

SUSS – Crete 2006

The White Mountains, Crete, Greece



Sheffield University Speleological Society

Abstract

In the summer of 2006, nineteen members of Sheffield University Speleological Society (S.U.S.S) spent a month exploring caves high up in the White Mountains of Crete. They concentrated their efforts on one remote valley, Mavri Laki, an area that had not received any recent speleological study. The valley floor is 1650m above sea level and the surrounding peaks soar over the 2000m mark, making this a prime location to hunt for deep caves, especially as the limestone is thought to lay unbroken down to below sea level.

The last group to do work in this area is thought to be S.U.S.S. during their two expeditions to Crete at the start of the 80's. Whilst few caves of significance were found during these expeditions, the geology of the area indicated that this valley was hiding more secrets and so a return was organised.

During the month long expedition over three hundred man days in the valley brought about the discovery of 200 cave entrances, all of which were explored to record, in total, around 3.5 kilometers of cave passage. Four of these caves extended below 100m deep, the longest containing 750m of passage. None of these caves had previously been recorded, however there were a few indications that a small number of these caves had been entered by previous teams.

With only half of the valley fully explored a return is planned for 2008 to concentrate on the remaining northern section of the valley.

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1 Introduction

1.1 Greece UIS Congress

During the 2005 UIS congress held in Kalamos, Greece, Rob Eavis entered into a conversation with Kostas Adamopoulos and Elias Kazais, from S.E.L.A.S., about their recent expeditions in Crete, including a number to the White Mountains. Kostas and Elias soon mentioned a large valley to the east of theirs. They had caught a glimpse of it the previous year from a mountain ridge, and thought it would be great if a team could come over from the UK to collaborate with them next summer. To encourage Rob they showed him a photograph of the valley which showed hundreds of entrances (see below), supposedly none of which had ever been visited by modern cavers. That was enough convincing!



Photo by Elias Kazais

1.2 Recognisance

A few months later in Sheffield four students (Katie Dent, Rob Eavis, Henry Rockliff and Jeff Wade) setup an expedition committee, to be responsible for the organization of the trip. Unfortunately none of them had been to Crete before, let alone the White Mountains. Many pointless meetings and arguments later it was decided that to fully understand the situation a recognisance would be needed.

Therefore in March, Henry and Rob flew to Athens to meet up with three members of SELAS, Elias Kazais, Tolis Sioutis and Nontas Emanouil, to have a short hiking trip through the area. Together they travelled to the south of the mountains by public transport and spent two days walking into the valley from the nearby town, Anopoli. The main objective was to search for a spring that had been spotted on a map and to try to find out about its flow during the summer months. Because the whole mountain range is limestone all the way down to sea level there are very few places in the

White Mountains where water comes to the surface, so it was paramount that this spring was located. Also, from the photo that the Greeks had supplied, there did not seem to be any flat terrain upon which to base a comfortable camp. Finding such an area was also paramount.



Photo by Rob Eavis



Overlooking Mavri Laki

Photo by Rob Eavis

The weather was warm for the time of year (between -5 and 25) but there was still a lot of snow on the hills, making progress interesting to say the least, especially when the whole valley seemed to be filled with crevice-like cave entrances. Two nights were spent camping in the valley itself and during this time over 30 cave entrances were GPS logged. This is definitely a speleologist's world.



Ice in the entrance of Freezer Cave Photo by Rob Eavis

A large cave, now called Freezer Cave, was found on the first day due to its obvious entrance at the base of the western slopes of the valley. The entrance led through to a couple chambers, the second very large in size (20m by 30m) with 60cm long icicles sitting side-by-side and stalactites on the roof. Hopes for a successful expedition were on everyone's mind. A large doline in the centre of the valley was later found which would be a great place for base

camp, being 200m across and totally flat. On the last day in the valley the elusive spring was found, securing the fate of 19 members of Sheffield University Speleological Society that coming summer.



Henry in Freezer cave's main chamber

Photo by Rob Eavis

The team of five finished their trek by heading northeast, crossing over into an adjacent valley which led down, eventually ending up in a small settlement in the centre of the island, just in time for the bus.



2 Caves

2.1 Helios

2.1.1 Introduction

At 140.8m, Helios was the deepest cave found during this expedition. It was named Helios after the Greek god of the sun, due to the two parallel sun rays that fill the entrance chamber at certain times of day. It took 4 days to fully explore the system, the last day of which was mostly spent searching the boulder floor of the sizeable “Hall of the Mavri Laki Kings” chamber for a continuation of the cave. Unfortunately no way on was found. Therefore less than a tenth of the cave’s total depth potential was found.

2.1.2 Data

Code = NW220

N = 35 18 11.5

E = 024 04 49.7

Alt = 1858m

Length = 380m

Depth = 141m



Katie Dent in the entrance chamber Photo by Robbie Shone

2.1.3 Team Members

Katie Dent, Glen Sankey, Robbie Shone, Jeff Wade, Mark Brown

2.1.4 Diary of Exploration

Written by Katie Dent

22nd June 2006

After a morning spent failing to find anything worthy of unpacking the ropes we sat down for a snack near the point where the black limestone intercepts the white limestone to the north – west of base camp. Finishing our biscuits we spread out and began moving up the mountain searching for shafts. Just as I crossed the dividing line from black to white rock I spotted an interesting feature, it was a small vertical section of bare rock that looked like it was potentially sheltering a shaft. After a dull morning I was excited to find there where actually two shafts that appeared to drop into the same chamber. Robbie free-climbed down the entrance and declared the entrance chamber photogenic and still going via a vertical drop. After rigging the entrance pitch I descended after Robbie with all our rope and the drill.

The entrance chamber has a frost shatter floor that slopes down from the bottom of the pitch and the bare rock roof also slopes down, becoming lower further from the 12 metre entrance pitch. Eventually this becomes a low squeeze below a very large, flat-bottomed hanging boulder earning it the name 'the sandwich maker' (derived by considering what it would do to a person should it fall). Following this was a short pitch of about 6 metres through boulders. Here a rope was rigged for descending a steep mud slope to the head of the next pitch, also of about 6 metres. This pitch landed in a high roofed, almost L shaped chamber. Exploration of this chamber revealed two possible ways on. The obvious lead was a large, unobstructed pitch head which was about 2 metres wide and very long. This was rigged and descended until the knot in the end of the rope met Robbie's rack. From this vantage point Robbie could make out the floor of pitch which he believed didn't look promising. Also he could see onto a large ledge that appeared to contain another pitch. These leads were left for the following day when we planned to return



with more rope.

Katie Dent on the way down to Digger's Day Out Photo by Robbie Shone

Having run out of rope we returned to the surface and had some lunch after which Mark, Jeff and Glen set off down the cave to begin surveying. Robbie and I went back down

the entrance pitch to push some tight passages that left the entrance chamber opposite the sandwich maker. Here a boulder choke is quickly reached containing a T- junction. The right branch led to a few metres of cave ending in a narrow vertical pitch with no detectable draft. This lead has not been revisited.

The left branch consisted of a short climb down at which point walking sized passage is entered. This passage soon turns 90 degrees to the right. At the point of the turn there is a large void in the floor which proved to be filled with boulders. Around the corner the walking passage continues until it opens out next to the bottom of the second pitch in the cave, by the start of the mud slope. This passage was named Cracker Loop. To avoid the perils of the sandwich maker and the pitch through boulders we decided to use Cracker loop to explore the cave further. Glen and Jeff, who started from the top of the pitch where we ran out of rope, surveyed out (not including Cracker loop) recording about 60 metres of cave.

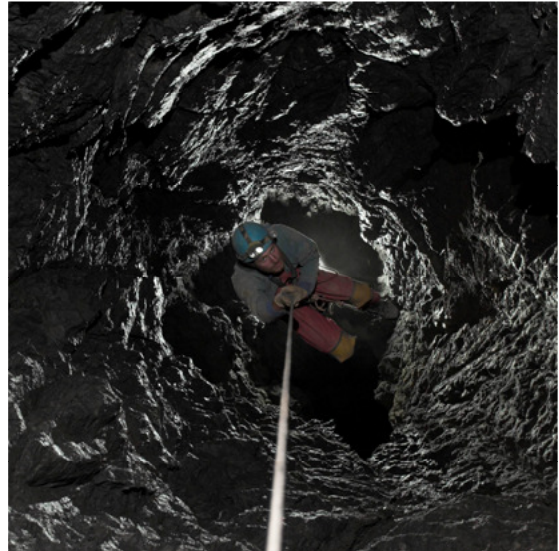
23rd June 2006

The next day saw us all, but Mark, return to Helios. Jeff and Glen set off first with the aim of descending the pitch where we had ran out of rope the day before. After surveying Cracker loop Robbie and I joined them just as they reached the floor at 21 metres down. Unfortunately no obvious way on was found and the pitch Robbie had spotted on the ledge was found to connect straight back into the main pitch. The floor consisted of a boulder choke which did draft strongly through a small gap. Encouraged by this and, as Jeff said 'in true Derbyshire digging fashion', a bolting hammer, Robbie and I set on this task. We eventually made a few metres progress through some awkward squeezes until we could see down a short pitch, however the only way on from there seemed to be a too-tight rift in the floor so the dig was abandoned and the choke with its surrounding chamber named Diggers day out. Whilst we had been digging Jeff and Glen gone back up the 20 metre pitch to rig the other lead we had found the day before. Jeff quickly used up a 20 metre rope with the shaft still descending despite bolting with a rock and spanner in place of the hammer! He had rigged through a short, tight awkward section to reach a more open rift-like pitch. After some lunch Robbie took over the rigging using what little gear we had left. Happily for us the rigging gear ran out before the cave did, meaning a return to the cave the next day. Robbie had been able to drop some further pitches and then climb down some sharp, steep passage until the way on again turned vertical. At the point it was left that day the way on was a large black vertical void. Surveying out we discovered we were now at a depth of -84 metres. We headed back to camp excited for the next day.

24th June 2006

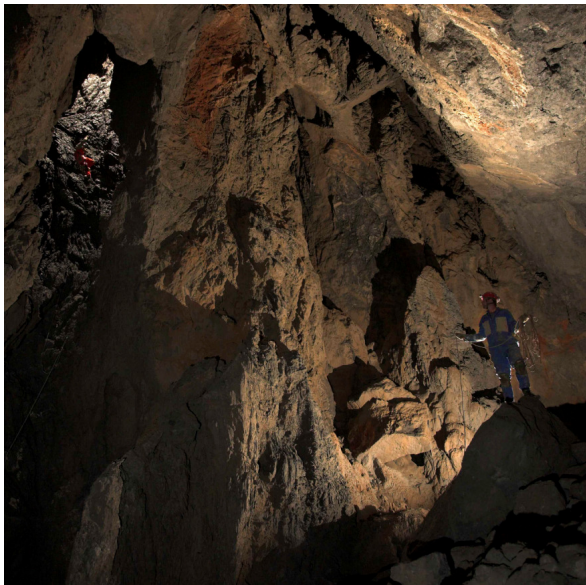
On the 24th we returned up the hill to Helios and all were excited about the challenge. The expedition's biggest lead Rubble Rift had finished the day before with substantial horizontal passage but a final depth, 105 metres, that we harboured hopes of surpassing in Helios. Jeff and Glen lead the way aiming to re-rig the pitches from the

end of the day before with the benefit of some bolts and then continue down the void into the unknown. Robbie and I followed them down the cave photographing its best features including the entrance chamber illuminated by its rays of light, the mud slope directly after Cracker loop and the spacious 20 metre pitch down to Diggers day out. This completed we picked up lunch and headed down after Jeff and Glen. Yesterdays limit was immediately followed by an 11 metre pitch. After a couple of deviations this landed on a ledge from where it was possible to traverse over a pitch head to the next re-belay. From this bolt I could make out Glen and Jeff's light and compared to the average pitch length so far they looked a long way down! Shouting down I anxiously asked what they had found. Glen, equally anxious called back up asking if I was bringing lunch down with me! After establishing that Jeff conceded that they had found a chamber that was quite big although they had yet to explore it. Abseiling down I first realised that this was a very attractive 30 metre pitch, later named Tower pitch.



Glen Sankey ascending Tower Pitch Photo by Robbie Shone

Second I realised that relative to the size of the Cretan caves we had previously explored, the chamber was huge! Where the pitch met the chamber floor it was possible to follow the back wall and abseil further down through boulders landing in a boulder choke with a



Mark Brown and Glen Sankey in the Hall of the Mavri Laki Kings Photo by Robbie Shone

single solid wall. This was superficially explored but largely left for a better look the next day. After a brief explore of the rest of the chamber lunch was eaten in the centre and was most satisfying, if not a bit cold! Some quick disto readings revealed it was roughly 35m long by 30 metres wide by 30 metres high. The chamber itself was fairly square in shape with a boulder floor. Two possible but not very promising leads were left. However exploration of these and the rest of the chamber was cut short due to the need to do a food carry from the road to base camp that evening. As we departed, Jeff, the chamber's discoverer, declared it the Hall of the Mavri Laki Kings. Also on the

return journey to the surface the cave received its name as it had previously only been known as NW220. It was

named Helios after the Greek god of the sun, due to the beautiful sun rays that shone through the cave's two entrance holes illuminating its first chamber. Entering our data into survey that night revealed the cave was now 119 metres deep.

25th June 2006

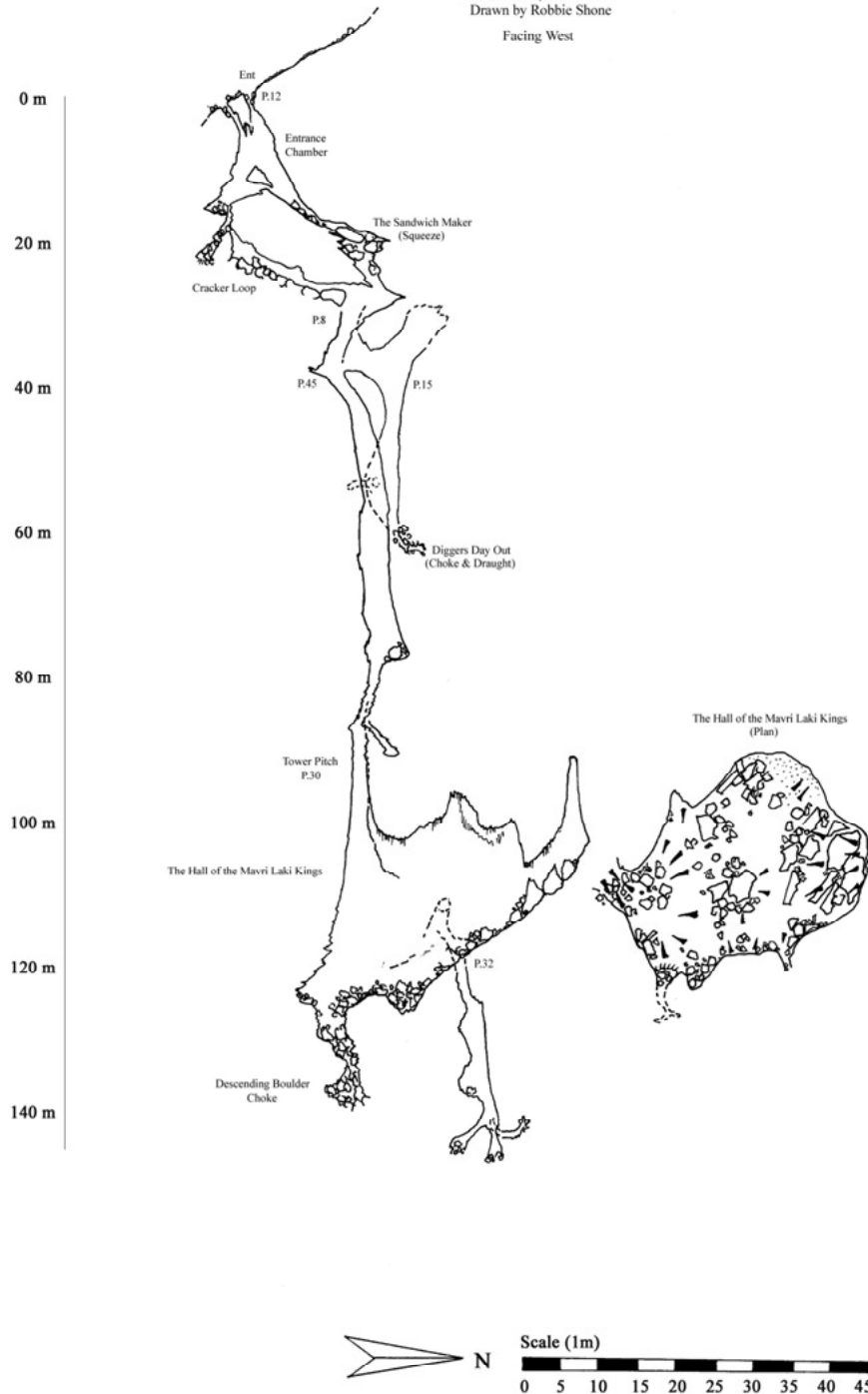
Today Mark rejoined the team so for the second time 5 of us went back to Helios. Once underground we headed directly to the Hall of the Mavri Laki Kings. Here Mark and I surveyed around the chamber whilst Robbie with his models Jeff and Glen took various photographs including ones of the Hall and of Tower pitch. The latter resulted in a scary moment for Robbie as when ascending below the other two a dislodged boulder the size of a television hurtled past where he would have been hanging had he not had the presence of mind to cling to the back wall upon hearing the shout of 'below'. Upon finishing these pursuits we had some lunch before beginning to explore the chamber for ways on. A look at the boulder choke below Tower pitch disappointingly revealed that a lot of digging would be needed there in order to find a way through. The other of the two leads left from the day before was a tight rift in the floor of an inlet just of the main chamber. However Mark found a pitch we had missed by climbing up a wall. Mark and I followed this lead which started with a precarious step onto what appeared to be large boulders very loosely held in place over the pitch! Descending this pitch of about 14 metres the way on was achieved by swinging into a parallel shaft. This reached a ledge from which a boulder floor could be seen about 5 metres below but it could not be confirmed whether the cave went any further. Having run out of rope so close to the floor Jeff and Robbie set about cutting 8 metres off the end of the Tower pitch rope. This was successfully used to attain the floor where a gap in the boulders revealed an unstable small space that was made of, and ended in boulders. Unfortunately, despite 5 of us crowding into the little floor space available, no way on was found. We de-rigged the cave on our way out. The final depth was 141 metres and the total surveyed length was 380 metres.

Helios

The White Mountains, Crete

Discovered by SUSS 2006
Drawn by Robbie Shone

Facing West



2.2 Rubble Rift

2.2.1 Introduction

Rubble rift was an unusual system for this expedition, being much greater in horizontal extent than vertical. Rubble rift became over 700m in length (the longest of the expedition) and just over 100m deep (the fourth deepest of the expedition). The system is formed around a series of 30° off-vertical rifts running approximately parallel along the hill side (east-west) and intersected by a number of vertical shaft series, and intersecting rifts running down the side of the hill. The system was explored over 5 days and photographed by Robert Eavis. On the last day of exploration in the system it was connected to a nearby cave entrance.



Rubble Rift entrance Photo by Rob Eavis

2.2.2 Data

Code = SEC011

N = 35 18 03.3

E = 024 05 32.2

Length = 742m

Depth = 105.6m

2.2.3 Team Members

Rob Eavis, Rob Middleton, Ben Morley, James Rhodes

(Second entrance – Dave Harley, Steve Jones, Henry Rockliff, Clare Youens)

2.2.4 Diary of Exploration

Written by Rob Middleton

Day 1

Robert Eavis, James Rhodes, Ben Morley

During a typical day of surface bashing in the North Camp region, an open rift approximately 10m long by 4m wide was descended by the team. The airy shaft was approximately 20m deep via a number of ledges and left the rift structure to head into the hill side. Two loose boulder shoots were then descended into a small chamber with a choked floor where the way on would have been expected. In front lay an aven, which was climbed by Ben and led to 30m of cave leading up at a 60 degree angle towards the surface. This ended approximately 10m from the surface and was surveyed while Rob E found a very awkward squeeze approximately 2m up on the left hand wall of the original chamber, which he managed to force through. This lead to a junction (the junction box) where the right hand route, a tight squeeze (popcorn squeeze) led to a pitch. A rock rattled for 5 seconds, and the team retired, to come back another day with more kit, cheerful and buoyant, at the possibility that it might go.....



Rob Middleton in the squeeze near the entrance Photo by Rob Eavis

Day 2

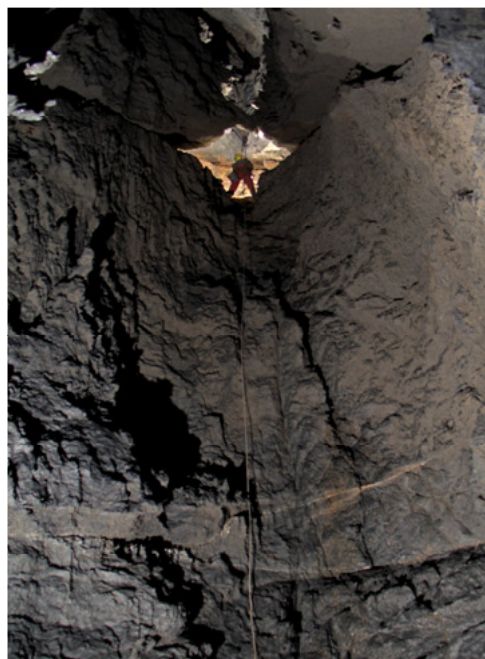
Robert Eavis, James Rhodes, Ben Morley, Robert Middleton

Following the excited reports of the others, and a request from Rob E for a further experienced member to join the party (Ben and James being both in their first year of caving), I decided to join the team for the next day's exploits. We all headed hurriedly up the mountain, and were soon at the chamber of the day before, contemplating Rob E's squeeze and wondering how awkward it might be to return being perched above an awkward 2m climb. We all de-kitted and made it through easier than expected, and then split up to explore the leads discovered at the junction box. James and Ben headed left and straight on at the junction while myself and Rob E headed for popcorn squeeze and the pitches beyond. Following typical SUSS faffing Rob E made it beyond the squeeze and began rigging. I then followed carrying more gear and we began to descend. At this point Ben and James returned announcing that both routes were still going, with Ben saying that he had found a pitch. Flowing with excitement Rob E continued to rig the way, which started large and grand but soon closed to a 3m diameter shaft with some

boulder obstructions. After a couple of rebelay we reached the floor of a chamber 5m diameter, which closed down to a rift at two sides and had a solid rock floor. We all descended and while the others joined us myself and Rob E spotted an upward inclined squeeze in one of the rifts. This lead to a crawl and then a large chamber (chocolate chamber) with a ceiling 20m above and a pitch in the floor. We descended this to further disappointment with it all closing down. The "Popcorn Series" was a total of 38m deep with no leads.

On our return, we had a couple of minor issues, the first being a bolt which slowly crept out the wall so much so that when I arrived derigging, it was only 1.5cm in. Still, at least we could reuse it. Secondly, Ben who was new to equipment carrying in caves took the tackle bag out first. So ensued a cat and mouse game with three people attached to the rope below dodging multiple missiles, while Ben slowly made his way out.

We reconvened a little shaken at the junction box and headed towards the pitch Ben had located earlier (Porridge Pitch). Rob E rigged down this while I rigged a traverse across the top to where the rift passage continued. I followed this for 40m, and then returned to get the team for a closer look. They had descended porridge pitch and so I joined them, and we began to explore the rift below. Porridge pitch itself was large and slanted at around 80 degrees. It required a 30m rope and some dubious calcite based rigging at the top. (It's the only time I ever saw Rob E use a 130mm bolt!). The rift at the base was narrow and deep vertically and so we split up to assess it. Ben descended to its lowest point to find no way on while James headed left a little then returned and followed myself and Rob E right, which led to a small chamber, with two contrasting ways on. At the far end was a small ladder pitch which we could not descend as we had ran out of gear, while off to right back under the upper series was a small tightening rift which required pushing, on a more motivated day. So we headed out, pleased but still not hit real depth, with a few more leads left to finish.



Ben Morley on Porridge Pitch Photo by Rob Eavis

Day 3

Robert Eavis, James Rhodes, Ben Morley, Robert Middleton

We returned the next day with a few goals in mind, splitting originally into two teams for efficiency. Myself and James headed left at the Junction box and surveyed that passage. It led for 60m in typical rift passage which involved some loose boulders, and

eventually choked. We surveyed out and on return found a small pitch on the left hand side, which would require a further look. We headed back to meet the others who had gone to the ladder pitch of the day before. They descended this and we caught them up exploring a small aven beyond this (the Helter Skelter). This climbed up in a kind of spiral, with a ledge and possible way on visible at the top. Rob E found a very small inclined squeeze to reach this while Ben placed a couple of bolts under my supervision to get the rest of us up to it. The way on split in two, with a small water worn passage filled by rocks one way, and a rift off to the right. Rob E began to dig the small passage, while I headed with Ben to the rift. We located a small pitch in the floor, and struggling for naturals, Ben abseiled down, belayed to myself wedged in the rift above. He is surprisingly light. After a moment I heard a confused shout. Ben had located Rob E's camera gear, which had been left above the ladder pitch, and we both felt rather stupid having completed a weird round trip. Meanwhile Rob E had managed to remove the blockage and squeezed up into a huge funnel shaped chamber 8m in diameter. This seemed like a good spot for lunch and so became Lunchbox Chamber. It was disto-ed to over 30m high, and looked very impressive, but as with everything else in the cave, it ended in nothing, no ways on. Rob E fetched his camera gear and we began to survey out. At the chamber above the ladder pitch, Rob E and Ben headed off down the tight inlet passage located the day before while we listen to the muffled moans. They were gone a while, and we began to chill. Upon their disappointed return (it was too tight even for Rob E), we headed out safe in the knowledge that we still had more to push.

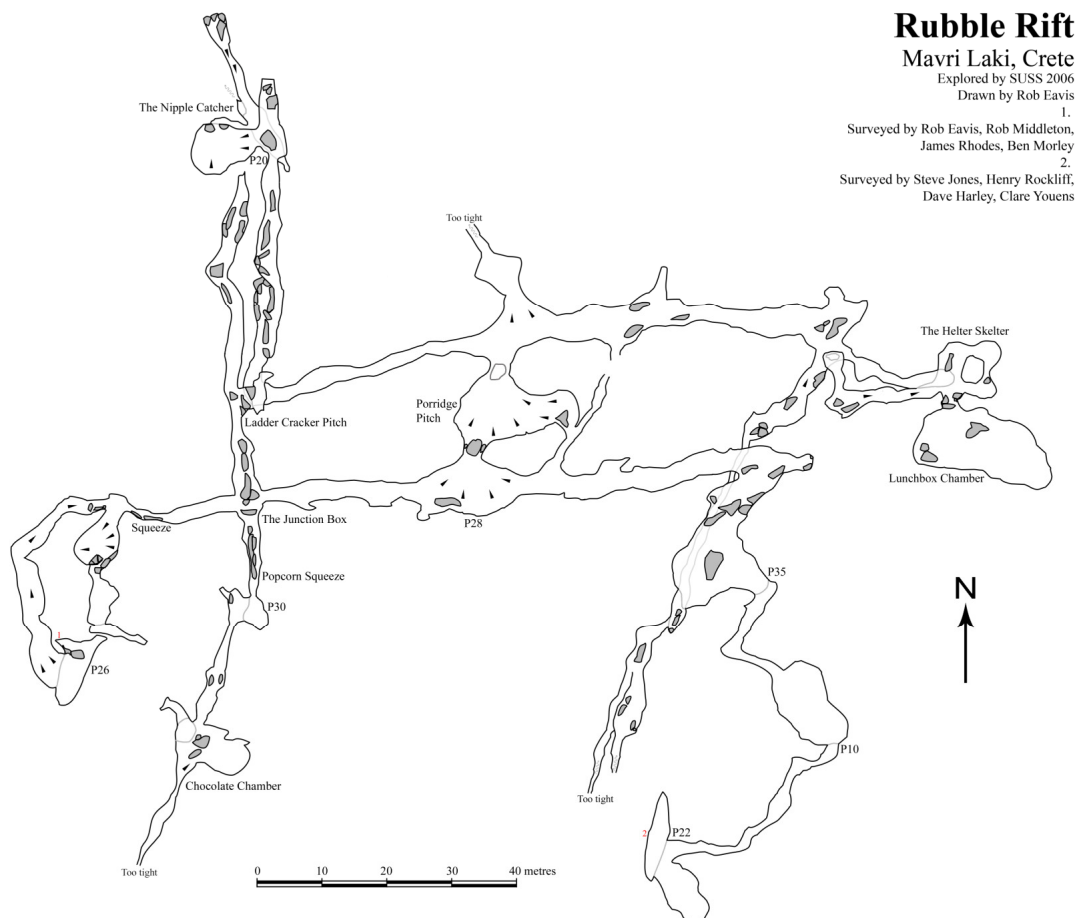
Day 4

Robert Eavis, Ben Morley, James Rhodes, Robert Middleton

Again we headed back, slowing becoming tired of the squeezes and general effort involved in the rifts of this cave. We first explored left at the bottom of porridge pitch. The rift continued for 20m to a junction, with only the right direction continuing of note. After a little squeeze and a climb, we found a large aven. It was 8m diameter and 18m high, and upon further exploration yielded a small blocked way on in the floor. I began digging this and quickly squeezed through to a small passage leading to the head of a 20m pitch. This pitch was not simple however as the top of it was only accessible via a very constrict squeeze in boulders (the Nipple Catcher). We stopped for lunch, at which point James left us claiming some excuse about needing to wash or something. Rob E and I began rigging the pitch which required you to abseil through the squeeze, and it was a rack on cowstail job even for Rob E. Ben looked a little concerned and so I stupidly offered to follow Rob E down to push the lead. The pitch was 20m deep and led to wide rift which choked in boulders in the floor. Digging out a small passage down through the rift Rob E managed to reach a small stream but it was too tight in either direction. The return was, urm, interesting and involved the use of many expletives, though I did fit, which is always good. Rob E then customarily made it look easy as he does. We headed back to the traverse over the top of Porridge pitch, and while surveying along heard a funny but all too familiar noise. We rushed along the passage to see a Henry descending from the roof of our cave. It turns out they had found an upper entrance, but judging from their description of 4 pitches and 4 bitch crawls without SRT kits, we had

definitely gone the best way. Their pitch continued beyond below us and connected to the lower passage we explored the day before. We left them to explore and surveyed back to our two last remaining leads. There was a small pitch parallel to porridge pitch which Rob E descended for 15m that almost certainly connected back into the lower rift, and the small pitch at the left at the junction box spotted on the second day. I descended that pitch on a ladder and it proved looser than expected. The Ladder Cracker pitch was 12m deep, and may have been the cause of a couple of bent ladder rungs as much of the ledge I was kicking collapsed onto it. Still at least I was above it at the time. This closed down but looked like it might connect straight back into the lower passage found that morning. We left that day having finished all major leads except those found by the pirates, and were satisfied, being tired of squeezes, but disappointed that our big goer had finished.

The upper entrance to Rubble Rift was explored by Henry Rockliff, Clare Youens, Steve Jones and Dave Harley, and added 30m of height and 130m of length to the system, of cave that is probably so hideous it is never likely to be repeated. At least that's what they said when they arrived 3 hours late for dinner. Evidence of previous natural rigging and carbide dumps was noted throughout some of this upper series but no definite evidence of previous explorers was found throughout the rest of the cave.



2.3 Parthenon Pot

2.3.1 Introduction

Parthenon Pot was in the most northerly area that this expedition looked at, verging on the “Promised Land”. It was the forth deepest cave of the expedition and took 3 days to fully explore. A few windows in the awesome 70m deep Poseidon Shaft remain open. It was an unusual find, with a large chamber only 5m from the entrance. A 20m climb up the far side lead to a tiny squeeze which popped out into the top of the main shaft.



2.3.2 Data

Code = NCMR606

N = 3911107

E = 0234863

Length = 156m

Depth = 100.7m

Rob Eavis in the entrance chamber Photo by Robbie Shone

2.3.3 Team Members

Steve Jones, Ben Morley, Robbie Shone, Jeff Wade

2.3.4 Diary of Exploration

Written by Jeff Wade

Fri 30th June

After the good hour prospecting yesterday we headed back to the North of camp west ridge area (NCWR) to look at the entrances we had found. The first one inspected was one of mine and seemed promising. Also there was Robbie Shone, Steve Jones and Ben Morley. This hole was found about 10m down from the top of a large (60m across) shakehole, situated amongst a large number of boulders which had jammed in a position that created a horizontal entrance. From the entrance a 4m climb led down into a chamber. Robbie soon jumped down the large 2 x 3m entrance and free climbed onto the boulder floor, which was 5 x 8m across. The rest of us had to be guided down the entrance climb, which we eventually put a ladder on for safety and ease. In the floor of the entrance chamber were two holes. The first was an obvious big hole which led to a pitch. The second was a free climb down through boulders to a ledge with a pitch beneath. This ledge lay 8m below the larger hole entrance. I dropped the larger hole via a 20m pitch that emerged in the highest roof point of a large chamber. On reaching the floor I could clearly see that the entrance chamber's floor consisted of wedged boulders due to the sunlight beaming through the cracks in the rocks! The chamber was 20 by 8m across with no clear way on at floor level but there was a large inlet, about 3 x 4m, 20m up the wall opposite to where I had dropped in. I asked for someone to come down for a second opinion, and Robbie obliged. He immediately started bolting up to the hole with me belaying; however we only had limited battery power and hangers! This was later named the Ascent of Icarus. When he got to the top he found a small drafting hole with a dark rift beneath. After some hammering I belayed Robbie through. Robbie explained, to all of our delights, that he was stood on a few boulders perched at the top of a large pitch! The pitch was about 10m wide, and we could go no further with the equipment we had left. Whilst this was happening Steve and Ben examined the large chamber, trying to find a way through at floor level. After the shifting of some rocks it was decided that there were no leads. Unfortunately we had no more rope so we derigged the entrance pitch to enable us to drop a few shafts in the same doline. All these were concluded with no prospects.



Rob Eavis in the squeeze Photo by Robbie Shone

Sat 1st July

The next day we returned to the cave with more rope and survey equipment, plus some tools to remove rock from the tight hole above the pitch that was out current limit. Ben and Steve surveyed whilst Robbie and I beat the small hole into shape. Robbie, who was very excited then rigged the pitch and we descended into a fine shaft 10m in diameter and 70m to the floor! It was not a perfect hang with a ledge about 20m down, formed by a large number of jammed, and occasionally loose, boulders. These could not be sufficiently gardened so a degree of care was required to pass them. After this ledge by passing underneath a car sized boulder the shaft started to widen out to 10m diameter again and remained this large until the floor. Fortunately The rope we had just reached the floor! The floor consisted of a large sloping bolder pile varying in height by about 10m. Unfortunately there was no obvious way on so we climbed down through the boulder floor to what we believed was the next pitch. To do this we had to move a few boulders, some of which required both of us and rope. Robbie descended the 13m pitch to a rift which was found to be too tight at one end and a choke at the other with no leads. We headed out, looking for side passages in the shaft to explore tomorrow.



Sun 2nd July

Today we went back to take photos and check the side passages in the Poseidon shaft. Rob and

Jeff Wade and Rob Eavis in Poseidon Shaft Photo by Robbie Shone

Robbie took a few photos, whilst Steve and I looked at side passages. We checked one at the ledge 20m down Poseidon shaft. Steve then dropped from the last rebelay, 40m above the shaft floor, to the next hole. He rigged this but did not complete it, mainly because he wanted an early finish for his last day caving before the strenuous walk back out of the valley. After lunch I helped with the photos in the bottom section of Poseidon shaft and then set out to complete Steve's work. I finally got to check out the two small shafts Steve had described that led off the main shaft. The one furthest left went to a silt and bolder floor The right one split in two, one part rejoined the main shaft and the other led down to a closed rift. After this disappointing discovery I de-rigged the cave, and just made it back for food! On returning to camp Steve questioned me as to whether we had looked at the side passage on the opposite side of Poseidon shaft to where we popped out. As I had forgotten to check this is one to look at another year!

Parthenon Pot

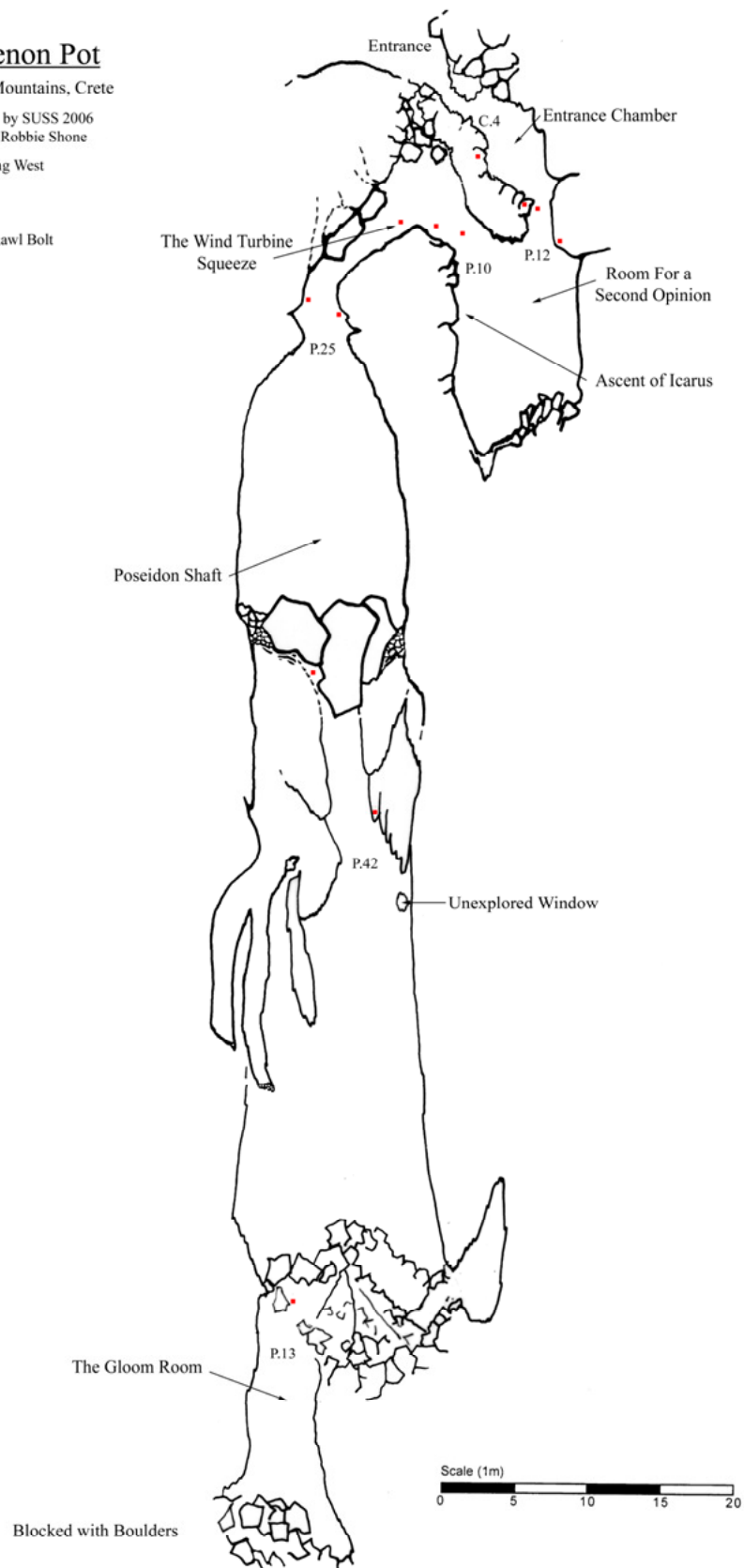
The White Mountains, Crete

Discovered by SUSS 2006

Drawn by Robbie Shone

Facing West

• = Rawl Bolt



2.4 **Bitch Hole**

2.4.1 Introduction

During the reconnaissance a very small hole was found on the side of a large shakehole in the Gills area. It measured approximately 40cm wide and 1m long and was only just noticed by Henry as he almost stepped into it. Below it was a very tight rift around 1.5m long but only about 20cm wide in places, running roughly north-south. He chuckled a rock down and we listened to it rattle down for over 10 seconds to end in a couple of beckoning booms. At that point we knew that, if we came back one of us would have to descend and that it was going to be “an absolute bitch”, hence its rather unfortunate name!

2.4.2 Data

Code = NCMR606

N = 3911107

E = 0234863

Length = 156m

Depth = 100.7m



Rob Eavis rigging the entrance pitch Photo by Robbie Shone

2.4.3 Team Members

Rob Eavis, Robbie Shone, Jeff Wade

2.4.4 Diary of Exploration

Written by Rob Eavis

25th June 2006

Following the GPS point taken on the reconnaissance myself, Steve J and Adam S found our way straight to the entrance. Unfortunately it had definitely shrunk since the last time I remembered seeing it! Whilst the others went about dropping some of the other entrances in the local area I set about putting in a few bolts and lowering myself into the rift, cursing my SRT kit for being so bulky. I was not going to fit easily so I lowered myself in head first and set about with a hammer and chisel to remove as many sharp protrusions as I could from the widest parts. Upon Adam returning about an hour later I had just about built up enough confidence to have another go at getting down it. This time it was a fraction easier and with enough wiggling I just about managed to slide down.

After the first 5m the going got a little less demanding as the rift widened to around 35cm and got less sharp. 10m from the entrance the western wall of the rift stepped away dramatically and I promptly added another bar to my rack. Out of the blue the rift had turned into a vertical shaft averaging 4m in diameter, with sharp rock projections reaching up to 2 metres from the walls. About another 10m down the shaft split into two separated by a thin dividing wall, with the most southerly pitch looking the largest. A couple rebelay got me to the head of this pitch avoiding most of the razor-sharp rub points, and 24m of rope saw me to a rubble floor in a 6m long rift at right angles to the entrance rift. At either end the rift closed down almost immediately, a strong draught at the easterly end issued a disheartening laugh.

Once back at the top of this lower pitch I threw the rope over the dividing wall and with a quick deviation got to the floor of the westerly pitch, a mere 9m deep, again to a flat, frost-shattered floor. At the far end I spotted a 1m diameter passage in the roof heading NW, but was not going to risk climbing up to it on my own.

On the way out the entrance rift was as difficult as I imagined it would be, taking about 10 minutes to climb the final 5m of the skin-stealing squeeze.



Rob Eavis amongst the razor sharp projections of Bitch Hole Photo by Robbie Shone

28th June 2006

Not wanting to let the dog slowly bleed to death on its own accord I planned a return trip with Jeff to survey the cave and push this NW roof passage. Jeff was one of the few people on the expedition that I knew was smaller than me and so he seemed like a perfect companion. Once both of us were down the entrance I left Jeff at one of the rebelay's while I derigged the lower attachments and created a pendulum to swing me across to the NW passage. Unfortunately the nature of the cave was not very supportive of this idea, causing the rope to twang off razor-sharp projections several times on each swing. I assured myself I was not far off the base of the western shaft and so would have a relatively safe landing in the unlikely event of the rope breaking, however Jeff did not know this and was emitting many of his infamous worried noises.

Sure enough the rope held and I managed to get to a ledge to climb up into the passage, all 2 metres of it before it closed down with a boulder blockage. I could see a way through to blackness beyond and both the draught and the echo made it seem a promising dig, but we had no tools with us and so we left it for another day. We surveyed out of the cave, leaving it rigged for a possible return in the event that something worse came up or if some more masochistic feelings welled up!

29th June 2006

Nothing worse did turn up but I thought it only fair to drag Robbie Shone down the cave to try to get some photos of the find. Unfortunately his lens is indeed bigger than his ego and we spent a good portion of the trip carefully negotiating his camera case back and forth through the entrance rift to get it to move through the widest parts. With less than 1mm to spare we succeeded. I quickly moved down to the NW passage to widen a route through the blockage, whilst Robbie scouted the cave for interesting photo locations. After capping 2 holes it was possible to get through into a parallel shaft, full of strange red and orange formations. Free climbing down this I discovered it only went about 8m before another flat rubble floor blocking the way on, a small draught coming out of a minute side passage halfway down.

Feeling deflated but strangely relieved I returned to Robbie to help him with some photos before we made our way out. Robbie ascended first, pushing his camera case above him as he climbed the tight entrance rift, while I derigged below. Unfortunately, after about 20 minutes of tedious manoeuvring work, he submitted defeat to the task and decided to return to try hauling the camera below him while I adjusted it from underneath. In total it took 45 minutes of us both manoeuvring the case through the 10m entrance rift before we finally swore to never return to the memorable Bitch Hole.

2.5 Hilti Hole

2.5.1 Introduction

Found in the last week of the expedition, this cave initially dropped 20m to a restriction. Weather then prevented any return until the second to last day of the expedition. On this return trip the restriction was passed to a series of shafts and passages, many of which were not fully explored. It was left as a tantalizer for the next expedition...



The entrance rift of Hilti Hole

Photo by Rob Eavis

2.5.2 Data

Code = NV451

N = 023 5632 (023 5636)

E = 391 1015 (391 0995)

Length = ~100m

Depth = ~50m

2.5.3 Team Members

Katie Dent, Rob Eavis, Rob Middleton, Ben Morley, Henry Rockliff, Adam Spillane

2.5.4 Diary of Exploration

Written by Rob Eavis

3rd July 2006

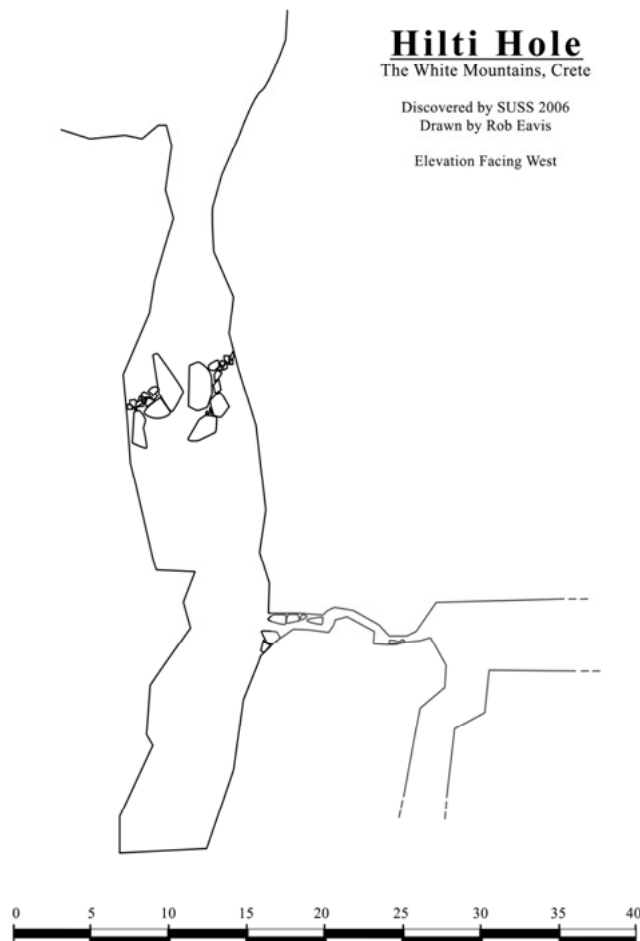
Found on 3rd July it is a large open hole around 2m in diameter and runs along a large rift on the south side of the ridge to the north of base camp. Climbing down the rift on the down-slope side of the hole allows an easy vantage point to the shaft. Adam S descended first using two large naturals to form a free hanging Y-hang that allowed him to abseil 15m down to the loose rubble floor of the 4-5m diameter shaft. Skirting around a large boulder in the centre of the floor he found a small hole that was off to one side and was emitting a strong, gusting draught. From what he could see it looked like the shaft continued below and that the floor he was stood on was only blocked boulders, somehow holding each other up. As the hole looked too small for him to get through he called up for "someone small" to come down and assist. Luckily Katie Dent was there so she shot down to have a look. Using a rope protector above the squeeze and her rack on her short cowstail, she dropped herself down into the gap and proceeded to get very stuck. Luckily Adam was able to use his brute strength and pull her up out of the squeeze and onto the relative safety of the false floor. Any advancement would need physical enlargement tools which they did not have with them, so they left this lead for another day.

6th July 2006

After 2 days of no caving due to heavy rain and thick fog Katie was itching to get back to the cave and have a go at enlarging the squeeze. This time I accompanied her with Ben Morley and Henry Rockliff. On having just a quick look at the squeeze I could see immediately why she had returned as the draught was very strong and the echo was promising. One Hilti cap hole in the right hand side of the squeeze was just about enough for Katie to slip down and quickly rig a rebelay around a prominent natural spike, removing the danger of the rub point through the squeeze. From here a fine 12m shaft, of similar proportions to above the squeeze, descended to a large ledge and then continued down for another 16m to a loose rubble floor. The walls were very dark and jagged with large chert projections reaching up to 30cm out into the shaft. This made for interesting rigging as the rock at first seemed very good for natural rigging but on closer inspection turned out to be very soft and brittle! Finally Katie and I were at the bottom while Henry was still struggling his way through the squeeze and Ben was becoming increasingly worried about the prospect. Instead he went to the surface and fetched the survey gear to pass through while we had a good poke about all the holes near the base of the shaft.

Climbing back up to the large ledge from the bottom pitch I noticed that the western wall of the shaft was actually a boulder choked rift and after a good ferret about I found a small way through into the continuation of the rift. After a short distance a window to the

north overlooked a shaft which I could not see the bottom of but using rocks I estimated to be around 10m deep to a sloping rubble floor. Following the rift led through another small collapse and down a difficult climb into an impressive rift passage 1.2m wide and 8m high with very flat walls, contrasting with the ragged nature of the cave so far. This led after about 10m to a difficult climb up over some boulders and up a 45 degree slope and popped out above another shaft at the base of a rubble slope extending away from where I was stood. The draught here was still gusting strongly and the slope in front of me looked very loose so I decided to calm my urges to explore alone and return to the others to determine the plan of action. By the time I had gotten back to the base of the entrance shaft both Henry and Katie were at the bottom waiting eagerly for the news. Because Ben had started to head out of the cave already and the fact that at this point this was the expeditions main going lead, we decided to leave Hilti Hole as a temptress for future expeditions. We surveyed the main shaft up through the squeeze and out to the surface and I finished it off with a sketch of how the extensions looked on my quick visit.



2.6 Freezer Cave

2.6.1 Introduction

Like Bitch Hole, this cave was found on the reconnaissance in the spring, and also like Bitch Hole, it has been left with a rather unfortunate name. It lies below the western slopes of the valley, situated at the base of an obvious vertical escarpment. In spring, this entrance was almost completely filled with snow, with only a 1 metre gap to enter through. Sliding down the snow bank we entered a passage and were greeted by a 2m long icicle. Further in we quickly discovered the main chamber, the roof littered with icicles, and a side aven releasing a relatively large waterfall.



Freezer Cave taken during the rece

Photo by Rob Eavis

We quickly realized that this was going to be an extremely useful expedition resource, be it for storing degradable food or simply recovering from heat stroke. We knew it was unlikely that the waterfall would still be flowing in the summer as we were not very deep here, but were pretty sure that at least a small amount of snow would still remain in the entrance, which could be recovered for drinking water if necessary.

Upon scanning our maps more closely, shortly after finding Freezer Cave, whilst searching for the elusive spring, we noticed a small black dot in the area where we thought Freezer Cave should have been, proving that it was not our discovery. However, with our location on the map pinpointed, we were able to quickly set a compass bearing and walk straight to the spring.

2.6.2 Team Members

Everyone...

2.6.3 Diary of Exploration

Ben Stevens, Brendan Sloan and Tim Webber climbed the large aven in Freezer Cave. The rock was quite crumbly and loose in places, causing a few interesting moments for the belayers! The aven ascended about 12m to a ledge, and continued up for a further 15m, to a window. There was a noticeable draught in the lower part of the aven which blew down the aven. At the level of the window it was clear the draught was coming through from a parallel shaft. The main aven looked to continue up for a further 5m+, but no passage was visible at the top, and it was not climbed. The parallel shaft was entered. Its base was found to be at the level of the window through. It was estimated to be about 10m high, with 2 narrow rifts heading off away from the main passage in Freezer cave. The source of the draught was unclear, and it was not possible to follow the rift passage due to rope lengths/rope drag. There were no visible leads in the roof of the parallel aven, although it was not climbed.



Ben Stevens climbing an aven in Freezer Cave Photo by Tim Webber

There may be a way on through these parallel rifts, and a further climbing trip may be able to find the source of the powerful draught noticed further down the aven. The bolts remain on the route, although further exploration may warrant further placements.

June 23rd 2006



Jeff Wade in the Freezer Cave dig Photo by Rob Eavis

Brendan Sloan, Ben Stevens and Tim Webber investigated a small, draughting passage off to the left just inside the entrance. After removing the chockstone potentially holding up the roof it just looked scarier and less supported than before. After an attempt to re-chock it, Brendan passed through and rechecked it with a few boulders from behind. Then the way on was partially dug to passable size, and pushed through a squeeze to a strongly draughting hole that required modification. It was a very promising site as the strong, steady draught was a constant 4 degrees Celsius.

July 5th 2006

Rob Eavis and Jeff Wade returned to this dig after hearing the above story, armed with capping gear and lots of energy after the rainy few days. The dug out way to the end was easy to follow, although it was very loose so care had to be taken at all times. The boulder blocking the way on was hit with one cap by Rob whilst laying flatout on his back in a squeeze. It was then pushed away and a small squeeze led to a short scramble up a shingle slope. This led to a small chamber, just big enough for the two to stand in. The back and left walls were solid, unlike the rest of the passage. A short back and foot up to the right into the roof suddenly popped into a walking sized phreatic tube!

This tube continued south west, into the hill, for about 20m before hitting a chamber 7m in diameter, 5m high. A passage entered from the east but this closed down after a few meters, blocked with calcite. A delicate climb by Rob up the western wall of the chamber reached a roof passage, although it was too small to enter and didn't draught.

The main passage continued straight ahead on the other side of the chamber. This soon turned into a large rift and after about 7m ended at a boulder choke, at which point the rift was about 1.3m wide and 6m high. The fill at the bottom of the choke was densely packed, but climbing higher up it was possible to feel the draught issuing through between gaps in the large boulders. However, due to the remoteness of this section of cave and the size of some of the boulders, a digging project here would be difficult.



Jeff Wade in the Freezer Cave extensions Photo by Rob

2.7 **Hermes Hole**

2.7.1 Introduction

Hermes Hole was the deepest cave found on the westerly slopes of the valley, above Freezer Cave. At an altitude of 1910m and with a very strong draught both at the entrance and at the current end, this may soon become a very interesting digging project!

2.7.2 Data

Code = FC335

N = 023 5201

E = 390 9471

Length = ~90m

Depth = 56m



Brendan Sloan by the entrance of Hermes Holes Photo by Tim Webber

2.7.3 Team Members

Brendan Sloan, Tim Webber

2.7.4 Diary of exploration

Written by Brendan Sloan

28th June 2006

When Hermes Hole was first dropped it was initially just thought to be a short choked shaft. The base of the shaft at -15m was choked, however, a strong draft emanated from a hole approx 2 metres up the west wall. This was climbed and found to lead to a high 4x4m chamber with a dubious roof and a tiny higher entrance (located on the surface, but far too small to enter, and to dig it would collapse the roof of the chamber). A strong draft came from a too tight rift to the north (too tight being 10cm, so even myself and Tim would have trouble). More promising was a drafting hole to the west, which lead to a frankly dubious pitch-head, with a very promising 3 second drop. Due to lack of rope, we beat a retreat.

29th June 2006

Returning the next day, the pitchhead was extensively gardened, and a fine 6x3m shaft (Chips pitch) was descended, via a ledge, to a floor. A series of rather loose climbs in rift passage lead to a total depth of -56m. At this point the passage is too narrow to pass due to a couple of rock bulges, but a chamber can be seen beyond and below the squeeze. To pass this point would require some hammering or capping (attempts were made with the drill and bolting hammer but the rock was too hard), which would allow a descent at about 40 degrees into the chamber. Using the disto revealed a depth of 6m within the chamber. There is a fairly strong draft coming up from the chamber, and the passage would appear to continue beyond.

The other interesting point is that all the caves explored on this side of the valley choked or pinched down at approximately the same depth. This may be due to a harder band of limestone, and this cave is the only one we descended that would appear to penetrate this level, and still be passable to cavers. Of the leads on this side of the valley, Hermes Hole is definitely the most promising, and well deserving of another visit.

2.8 Surface Work

Discussions were held from the outset on the best way to search for the potential caves. It was decided that small teams would search a selected area carrying enough equipment to drop most cave shafts with more equipment available if required. Most initial points of speleological interest were dropped using a lifeline and electron wire ladder if possible or else an individual team member would rig a rope either from natural anchors or from bolts placed using battery powered drills. Initially one or two people would search the shaft and call the other team members in if necessary. Caves were searched quickly for potential ways on and all that were deemed fit for recording were logged. This 'surface bashing' process was ongoing and at times relentless. The pace slowed when team moral fell due to lack of large discoveries but each night at base camp each team was boosted by the finds of other teams.

Individuals occasionally took day breaks from surface bashing to recover their energy as constantly dropping shafts and ascending back out when they failed to go anywhere was physically draining and more often mind numbing. Caves and shafts of substantial size offered an immediate temperature change from the surface and those that were deep enough and high enough in altitude were 'plugged' with snow, offering a chilly landing to those who abseiled onto them!

2.9 Future Prospects

Due to the vastness of Mavri Laki valley we knew that we would not be able to cover the whole area well in the time available. Therefore we decided to split the valley into two areas, divided by a prominent ridge running right across the valley. We concentrated our work almost totally on the south side of this ridge. Only in the last few days did one team begin to venture across the ridge to the northern side, nicknamed the "Promised Land". In doing so they discovered Parthenon Pot.

A few reconnaissance trips ran through the Promised Land in order to ascertain the amount of effort that will probably be needed in this area to consider it "done". The basic consensus was that the valley floor and the northern and eastern ridges would not take very long at all. However the western ride and the dividing ridge itself will be much bigger projects, requiring another expedition's efforts. These sides were riddled with tantalizing shafts, and although these teams had just spent 3 weeks dropping a never ending supply of similar shafts, these seemed more developed and bigger.

With the potential of the Promised Land and the few caves that were left still "going", the need for a return trip is evident.

3 Appendices

3.1 Expedition Members

Mark Brown – Expedition Food Officer

Katie Dent – Expedition Data Sheet Lady

Robert Eavis – Expedition Leader and Treasurer

Norman Flux – Expedition Historical Informant and Story Teller

Dave Harley – Expedition Big Tent Team Leader

Steve Jones – Expedition Ginger

Robert Middleton – Expedition Resident Tramp

Ben Morley – Expedition Backup Food Officer

Jen Plucknett – Expedition Plant Scientist

James Rhodes – Expedition Archaeologist

Henry Rockliff – Expedition Water Boy

Glen Sankey – Expedition Mechanic

Robbie Shone – Expedition Photographer

Brendan Sloan – Expedition Doctor

Adam Spillane – Expedition Hammock Supplier

Ben Stevens – Expedition Stove Maintainer

Jeff Wade – Expedition Equipment Officer

Tim Webber – Expedition Co-Doctor and Co-Photographer

Clare Youens – Expedition Replacement Story Teller



Mark Brown



Katie Dent



Rob Eavis



Norman Flux



Dave Harley



Steve Jones



Rob Middleton



Ben Morley



Jen Plucknett



James Rhodes



Henry Rockliff



Glen Sankey



Robbie Shone



Brendan Sloan



Adam Spillane



Ben Stevens



Jeff Wade



Tim Webber



Clare Youens

3.2 Training Weekend

Training Weekend

17th 18th March 2006

Horseshoe Quarry / TSG Hut

For a number of people this was to be their first expedition, and so it was decided to hold a short training session out in Derbyshire to ensure everyone knew the basics of some of the techniques that they would be needing out in the field. This included:

- Safe rigging and bolt placements for pitches and traverses
- Through-bolt placing
- Hand drilled spit placing
- Surveying techniques and book taking
- Hilti capping (optional extra!)

A group of 12 turned up on the snowy morning of Saturday 18th at the disused Horseshoe Quarry in Stoney Middleton Dale. It was a hands-on session; the wise and experienced teaching the young and keen. A team traverse was completed across a section of quarry wall, each bolt put in by a different member of the group. Also a very large boulder was slowly eaten away at by a small group of determined hilti cappers.

To keep in the expedition theme we organised a “Cretan” lunch (sort of), consisting of hard bread and tzatziki with vegetable soup.

The plan was to teach the surveying at the quarry after lunch, however the cold got the better of us (well, we were supposed to be training for Crete!) and most people retreated to the TSG Hut in Castleton to finish off the training. Here 3 groups were formed, each armed with a compass and clino, and a surveying game was played. It involved a loop of at least five stations being surveyed, using both the upper and lower levels of the main room. The group with the smallest loop-error computed in survex was the winner; a Cadbury's Cream Egg each being the prize.

1st Clare, Dave, Glen (0.77% error)

2nd Jeff, Ben M, Katie

3rd Jenny, Brendan, Rob M

Overall it was a very helpful training session and many thanks are due to the invaluable help from the experienced members present.

3.3 Environment

3.3.1 Geology

Written by Rob Middleton

The White Mountains (Lefka Ori) are located at the western end of Crete. They are a horst feature, and are dominated by limestones of different ages. The lowest rocks are the Plattenkalk series of platy limestones which date from the Jurassic to the Eocene. Thrust on top of these in the east and west are Triassic-Jurassic Limestones.

Mavri Laki Valley itself is a combination of re-crystallized limestones and marbles of the Upper Triassic, and dolomites of the Upper Triassic. On the surface this presents itself as two distinct rock colours of dark grey, where the caves were mainly found, and pale cream outcrops and ridges on higher parts of the mountain, on both sides of the valley, which also show karstic features but were generally more broken up and frost shattered. The area is regularly faulted, and shows obvious evidence of both recent glaciations, and regular freeze thaw action, with frost shatter being a major reason for the finishing of many of the shafts descended.

Much of the cave found was related to these rifts found frequently in the area. The calcite (pictured) was typical of much of the composition of the rift structures found, which, due to lack of vegetation, were clearly obvious at the surface.



3.3.2 Weather

During most days the temperature soared up to +30°C and cloudless days were pretty common. This made hiking in the middle of the day very tiring work, but people in general were well prepared for this. However at night it would get close to freezing and a few members of the expedition got very cold before borrowing extra clothes from the better equipped. Another surprise was the gales in the night which could be heard roaring down the valley before whipping away anything that wasn't securely fastened down.

We were glad to only endure one rainy spell throughout the expedition, but we were not happy that it lasted 2 days! The rain brought with it a dense fog, causing navigation to become impossible and making us practically "tent-locked".

3.3.3 Vegetation

The White Mountains are 100% limestone so there is very little surface water to be found. In the winter the whole range is completely covered in snow, all of which has melted by the summer, apart from some in the caves. Freeze-thaw erosion is extremely fast in these conditions and the landscape is constantly changing, with many of the slopes covered in deep scree.

These are not ideal conditions for most plants to cultivate and it immediately shows upon arriving to the area. There is no soil present, only dust or sand, so what little plant life there is either clings to cracks in the rocks or digs deep into the sediment on the few alluvial planes. Nevertheless, there were a surprising variety of plants spotted throughout the valley, many of which were in flower during our time there. Most had sharp, pointy leaves making them uninviting to fall on. The only plant that was useful to the expedition was Thyme which was occasionally used for cooking. Small patches of this could be found by the entrance of Freezer Cave.

Along with the lack of plant life was the absence of animal life. A few birds of prey soared the skies and some sporadic herds of goats invaded the area, but apart from that we were mostly alone. This was certainly an aid in some respects as it would not have taken long for our presence to attract rodents around our camp, had there been any on the mountain range.

3.4 Surveying

The finds of the expedition were all GPS logged and surveyed to varying degrees of accuracy, depending upon the importance of the find.

For the open surface features that did not lead far underground often a small map was drawn of the feature and any close by surface features. This was deemed necessary due to the extremely close proximity of some of the caves making a GPS ineffective at positioning each individually.

The depth of shafts that did not lead to anything speleologically interesting was generally measured by rope/ladder length, or a quick tape measurement was made.

All major finds were surveyed using Suunto compasses and clinometers to the accuracy of 1 degree. For distance measurements either a tape measure or a laser distometer was used, to an accuracy of 1cm. Passage details were taken simultaneously. The surveys were always connected into the cave's GPS location point.

3.5 Logistics

- Water

As mentioned previously, the main purpose of the rece was to search for the spring in the valley, one of the only natural surface water features in the whole of the White Mountains. It was successfully found and the local Greek farmers ensured the party that it flowed all year round. However, by the time the advanced party arrived in June, not only had it stopped flowing altogether, but it also looked pretty uninviting, with many bugs floating in it. Nevertheless water was there and that was all that was needed, so the team headed back to Chania to buy a few lengths of piping and some valves to set up a siphon from which to draw the water. Before leaving the valley they quickly popped into Freezer Cave to see if there was any salvageable water in there. Although the stream falling from the aven at the back of the main chamber spotted on the rece was now a mere dribble, there was an overall presence of water, with drips falling continuously off many stalactites. With this in mind, the team also bought a good handful of plastic buckets of varying sizes and a couple large plastic sheets to hang across sections of the main chamber, in the hope they would catch lots of drips.

As it turned out the engineering worked amazingly and the drips from Freezer Cave were sufficient to quench the entire expedition, with the spring water only used for the washing of clothes and occasionally people. Henry Rockliff, the brains behind most of the water operations, was certainly in his element! Once collected into the main buckets the water was then siphoned using a small tube into 2 litre fizzy drinks bottles for

carrying to base camp. It generally took 2~3 people to carry about two days worth of drinking/cooking water, meaning that the 2 hour return operation only needed to be done about 4 times a week.



- Base Camp

The base camp was situated in a depressed alluvial plain, roughly 200m in diameter. The ground graded from large pebbles at the upstream, western end to fine sand to the east, where we made camp. During the recession this area was riddled with a substantial stream network fed by the snow melt, the streams crossing and weaving, before finally sinking into the ground in small pools. These pools were now 2m deep pits, creating ideal locations for the kitchen and toilets.

When run at max, base camp housed 17 tents, however it could easily hold 100. It was definitely the most friendly and hospitable site in the whole valley. Unfortunately it was 2 hours walk from the track and the dust of the plain became part of everything after the first week!

- Hire Car

Due to the remote location of the valley we knew it would be worthwhile having a vehicle to use to transport people and equipment from Anopoli, and potentially to speed up the rescue of any injured people back down the mountain. Originally it was planned for us to be lent the use of a van by the Greek cavers. However, two days before the advanced team set off from the UK, the owner of the van had a bad biking accident and it was going to be impossible for us to use the van. Therefore upon arriving in Crete it was the advanced team's responsibility to arrange the hiring of a suitable vehicle which would be used to ferry people and equipment up the track from Anopoli. Unfortunately they got a Fiat Panda which, after 2 trips up the mountain, required enough maintenance to make it worthwhile getting a more suitable vehicle, such as the Suzuki 4x4 which we ended up using for the rest of our time there.

In retrospect the use of a vehicle for expeditions to the valley may not be a necessity. The locals in Anopoli were very willing to ferry our equipment up for us for a small charge and it was only around a 5 hour walk to base camp using an old goat herder's track. In the event of an emergency it may only take 2 hours for a fit runner to make it to Anopoli from base camp from where they could hopefully arrange for a local to drive up and collect the casualty.

3.6 Food

Written by Mark Brown

“An army marches on its stomach”

With this quote in mind I attempted the organisation of supplying food for a team of hungry, hardworking cavers for a month.

A lightweight expedition in the mountains by its nature has to rely on fairly basic provisions; people with picky tastes have to be warned of this beforehand. We were able to cater for vegetarians, but beyond this an ability to eat (and of course drink) anything is a useful skill.

The kitchen was a dustbowl so some care was needed in packaging items to prevent them filling with too much grit. Items such as carrots and chocolate and perishables were stored in Freezer Cave to avoid the sun.

Henry, Glen, Norman and I traveled out early to organise the vehicle and camp setup. We did a large shop and shipped a fair proportion of the food to camp in time for the arrival of the first wave of the main team.

The table below shows the total food purchased for the 343 man days in the field. Two thirds of this was bought at the start, then a stocktake halfway through and use of a spreadsheet allowed us to gauge consumption and make a list for a second big shop to cover food until the end of the expedition. Combined with some careful managing of the stores this meant there was minimal leftovers at the end, without too much rationing needed.

Several tins of Midland luncheon meat were left over – I think even the goats would turn their noses up at this stuff though!

Menu

A typical menu in the field was as follows:

Breakfast: Muesli or cornflakes with water or evaporated milk, and hot chocolate for a treat. Crackers and jam. Tea/coffee

Lunch: on the hill or underground generally, so crackers, biscuits, nuts and raisins, tinned meat or fish, salami, chocolate, boiled sweets.

Supper: Pasta, rice or instant mash with onions, carrots, tomatoes, herbs in a curry or chilli flavour, depending on the imagination of the chef. Tinned meat or fish could be added to this by the non vegetarians. This was occasionally followed by soup made from recycled pasta water. Every few days tinned fruit and evaporated milk for pudding.

Shops

The two main supermarkets in Chania were where we did the main shopping. We actually cleared the shelves of things like tuna, muesli and pasta so bear this in mind if expecting to buy large quantities. Very little was available outside Chania and the small shops on the way to Anopoli tended to be more expensive. Local cheese, honey, Raki and fresh bread were bought in Anopoli by people passing through en route to base camp.

Many items on the list could be cheaper if bought in the UK, depending on space/transport costs to get it to the field.

Transporting it.

All the food came to about three car loads and the best part of the 4x4 pickup load from Anopoli to camp. Roughly 13 man loads were needed to take the initial batch of food to camp, followed by a further 8 or 10 for the restock after two weeks.

Notes

Powdered milk didn't seem to be available anywhere so this would need bringing from home in future, it would be good with muesli etc and lighter than tins of evap milk. Orange/drink powder was similarly scarce.

The local cheese proved quite resilient to the heat and was quite a good change for lunch/snacks. Henry suggested that the local honey might improve the taste of the Raki; I suggested that this would be a waste of good honey!

A boost to the diet came on the day of the festival in Anopoli when a meal of chips, herby pork and salad was provided at the café. Unfortunately the liberal supply of beer, local wine (similar to sherry) and repeated shots of Raki meant that several members didn't keep it down long enough for digesting!

People passing through Anopoli were recommended to eat a salad or similar and have a beer or coffee at the café as it was very tasty and provided some vitamins that might be lacking up at camp. It was also thought good to give the café business in return for their assistance.

A good idea if using petrol would be to bring proper jerry cans from the UK. Local ones didn't seal so a proportion was spilt in transport (not pleasant in your rucksack) and contamination of the food was an issue.

Cooking

Normans double burner petrol stove never really got working well enough for a main stove (recommend servicing in the UK next time!) so an MSR XGK and primus equivalent did most of the work boiling water and heating the pressure cookers. Pan supports were built using rocks as the big pressure cookers were pretty heavy when full.

The two large pressure cookers were the main pans, with a medium pan for water boiling and a couple of smaller pans for sauce making etc. Pasta or rice was pressure cooked (Ben M learnt how to make wallpaper paste in one too!). Trying to get everyone to take a turn at cooking/washing up in small groups was encouraged. I certainly wouldn't volunteer to be sole chef – you have no chance of pleasing everyone!

Nutrition

It would be possible to establish calorific values of the items on the list and work out a rough calorie per man day figure. This could be useful in estimating quantities for future trips.

We aimed to make things reasonably varied and get a balance of fat/carbs/protein/vitamins/fibre into everyone.

Hydration is obviously a key issue in Crete so as many ways of making water interesting are good, eg soups, orange powder etc.

Water collection was a major part of the logistics as noted elsewhere, and minimal wastage in washing up etc. was encouraged.

If Andy Eavis can be encouraged to call at camp during the expedition, a feast may well come with him, it may well be chicken and chips, and there's certainly a possibility of alcohol as well!

Crete Food Purchases

item	packet weight	no. packets	Price (Euros)	total price
Soya mince	350	3	uk	
TVP mince	250	4	uk	
TVP chunks	250	3	uk	
Evap milk	tin	60	0.85	51
onions	3000	12	0.56	6.72
carrots	10000	1	0.87	0.87
peanuts	3000	5	2.75	13.75
tomatoes	400	16	0.62	9.92
	800	22	0.98	21.56
cornflakes	375	10	1.25	12.5
pineapple	800	4	1.34	5.36
peaches	800	3	1.34	4.02
frank sausages		4	3	12
large salami		4	5	20
sugar	2000	3		
herbs (small)	30	3		
luncheon meat	tin	56	2	112
herbs medium		1		
herbs large	70	3		0
curry powder	70	1		0
mash	500	4	3.35	13.4

item	packet weight	no. packets	Price (Euros)	total price
tuna	160	92	4.48	412.16
rice	1000	25	0.9	22.5
pasta	500	37	0.29	10.73
mayo	750	3	3.7	11.1
mackerel	240	29	2.22	64.38
jam	500	5	1.31	6.55
choc bars	200	68	1.52	103.36
choc spread	450	4	1.28	5.12
apricots	300	10	1.6	16
raisins	1000	10	3.15	31.5
sweet biscuits	225	48	0.75	36
crackers	pkt	62	0.85	52.7
muesli	500	47	1.99	93.53
bombay mix	500	1	4.33	4.33
lentils	1000	2	1.09	2.18
chickpeas	500	2		
butter beans	500	1	1.49	1.49
orange chick peas	500	1		
knor stock	pkt	1		
maggi stock	pkt	1		
blackeyepeas	500	1		
cooking oil	3litre	2	2.43	4.86
UHT milk	litre	3		
boiled sweets	500	1	7	3.5

item	packet weight	no. packets	Price (Euros)	total price
angel delight	packet	20	1.2	24
tea	1000bags	4	5.6	22.4
coffee	500	2	3.22	6.44
hot choc	500	3	2.58	7.74
salt	1kg	1	1.25	1.25
soup	1 litre packet	50	1.1	55
olive oil	1 litre	1	3.12	3.12
tomato puree	400	1	1.12	1.12
tinned fruit	800	10	1.34	13.4
cake		1		
tabasco	bottles	3		
detol soap	bar	5		
detergent	500ml	1		
bin bags		100		
sandwich bags	large50	2		
sandwich bags	small50	2		
tin foil		1		
clingfilm		1		
garlic	bulb	16		
ginger root	some	2		
			Total	€1299.56

3.7 Medical Report

Written By Dr. Brendan Sloan

The expedition team included one qualified doctor and several first aid certificate holders. Several members of the team were also active members of the Derbyshire Cave Rescue Organisation (DCRO).

The first aid equipment taken included a Sked stretcher, a spinal board and cervical neck collar, and also a box splint. The other kit, consisting mainly of dressings and bandages, was divided into 3 Daren drums. 2 of these were for general use, and one was the doctor's drum, with supplies including intravenous fluids, Guedel airways, and cannulas. No medication was taken as team equipment other than betadine and hypostop glucose gel. There was a 30 minute first aid talk for members before the expedition, as well as a practical session with the stretcher and back splint, which also covered basic pitch hauling and rescue techniques. As many members have attended DCRO training before this was more a refresher course than exhaustive training. All members were also encouraged to take personal first aid kits to treat problems such as blisters and minor cuts, with the team kit reserved for serious emergencies only.

Kit 1 - surface

Tufcut scissors	Gloves
Forceps	Savlon
Nomasol, Needles, syringe - for irrigation	Crepe bandage
SAM splint	Sterile gauze
3x conforming bandages	Non-sterile gauze
6 10cmx10cm Melonin	Alcohol swabs
9 5x5cm Melonin	Zinc oxide tape
Steristrips - 6 packs	Space blanket
2 x large dressings	Dioralyte
2 x medium dressings	Hypostop
2 x triangular bandages	Cotton buds
Individual plasters	2 x Extra large dressings
Light stick	

Kit 2 - underground

Tufcut scissors	Gloves
Savlon	SAM splint
Normasol, needles, syringe - for irrigation	Conforming bandage
Crepe bandage x 2	8 5x5cm Melonin
5 10x10cm Melonin	5 x large dressings
2x Extra large dressings	Small eye dressings
Medium dressing	Non sterile gauze swabs
Sterile gauze swabs	Hypostop
Alcohol swabs	Space blanket
Zinc oxide tape	

Doctors kit

Stethoscope	Vent aid
10ml syringe	2 x 5ml syringe
Needles	Normasol
IV dressings	Gloves
Steristrips x 2 packs	Tufcut scissors
Tourniquet	Cannulae 2x20G, 2x18G, 1x16G
2 x IV giving sets	Scalpel
Scalpel blades x 3	Guedel airways
Betadine	Sharps box
Non-sterile gauze	Dressings
Light stick	Hypostop
Cervical collar	2 x 500ml bags Volplex
2 x 500ml bags 0.9% saline	

Extra - SKED stretcher, spine board, box splint

During the expedition there was only one potentially serious injury – a fall whilst climbing. The team member in question suffered only minor cuts and bruises. All other injuries were minor cuts and scrapes, sunburn, and occasional blisters. Although the nature of the terrain – steep, rocky and scree covered, with very frost shattered rock in the caves – posed a significant risk, there were no sprains or twisted ankles, and fortunately no accidents underground. Due to the tight nature of the caves we explored, combined with the often loose and shattered rock, any accident would have been potentially very serious, and extraction of a seriously injured casualty extremely difficult. While there was a doctor in the nearest village, this was a 2 hour walk and 1 hour drive away, with the nearest hospital significantly further, so any serious injury would have to have been dealt with by the expedition members. It was for this reason that safety had to come first with every decision taken, especially while underground.

3.8 Equipment

Written By Jeff Wade

The sourcing of equipment was relatively easy due to the large amount of sponsorship money that we had been given. On top of this many of the items that we took out belonged to SUSS members or other cavers willing to help us out with more specialist equipment such as survey equipment, radios, drills and satellite phones, which would have outstretched our budget. An amount of money was put to one side to pay for any breakages of these items. Some of SUSS's equipment, such as some old survey gear, ladders and our stretcher were taken out as well. A lot of equipment was bought on an order to Lyon equipment as we were getting trade prices on the equipment we asked for. This order was the source for all our rope buying, 1200m in total consisting of 400m of 10mm for surface bashing, 600m of 9mm for once into a developed cave and 200m of 8mm for general tat. In addition to rope we bought some maillions, but no hangers or karabiners, as many of these were being supplied by expedition members and borrowed from the Papa New Guinea caving expedition that took place earlier in the year.

The equipment list of what was taken out is as follows:

Kit Taken	Quantity Taken	From
Green SG	8	H.R
Green H	7	"
Green M+H	20	"
Black/Yellow Bolt bag	1	R.E
Black/Yellow Petzl hammer	1	"
Black/Yellow Snaps	6	"
Black/Yellow SG	4	"
Black/Yellow M	12	"
Black/Yellow H	5	"
Blue Wires/Nuts	13	R.M
Blue Stitch Plate	1	"

Blue Nut key	1	“
Blue Hex	2	“
Blue Recemetric	3	“
Blue Snaps	4	“
Blue/Yellow H+M	10	R.M
Blue/Yellow M	5	“
Blue/Yellow SG	6	“
Blue/Yellow Snaps	14	“
Henry tool box	1	H.R
SUSS plastic sked	1	SUSS
Back splints	1	c/o T.W
Hilti rod	1	R.E
Trench tool	1	R.E
Lump hammer	1	Expedition
Chisels	2	Expedition
Ortlieb water bags	2	Expedition
SUSS wires	8	SUSS
SUSS ladders+ spreaders	4	SUSS
Petzl hammer blue bungy	1	M.B
Rocpec blue string	1	M.B
SG PNG red gates	36	PNG store
Etrier	1	H.R
Pulley	1	PNG store
Stainless Hangers	3	Expedition
Rope Protectors	7	2 SUSS, 6 RCS
Red lyon bags	3	PNG store
Green lyon bags	1	PNG store

Maillons	43	Expedition
PNG hangers	85	PNG store
Spit bolts	20	PNG store
Petzl hammer + rocpec adaptor	1	PNG store
Generator	1	Expedition
Gang plug	2	Expedition
Blue 240V plug	1	Expedition
Makita Drills (3 batteries + charger)	2	R.E,A.E
Bosch Drills (2 batteries + charger)	2	R.E
50m tape	1	H.R.S
Survey books	4	R.C.S
iv fluids	4	Dr B.S
Doctors kit	1	Expedition
Underground 1st aid kit	1	Expedition
Surface 1st aid kit	1	Expedition
Shower	1	PNG store
Normans stove	1	N.F
Pressure cookers	2	Expedition
Pans + lids	2	Expedition
Hilti Drill bit	2	Expedition
Drill bit long	6	Expedition
Drill bit short	6	Expedition
Primus Stove	1	B.S
MSR stove	1	T.W

Survey Gear	Compass	Clino
Mark Brown	1	1
Andy Eavis (dual)	1	1
Adam Spillane	1	1
Nick Williams	1	1
GPS (M.Brown)	1	
PNG Distos	2	
PMR's (2 N.Williams, 2 M.Brown)	4	

The equipment list was discussed amongst the committee and more experienced cavers to ensure that we were taking the most suitable equipment that we could. This was helped by talking to past SUSS members who had been to Crete in the 80's and had more of an idea of the terrain. Also one of our major considerations was for first aid as we needed to be self sufficient due to the fact that cave rescue is not as strong in Greece as in the UK. We therefore delegated the task of sorting the best equipment to take to Dr. Brendan Sloan and Tim Webber, who both have a large knowledge of what is the most useful medical equipment, considering the majority of the expedition team had a good first aid knowledge, but on the other hand could not perform an operation in the field.

Generally whilst out in Crete the equipment situation worked well and we had a small tent to store most things in. Some of the complaints include that there were not enough tackle bags, wires to naturally rig and spanners (mainly because people forgot to bring there own, which we did stipulate). However these were only minor problems and most people coped fine with the equipment we had got and there were no strong complaints.

However on a personal kit aspect things were not so good. This was mainly because most of us had been expecting the valley bottom to be fairly sheltered from the wind and generally sunny; this was definitely not the case. Many of our party, including myself, had opted for cheap tents and these did not cope well with the gales we experienced every evening, during which they completely flattened whilst you were sleeping! Also a few members had brought inadequate sleeping bags for the altitude, as at 1650m it got quite cold in the evenings. However, many of the expedition members helped each other out and we eventually got everyone kitted out more satisfactory. For group shelter

we had taken a gazebo that had been erected back in the UK and we thought it would be suitable. This was destroyed within four days of being at base camp!

The equipment we used for cooking was capable for the tasks we wanted to do, but we regularly had to clean the cookers due to the large amounts of dust blowing about which blocked the jets. The equipment used for water collection worked effectively and when we were running at full capacity of expedition persons, Freezer cave was producing around 80 litres of water per day. Some of the equipment that was set up in Freezer cave, such as the large drums and the siphon pipe, were left there for future years and for other cavers to use, as there are no other clean sources of water available. They were carefully hidden at the rear of the chamber to reduce the risk of discovery from walkers or farmers.

During the expedition there were naturally a few pieces of equipment that were damaged and anything that was not owned by the expedition was refunded to an amount in agreement with the owner. Some of the rope had to be thrown away or rub points cut out. However in general very little equipment was damaged or lost in comparison to our expectations.

The list damaged, missing or in situ list goes as follows:

Kit Taken	Quantity Before	Quantity Lost	In Situ	Permanent Owner
Green SG	8	2	0	H.R
Green H	7	0	1	“
Green M+H	20	2	0	“
SG PNG red gates	36	1	0	PNG store
Maillons	43	9	1	Expedition
PNG hangers	85	7	1	PNG store
Pressure cookers	2	0	Anopoli Bar	Expedition
Pans + lids	2	0	Anopoli Bar	Expedition

Survey Gear				
Clino	1	1 (Broken)	0	Adam Spillane
Clino	1	1 (Broken)	0	Nick Williams

One aspect of equipment that is not really covered above is the amount of through bolts that we used as anchors. We used much fewer than we thought we would. So to save carting them all home some were returned to the shop we bought them from in Chania, Crete.

The quantities used goes as follows:

Through Bolt Size	Start Amount	Final Amount
65mm	200	131
90mm	280	185
130mm	100	92

The main reason why so few bolts were used was because much of the caving was surface bashing and the majority of these caves could be rigged on naturals. It is also worth noting how few 130mm bolts were used and this is mainly due to their excessive length (in comparison to a spit). 65mm and 90mm were the most popular due to the fact that they were easier to pack into a bag and because they required less drill battery power.

Upon leaving, all the equipment was checked, the ropes labeled and the amount lost calculated.

The remaining cut rope lengths are as follows:

10mm Label	Length (m)	9mm Label	Length (m)
<i>AA</i>	40	<i>BA</i>	25
<i>AB</i>	19	<i>BB</i>	25
<i>AC</i>	25	<i>BC</i>	45
<i>AD</i>	60	<i>BD</i>	26
<i>AE</i>	10	<i>BE</i>	60
<i>AF</i>	20		
<i>AG</i>	8		
<i>AH</i>	17		
<i>AI</i>	40		
<i>AJ</i>	30		
<i>AK</i>	65		
In situ	20		0
Total	354		181

The quantity of shrinkage and the amount cut out due to rub points can account for the loss of rope above. The in situ 20m rope of 10mm can be found on the Icarus Climb in Parthenon Pot.

3.9 Archaeology

Written by James Rhodes

Unfortunately little was found in terms of archaeology during our month in Mavri Laki. The team found a small amount of 20th century pottery focused in one area and several bullet casings [pictured below] scattered across the valley, interestingly some with Arabic script across the base, again these date to the 20th century.

There is high potential for archaeology to be found in the White Mountains; most recent activity in the area from the Second World War is highly probable as western Crete was known for its resistance activity against the German occupation. It is equally likely that material relating to earlier periods of history could be found also, as Greece, in general, is exceptionally wealthy in terms of archaeological history and many sites within Greece are focused around caves. Furthermore the mythologies from Greek antiquity may have contributed to caves being foci for archaeological deposits. However, during this expedition little was found, a most likely explanation for this was our altitude. Being near the peaks of the mountains we may well have been too high for archaeological deposits. Environmental data concerning yearly snow cover at the level we were camped at may contribute to the reasons for lack of archaeological deposits.



3.10 Accounts

By Rob Eavis

This expedition was run for students, by students, so the emphasis was always on doing things cheaply, wherever possible.

During the initial planning period of the expedition it was very obvious that these students were going to be as vague as possible about their potential involvement with the expedition and deadlines passed without the blink of an eye. This did not make planning any easier. Therefore it was decided that an upfront deposit of £50 was to be the only way of securing ones position on the team. So much money has never been so easily parted from a group of students than on this occasion!

It was decided that the expedition costing was to be run using a fixed day rate including both the food and equipment fees, into which each persons deposit was placed. This at first does not necessarily seem the most logical way, as some people may only be at base camp for a very limited time but still the same amount of extra equipment would be need to equip that person, but it was chosen to enabled poorer members to come for as long as possible. However, because the expedition received such high levels of funding (from the numerous grant routes described below), this system did not operate as planed because the day fee only worked out at a very small £4 per day. This meant that once people had spent their money on the airfare, it was almost as cheap to stay out in Crete as it was to live at home. Therefore the people who were unable to stay for the duration of the expedition were in fact the non-student types who were restricted to work holiday allowances, and it was these people who were generally the richest, whilst the poorer students stayed for the full time Therefore in the future, if funding stays as similar levels, it may be worth using a set equipment fee for all members and then merely adding the living costs on per day, making it cheaper for the students.

The advanced team took out just over €2000 in cash with which to buy the bulk of the food and to buy the equipment that was planned to be bought in Crete. Unfortunately, due to the fact that they had to improvise with the unanticipated use of a hire car, this was not really enough, causing a few members to dip into their personal accounts. While it all worked out in the end, there is definitely something to be said for an expedition bank account that is easily accessible overseas.

Money flow whilst the expedition was running was in general very smooth, helped by the inability to spend anything whilst at base camp. One thing to note is that the receipts all are printed in Greek and any understanding of them once out of the shop is practically impossible. Therefore it has proved extremely beneficial for the accounting when people wrote a few details about the shopping on the receipts in English straight away.

The day fee was calculated before the expedition, using plenty of guess work and luck. However it did not take into account the £600 spent on the hire car, as this was not expected. A rough estimate of total costs was calculated in the 3rd week of the expedition and worryingly it seemed that this extra cost would put the expedition into minus figures. At this point everyone had already paid for all of their day fees so it

did not seem logical to make up the loss by simply increasing it. Therefore it was unanimously agreed for everyone to pay an extra £25 top up fee to make up the difference. This was not met with much disagreement as the expedition had been very cheap so far. In the end this has left the expedition with £118 in assets, which will be fully imputed into the next expedition.

No. of man days at camp	343
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Item	Per Day	Balanced Income	In Euros
Day Fee	£4.00	£1,372.00	2,015.28 €
Food	-£2.58	-£884.94	-1,299.85 €
Equipment bought in UK		-£1,101.71	-1,618.26 €
Equipment bought in Crete		-£318.00	-467.10 €
Lyon Equipment Grant		£250.00	367.22 €
Ghar Parau Foundation		£750.00	1,101.65 €
Sheffield Alumni Foundation		£500.00	734.43 €
Wilderness Award		£500.00	734.43 €
Pallet		-£431.63	-634.00 €
Pre-expedition Expenditures		-£77.20	-113.40 €
Hire Car		-£605.91	-890.00 €
Petrol		-£308.97	-453.83 €
Top Up Fee		£475.00	697.71 €
Total		£118.64	174.27 €

While certain aspects of the this expedition were not necessarily carried out the cheapest and most effective way, such as hire cars and gazebos, a lot has been learnt from this first expedition and the plan of attack for future expeditions will be strongly built upon many of these oversights.

3.11 Acknowledgments

Firstly we would like to offer our sincere gratitude to the four main sponsors of the expedition, namely:

- The Ghar Parau Foundation
- The Sheffield University Alumni Foundation
- The Wilderness Award
- Lyon Equipment

Without these the expedition would definitely not have been so financially accessible to most of the team members, and a student expedition is no place for limiting different student's opportunities.

Without the inexhaustible guidance, assistance and knowledge of a number of the Athens-based S.E.L.A.S. caving club, this expedition would unquestionably not have taken place. Their ability to give away areas of their homeland to a ragged bunch dirty English cavers for a month has been admirable to say the least, and we sincerely hope that they will be able to join us in future expeditions, be it in the beautiful White Mountains or elsewhere.

The hospitality, transport and friendship openly offered to us by the bar in Anopoli was extremely honoring, and we can easily see why SUSS back in the 80's used the same bar as their base whilst exploring the mountains. We are very thankful for all their help and we all are looking forward to drinking from their endless jugs of wine in the not too distant future!