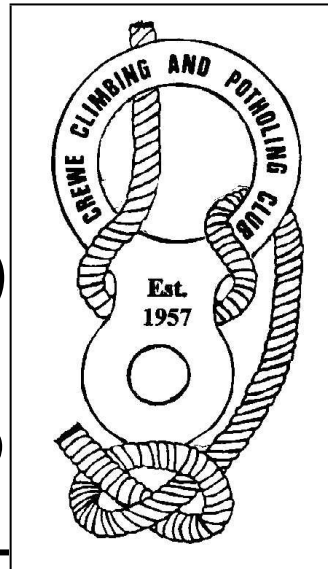


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Adventures in Penmorfa (A copper mine under the Great Orme)

Getting in:

Our first trip into the Penmorfa system for many years was made on the 27th of August 2000 after gaining official access. Since then for half an hour each Sunday morning the road next to the entrance is likely to be the busiest place on Llandudno's West Shore. Up to ten vehicles might arrive with somewhat odd yet friendly individuals dressed in scruffy apparel. Helmets, lamps and harnesses are produced, whilst ropes and climbing equipment are packed into bags along with food and drink. Most (the lucky ones) carry wooden boards with wheels! Entry to the system is gained by unlocking a gate and scurrying through 135m of pipe-work (750mm in diameter) recently inserted by the council to prevent collapses in the ginging (stonework surrounding the tunnel) blocking the regular flow of water. Crawling was bad for the knees and consequently the motley collection of trolleys was developed to make light work of the journey. Listen to the clatter of the other trucks (no overtaking!), catch the jocular remarks, relax and watch the pipes go by. Last one in lock the gate.

When you emerge from the pipe-work, park up and start to wade along the adit. If you are approaching 6ft tall the good news is that the water may not reach your crutch. The bad news is that your back and neck will be bent awkwardly for about fifteen minutes whilst you stagger down 664m of straight passageway. Check out the watermark on the wall and think of earlier explorers braving neck deep water. After 250m find the natural cavity in the roof that must have attracted some to have a "warm up" and perhaps a rethink.

Eventually the water level lowers to a more acceptable knee then ankle height as excavations extending upwards into a mineralised vein are reached, the north to south fault line of the "first rift." This is the point where the Penmorfa adit begun in February 1834 finally broke through on Oct 14th 1842 into older flooded workings. An estimated 66m of water was subsequently drained. Some areas lower than the adit, extending below sea level are still inundated. Avoid the worst of some water cascading noisily from above, on the other side a tally system is in place on the wall.

Log in by adding your nametag or risk being overlooked later and possibly getting locked in for a week or more!

There is a split in the adit at this point. Right soon leads to the filled in Vivians shaft and continues northwards with much wading to pass the blocked High shaft before eventually reaching a dead end after a total of 272m (This was just short of a summit of the Orme). Keeping to the left at the tally board a substantial waterfall requires careful negotiation to avoid a soaking, beyond this the passage leads northwestwards reaching further workings in fault lines at 20, 41, and 66m (The “second”, “third”, and “fourth” rifts). The passageway itself ends after a total distance of 75m. The workings off this level have been investigated although vertical stopes have made height gain difficult. Clearly there is much potential above but no easy way to get there. As a consequence, it is the system first encountered immediately above the tally board that has been explored to the greatest extent.

(This division into four rifts resulting from the extraction of ore from four fault lines is a simplification. There are a large number of mineralised veins, the majority running north to south. When these veins are grouped close together they form zones of mineralisation, as is the case in Penmorfa. The extraction of ore from these areas leads to the formation of large open spaces or rifts).

Getting to grips

The extraction of copper ore in the heart of the Great Orme has left a huge labyrinth of stopes, passages, shafts and caverns. Its size and complexity, full of twists and irregularities can be very disorientating. Dark corners and recesses lie everywhere. It is a stunning and inspirational Tolkien world. The Holy Grail of our exploration is to establish a connection to the surface 130m above, this could be made by finding a link through to one of the mines presently accessed from the summit such as Pyllau or Treweeks. The regular route up and down the “first rift” is marked by occasional rope-work and strategically placed compact disks. These incongruous items, no doubt containing all the knowledge possessed by humanity, act as surreal guides, although a wrong turn can still be made, even after several visits.

Early trips covered known ground with new members being introduced to old haunts. Gradually however, other areas were being probed, though a discarded coke bottle, a cigarette stub or a scrap of clothing would indicate we were not always the first. It was the frequency of our visits together with the use of bolting techniques and various ladders that would hopefully open up entirely unknown areas. In addition an accurate survey was started.

Visitors began to divide into two factions. A surveying team, and the ferrets. The slow methodical approach of the surveyors (Steve Lea, Ali and Tony Davis) will accurately map the complicated workings, perhaps for the first time. Eventually they should be able to point to those areas in Penmorfa that come closest to the mines presently descended from near the Orme summit, improving the chances of a successful link up. The ferrets meanwhile are sticking their heads into all the nooks and crannies that they can find, pushing back the unknown, always hopeful of finding something new.

Getting nowhere

A trip on November 5th summed up our ferreting endeavours. A short section of aluminium ladder would be used to allow us to get up into some previously inaccessible shafts. Working as a team the ladder was carried, pushed or pulled,

clanking and scrapping en route. Three times the ladder was set up below an uncharted opening, perhaps seated in a bolted sling to gain extra height. Three times Gaz would disappear off the top of the ladder whilst the rest of the group awaited a verdict. These operations took some time and on each occasion partly out of curiosity and partly from boredom I drifted off to explore. After gaining a certain amount of height I attempted to drift back in approximately the right direction to re-establish contact. At times, I switched off my light and sat still, listening for the faintest noise, watching for the smallest flicker before moving to another area. Each such sortie eventually proved successful, a triple whammy. A bemused Gaz kept finding his new area occupied. The news relayed to those still waiting below must have seemed bizarre. The lesson for the day was that the stopes, shafts and passageways reached so far in our warren all inter-linked, they were unlikely to yield much that was new. Perhaps the future lay in pushing the highest points of the system in the “attics.”

Getting up high

The “first attic” lay at the top of an impressive circular 12m. stemple shaft. Its regular double set of wooden beams providing an access route for the miners were still in place. It had been found and explored with great excitement. Unfortunately the workings above were disappointing, considering the grandeur of the access. In one direction a passage was blocked by a fall and in the other only a small network of blind stopes was found. A rope left in place down the shaft that day was frequently seen in passing and the shaft viewed fleetingly with some awe, but no further ascents had been made.

The “second attic” found on October 15th was several minutes from the previous shaft at the top of a small, damp climb containing a few stemples. It was hidden beyond a crawl at the far end of a stope. It was a space left after infilling rather than a shaft, one side consisting of stacked deads. This “attic” started as an open area with several ways blocked by large calcited rocks or mud covered boulders. It suggested that work had been done above with debris left to drop. Unfortunately no way up could be found, but dropping into a short passageway past clog prints and some bucket rims, a large abyss was encountered funneling down into a narrow section below. Immediately to the right wooden beams had been placed over the walkway supporting infill. These had collapsed, blocking the passage. Crawling underneath to dig looked suicidal but above the platform at the top of the debris slope a small hole in the roof proved interesting. It seemed to be the source of the supported material. In ten minutes a large amount had been easily extracted. At the same time, an unsuccessful attempt had been made to create a way over to a tunnel beyond the abyss. Some big rocks bridged the chasm holding up a vast amount of waste rubble. Large quantities were sent thundering into the darkness in an attempt to make a path. One keystone took with it several tons. It was clearly very unstable and too dangerous to cross.

The “third attic” found on November 12th was at the top of a seemingly separate network of damp passageways and small climbs. These began quite low down in the system near to the top of a waterfall. This issued from a rock filled cavity, the water eventually dropping to adit level next to the tally board. Our interest had been heightened firstly, by the fact that this network lay to the north the most likely direction in which a link upwards might be made and secondly, by a discovery. This consisted of an old piece of rope hanging out above a void. it was tied to a beam and looked as if it had been reached from above. There were also the remains of a boiler

suit nearby on which “Tom and Nigel 1978” was decipherable, written in clay. Who were they? Had they come down from the surface?

On a second visit I managed to climb up to the beam. Being belayed from below offered some security but little margin for error. Above, the area opened out and looked promising but the gritty slope I was climbing had steepened into a wall of tottering deads. The place felt creepy and very ominous. Within 3m of a possible ledge it seemed prudent to retreat. Two steps down and I had a lucky escape. A few rocks fell, they hit my helmet, dislodging the lamp but not me.

Getting it together

The visit made on December 3rd was to lead to a substantial change in our perception of the system. It started with the discovery of an alternative approach to the “third attic” with its beam and hanging rope. The connection made at a higher level close to a tiny pond known affectionately as Llyn Penmorfa, proved this “attic” to be close to the more frequented areas.

Whilst we were still contemplating this revelation Gaz was struck by a vague recollection. During our visit to the “second attic” two months before had he not seen a similar beam at the narrows down in the abyss? Half an hour later and we were there again. Far below we could see the beam garlanded in the reflective tape we had added. His memory was correct. We were happy to have established the connection but the quest for new territory via the “third attic” was at an end. My climb up the deads above the beam to within metres of where we now stood had been both dangerous and a waste of effort.

Our viewpoint at the abyss was immediately next to the collapse blocking the walkway and I still held a fascination with that hole in the roof at the top of the infill slope. In anticipation of another encounter I had put in my bag a garden trowel together with a makeshift aluminium extension for the handle. Soon put to work it loosened debris higher in the hole whilst allowing me to stay protected under the solid roof. The infill fell down in small bits with occasional minor collapses. As work progressed and the cavity enlarged it was necessary to partially enter the hole, anticipating each fall and retreating rapidly. Dave Flowers was by my side helping to push debris down the slope into the corridor and to intervene quickly if I was engulfed. The other spectators watched with interest from below dodging the larger projectiles. The trowel, which had bent several times, looked likely to fatigue before I would although I sensed it was time to be finishing. A few more quick stabs at full stretch, which removed another rock, were followed by a thunderous accolade. The roar continued for several seconds heightening our senses to finish with cheers and jeers. My excavation had vanished. A 1m long portcullis of a rock now blocked the way supported by a wall of others. “We’re not going near that for a few months” said Erik.

Perhaps it was time to go but I didn’t want to be greeted by that portcullis next visit. One side was undermined and the other given a hearty pull, the rock turned and picked up speed before crashing into the corridor. All the onlookers survived and seemed pleased, so I removed some more rocks. The loosened infill was now easier to shift and the pace of extraction picked up. An energy surge followed. With pounding heart and bated breath, not daring to tell anyone just yet, I continued pulling, rolling, pushing and kicking debris. The hole disappeared but I wasn’t finished. The

anticipated blackness reappeared but higher this time. There was an empty shaft above! I invited Dave to look, it was something to share, a buzz was discernible from the onlookers. Within minutes the extent of the find was revealed, the shaft a metre square was up to 3m high with a solid roof and the outline of a level running off at the top, filled with larger rocks.

The excitement continued when darkness was seen running down beyond the cleared shaft. It clearly led back to the walkway and would enable us to bypass the entire collapse. A final large unstable boulder was wheeled away down the far side and everything appeared safe. Checking carefully that there was a floor, I slid feet first down the debris and through a slight constriction to see what lay beyond.

It only took a few moments to realise where I was, even though I had never been there before. Straight away I was confronted by two bolts, a karabiner marked with red electrical tape and a rope leading off. It had to be the top of the 12m shaft. The rope dropping past the many stemples to the floor below immediately confirmed this. The news spread and soon everyone had pushed through the dig to take in the discovery. All three attics had now come together. It was a satisfying day's work.

Getting further

But what about the excavated shaft? Clearly the debris had been placed there from above. Had those miners as is likely, dropped back into the Penmorfa complex by some still to be found connection or had they climbed up to the surface in a system yet to be revealed? If we were in the "attic" was this shaft to be the "skylight" to the world above? Initial findings at the top of the shaft suggest the solid roof is in fact compacted infill. Further digging will need some thought and care but the potential remains.

Attention has meanwhile shifted elsewhere in the system. The waterfall issuing next to the start of the "third attic" is being investigated. Further waterfalls have been found in the "third rift" where new areas are opening up. Additional passages are even being discovered at adit level. The map of Penmorfa is being revised weekly. No doubt much lies around the next corner or just the other side of some rubble. Certainly there is enough happening to maintain our interest in the near future and perhaps lead us to that Holy Grail, the elusive connection to surface.

Access to the Penmorfa mine had been lost for many years. It was largely through the efforts made by the late David Edwards (Club Secretary) that an agreement was finally secured with both Mostyn Estates and Conwy County Borough Council. The Society is indebted to his work.

This article and indeed all the exploration recently done by G.O.E.S. members in Penmorfa should be seen as a tribute to him.

If anyone requires a sketch of this system give Ralph a ring.

Congratulations to Matt who recently got engaged to "Apple" Liu Xuan. No doubt this will lead to him extending his stay in China! Our loss "Apples" gain!

Stok Kangri

A trip is planned in August 2004 to this 6000m peak in Ladakh (N India) It is relatively straightforward (weather permitting) but those wishing to summit will need ice axe & crampons (& know how to use them!) Ralph led a trek to this area a couple of years ago so if you want further details give him a ring. Costs should be about £1500 for the 3-week trip. There is a meeting at The Bleeding Wolf on Mon 20 October 8 pm, if you are interested but cannot make the meeting let us know and we'll keep you up to date with information. We will need a deposit of £100 in the near future & flights will have to be paid for early in the New Year.

Meets.

Oct 11 Meregill & maybe Old Ing & Birkwith depending on weather & who comes.

Oct 12 DCRO Ex in P8 1000. (There have been about 8 call- outs so far this year!)

Oct 18 Merlins, Level 7, followed by DCRO meeting. (Anchor Inn 2pm)

Oct 26 Hurnell Moss (plus something for beginners)

Nov 9 N Wales TBA depending on weather

Nov 30 Notts 2. (plus something for beginners)

20 Oct Stok Kangri meeting 8pm Bleeding Wolf.

22 Nov "Xmas Dinner" Black Lion Butterton. Camping barn available (Gareth)

Liam has offered us a OFD 1 – 2 trip soon.

Nigel tells us that the Gypsum Mine trip is imminent. (Uttoxeter mid week evening)

Suggestion for Dec onwards to John M. Don't forget there is usually a mid- week evening trip (ring John) and The Coffin Dodgers are out a couple of times mid-week creating havoc in The Peak District. (ring Len or Ralph)

Philistines in Peak Cavern!!!

Ralph recently had an interesting day out. Peak Cavern was being used to re-enact the attack on Jerusalem by David (of D & Goliath fame) when his mob went in via the sewers! The production team had just returned from Morocco and Israel and were less than impressed with the new location. The soldiers who were running up & down the streamway dressed in miniskirts and sandals were even less impressed!

Newcomer to caving!

Well almost! It was nice to see Rob back in action after his enforced absence. He managed Lathkill Head Upper entrance with Emma & Ralph without once falling out with Ralph about which knot was best where! Ralph let him rig, de-rig AND carry the gear just so he felt at home!

*Lime Kiln Mine. Astbury

Now affectionately known as "Eric's Place" work continues in this unusual Limestone Mine. There are now two entrances (30m & 20m shafts) connected by an adit. The adit continues through keuper marl, brick lined in places, but is blocked by a collapse (possibly deliberate)

At the foot of the shorter shaft (a 60 degree incline for the last 15m) a further incline leads to a "sump". Plans are afoot to pump this out. Stop Press. The water level has dropped considerably (30m) in this incline.

***Tea Pot Mine Mow Cop.**

Another of Len's discoveries and a rival for the Jam Buttie Mines of Knotty Ash! A couple of short mines where clay was extracted for the production of teapots. One of the stopes appears to have collapsed.

***Mixon Mine. Morridge.**

Following an exploration of a short but interesting level early in 2003 Len managed to persuade the landowner to lift off one of the substantial concrete caps. A 28m shaft led down to water but a level at the 15 m mark led off & was explored. There is more to do.

***Hillhouse Mine. Blackshaw Moor.**

We have been working on this for a while now. The lower adit was lined with 1.3m concrete pipes but these began to crack when backfilled. The shaft close to the trig point was abandoned and the stow moved down to a shaft close to the adit. After only a few days work access was gained to the mine. After a short distance the passage forked, one appeared to be quite old- the other more recent. Black damp forced a retreat but a further attempt to explore and record will be made next spring. There has been a minor collapse in the shaft due to landslip.

***Royley Mine Blackshaw Moor**

In a moment of weakness Ralph agreed to Len's request video this. Apparently he came out rather shaken vowing to hang up his equipment forever!

*Access to all the above mines is via CCPC. Contact Len K. It is important that access is not jeopardised.

Manifold Mine(s).

Three levels were explored and one of them gated at the request of the National Trust who own the property. Plans are afoot to gate one of the others which is well decorated with miners artefacts in situ.

National Trust.

Thanks to Len's perseverance we have signed an agreement with the National Trust to explore, record and make safe the mines in the Wetton & Monyash area. Sounds like an interesting project. ALL ACCESS VIA LEN K.

Bateman Shaft. Lathkill Dale.

A group of CCCP members spent a day clearing the rubble out of Lathkill sough on behalf of English Nature. The complex is to be opened as a tourist attraction. English Nature are planning to divert the River Lathkill back down its "original" course- we'll have to wait and see. Several members went upstream to the "dam" Len is of the opinion that the roof here is unsafe due to the pressure of water!! Be warned.

Water Icicle.

John Shenton, Ann Austin, Len & Ralph took an oxygen metre down here in early October. Sadly the new lid does not seem to have improved the air quality.

Peak- Speedwell.

Work has continued throughout 2003 replacing or refurbishing the ladders in this system. The work is virtually complete.

