far as I know, to any of his club mates in the BPC – cool!



Scoff at the Doux de Coly (self-portrait)



Meeting the Duke of Edinburgh

We mustn't forget to mention that Scoff also played a very supporting role during Jason Mallison's world record breaking expeditions to Pozo Azul.

Another of his engineering masterpieces was a home-made rebreather – again constructed out of odd bits and pieces he cobbled together. He named it Bag-O-Breath (his mates called it the Bag-O-Death) and he was so confident it would work that he tested it out solo in a cave dive and survived. That man sure had some bottle (pun not intended). Though he never used it again!

Whatever Scoff got up to, he was always massively supported by his wife Rowena. We were at the wedding reception which turned out to be more like an exception to a normal do. It was held in a marquee, and being accompanied by torrential rain from start to finish, had the many guests, all in their finery, splashing about in two inches of water whilst enjoying good wine and a beautiful meal. Of course with most guests being cavers, it just added to the occasion rather than spoiling it and prompted even more drinking and hilarity than usual. Scoff said in his speech, wearing his usual wide grin, "What more could you ask for at a cave diver's wedding reception?"

Scoff, like many of us, had a love affair with the GG winch meet. He counted down the days to the Prelim, loved playing a major role in the construction team, for which he was a very much valued asset, and delighted in driving the winch. He loved camping and all that goes with it – he even made his own mountain tent. Again, like most of us GG enthusiasts, after the day's work was ended or caving trips accomplished, he liked nothing better than a few bevvies in the ale tent and a good sing song into the wee small hours. Many's the time I can recall spotting his happy smiling face through a sea of swaying, inebriated, singing bodies at the same time as he'd spotted mine and our eyes just said it all. "Ain't this bloody good, is there anything in the world better". We both shared a love of bawdy songs, but his eyes would become moist (and he wasn't the only one) when Wild Mountain Thyme was being given full voice by an ale tent full of his friends. We both also loved bad taste jokes, and we never tired of relating our favourites to anyone who would listen. We even had numbers for them and he'd roar if I said "forty-seven". How daft can you get, eh?



Scoff helping to assemble the GG winch (Dave Ryall)

Scoff was a terrific orator. I used to love his excellent rendition of "Albert and the Lion" - it was better than Stanley Holloway's. And he was much in demand as an after-dinner speaker, at which he and Dave Ryall gave seamless, polished performances. They always played to large audiences, as folk knew that, if it was Scoff, it was gonna be a show stopper. He was a great showman – but always very modest – never a man to blow his own trumpet. In fact he'd go out of his way to 'bull' you up, and was always the first with encouragement and praise. I recall going to watch him and his superb blues band playing at the Grinning Rat in Keighley (his good friend and BPC member Brian Rhodes played bass) and was hugely impressed. He played keyboard brilliantly by ear and I think I'm right in saying he could play almost any musical instrument by ear.

But, his inventiveness particularly set him apart and became legend. Using old plumbing parts he designed several pieces of cave diving equipment that are now standard kit worldwide, as well as electrically heated outdoor clothing which he “ran up” on his old treadle sewing machine.

In 2016, Scoff was diagnosed with terminal cancer and, sad to say, he was never really well again. But, with his usual bravery and fortitude, and yes – still a smile – he battled on determined to make the best of the time he had left, which sadly was just a year. He even managed a trip to Tasmania to see friends he had out there – much against doctors’ advice. Also he had many kayaking trips with his wife Rowena, and close friends Dave and Sue Ryall, and Basher and Martell Baines. In and amongst all this he still managed to write his memoirs for a book, “Bumbling in the Dark”, since published and sold out overnight. It is an absolutely brilliant book which was edited and collated by Dave Ryall and for which the publishing was happily funded by the BPC.

In May 2017, Scoff made what he knew was going to be the last trip to his spiritual home. He made it up to GG under his own steam as he had always done, and managed a final trip down to the Main Chamber, plus a night or two in the ale tent. He was struggling though, and the day before de-tackle, unknown to the rest of us, he quietly packed up and went home. He explained later that he didn't want the feeling that it was going to be his last night or us to know either – no fuss. What a man, eh!

He was very kind to me, as well as lots of other people, and gave me masses of help because that was the type of guy he was. He was particularly generous with his time. Whilst at the dump one Saturday morning, I was struggling with the Deep Well chapter of our book – as it happened, a story that involved Scoff. I'd been instructed by the editor to draw a map (at which I'd always been more than useless) to go with the text I'd written, and was getting very frustrated. Scoff arrived knackered and stressed out from spending a week giving evidence in a major week-long court case involving drug smuggling, which they had lost through a technicality. He was naturally most upset as not only had they put their lives on the line to bring it to court (it involved shooters!) but they'd spent thousands of hours on surveillance just to see the scrotes walk free. Scoff said resignedly, “Anyway, that's dead in the water now – what are you up to youth?” After I told him he immediately grabbed my jotter and proceeded to draw exactly the map I needed, explaining all the detail as he drew. My problem solved in the blink of an eye by this most talented, kind and wise, highly intelligent, brave and generous pioneer of the caving and cave diving world. However, I don't think he ever forgave me for accidentally dropping a digging bucket down a twenty foot pitch onto his head, and if he didn't I really don't blame him – it was a wonder it didn't kill him. I think it was because I had an adrenalin shot and laughed, whilst realising in a flash how serious it was.

He was a very special man – great fun to be with, and a hugely respected member of the BPC, a club he loved and that surely loved him. The same goes for the Cave Diving Group of which Scoff was chairman for the last ten years. Testament to this is provided by the following splendid obituary by John Cordingley which was published, along with others in the CDG Newsletter. The CDG kindly gave us permission to use it in our Bulletin.

RIP Scoff

Dave Haigh (Swampy)

Memories of Scoff

I don't recall when I first met Scoff, although it must have been some time in the late 1970s. He was one of those people you just seem to have known for ever; such an easy going and genuine bloke within the caving community. He was a keen member of the BPC and CDG (indeed his email address included these initials for many years) and a well-known "man about the Dales".

Scoff's caving exploits were many and impressive. He was closely associated with the Gaping Gill to Ingleborough Cave connection effort in the early 1980s. Not long afterwards he developed into a very competent cave diver himself, playing leading roles in underwater exploration at major sites, perhaps most notably in Chapel-le-Dale. He frequently went cave diving abroad, often in the company of his BPC colleagues. Scoff had an excellent command of the French language and easily developed friendships with groups of cave divers overseas. He was a master at exploiting such connections to act as an ambassador for the CDG.

Scoff was one of the most solid supporters of Gaping Gill winch meets, having spent over 500 nights camping there over the years – a fair proportion of his life in fact. It'll never be quite the same again in late May at GG. The nearby Clapham Bottoms was one of Scoff's favourite places; he would often be found wandering around using the GPS, pinpointing all the fascinating little features of speleological interest. Scoff managed to camp at GG throughout most of the 2017 BPC meet, even though already very ill and facing up to his terminal prognosis. I chatted to him on his way down on the final day of that meet. He looked gaunt and tired but there was still that same gleam in his eye; he had an iron will and I knew that nothing could have kept him away from his club's flagship event.

He served as Chairman of the Cave Diving Group for a decade, having big shoes to fill when taking over from Mike ("Fish") Jeanmaire. Scoff proved himself to be solid in the role, expertly managing several major crises over that period. I often strolled up to GG in late May to consult him over some problem or other; his advice was always well worth asking for. He had that rare combination of wisdom, blended with humour and self-deprecation. When things became tense, none of his adversaries could bring themselves to dislike him and it would usually end up with them laughing, having been persuaded to adopt the common sense approach. It's hard to believe he'll no longer be there at GG in future, with that toothy Leeds grin behind an unkempt beard and that characteristic "Eyup youth!" welcome of his.

Scoff played a major role in many cave rescues over the years; some of which were especially difficult when casualties were personal friends. But he was always good to be with in such situations. His easy going temperament helped him on many occasions when negotiating access to sensitive sites. Few CDG members will realise just how much effort he put into trying to find a solution to the Joint Hole access impasse; ultimately this was unsuccessful but no-one could have done more.

Having been involved in so many cave diving projects over the years, Scoff was always willing to share information. I remember, when trying to find the way on in Midge Hole's Sump F for example, he gave me full details about the place and generously encouraged me to take that one forwards.

He was also a great innovator when developing items of cave diving equipment, being one of the first proponents of the use of silt screws (a vital line laying item which we now take for granted). He made one of the earliest modern home-build rebreathers in the CDG from assorted plumbing sundries purchased cheaply from stores such as B & Q. Perhaps his greatest achievement was the “Bogg-o-Zepp”, a home-made DPV with an innovative design revealing a talent for lateral thinking. He was justifiably proud of that device but the one invention which really transformed the way we cave dive was his “Scoff Bag”. This is a buoyancy compensator specifically designed for side mount diving in British underwater caves. Its use amongst CDG members is now almost ubiquitous and the concept has been copied by cave divers in various parts of the world, many of whom probably have no idea of its provenance when they pay a fortune for a commercially manufactured version at some “technical” diving sales outlet.

During Scoff's Chairmanship the Fish Award came into being. The first recipient was John Buxton. I was the second – but only because of Scoff. He'd mentioned I was being considered for this award and I'd strenuously disagreed, pointing out that many other folk deserved it far more. (The main person I had in mind was of course Scoff himself.) But he bent my arm, metaphorically, in his own inimitable way. I argued hard and long but it was like waves breaking on a beach; the man was a rock and immovable, in the nicest possible fashion. In the end he won of course. But I very much regret letting him persuade me; it should have been his, not mine.

Scoff was very special; a thoroughly good bloke, a man you could trust and depend on. He leaves an incalculably large void within the caving community in general and the CDG in particular. The funeral service at Rawdon was a true celebration of his life and probably the best attended inter-club “meet” I've ever been on, such was the size of his circle of friends. We should try not to be sad at his passing; he'd have told us off for that in the friendliest of ways and no doubt soon had us all roaring with laughter. Instead each of us should ponder on how fortunate we are, having enjoyed the many benefits of his friendship. Goodbye Scoff and thanks for everything.

John Cordingley

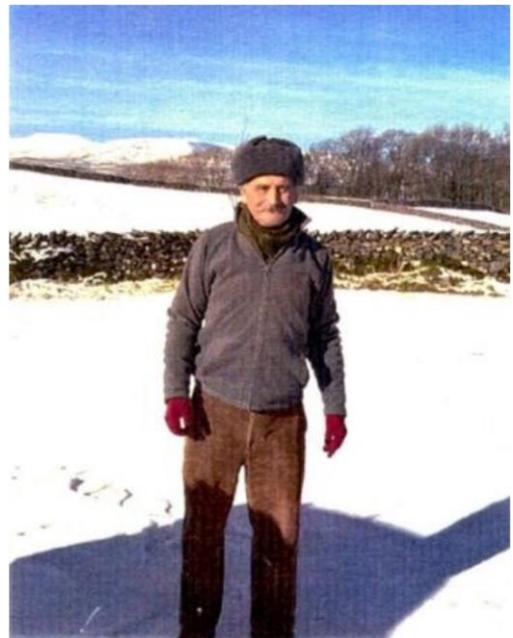
Obituary – Charles Andrew Pell

*Reverend Major (TA retired) Charles Andrew Pell
(14th April 1954 – 5th April 2019)*



Andy Pell became a full member of the club in June 1980 and passed away at the beginning of April following a heart attack. Andy was brought up by his mother and Aunt living in a small terraced house in Bradford. He was a determined/rebellious child who did what he wanted regardless of the advice given. He was very keen on the Scout movement and enjoyed many outdoor pursuits particularly caving, climbing, canoeing and paragliding. As well as teaching he performed roles with the Police, Prison Service and the Army as a chaplain. He was the type of person who was always in the right place at the right time and on one occasion was presented to the Queen. We first met Andy when he was a teacher at Woodend Middle School, Shipley. He was the class teacher for our son Adam and very supportive of his and our outdoor activities. He loved caving and the BPC and I think he

found something spiritual deep underground. So much so that he left teaching and went to study to become a Church Minister. He never lost interest in the BPC and at one time offered to become the club's Chaplain. A move that the committee rejected. He attended many of the meets at GG along with his two sons and loved to spend many hours underground. An incident occurred to one of his sons when the empty chair left the main chamber taking his youngest son Daniel with it, attached only by his light cable. I think some divine intervention occurred that day because although Daniel fell back many feet to the stony floor, he only suffered broken wrists. Andy was very generous and donated many items to the Dump. He also donated many items for sale at our last charity auction to support a school in Nepal. He became a prison Chaplain in or near Manchester and he confided as to how difficult the job was. He was physically threatened and one time beaten up, but never lost his faith. Latterly he served as a Chaplain to the British Army in Germany. Andy was a one off and fitted in well in the BPC. He will be sorely missed and our thoughts go to his wife Lynda and his family and friends.



Nobby and Brenda Clarke

Obituary – Graham Shaw

2nd February 1941 – 7th March 2021

News has reached us of the death of Graham Shaw, who was a member of the BPC in the late fifties and early sixties.

Graham was one of several members of the Heath Rovers Caving Group, a scout group attached to Heath Grammar School, Halifax. They were very active in the late fifties and opened up quite a few caves in the Ribbleshead area, some which were quite wet and difficult. When they were thinking of forming their own pothole club, they were persuaded by Keith Asquith that they would be better advised to join an established club, and they duly joined the BPC. The personnel included “Grassy” Greenwood, Peter Haigh, Ken and Peter Tidswell, Ern Stansfield and Graham. Not only did this influx of quite experienced new blood help the club, but it helped the club bus (driven by that stalwart Ernest Naylor) pay its way, when it was really struggling to make a profit. These new members thrived on club meets, especially in 1959, which was a very dry year, and the club were successful in getting large numbers to the bottom of some of the harder pots.



*“The Lay Aabouts” - B Lee, G Shaw,
D A (Grassy) Greenwood, K B Tidswell*

Graham was a sound, capable caver and was always ready to give up his desire to “bottom” the pot if he was asked to lifeline a pitch all day. He was a strong caver, and totally unflappable.

On 16th April 1961 Graham suffered a life-threatening accident in Simpson Pot, while on the way out. He was climbing Shuffle Pot when the flake to which the ladder was belayed, peeled off the wall, carrying Graham down with it to the bottom of the pitch, some fifteen feet below. He was knocked unconscious for a while, was badly concussed and was bleeding from a head wound and his ankle was badly crushed. He was rescued by the CRO after several hours and was taken to Lancaster Royal Infirmary. So began a long and painful recovery, which involved being treated for gas gangrene, plastic surgery and antibiotics.

After several years he made a full recovery. He didn’t cave again, but he did play soccer, took up sailing, walked long distances, rode large motorbikes and learned to fly. He also got married to Hazel, who was supposed to be on a date with him on the day of his accident, but agreed to postpone it. He raised a family and made good progress in his job with the CEGB - he even climbed pylons again on occasions.

Fifty years after his accident Graham organised a re-union with Brian Boardman of the CRO who was their medical man, and who was the first of the CRO to arrive on the scene (he had run a mountain marathon just before the call-out). Graham, Hazel, Brian and myself met at the New Inn, Clapham for a meal and were shown around the CRO headquarters where we inspected the latest rescue gear and looked at newspaper cuttings.

In generally good health, Graham suffered a heart attack on 23rd February. This was unexpected and he was taken to Lincoln Hospital, where he was found to have three blocked arteries. While waiting for a bed for open heart surgery he suffered another heart attack and was rushed into hospital in Leicester. He survived the surgery, but sadly died 2 days later.

Graham was a fine caver, good company underground and was proud to be a member of the BPC. No-one could have had a better friend.

John Davey