

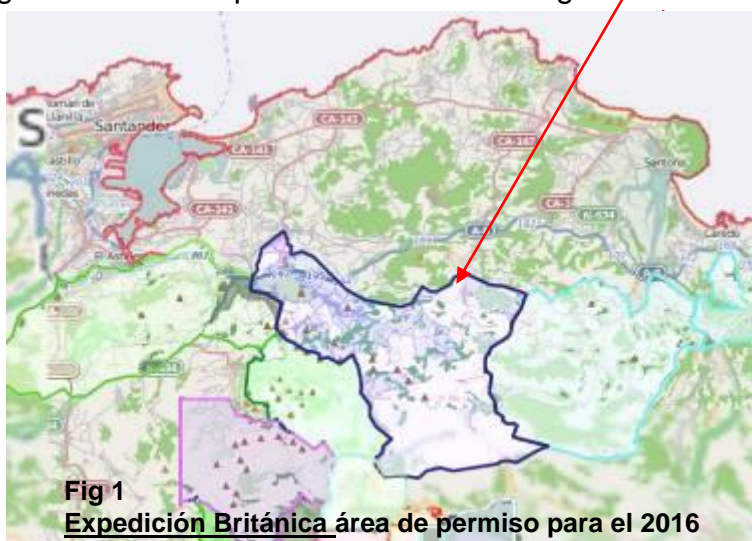
Expedición Espeleológica a Matienzo 2016



Cave exploration during 2016

This report covers the Expedition's speleological work in the permit area shown in figure 1 below. The area covers the municipal authorities of Solorzano, Entrambasaguas and Ruesga north of Cruz Uzano. The permit also covers work in Cueva Vallina which has now been proved to link hydraulically with the South Vega system in Matienzo.

The Matienzo expedition in 2016 was spread out more than usual with many spending shorter time in Matienzo due in part to the expedition preparing for and presenting papers at the week-long Eurospeleo 2016 in the UK in August, which took place in the middle of our normal main work period. Despite this 8km of new passage was surveyed since the last report, mainly in Torca la Vaca (3865m including finds late in 2015) and Cueva Vallina (1261m). In addition, 100 new caves and sites were found and located and many were explored – all the details on these and comprehensive information on all the work which the expedition has done can be found on our website <http://matienzocaves.org.uk>. The numbers of caves in this report are those used in the database of caves found at this website.



About 50 cavers took part in the 2016 Matienzo expedition. The main work took place at Easter and during the last part of July and early August, but there were also a number of cavers making significant contributions at a number of times during the year, most notably in October.

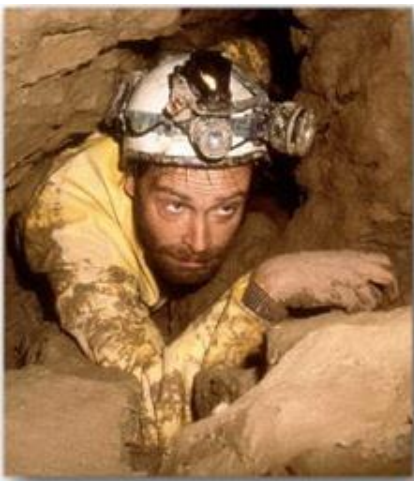
It is with great sadness that in 2016 we saw the unexpected death of two of our key members:



Paul Dold died, at the age of 43, on August 30th while saving the daughter of his partner during a dive at East Portholland near St Austell, Cornwall, UK.

Paul first came to Matienzo at Easter 2006 and was an integral part of the expedition and was a leading member of the teams that explored and extended Cueva Llueva, Cueva Torno, Cueva Riaño, Cueva Hoyuca, Cueva Risco and Torca la Vaca. His involvement with the Scout movement gave him the opportunity to bring young people out to Matienzo where they could experience the thrill of new exploration. One notable example was the new Cueva Llueva series which he was a key player in pushing and surveying in the summer 2007. He was a keen cave photographer and a number of his photographs have been featured in this and previous reports on the expedition.

Paul was an inspiration and help to the members of the Matienzo team and he will be missed and remembered with respect and affection.



Alasdair "Ali" Neill was an integral part of the expedition, whenever Ali was in Matienzo, he would lead cave exploration and surveying work, the survey and exploration of Vallina being a key example.

Ali felt unwell during the expedition at Easter 2016 and although he led trips into Cueva Vallina, unusually he was not able to keep up with others in the team. In July he was diagnosed with lung cancer and he died in a Plymouth nursing home on 28th October, aged 56.

Ali took on the massive task of resurveying the South Vega System and Cueva Vallina as well as numerous other caves. He was meticulous with his data entry and drawing up, often revisiting sites if he wasn't happy with the data collected underground.

There was rarely a day during the expeditions when he wasn't underground. And when he wasn't, he would be scouring the hills for new entrances or digs, or drawing up cave surveys. Ali was one of the leaders of the expeditions' exploration and documentation and will be greatly missed for his friendship, enthusiasm and skills.

Hydrology

Work continued on the hydrological work agreed at the SEDEC conference at Ramales del la Vitoria in 2014. A number of successful tests were carried out:

1. Water tracing exercise was carried out from Cueva Orillón (through the Malbujero entrance) at the south side of the Matienzo depression. This showed water in the Orillón complex passes out



of the depression to the south, resurges at the eastern spring (site 4272) in the Hoyo Mortiro, flows about 100m across the floor then sinks into Cueva del Mortiro (site 0005). The water finally flows into the río Asón after resurging at site 4271, Cueva de Esquileña. This test shows the watershed between the Matienzo Depression and Ogario/Riba is not on the Cruz Uzano ridge but situated on the Matienzo side.

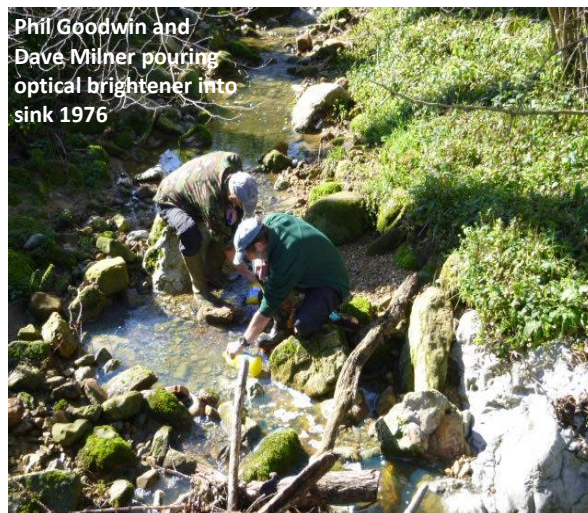
2. In a water trace carried out from site 3884 (at the southern end of the Matienzo depression), the detector showed positive at the Jivero 1 resurgence after 48 hours. This was unexpected as the resurgence was thought to be 5 metres higher than the downstream end of site 3884, some (re)surveying is required! This test shows the potential to link these caves which would give a combined length of about 1 km.

3. A test from Duck Pond Sink (1976) in Camposdelante to Fuente Aguanaz (0713). In the test



Detector in Fuente Aguanaz middle entrance.

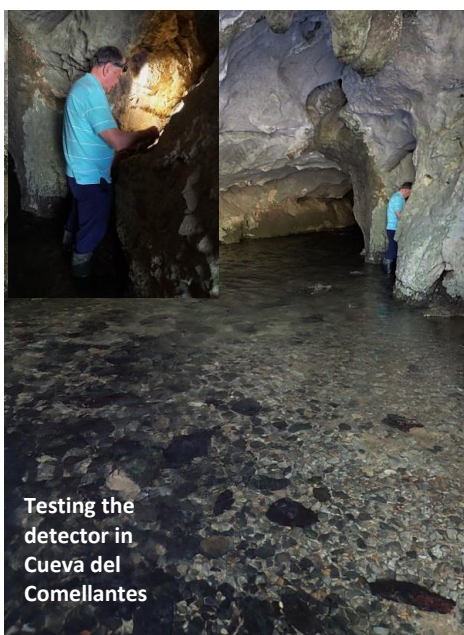
four litres of Leucophor were introduced. Detectors were in place at the Riaño river downstream of Wild Mare rising, Verde watercourse, inside Fuente Aguanaz, just downstream in the Rio Aguanaz to pick up Invisible Cave and at Fuente Molino (2364) which lies just to the south of La Cavada. Following



Phil Goodwin and Dave Milner pouring optical brightener into sink 1976

heavy rain, the dye took between 4 and 7 days to reach Fuente Aguanaz.

4. A test from a sink (4246) in the Torca del Hoyón (0567) depression confirmed it feeds into the South Vega system with a positive result at Cueva del Comellantes (0040). For this test five litres of Leucophor were poured into the Hoyón sink with detectors in Cueva del Comellantes (0040), the stream below



Testing the detector in Cueva del Comellantes

Cueva del Arenal (0035) where it joins the stream in the valley running



Sink 4246 (water enters and sinks at base of short pitch) in Hoyón depression at Alisas

down del Molino resurgence (0791), the Bustablado river just upstream of site 791, Fuente Aguanaz (0713), and Fuente Molino (2364) near La Cavada. After three days with heavy rain the detectors were replaced and checked and the Cueva del Comellantes (0040) proved positive, a further check some days later confirmed that this was the only positive detector was Cueva del Comellantes.

This test confirms one made many years ago, which was suspect due to possible contamination, and shows that the

South Vega System must extend at least to the Alisas road area, confirming it should extend into the large blank area to the west of the present system. Together with last year's test from Cueva Vallina (0733) this suggests that this system has a potential of at least 100km.

5. In conjunction with the Grupo de Espeleología Pistruellos a test was carried out from PST103 - Torca del Hoyo la Encina, a cave they are exploring 2km to the SE of La Cavada. It was thought it possible the water could flow to Fuente Aguanaz but the more likely resurgence cave La Riega behind the old mill was positive after at 15 Days of very dry weather broken by heavy rain, this resurgence is also the one for Cueva de la Verde in the Pistruellos' area.

More work will be done in 2017 to define the "watershed" between this major hydraulic area and the one feeding to Fuente Aguanaz, and test El Cubillón (2538) marked on the map. (Note, this tested route is not shown on the map below it laying out of the area 1km to the west).

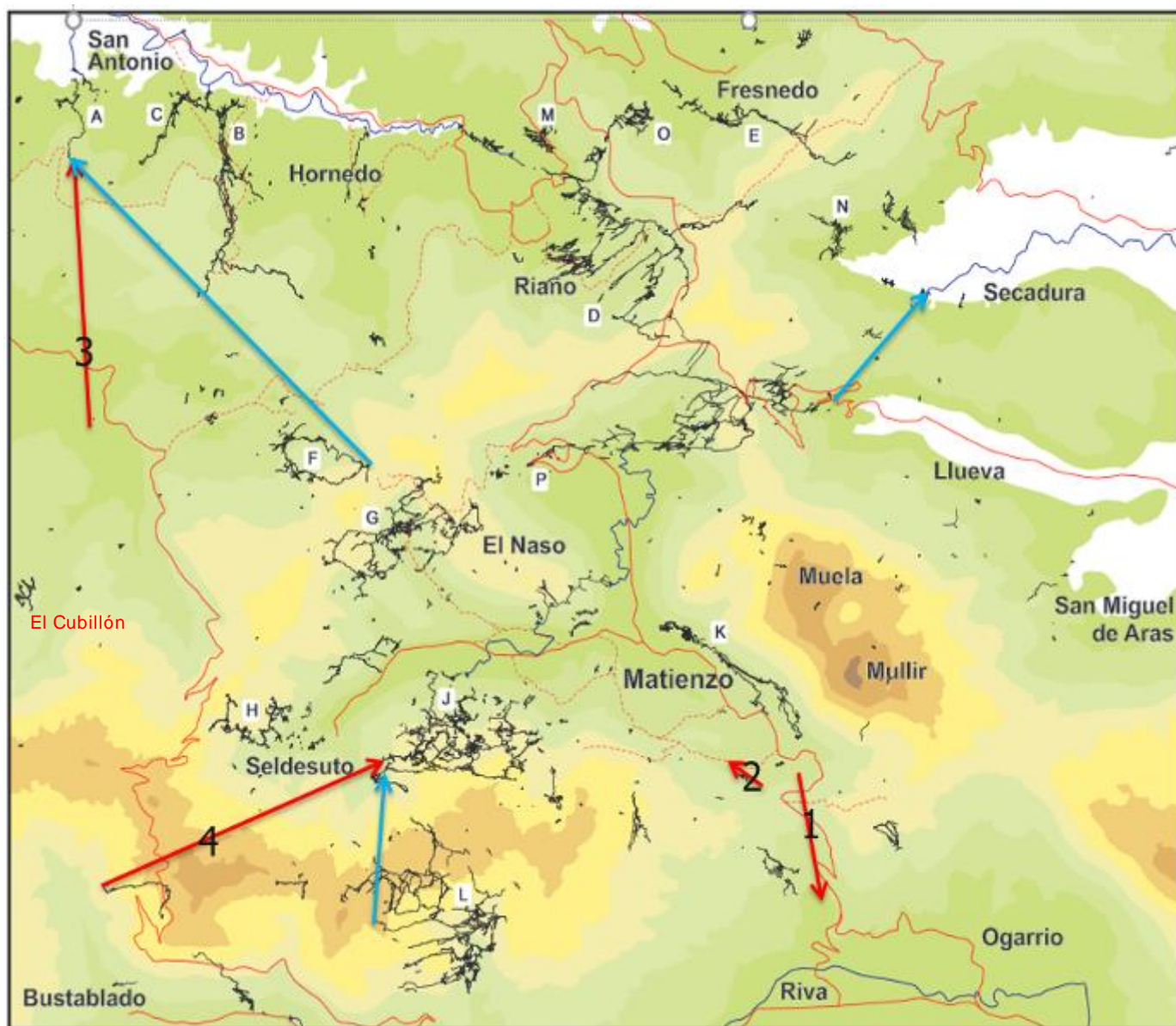


Fig 2 - Hydrology tests (numbered 2016 test are shown in red, previous tests in blue)

Main explorations and surveys carried out in 2016 – see table below.

Matienzo Caves 2016 - new surveyed caves and passages					
Cave	Name	Area	Previous Length (m)	New Length (m)	Extra Length Found (m)
2889	Torca la Vaca (incl finds end of 2015)	Hornedo	19571	23436	3865
0733	Cueva Vallina	Arredondo	32458	33719	1261
0575	Four Valleys System (Riaño Resurgence)	Riaño	57999	"	486
0114	Four Valleys System (Cueva Llueva)	Llueva	"	58572	87
0841	Cueva Fresnedo II	Fresnedo	7640	7989	349
4001/4444	Cueva de las Injanas I & II	Hoznayo		304	304
0040/0048/0264	South Vega System	S Vega	34029	34242	213
0020	Cueva de la Loca 2	Ozana	900	1092	192
3234	Cueva-Cubío del Llanío	Riaño	3831	4014	183
4463	Cueva de la Iglesia 1	Navajeda		151	151
4144	Cueva Laberinto II	Navajeda		148	148
4017	Pozo de la Hoyo	Hoznayo		138	138
1800	Fridge Door Cave	Riaño	136	265	129
4251	La Cueva en una Mina	Barrio de Arrib	231	320	89
3004	Cueva Aldi	La Secada		71	71
0080	Sima del Andrés	La Secada		62	62
4457	Cave	Cobadal		38	38
0569	Shaft (VT 183)	S. Vega		37	37
4406	Church Shaft	Navajeda		37	37
4468	Lady's Cave	Riolastras		36	36
4046	Cueva del Arroyo de Canastrillas	La Helguera	114	136	22
4112	Cueva de la Cuesta de la Encina	Navajeda		18	18
4239	Shaft	Alisas		17	17
4240	Shaft	Alisas		15	15
4407	Torca de Canastrillas	La Helguera		14	14
1247	Cave	La Colina		13	13
1253	Dead Fox dig	Sout Vega		13	13
3619	Cave	La Colina		7	7
4472	Cave	La Colina		2	2
Total New Cave Surveyed					7997

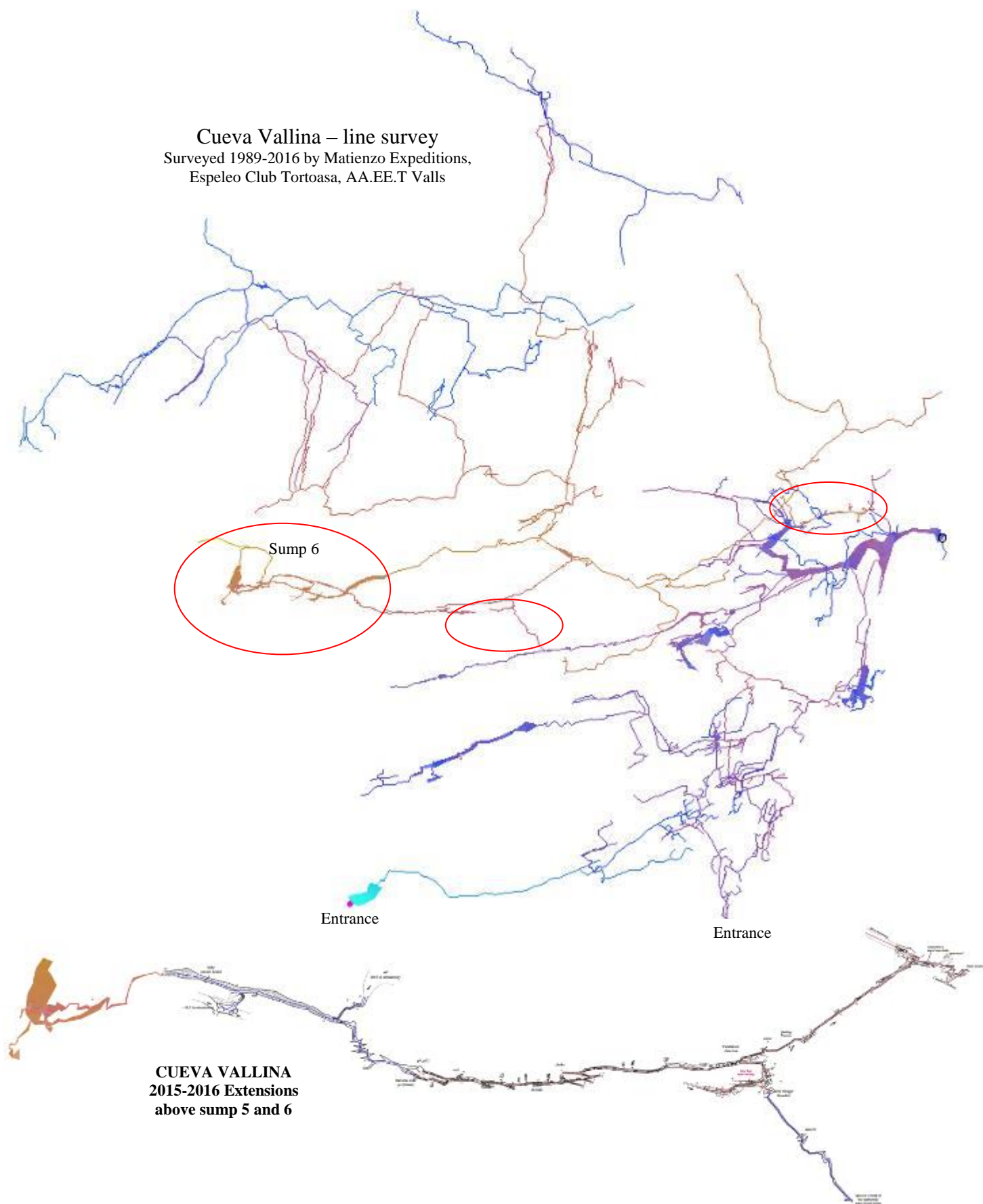
Minor sites and finds not accurately surveyed are not listed here but all details are available on our web site (<http://matienzocaves.org.uk>), including locations, any sketch surveys and photographs.

Southern Sector (Vallina, South Vega, Alisas, North Vega, La Colina and Ozana)

In **Cueva Vallina (733)** following the conformation of a link to **Cubio de la Reñada (48)** with the water tracing test in 2014 the area beyond sump 5 was a target for 2016. The pitches at the end of the passage that were found off the first sump bypass in *Rio Rioja* last October closed down, but a traverse gave nearly 300m of further passage above the main stream passage between sumps 5 and 6 with links in the roof of this stream passage at several points which was accurately re-surveyed. In October, the high-level passage was pushed to a series of passages to the south of Sump 6 and linked by a large 10m wide passage to an inlet half-way along sump 6.

All the sumps up to sump 5 were re-lined and the old broken line taken out. High water levels after a flood washed some gear away and prevented further diving at Easter. In the summer the gear was recovered and the gear needed to dive sump 6 was all moved in stages through sumps 1 to 5 to a site near sump 6 out of reach of flooding. The dry alternative route to this point was examined

to see if this was a better way to transport diving gear, but was found to be too difficult, but does provide an escape route and access for the assistance of non-divers. if needed. Diving of Sump 6 was left for a future visit with the required gear left in place. The line survey of the cave with the



new passages highlighted in red ellipses is shown above together with a more detailed survey of

the new passages above sump 5 and 6. Also highlighted is 140m of new passage upstream of the bottom of the *Double Dutch Pitch* which ends in a draughting choke that can be easily dug and 120m of passage ending near passages found previously at the end of the upstream *Rio Rioja* steamway. Also highlighted is a passage that goes off to the

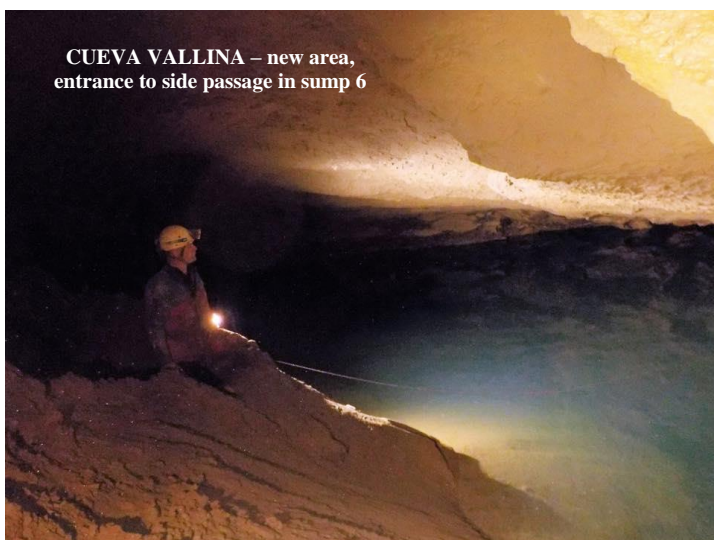


CUEVA VALLINA –
downstream end of Sump 5



CUEVA VALLINA Pitch from
new passages into steamway
between sump 5 and 6

south half way along the passages found in October 2015 and ends under Caleria de la Cisterna and close to the avens at the end of the southern Stream Passage feeding Rio Rioja. All these areas need looking at again in 2017.



CUEVA VALLINA – new area,
entrance to side passage in sump 6

As the main new passages was only found in October 2016, the final survey is still in the process of being drawn up and the previous data adjusted due to closure errors mainly caused by less accurate surveys in the 6 sumps.

At the same time as work was going on in the sump 6 area, Jim Lister dived in the main upstream *Rio Rioja* sumps which needed some re-lining and tidying up. About 70m of new flooded passage was pushed to point

where larger cylinders and logistics are needed to progress further. The survey of this new sump passage was left until it is pushed further in 2017.

At the top entrance to Cueva Vallina, the opportunity was taken to test the *SubPhone* that has been developed by one of our team, Ron Taylor. The test showed the set gave excellent results.



CUEVA VALLINA – new area above sump 6

The general operation of this *SubPhone* has now been proved and we now intend to work with

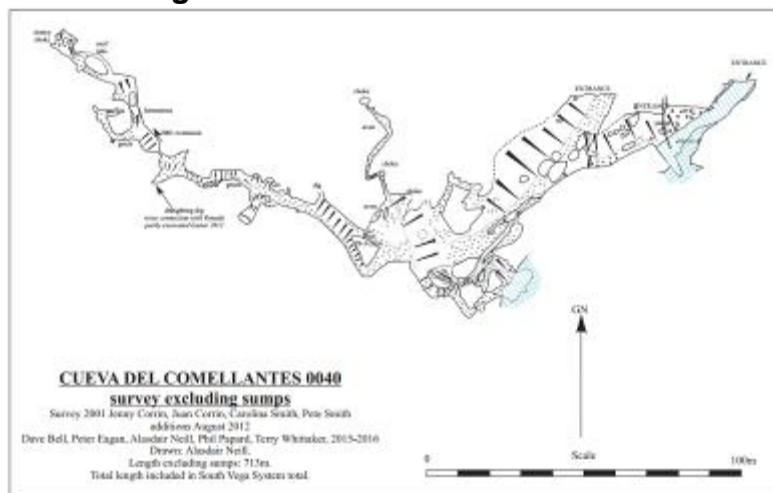


Ron Taylor to get some production models for the expedition. This will be a very useful asset for the Expedition both for location and communications. They would be a useful tool for any rescue situation in the area.



Detailed surveys of Vallina and the new surveys, when complete can be found on: <http://matienzocaves.org.uk/descrip/0733.htm>

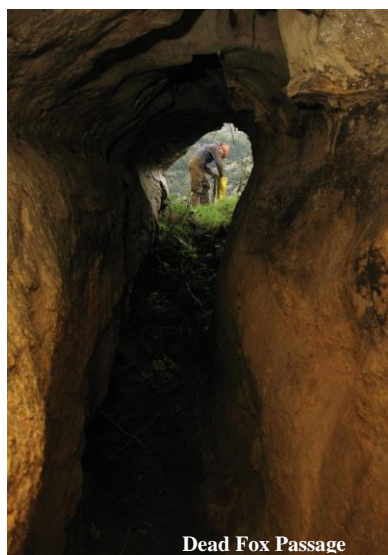
South Vega



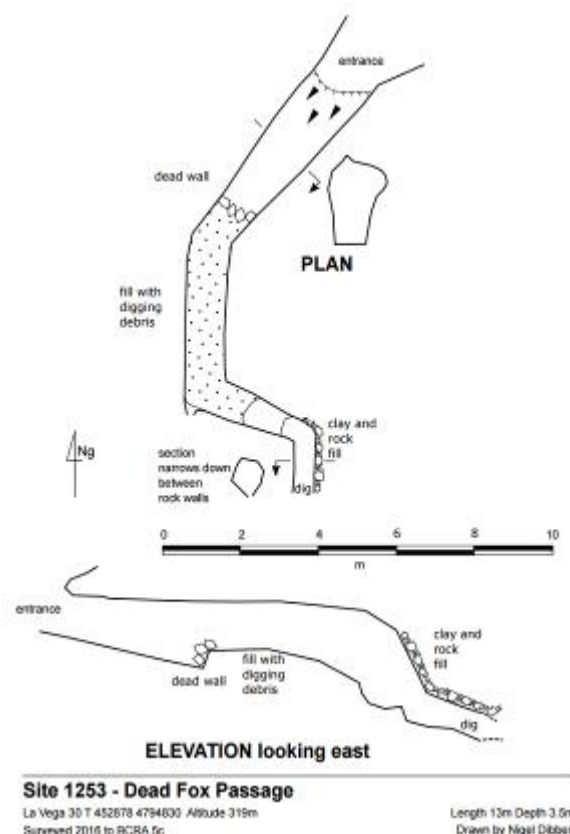
In the South Vega system 1178m (206m was new passage) of resurveying was carried as part of the ongoing work to produce an updated and comprehensive survey of all this system. The main work was in Torca del Coterón (0264), Cueva-Cubío de la Reñada (0048), and Cueva del Comellantes (0040) re-survey was completed.

In the South Vega area 9 new sites were identified (4411 to 4419 and 4466) of which 4416 and

4417 draughted strongly and showed good potential, some digging took place but more is required. In addition, 14 other sites were pushed and dug with the aim of identifying the best locations to target future work. The best prospects were: shaft 3627 draughts well and is in a key position between the South Vega System and Cueva Vallina, it was pushed down two pitches to the top of a further drop of 10+m but needing work in 2017 to enlarge the top of the pitch to get access; a shaft (3676) pushed down a pitch for 9m to where work is needed to remove a constriction to access the continuing shaft. Digging took place at Dairy Dig (1189) where loose boulders fell nearly causing an injury caused a tactical withdrawal to allow the area to settle, and work moved to Dead Fox Dig (1253) where good progress was made. Both

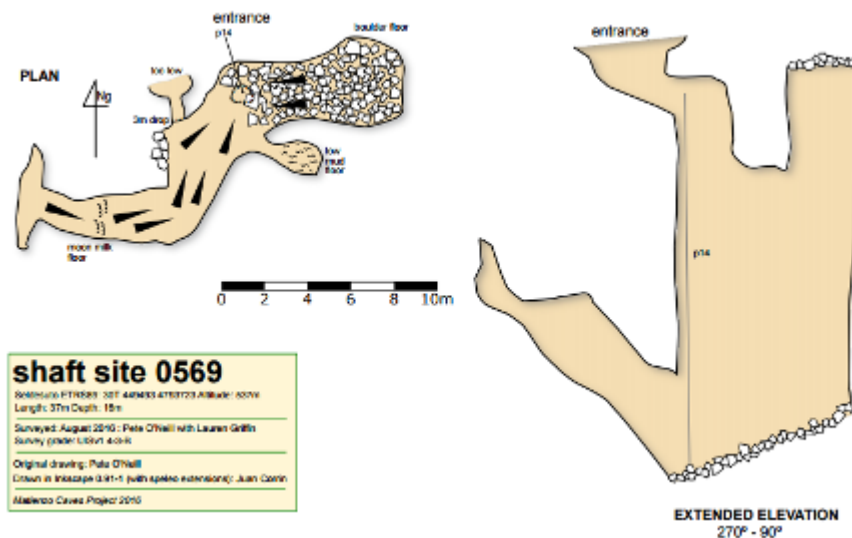


Dead Fox Passage



sites need more work to progress given the potential shown by the very strong draughts.

The shaft 0569 (marked VT 183) was correctly located and surveyed, the original location on the map being some 100m out. The base of the shaft is quite extensive but no good prospects were noted.



In the Ozana area

The bottom of Not Too Bad Pot (2964) was opened up four trips, but was found to continue narrow for some distance. Given the prospects, logistics and tackle needed (250m+ of rope and 50+ hangers), work was stopped at this site in 2016. A dye test in wet weather is needed see where it joins known caves or resurgences in 2017.

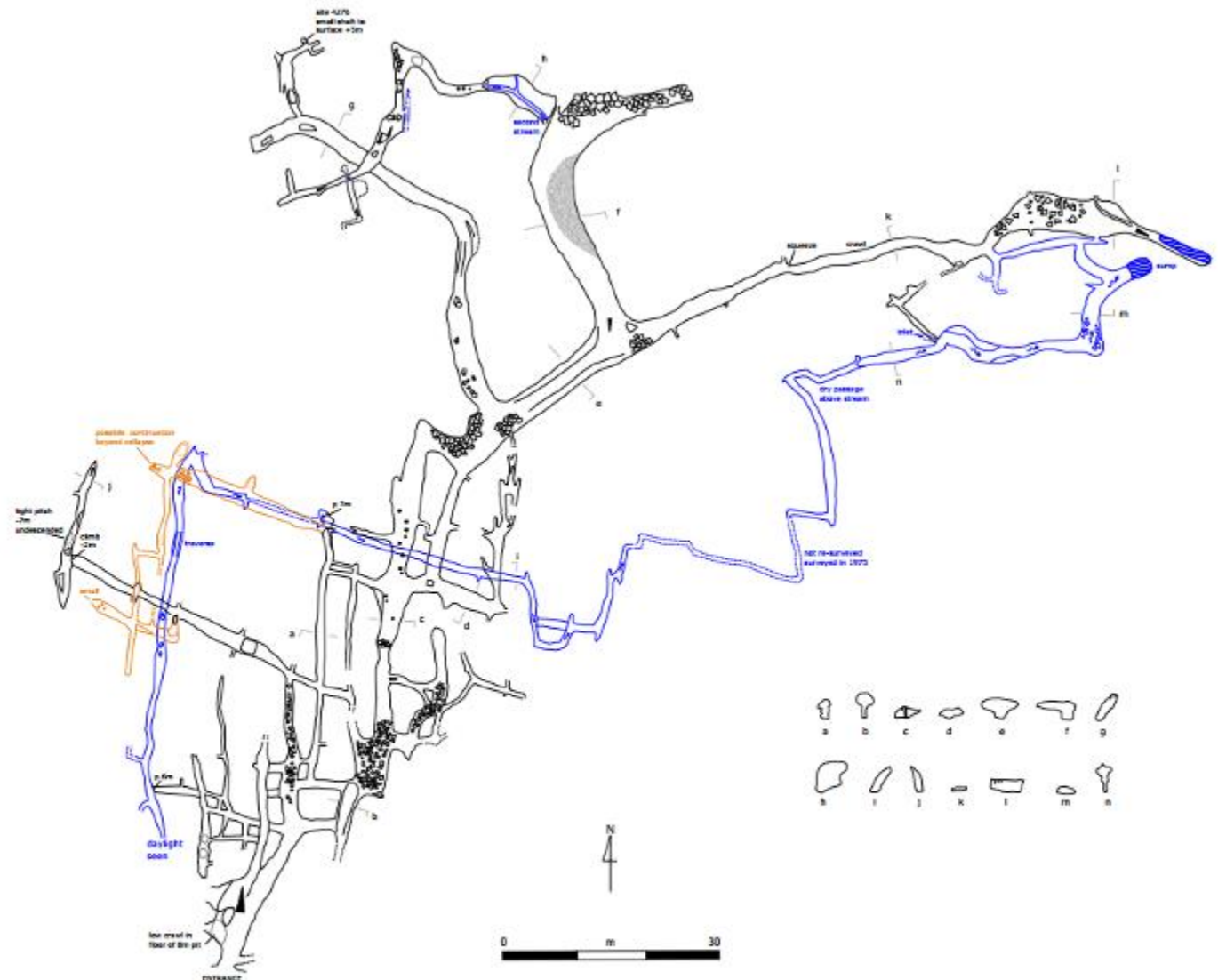
Orillonzuco (1162) downstream end of was found to require digging to reach the end point noted in the 1974, digging started where the water sinks under the wall a



little distance back but made difficult by re-infill at time of flood, more work will take place in 2017. The GPS location

of Sima de Cagiga Redonda (0531) was checked as it is over the postulated continuation of Orillonzuco.

The resurvey of Cueva de la Loca 2 (0020) was completed with almost 200m extra survey length. This site is close to Sima-Cueva del Risco and must drain into it via a sumped area. The invasive signal crayfish *Pacifastacus leniusculus* was sighted again in Cueva de Jivero 2 causing a major risk to the remaining native species, *Austropotamobius*



Cueva de la Loca 2 - Site 0020
(Ozana, Matienzo) 454.198, 4.794.760, 251m Length: 1,090m Depth: 15m
Surveyed 2015 - 2016 R. Bullock, C. Meakin, P. Smith Drawn by PS

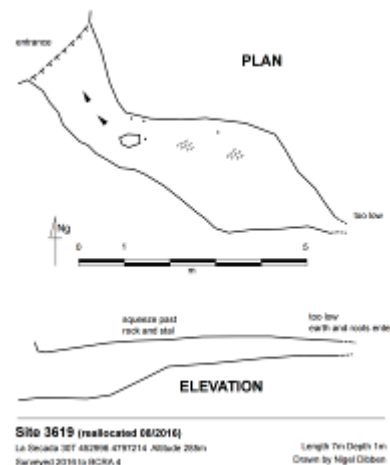
pallipes.

Six old and new sites were visited. All were descended and pushed but were found to have no realistic prospect.

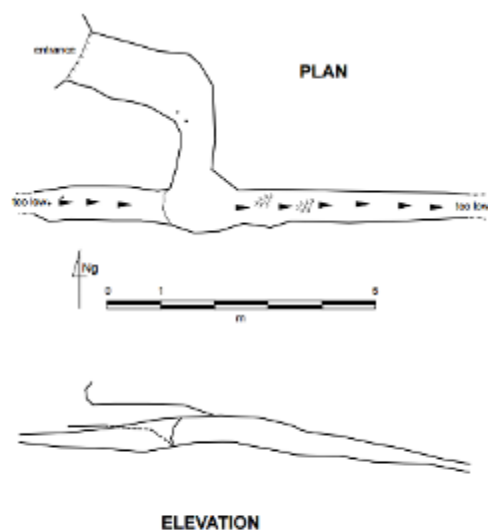
In the La Colina area, 3619 was surveyed and pushed a little but this and 3 new sites were identified that had digging potential, and 4470/1/2, but were left for future years, site 1247 was dug, but was found to be too low and much more work would be needed to make any progress. Further to the south a possible very old cave that is completely blocked (4479) was visited and photographed. The origin of this site was not clear and more work is needed. To the south, at El



Site 1247



Camino, Cueva de Coreano (0137) was dived but no ongoing passage was found.



Site 1247
La Colina SET 482086 4787214 Altitude 265m
Surveyed 2016 to BCRA 4

Length 13m Depth 1m
Drawn by Nigel Dobson

progressed, but needs more work to continue. An undescended shaft, was dropped to chokes and surveyed, with 4239 having a very small inlet of water that seems likely to come from site 0722 situated just above.



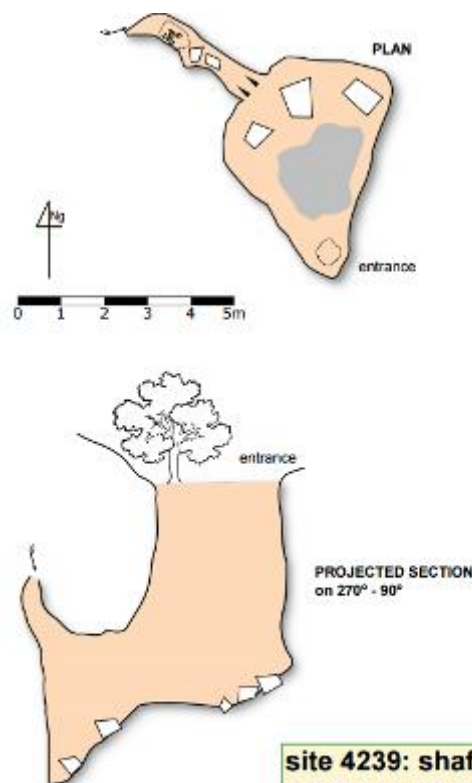
Site 4123

At Trillos, a sink (4082) at the end of a gully was dug to a small chamber where flood debris needs digging to make more progress down a dipping bedding. As this site draughts and must take flood water it is worth a further work in 2017.

Torca del Hoyón 2 (4246) was found when looking for the sink to place the optical brightening agent (OBA) for the successful test to Cueva del Comellantes (0040). This site seems to still be going past



Site 4479



site 4239: shaft

ANAN 6 TRILLOS SET 481770 4788022 Altitude 265m
Length: 17m Depth: 90m
Surveyed: 19th August, August 2016
Surveyed: 19th August 2016
Drawn by: Nigel Dobson
Mallorca Cave Project 2016

where the OBA was placed. This site is outside our permit area but, given the now proved connection to the South Vega System, we may apply to explore it in 2017 in conjunction with the Spanish permit holders. At the same visit, the base of the Hoyón depression at site 4245 was checked to see if water (and hence OBA) was present there, none was flowing but it seems a stream comes in from the east and then flows to the northwest in wet weather. It is possible that this is the same water as seen in 4246 but more work would be needed to test this theory.

North Vega

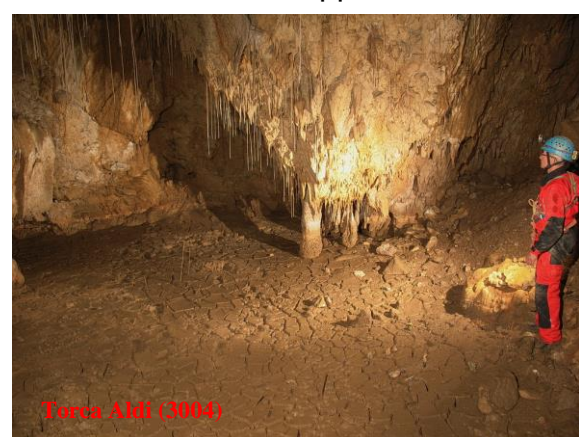
A number of new (including a 3x4m shaft (4430) choked at 8m) and old sites were looked at and four (3771, 4414, 2167, 4209, 722) were found to have some potential but require tight sections to be enlarged to make progress. The important Cueva de Rascavieja (0077) was checked out but it was found that, after 31 years, either the route through to the extension at the far end had got smaller or the two-man team had become larger and less flexible! This is an important site and will now be looked at by a younger thinner team in 2017.

The Northeast Sector and The Four Valleys System

In La Secada, Cueva Aldi (3004) had been identified as a possible dive site. The entrance was capped



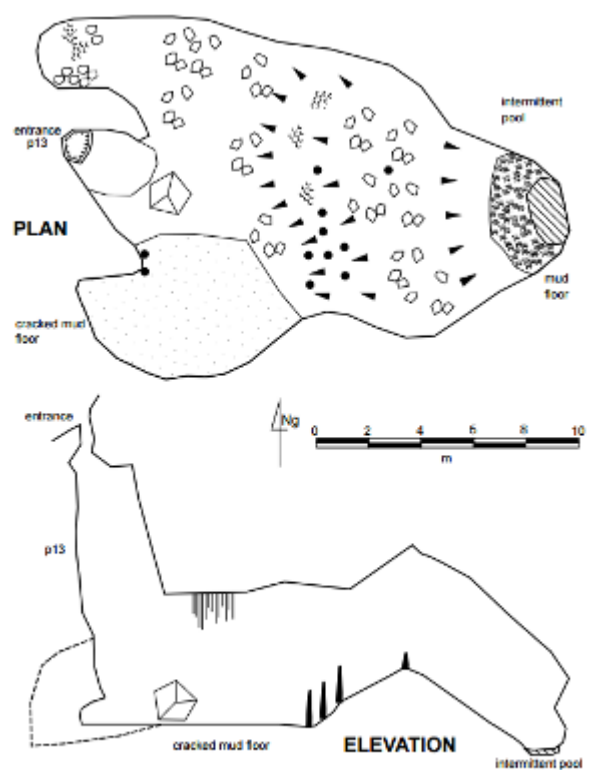
open to gain better access but, on descending, the “deep sump pool” had almost dried up with no way on. A little to the south,



adjacent to the track, a walled-up spring (site 4238) was examined. This appears to be a reasonable cave passage that has been modified with a small dam to hold

back water and the cave beyond blocked with rocks with an outward draught. The water did originally

feed a trough for cattle but it is no longer in use and is worth a careful dig.

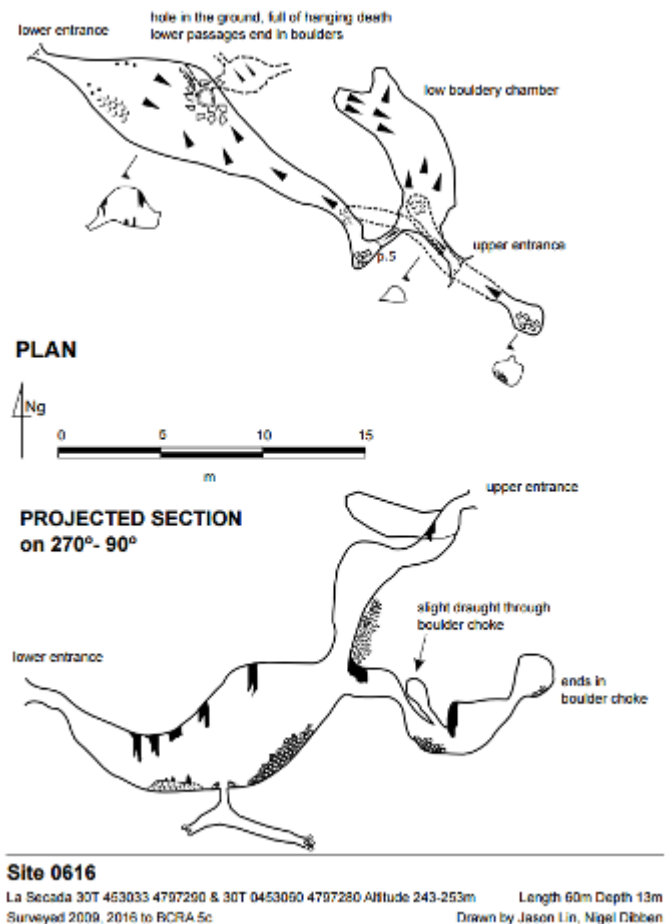
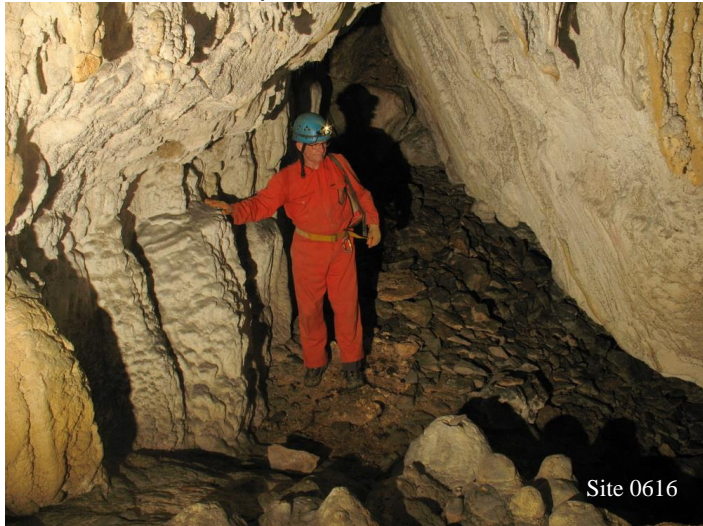


Site 3004: Torca Aldi
La Secada 30 T 463312 4797966 Altitude 342m
Surveyed 2016 to BCRA Gc

Length ~20m Depth 14m
Drawn by Nigel Clifton

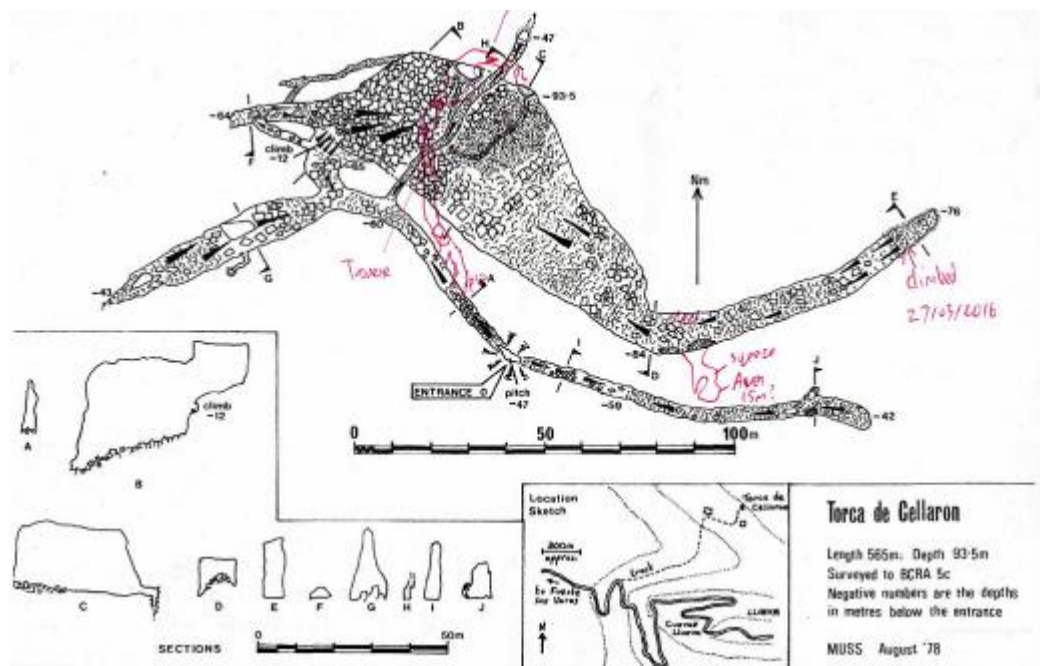


Other work in this area included, a shaft (4393) that was located and found to be 4m deep to tiny rifts and blocks with no way on. A new site (4405) is a bedding cave with the continuation visible that requires digging. Site 3640 was found at the correct GPS but the description did not seem to fit. It was found to be a 2m deep dig with some draught and not an undescended shaft - it may be that there has been some collapse but only digging will show if this is correct. Site 0616 was surveyed and GPS checked for the top entrance.



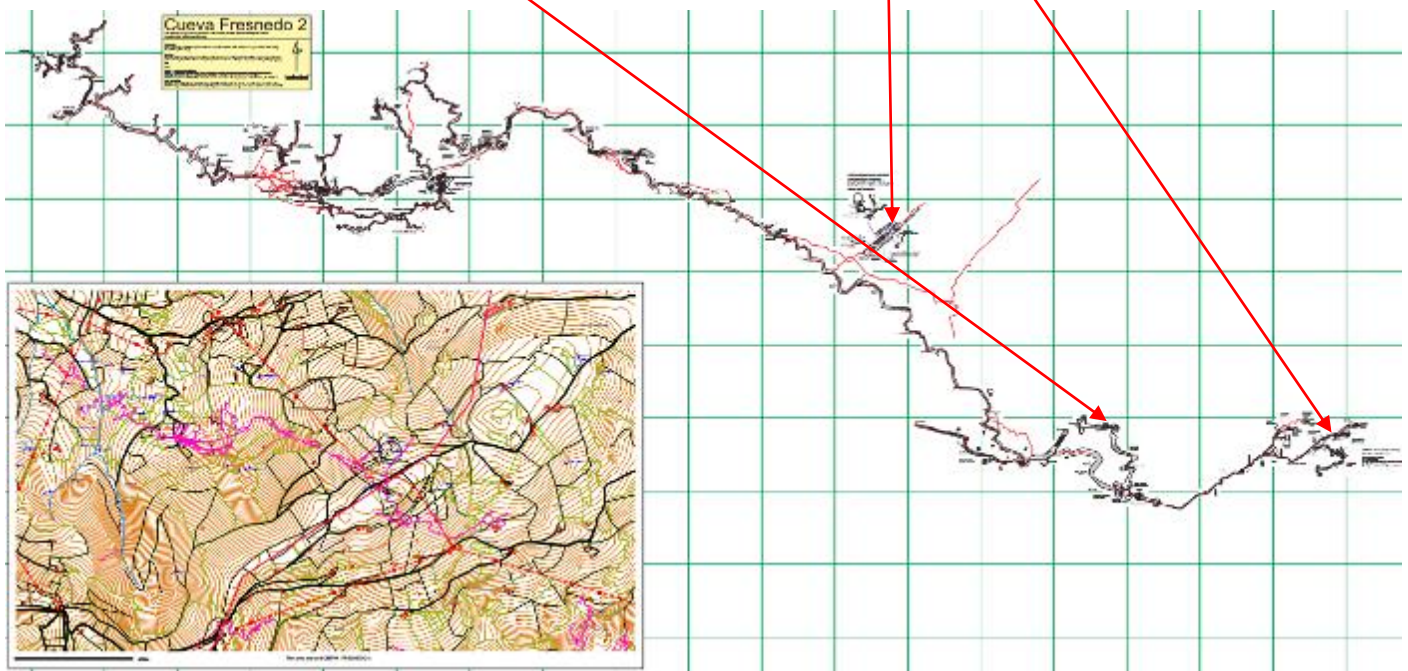
In Cueva Lluvia (0114) the big draughting oven on the fault at the end of the *Left-Hand By-Pass* was climbed but no leads were found beyond previous exploration 35 years ago. The *Left Hand By-Pass* area was pushed and a part survey carried out with some 87m of undocumented passage surveyed, heading in the direction of the *Ramón Bolado* series on the Carcavuezo side. Capping and extensive work is needed to make more progress.

The climb at the end of the east passage out of the main chamber in Torca de Cellaron (0109) was looked at but it seems to be choked up to the roof. A bolt climb on the north side of the passage between the entrance pitch and the main chamber reached a passage that passed over holes into the main chamber and dropped via a 6m pitch into a known passage on the north side of the entrance tunnel. About 80m long, this loop is still to be surveyed, a sketch of this passage is shown in red ink.



The far end of Fresno II (0841) was reached via "The Howling" which was dug so that it now cuts off several hours for the trip. Although it is very wet and muddy, the worst part is now only

short. An inlet (*Not Too Shabby*) and a second (*Shabby Inlet*) were pushed to where they got too small. A side passage and stream inlet on the north side past *Block Chamber* was pushed in an area of very loose boulders. There is still potential but care is needed. In total 349m were surveyed. The main lead left at the end is a possible climb, but other sites further back still need looking at. The survey is shown below, but it better looked at on the website at <http://matienzocaves.org.uk/surveys/0841-2016s.pdf>



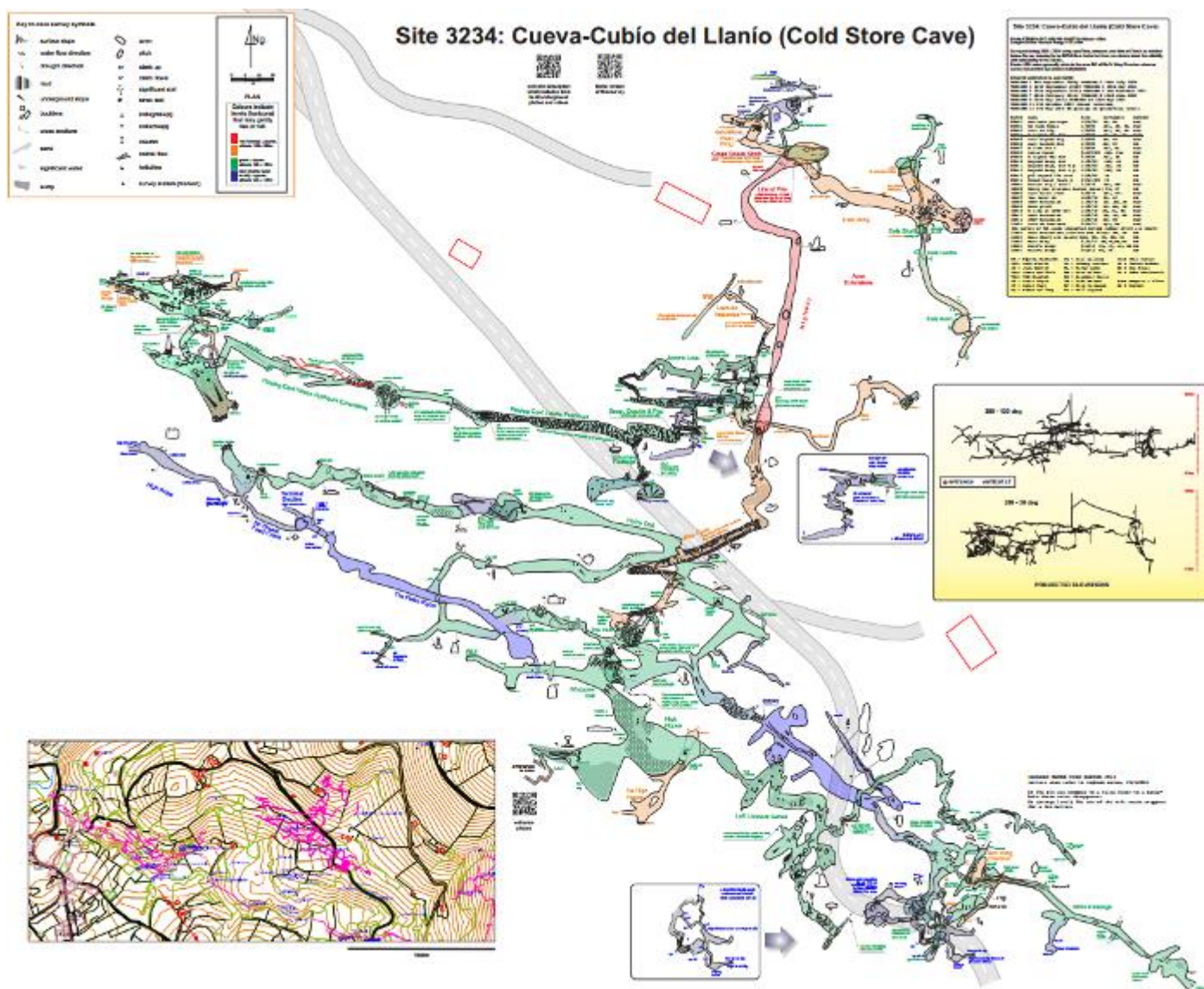
Cueva Fresnedo 1 (0126) was pushed and further examined and about 3m was excavated where water appeared to go in flood with lots of wood and other material washed in showing a strong and large flow. At the end, the way seems to drop down but more work is needed to see if this seem to be a worthwhile prospect as there is some draught in this dig. In the Fresnedo area, three sites were identified and located. Two shafts (4402 & 4403) are partly covered / blocked by pallets but also dead animals – not a good prospect - and a depression (4404) needs checking out further. Shaft 2652 was found to have been covered or filled in.



In Cueva Llanío (3234), a route into the lower SE area was opened up and a new passage, *Mitre Passage* (far south-east of cave) was dug into and pushed for over 180m on an overnight trip. Digging and progress was made difficult by the very wet conditions. Further work will be carried out in drier weather.

At Regolfo, three new sites were located, two sinks (4431 & 4433) and a 2m deep shaft (4432) but none were dug or pushed.

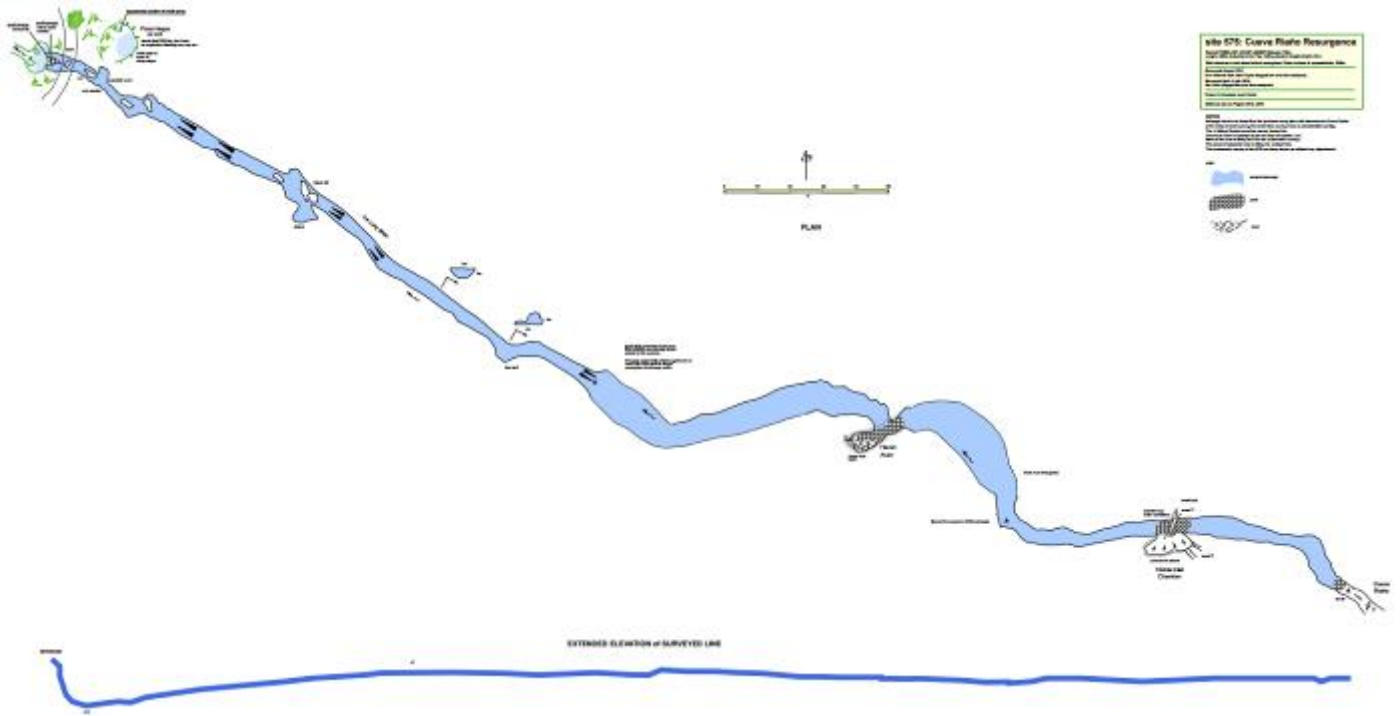




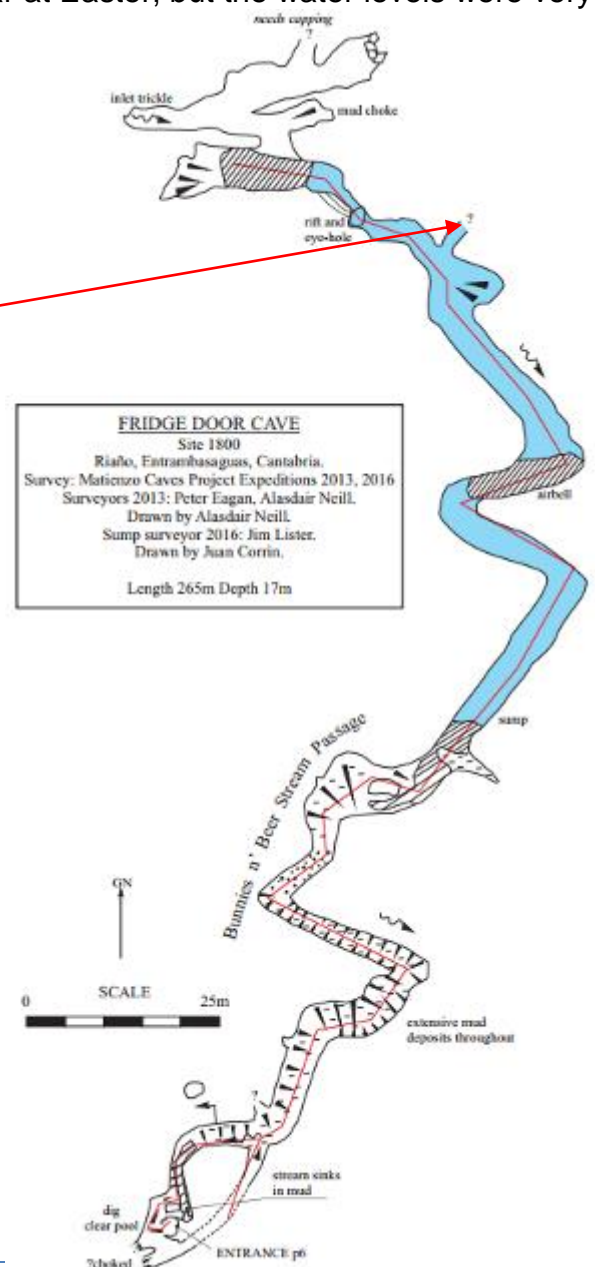
The Cueva Riaño Resurgence (0575) was dived by Jim Lister at Easter and 162m was added and surveyed. However, the wet weather caused poor visibility on several of the dives and seemed to be related to run-off from surface excavation and forestry work. This greatly restricted diving and the ability to see if there were any side passages as the walls could not be seen. In the summer, it was again dived by Jim Lister, but now with good visibility. This allowed better surveying and extending the dive to emerge in the Cueva

Riaño downstream sump, adding over 100m more to the sump and bringing the Four Valley System up to 58,572m. The survey is shown below, but it is best looked at on the website at <http://matienzocaves.org.uk/surveys/0575-2016s.pdf>





Fridge Door Cave (1800) was examined with diving gear at Easter, but the water levels were very high and the main passage could not be entered. In the summer water levels were low and a dead sheep that appeared to have been put down the entrance (unless the sheep removed the door, put it back behind it and then died) was removed. The site was dived by Jim Lister and later by Colin Hayward through a 129m sump to reach a dry chamber. This chamber has a possible way on that will need further work, but will need to be carried out when there are back-up divers available. An arch in the sump to a continuation was found to be partly blocked by silt on a later dive and may be looked at again when two divers are available. Site 3223 is a possible dig above the air bell rift in middle of the Cueva Riaño resurgence dive.



In the Riaño area, a number of existing sites were visited and looked at for possible digging prospects, of which 2362 would be the easiest dig.



Site 4173

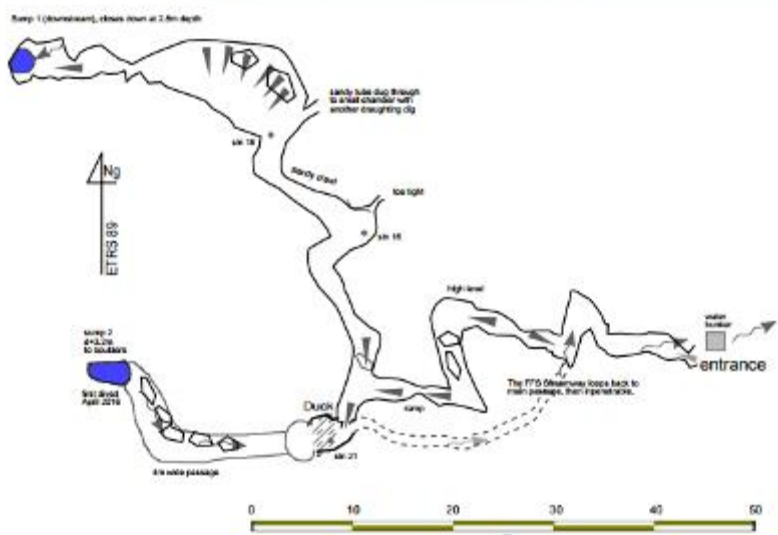
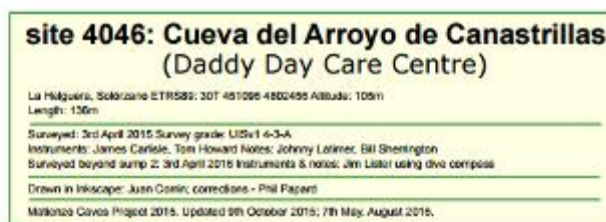
Cave 4173 was dug but more work is needed. Five new sites were located: a dig (4387) needs capping;

a shaft (4388) needs ladders; a shaft (4389) choked 2.5m down; site 4392 consists of muddy choked holes, and shaft (4394) is undescended at over 3m deep. A shaft 4175 was descended 8m and then 5m to a narrow section which needs a thin person to progress, and shaft 4457 was found to have been bulldozed and filled in. Cave 0644 was dug to 10m with more digging required. At El Suto a new rift cave 4476 was found and pushed to 3m where it got too tight.

The Giant Panda Entrance (2691) to the Four Valleys System had been inaccessible since Easter 2015 due to a dangerous collapse above the first pitch blocking caused by the very wet 2014/15 winter. This rock was broken up remotely and later removed with care. There are still some dangerous rocks above the pitch and in the roof but access to the pitch is easy without touching these - but care is needed. Work will be carried out early in 2017 to make this pitch safe and, importantly, less prone to collapse if there is more extreme wet weather.

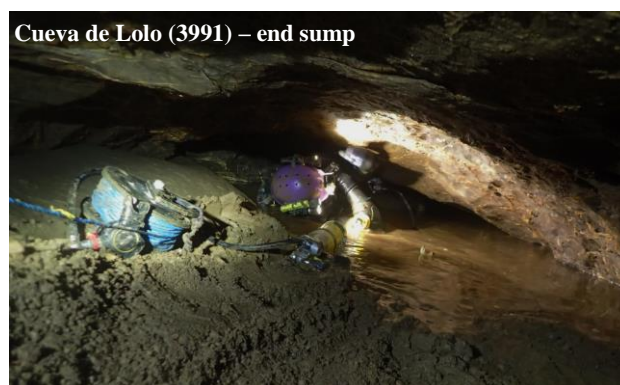
Solórzano and Riolastras Area

At Cueva del Arroyo de Canastrillas (4046), the main upstream sump was found to be blocked by large blocks that will need moving with lifting gear. In the summer the downstream sump was dived by Colin Hayward but split and narrow some 2m down with no

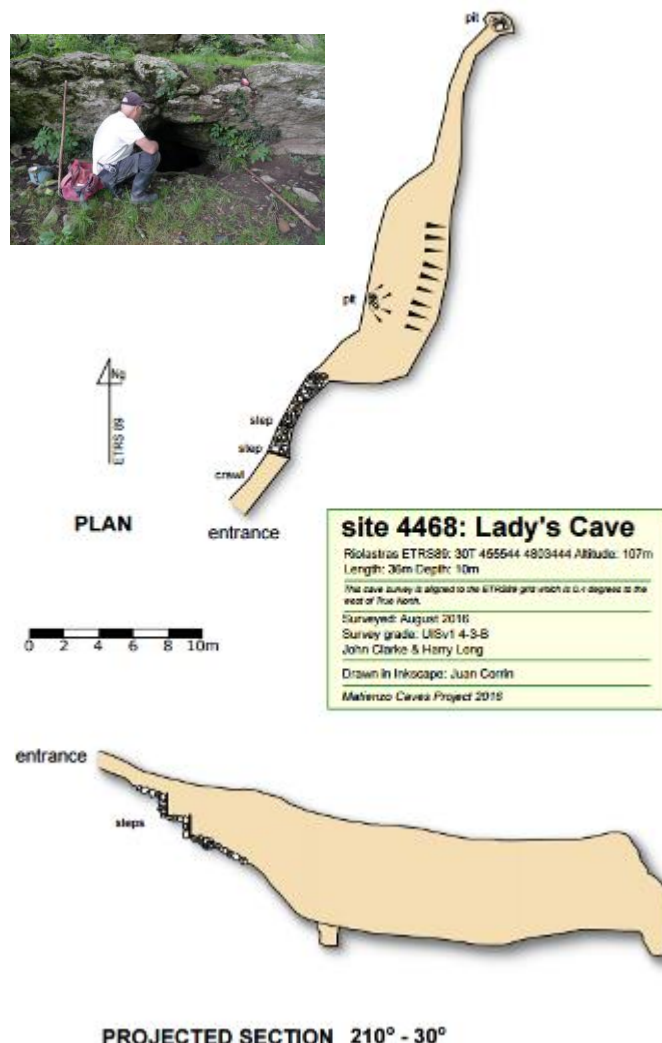


further dive prospect. Some possible digs remain and the survey is still to fully complete. Above this site Torca de Canastrillas ([4407](#)) - was located and dug to a choke with a draught, some shoring will be needed to hold back the rubble slope to make further progress.

In Cueva de Lolo (del Secretario) (site 3991) - which is situated behind a door at the back of the medical centre in Solórzano - the end sump was dived by Colin Hayward after digging out of the gravel infill. The water level was very low and a small (not useable) air space allowed some voice contact when he got through to a chamber after a short sump. There was some draught and the passage looks to continue through an area of friable roof and walls partly blocked by fallen blocks. Two people are required to dive to this chamber to make the digging safe, and so surveying and further work was left to 2017.



In the Riolastras area, A new cave - Lady's Cave (4468)- was found and surveyed to 36m. Shaft



4143 was dug to a fist sized hole in solid rock – not a good prospect and the nearby Puppy Dog's Tail Cave (4048) was dug and pushed, it is a worthwhile prospect with more work needed. A shaft 4465 was descended to a choke where there is a possible dig, but the site was found to be about 90m out of our permit area when plotted on the map.

Northwest Sector

Hoznayo/San Antonio area

Ten sites were found in the area. A 2m deep cave (4399) that closes down.

A 2m deep shaft (4400) that looks choked but needs checking out. A small resurgence (4401) that seems to be an old cave remnant with a small sump in a 1 x 0.5m possible passage that is worth a dive with minimal kit in 2017. A 3.5m diameter shaft (4423) was found to be 8.5m deep to a 6 x 4m chamber with no way on. In the same area, a shaft (4424)



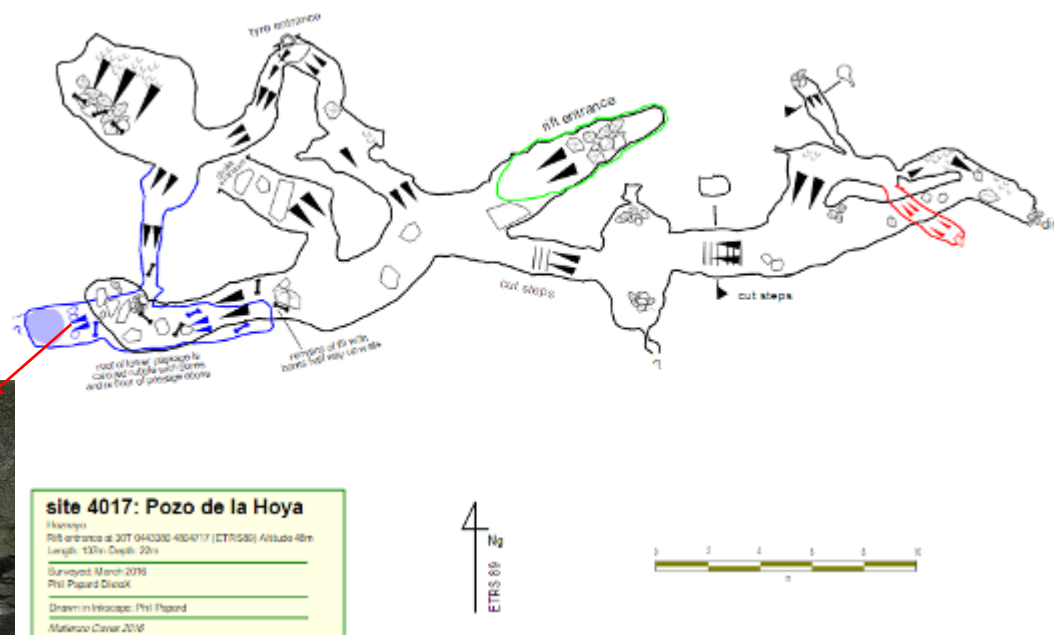
was dropped 9m after an entrance ramp to a 1m wide descending rift to a chamber, again with no way on. A cave (4425) that consists of a 12m hading climb in a rift to a boulder floor and a further 3m drop but via a very tight squeeze that needs work to open it up. A draughting dig (4458) which needs a lot of work to make progress.

Adjacent to this is a large deep shakehole that is partly filled with rubbish and needs a better examination in 2017. A major shake hole (4462) with a small resurgence and sink although

it is not clear where would be best to dig. A small cave (4477) that consists of a small phreatic tube that splits after 3m and gets too



Two known cave systems with archaeological interest in the Hoznayo area north of the motorway were surveyed and pushed. Pozo de la Hoya (4017) was surveyed for 137m. A feature of this cave is



In Cueva de las Injanas I and II (4001 & 4444) some 304m were surveyed and a visual connection down a very tight 2m drop found between the two caves. In the same area, a depression (4446)



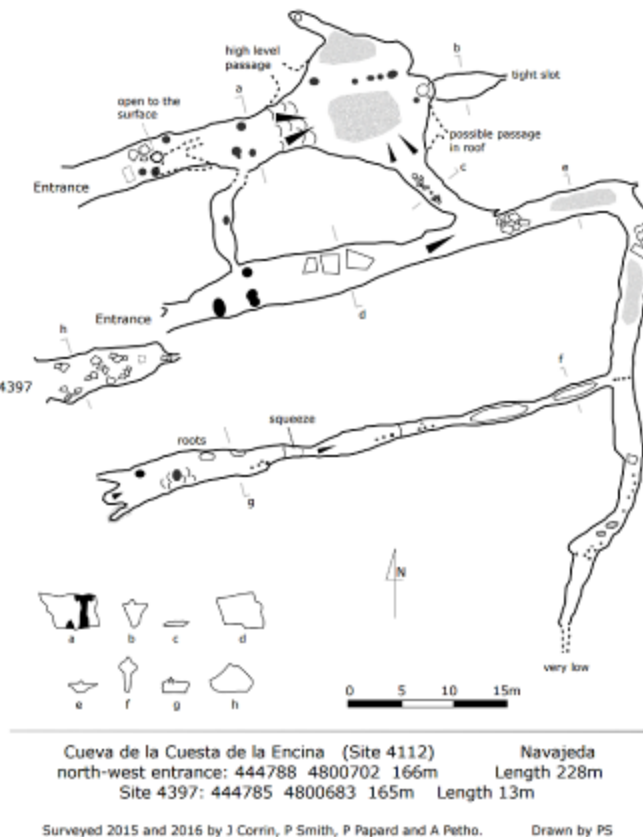
was located with two holes, one choked with mud the other ponded due to the wet weather. In the same limestone block as Pozo de la Hoya, two new digs with some potential were located. Cave 4395 is next to dig 4243 which was not seen due we think to overgrowth. The latter is the best dig site. Dig 4398 is a tyre-filled depression / sink which, if the very large tyres can be moved, looks like it may have potential.

Cobadal/Camposdelante Area

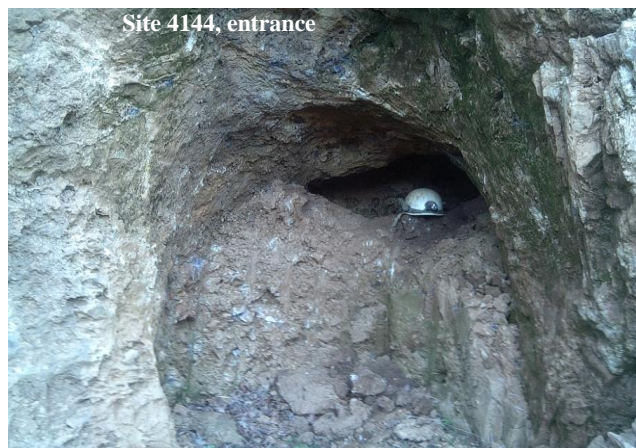
Cave 4457 was found and pushed for 38m to a well decorated chamber with possible leads that need more work. The shafts, previously undescended, 2023, 2024, 2027 and 3585 were all pushed to chokes with little prospect. Digging took place at cave 4435, but more work is needed. A number of new sites were located these included: a cave (4435) with a good draught, 3m deep with slots needing enlarging going down 3m more; a cave (4440) with a good draught from under large boulders which need removing to make progress, and a sink (4434) with bedrock on one side taking two small streams. In November two sites 4484/4485 were dug to 6 m and 2m deep respectively, both draught and need require more work.

Navajeda Area

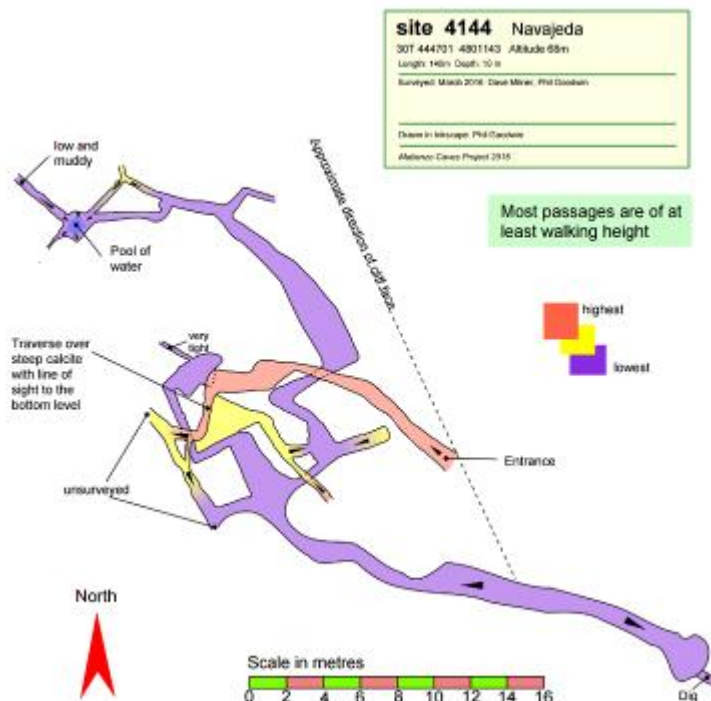
Cueva de la Cuesta de la Encina (4112) was pushed to a small extension at Easter but, due to bad visibility from mist, a survey could not be carried out. This was corrected in the summer with the 18m extension surveyed, but with no significant archaeological deposits seen. A climb into a possible passage near the east entrance is still to be looked at. A small known cave (4397) located in thick undergrowth below the west entrance to 4112 was surveyed.



Maze Cave (Cueva Laberinto II, site 4144) was



pushed and 148m was surveyed. More

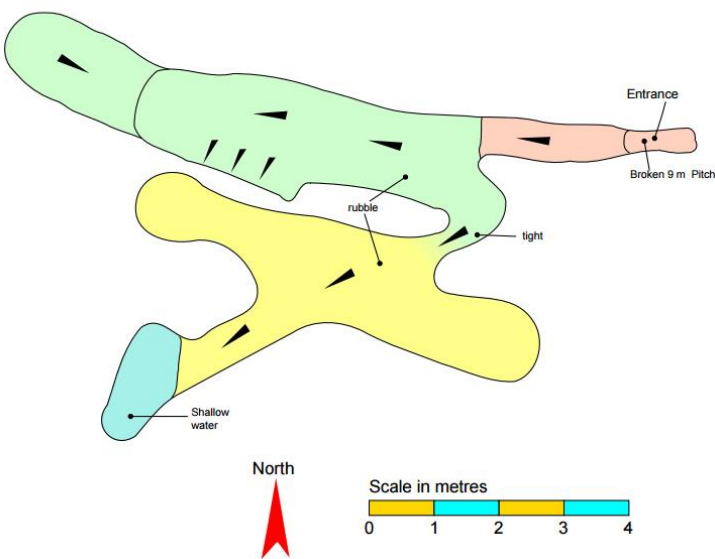


surveying and digging needs to be done. (This is the third maze cave found north of the Cobadal area, but is smaller than either Cueva Laberinto I (3268) or Cueva de los Urros (2917)).

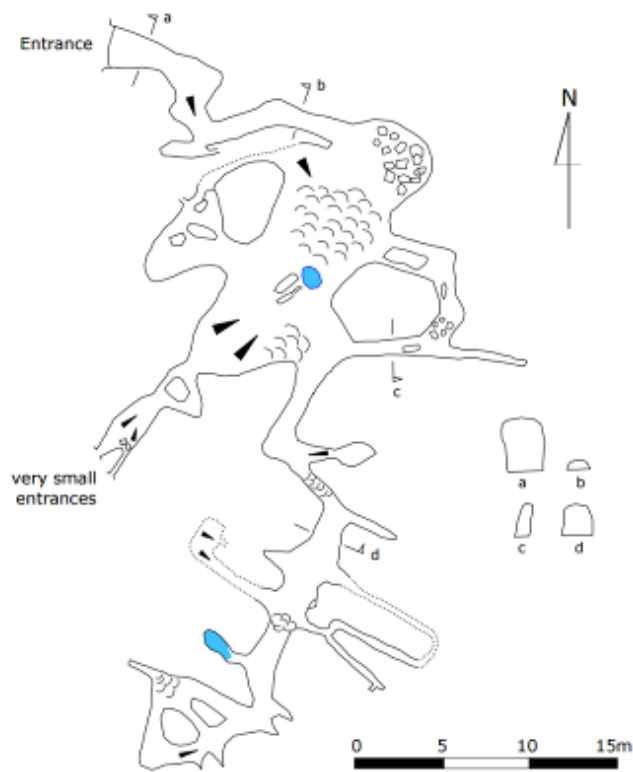
To the east of the church at Navajeda, the caves which are mainly of archaeological interest were examined. Cueva de la Iglesia 1 (4463) was surveyed and is quite extensive at 151m. Other adjacent caves looked at were Cueva de la Iglesia 3 (4459) and Torca del Iglesia (4006) was descended for 8m with some interconnecting passages giving 37m in total. A number of other sites were examined in the area, these included: a promising

shaft 3952 which was found very wet and needs to be pushed in drier weather; shaft 4029 - found to be a 5m pitch and 5m of passage with no-way on; site 4034 - a 4.2m shaft that needs capping to open up the entrance to get access; shaft 4033 -

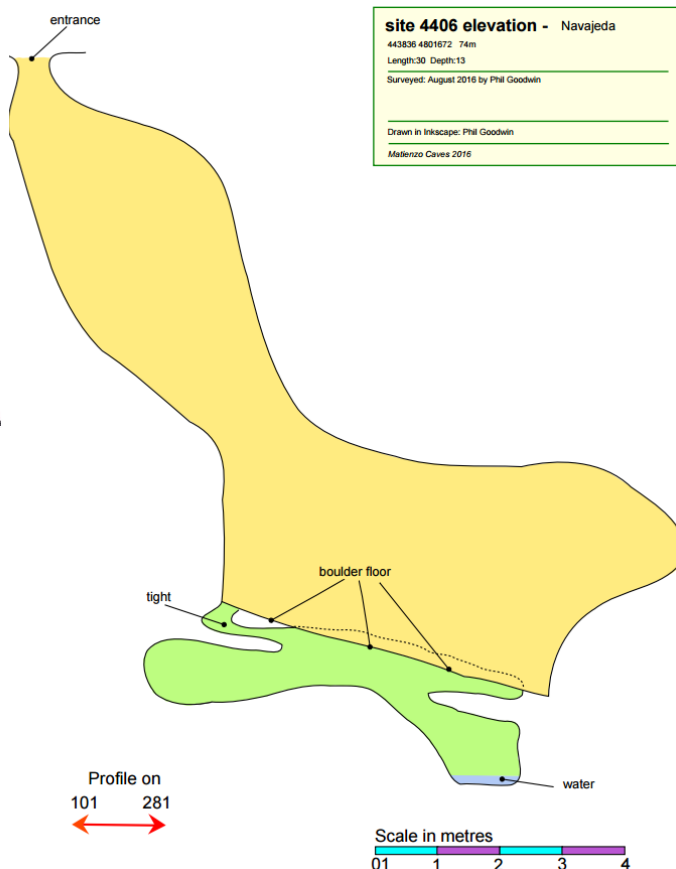
site 4406 Plan
 Small cave near Navajeda Church
 445680 4798089 74m
 Length: 30m Depth:13m
 Surveyed: March 2016 by Phil Goodwin
 Drawn in Inkcape: Phil Goodwin
 Matenzo Caves 2016



9.5m deep with no way on, and site 4063 - dug to a 6.5m narrow, choked shaft. A shaft (4253) was found to be 6m deep to a rift with a chamber and a squeeze to a



Cueva de la Iglesia 1 (Site 4463)
 Navajeda 443.806 4.801.654 Alt. 57m
 Surveyed July 2016 by C. Meakin, J. Southworth, J. Corrin, P. Smith



descending rift to a choke giving a total depth 12m.

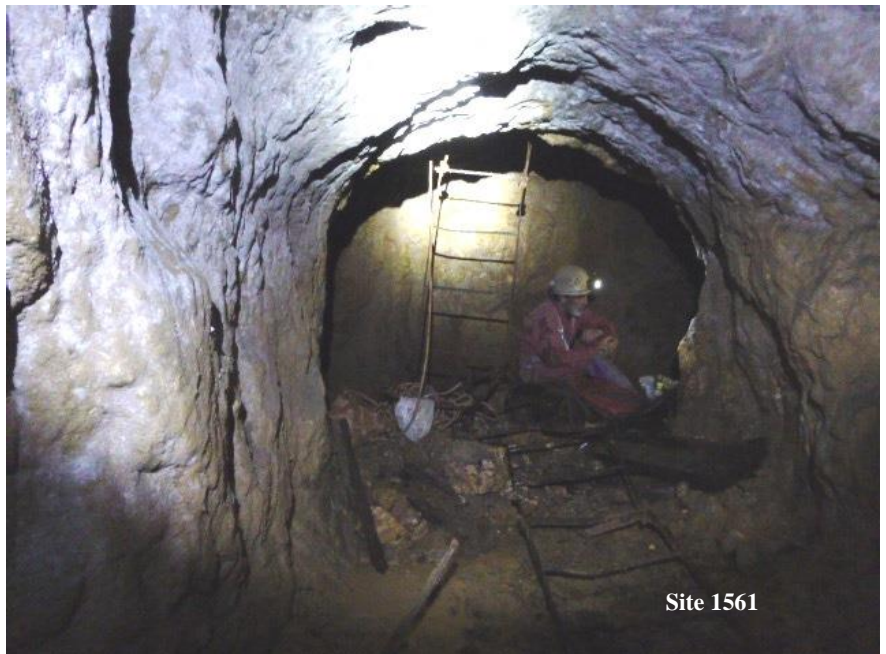
In November 5 new sites were identified and 3 of them pushed - **Site 4489** 10m deep to cone of debris and rotting animals; **Site 4490** Fenced shaft to mud floored blockage, 7m deep; and **Site 4494** descent onto old bones, with passage off too small, well decorated chamber. Window through stal. led to water filled passage, approx. 1m deep. Further window through more stal. appears to be end. Total depth 8m, length 8m. Also, **Site 4050** was pushed to two chambers and narrow vadose trench needing thin person to make progress. Good draught. Estimated 20m deep and 30m long.

Riotuerto

We continued to complete our work in a few of the caves we have worked in this area in agreement with the Cantabrian Caving Federation and Grupo de Espeleología Pistruellos who we worked and liaised with. Some of the caves in the east part of this area seem to be in the catchment of Fuente Aguanz, but the exact situation needs to be established and this work is being carried out as reported in the hydrological section of this report.

At Easter, water levels were too high to attempt work in Washing Machine Hole (3420) or Cueva de Los Campizos (YoYo Cave, site 3812). In the Ideopuerta area work started in Cueva de los Campizos (Yo-yo) (3812) to re-bolt the big pitch and to remove the old rope. Work was not completed and will continue in 2017.

At Barrio de Arriba, Mina Favorita (1561) was partly resurveyed (174m) including down the pitch into the lower series. La Cueva en una Mina (4251) was surveyed and a dinghy used to cross the "lake" in order that digging a possible continuation could be started, but digging was found to be difficult and needs more work.



Site 1561



Site 4269 - entrance

The draught in the cave seems to disappear near the lake. A mine (4269) was found having a large entrance with two 8m passages going off, the left blind and the right dropping down 6m to a pool. Other sites looked at in this area included a resurgence (3969) found to have a low wet crawl that needs looking at in dry weather; cave 3953 was pushed to 8m but closed down and cave 3954 also closed down after about 20m. Site 4270 was pushed with a rift going to 20m deep and 32m long where it chokes out with little prospect. Site 4421 was discovered with a slight draught and old smashed stal leading to a

10m pitch and a squeeze caused by flowstone on the side stopping progress. A stone thrown through seems to drop into water. In November two new sites were identified: Site 4481, 11m deep to choked rifts at its base, with a tight passage lead needing more work; and Site 4482 a 12m deep shaft to choked rifts.

In the Moncobe area, two new shafts (4473 and 4474) were found and a meeting with the club having the permit (the G E Pistrellos Group) was arranged and it was agreed to continue work at these sites, a visit was made later in the year with a member of the Pistrellos Group to a number of sites in the area and digging continued at 4473/4, but more work is needed to progress, and a there is a possible link to PST 103 -



Torca del Hoyo la Encina a cave further to the east that the Pistrellos group are pushing, which may give the Pistorellos Group better access to for their work in parts of the system. Also, discussed with the Pistorellos Group was the need to carry out water tracing in the area both from El Cubillón (2538) which will be carried out in 2017 and from PST103, which was carried out in October 2016 (see Hydrology section test 5 of this report). Shaft 4474 needed some work to remove boulders from above a second pitch with a tight section needing capping out to give access to a number of possible leads and a further climb down with a good draught. More work is needed to progress. Nearby the second new shaft (4473) proved to be more extensive and was pushed down to a fourth pitch into a passage. A line survey was produced with leads left but again requiring more work to progress.

The cave 3033 was visited and it looked like a new find at first. It seems clear that this cave floods badly and removes all foot prints and perhaps partly blocking the entrance - so it looks as if it has not been entered. Sites 3902 & 3903 draught well but need a lot of work to progress. Site 3578 opened up to allow a descent to 5m but needs substantial extra work needed to make more progress.

In El Cubillón (2538) The First pitch has been opened up to make easier, but needs some loose rocks removing to make safe. A bolting route at the end of *Upper South Passage* leads to a small hole where flowstone was removed to reveal a substantial chamber beyond, work on two trips have started to open up this hole to gain access, but more work is needed.

On the second trip at Easter heavy rain made one of the pitches too dangerous to climb, eventually by fixing the rope out at an angle at the bottom, the team managed to escape. Given this risk the pitch now needs to be re-rigging to make it safe to climb in wet conditions. Some additions to the survey were made.

Mathematics Course (August 2016)

Ten new sties (4422, 4428, 4429, 4436, 4437, 4438, 4442, 4443, 4264, 4483) were recorded in

the Riotuerto area during the above work, with most of them having little or no prospects, details can be found on the website at <http://matienzocaves.org.uk>.

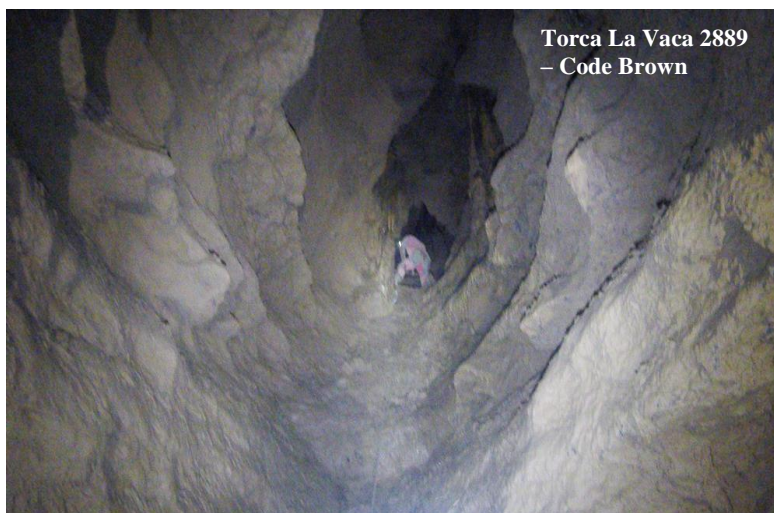
Torca la Vaca

BigMat Calf Hole (3916) was used to push and survey Torca la Vaca (2889) in total nearly 4km of passage were added since our report last year so the cave is now well over 23km in length.

Many of the new passages are within the boundary of the existing cave but on different levels. In the maze south of *Fisticuffs* at *Botchergate* where over



Cuba Libre 4182 – blind pitch



Torca La Vaca 2889
– Code Brown

1100m of passage was surveyed. Bolting up avens above *Scafell* added a little passage and side passages in the "green level" on the survey near *The Buzzing Gets Closer* were also surveyed adding some 70m. Also, via the Cuba Libre (4182) entrance, passages in this area were pushed and surveyed including dropping pitches which were all choked. In the summer the main areas pushed and surveyed were in the "green levels" below *Scafell Aven* up to the *Terminal Choke 1*; side passages off *It Only Hurts When I Laugh* up to the *Shoulder of Mutton*; the *Hardknott Pass* area, the *Frizzington Extensions* and *Doldy's Draughting Rift*. During this work, a connection was pushed

between *Terminal Choke 1* and *It Only Hurts When I Laugh* thus giving better and quicker access along the Green level to the *Shoulder of Mutton* area. However, no major extensions were found but the stream way going on from the *Rib Tickler* is still to be checked out.

The survey completed after Easter 2016, is in the process of being updated with the summer finds, and when complete it will be available on our website at

<http://matienzocaves.org.uk/descrip/2889.htm> where the current and previous surveys and other details of the cave can be found.

Line diagram of Torca la Vaca

New passages in 2016 shown in bold blue.
The detailed survey when complete will be
found on the website at:

<http://matienzocaves.org.uk/descrip/2889.htm>

