

JOURNAL OF THE



2017



Hello Readers,

Welcome to the 2017 edition of the Great Orme Exploration Society Journal, it contains as usual an assortment of articles for you to enjoy relating to investigations both underground and overground on the Great Orme and further afield.

This year has seen a momentous event in our clubs history, namely the reconnecting of Penmorfa with Pyllau workings. The 'Chronicler' has been busy, describing the surveying that has been taking place in Penmorfa over the past few years and the insights it has provided. This is followed by a detailed account of events leading up to the final breakthrough.

The popular series of 'Summer Walks' has led to the creation of several fascinating articles with some mysteries solved and others made. Pictures from 2016 and the itinerary for 2017 lie within.

Many thanks to all contributors.

Regards

Dave Wrennall – GOES Journal Editor 2017

In the 2016 Journal a picture used twice (black and white p1 and colour on p28) of 3 GOES members in period costume at the Extravaganza was courtesy of David Linton

Contents

The Penmorfa Chronicles Part 1: Surveying	p.3
The Penmorfa Chronicles Part 2: Looking for Pyllau	p.13
The Summit Golf Course	p.20
The Earth Remembers	p.23
The Mystery of Dante Roberts: Quarryman	p.27
Williamson Tunnels	p.29
Ty'n-y-Fron	p.31
Maen Sigl (The Rocking Stone)	p.32
GOES Summer Walks 2016	p.33
GOES Summer Walks 2017	p.35
GOES Committee and Contact Details	p.36

Front Cover: Dave Wrennall, Gareth Davies and Dave Flowers emerge from Penmorfa adit the day they dug through into Pyllau Mine. Further details in The Penmorfa Chronicles Part 2 'Looking for Pyllau'.

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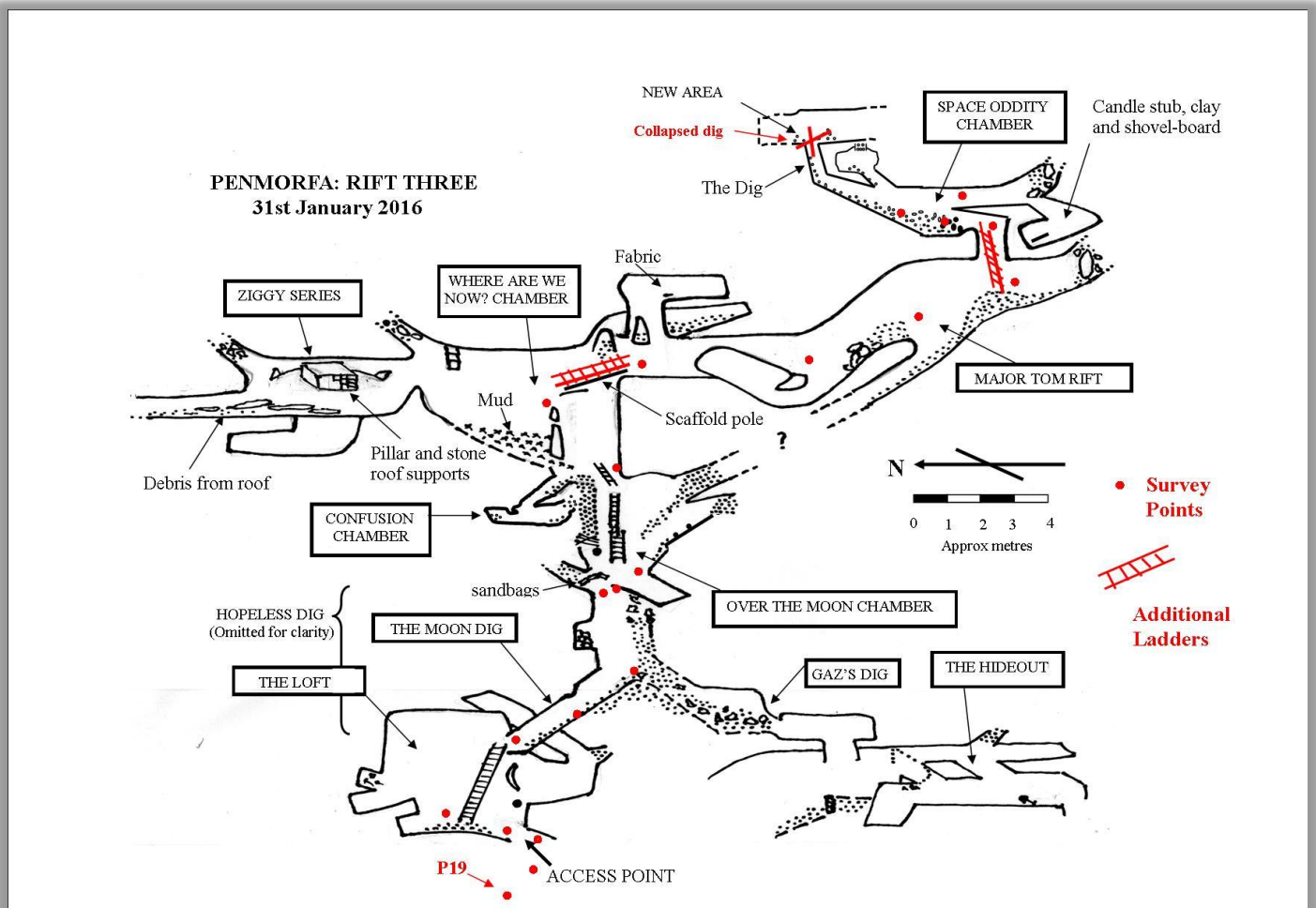
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The Penmorfa Chronicles

Part One: Surveying

The Waning Moon....

The Chronicles last appeared in the Journal of 2015. At the end of the story we were left concentrating on trying to bypass the unstable Moon Dig and contemplating a network of scaffold to facilitate safe access to the 'Bowie' workings above. Sad to report none of this came to fruition. These upper workings have been revisited on but a few occasions. On 11/10/15 Dave Flowers and I digging in the highest 'Space Oddity Chamber' successfully broke through into darkness. However, it was deemed wise to leave for a while before entering the unknown. On 31/1/16 when additional ladders were added in anticipation of exploration, we found the dig to be blocked, and it still remains so. The obvious inactivity in this area is largely due to the fact that our attentions had refocused on a survey of the entire Penmorfa system, indeed this last visit was part of that process, allowing us to survey back down through the Moon Dig workings, the diagram below shows the survey points.



NAMHO start us off....

Our Penmorfa surveying began following the National Association of Mining History Organisations' (NAMHO) conference in Bangor July 2014, when groups were shown around Penmorfa. One of the visitors Rostam Namaghi, (originally from Bangor and training to be a doctor in Sheffield) offered to do a laser survey of the system. Subsequently over the weekend of August 9th/10th Rostam and his friend Glen Sankey accompanied by GOES members surveyed from the entrance along the adit to the tallyboard before striking up into Rift One and plotting the regular 'visitor' route up to the higher workings and completing the Stemple Shaft, Devil's Head Chamber, Erik's Back Passage circuit.

The survey was undertaken using a modified Leica Disto which measures distance, inclination and magnetic bearing using a laser beam. The information is stored within the Disto to be downloaded later. A paper record of the data was also made, invaluable as a back up and to record additional facts about the various legs, location, specific features etc. As well as noting readings that might have been taken in error and need discarding.

Later in the comfort of home, a computer program called Surverx was used to produce a 3D image of the survey line which could be viewed as a plan or cross section from any desired direction.



By October 2014 GOES had purchased its own Disto which was calibrated in Elephants Cave. In the following months we began our own measurements with an outing in Rift Two around Brian's 'Visitor' Loop with several important offshoots. It was the start of a systematic survey of all the regularly frequented parts of the mine.

Methodology....

The basic method adopted was to produce a network of survey lines beginning from P1 at tramming level to radiate throughout the entire mine along all the regularly used routes. Suitable stations were chosen so that they might be discernible, often a projection or rugosity on one of the walls, these were given a chalk mark and numbered. . At important junctures a hole was drilled to place a numbered metal tag thereby creating a permanent marker (i.e. P8) which further survey legs could rely on.



Frustratingly, due to the inaccuracy of the Disto within the metal reinforced pipe-work the initial survey from adit mouth had been void. The coordinates used to position P1 were therefore arrived at by cross referencing an earlier survey done with tape and compass with data from mapping software. Its height was subsequently given as 2.15m above a nearby point on the adit floor which became known as 'Ground Zero'.

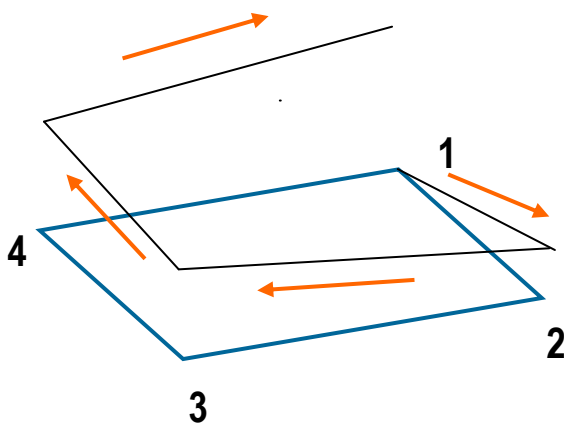


Permanent marker 8

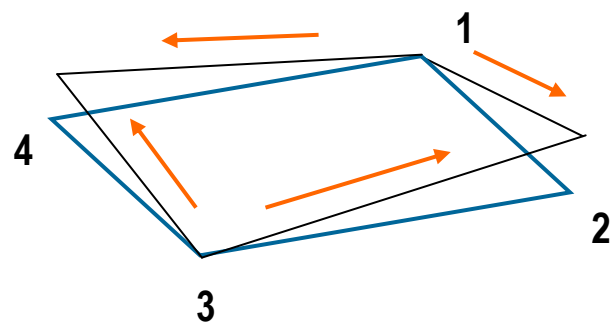
Clearly Ground Zero itself would be several metres above ordnance datum (AOD). Exactly how much would be a matter for conjecture. As will be seen later, when we were surveying the 'Attics' of Rift One and starting to close in on Pyllau workings, its exact height would become more important.

Surveying was a three man operation, one holding the back of the Disto on a chalk mark and aiming at the next. Often this was at a specific point on a gloved hand being held alongside a chalked target. It was more easily seen and avoided the issue of overshooting. It was then a case of bracing the Disto against the wall for stability, holding your breath to reduce shaking and pressing the shoot button when the laser was on target. The third man was there to write down measurements as they were read out and keep track of any irregularities.

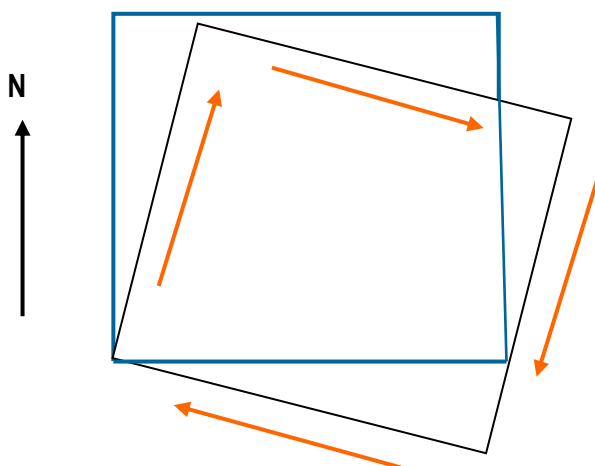
To reduce errors accumulating from possible inaccuracies in clinometer calibration a technique known as **leapfrogging** was employed where the station-to-station legs were: 1-2, 3-2, 3-4, 5-4 and not: 1-2, 2-3, 3-4, 4-5. The following diagrams illustrate how an error (+ 10 degrees in this instance) accumulates giving a huge distortion whereas leapfrogging reduces the error. (Completely cancelling it out if the length of forward legs equal the length of backward legs.)



Forward Readings: 1-2, 2-3, 3-4



Leapfrogging : 1-2, 3-2, 3-4



Interestingly errors in compass bearing do not accumulate. A survey done on a similar square using forward bearings with a +10 degree error would produce a survey that is square and closed but it would be skewed / tilted by the calibration error, from the start point. If it was done using the leap-frog method the results would be identical!

After a section was surveyed all the recorded measurements of distance, bearing and inclination were placed into a file named to reflect its location e.g. **P01_to_orecart** Here is a shortened version of that data set with the computer code ready for producing an on screen 3D image.

```
*begin P01_to_orecart
```

```
*fix \P01_to_orecart.P01 277045.00 383018.89 2.15
```

From	To	Distance	Bearing	Inclination
------	----	----------	---------	-------------

P01	1.2	8.049	310.07	-3.93
------------	-----	-------	--------	-------

1.3	1.2	4.237	160.67	-5.94
-----	-----	-------	--------	-------

1.3	1.4	12.799	276.80	-1.37
-----	-----	--------	--------	-------

1.5	1.4	6.642	129.94	-4.10
-----	-----	-------	--------	-------

data omitted

1.9	1.8	4.065	63.63	-33.57
-----	-----	-------	-------	--------

1.9	p15	13.187	195.86	31.21
-----	-----	--------	--------	-------

P15	2.1	4.388	217.01	33.81
------------	-----	-------	--------	-------

2.2	2.1	4.742	1.54	-24.31
-----	-----	-------	------	--------

data omitted

3.6	3.5	1.499	225.78	18.62
-----	-----	-------	--------	-------

3.6	3.7	5.050	11.15	-11.23
-----	-----	-------	-------	--------

3.8	3.7	5.451	131.58	-3.38
-----	-----	-------	--------	-------

3.8	P15	4.521	187.89	26.43
-----	------------	-------	--------	-------

```
*end p01_to_orecart
```

These coordinates for fixed points are normally calculated by the computer program, except in the case of P1 (P01) as explained in the text.

P1 is located on the east wall of the main tramming adit just south of the talleyboard and the split off to Vivian's Shaft.

LOOP ACCURACY

Brian's Loop from P15 and back to P15 was 70.13m long and consisted of 19 legs

The error was 0.37732m 0.20%

Horizontal Error 0.45240m

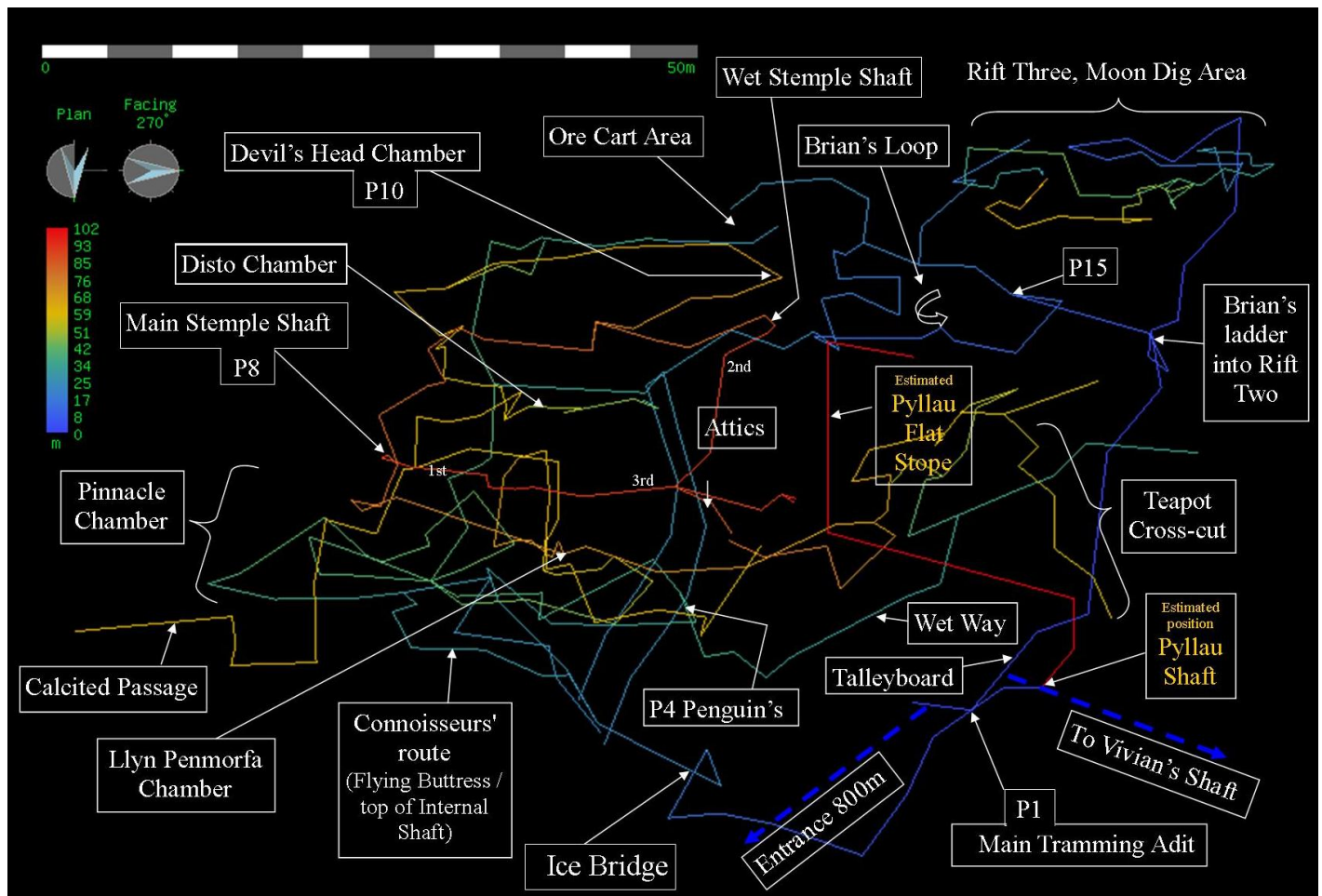
Vertical Error 0.08978m

Accuracy....

Feedback as to the accuracy of our surveying techniques was provided when closed survey loops were created. This is when a survey begins and ends at the same starting point. The resulting line plotted on the computer should also form a closed loop. Any gap between the first and last stations is called a loop-closure error. If no single error is apparent, one may assume the loop-closure error is due to cumulative inaccuracies. A grade 5 survey (which is a good one) requires loop closure errors to be less than 1%, all distance measurements made to 1cm, all compass bearing and clinometer readings made to + or - 1 degree (though typically + or - 0.5 degree is used in practice.) Our survey results far exceed these requirements. In the case illustrated, of 'Brian's Loop' from P15 back to P15 in 19 legs, the error was 0.20%. (Computer software can if required 'close the loop' by averaging possible errors throughout the loop stations.)

Combining Files....

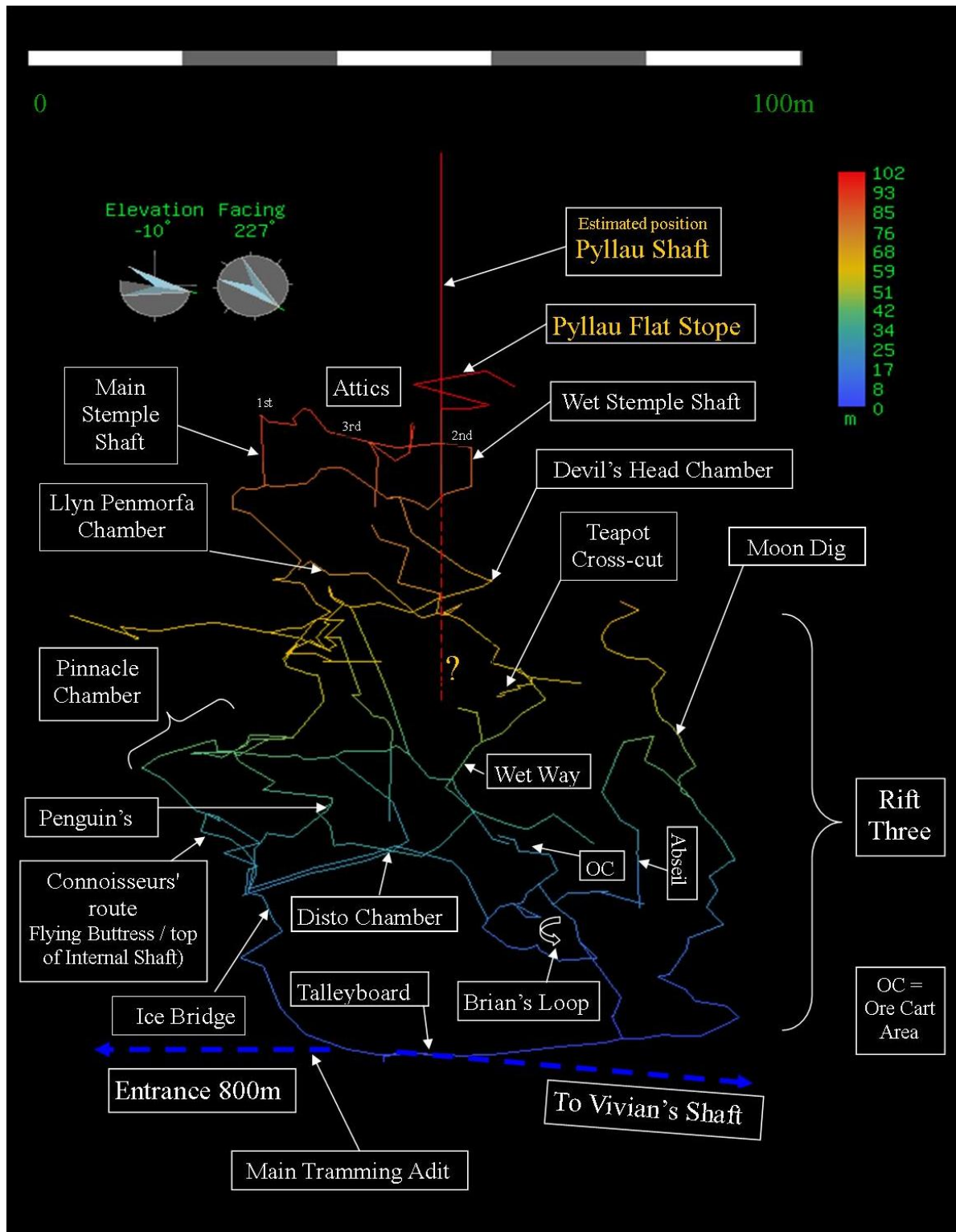
Data from the files of each section surveyed could be 'combined' using the Survey program to produce an on screen three dimensional image of all the lines plotted, which could then be viewed as a plan or as a cross section from any chosen angle or direction. This allowed the relationships between the different areas of the mine to be studied at leisure. It was aided by the heights being automatically colour coded and functions allowing permanent markers and/or station numbers to be displayed as required. Invaluable information about Penmorfa's layout was revealing itself, about the shape of the system, the connections, how far apart separate workings were, which sections of the mine lay above or below each other and which passages lay at similar heights within the different mineral veins.



PLAN

Those of you looking at the labelled plan and cross-section of our survey on a computer screen will see a jet black screen with vivid neon coloured survey lines which can be readily magnified for detailed examination.

Sometime in the future it is hoped that you might find the survey on the GOES web site in a form that will allow you to manipulate the data and view it from a variety of angles and so gain the three dimensional perspective, though it is unlikely to be labelled. Sadly those of you with a printed version of the Journal may be gazing at a dull black printout with barely discernible lines.



CROSS-SECTION

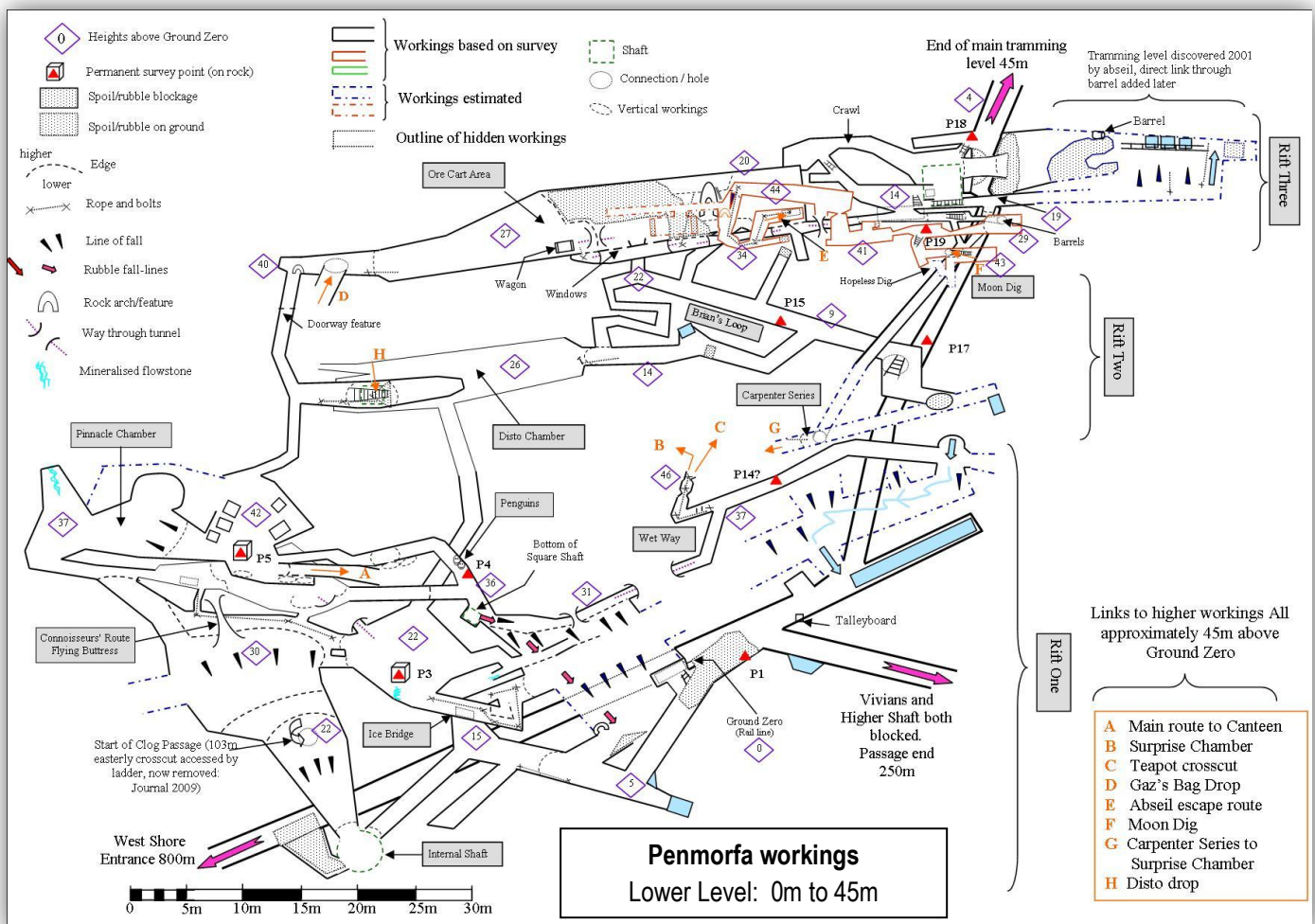
Even the 'experts', instrumental in conducting the survey and acquiring the data have difficulty in interpreting the mines layout from the myriad of survey lines. The challenge was going to be creating a more meaningful plan based on the survey data.

No doubt in the future someone will be able to wander through the workings and accurately produce a fabulously precise three dimensional scan of the entire system, perhaps receiving satellite coordinates despite being deep underground, with visitors exploring the system using their tablet equivalent to view the survey as they go. In the meantime we needed something usable by an explorer visiting Penmorfa

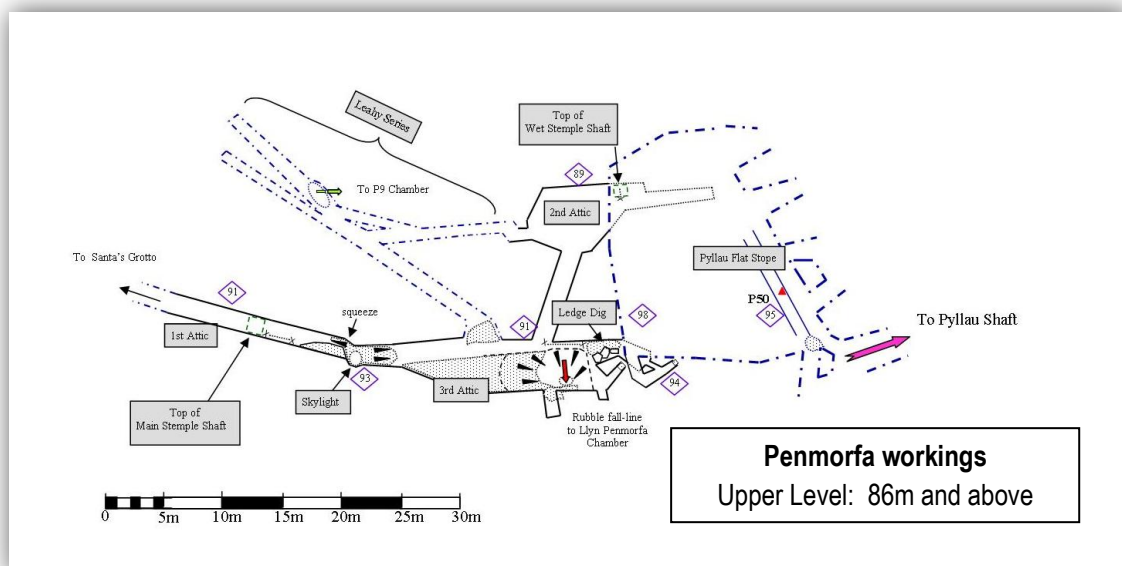
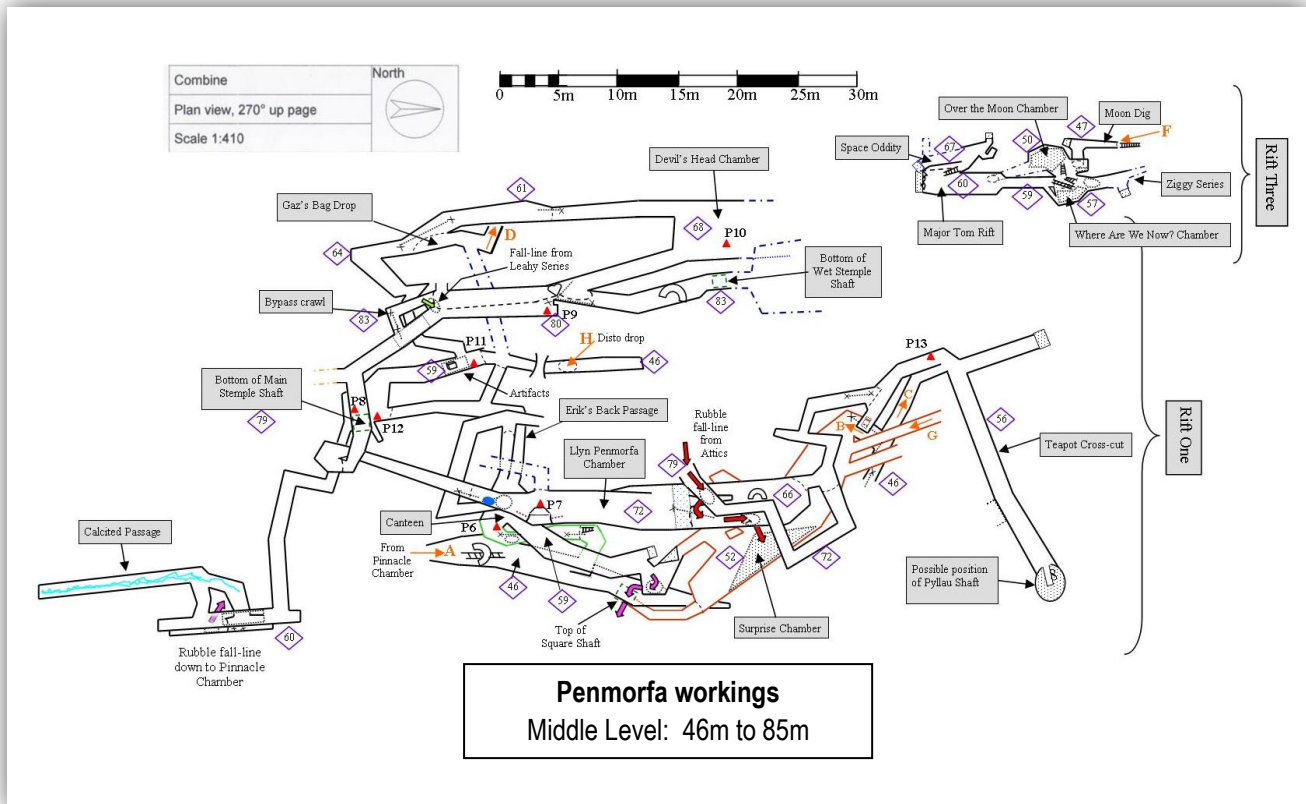
Following the lines....

Adding substance to the survey lines by hand proved difficult and mistakes couldn't easily be rectified and I had soon had enough of starting again on a fresh piece of paper. I resorted to Microsoft Publisher. It was slow and methodical but errors were easily altered. Enlargement reduced eye strain whilst adding fine details and the use of shading, colour, varieties of lines and shapes all led to better more consistent cartography.

At an early stage that I became aware of our survey's limitations. The survey line might be passing through a passageway bouncing from one side to the other, even cutting corners, or be crossing a large irregularly shaped chamber. Generally these details weren't noted and I have had to rely on memory. This is especially the case when adding dimensions.



Because many of the workings lie above one another it became practical to divide the system into layers based on height. This resulted in three maps. Lower Level: 0m - 45m. Middle Level: 46m - 85m. Upper Level 86m and above. Even so there were places within each map where it was necessary to offset passages and chambers slightly in order to clarify the situation, although the use of colour and line thickness has reduced the need for this.



maps are not the finished article. I am not happy with many aspects, especially the confusion of detail within Rift Three. Hopefully they will continue to evolve and improve. Even as they are, they should be a useful aid to understanding and navigating the system and will safeguard our knowledge for the next generation of explorers.



Visitors from the 2014 NAMHO Conference in Penmorfa. Rostam Namaghi at the rear.

The Chronology of Penmorfa Surveying

- 9/8/14 Rostam Namaghi, +2 Brian Edwards, Steve Lea.
Rostam brought two disto's with him and the group divided into two teams
Survey Of Tramming Adit from surface (RN, SL) and in Rift One P1 to P3, BE, +2?
- 10/8/14 RN, Glen Sankey, BE, Dave Wrennall.
P3 (Ice Bridge) up to P6 (Canteen), circuit of Stemple Shaft / Devils Head Chamber back via Erik's
- 12/10/14 Calibration of our club disto in Elephants Cave.
- 2/11/14 BE, DW, Dave Flowers **P01_to_orecart**
P1 (Tramming Level) Circuit of Rift Two, (Brian's Loop)
Three offshoots; to Ore Cart, foot of 'escape' abseil from Moon area and up to P3 (Ice Bridge)
- 9/11/14 BE, DF, DW, Steve Evans **rift_3_leg**
P1 (Tramming Level) to Rift Three, usual route up to below Moon Dig (P19) down via 'escape' abseil. Resurvey: Brian's Loop.
- 30/11/14 DF, DW. **Waterfall**
Wet Way: P4 (Penguins) to P7 (Llyn Penmorfa Chamber)
Three Offshoots; to waterfall outlet, to Surprise Chamber (top end of rope) and to 'garlanded post' in Attic above boiler suit.

- 14/12/14 DF, DW. **Attics_p07_to_p08_data**
P7 (Llyn Penmorfa Chamber) to P8 (Stemple Shaft), at the top of shaft (First Attic) dug through into Second Attic.
Descent via Wet Stemple Shaft to P9 back to P8.
One offshoot to 'garlanded post' below Second Attic.
- 11/1/15 BE, DF, DW. **Tramming_adit_to_Llyn_Penmorfa**
Pinnacle_chamber_to_ore_cart
Resurvey: P1 (Adit Level) to P7 (Llyn Penmorfa Chamber) Along line walked across Ice Bridge.
P05 (Pinnacle Chamber) through 'doorway' to Ore Cart Chamber.
- 25/1/15 BE, DF, DW, SE, Storm Bate. **Devils_head_route**
Resurvey: P9 to p10 (Devil's Head Chamber) to P6 via Erik's.
One offshoot: Gaz's bag drop down to leg 10 of Pinnacle Chamber to ore cart survey (Leg 10 was marked stone, preplaced above ore cart area on ledge accessed from Pinnacle Chamber.)
Long ladder placed in 'Disto Drop Chamber'
- 29/3/15 BE, DF, DW. **Rocking_stone_drop**
P11 (Rocking Stone) down abseil to shaft above long ladder. Disto accidentally dropped 14m into 'Disto Chamber' and badly damaged.)
- 7/1/16 BE, DF, DW. **P3-P5_connoisseurs**
P3 (Ice Bridge) to P5 (Pinnacle Chamber) via 'Connoisseurs' Route.
Two loops to test newly repaired disto, one within Pinnacle Chamber, one back to P3 after squeeze through at flying buttress.
- 31/1/16 BE, DF, DW, Gareth + Joe Davies. **p12_to_Space_Oddity**
Space Oddity Chamber down through Moon Dig area to 'P12'
It was later that day that we realised that there were duplicate P's of 8,9,10,11,12. All the originals lay in Rift One's Devil's Head Circuit, the copies on Brian's Loop and in Rift Three
- 5/6/16 BE, DF, DW **p01_to_rail**
Survey to 'Ground Zero': point on adit floor south of P01's rubble cone where metal rail track and trickle of water appear. P01 height altered to 2.15m above Ground Zero, and all fixed survey heights within system readjusted.
- 15/1/17 BE, DW **calcited_passage**
P12 to calcited passageway
DW **Teapot_crosscut**
P13 to mud blockage (Pyllau Shaft?)

Author: Dave Wrennall

The Penmorfa Chronicles

Part Two: Looking for Pyllau

An historical perspective....

During the early 19th century Pyllau Shaft high on the Orme at 141.5m Above Ordnance Datum (AOD) was the focus for the New Mine. Prior to the opening of the Penmorfa adit in 1842 much of what we have come to regard as Penmorfa Mine was in fact the New Mine being worked from Pyllau Shaft.

The opening of the new Penmorfa adit solved a major problem, it was documented that it allowed 198ft (60m) of flooded New Mine workings to be drained. Consequently much deeper areas, even below sea level (with pumping) became accessible and ore could be taken out to surface at West Shore with minimal effort.

Despite many years of searching by GOES and explorers preceding the club, a connection between Pyllau and Penmorfa has been elusive. The last lease to mine Pyllau expired in 1864. It's reasonable to assume that any Pyllau to Penmorfa link could have been lost as a result of neglect following this date. Exactly when a major collapse occurred within Pyllau's 'Flat Stope' that resulted in the ceiling falling onto the floor isn't known, but it has long been considered to be the place where a link was well and truly buried.

In 1911 Mr Charles Horsefield was given permission to prospect the New Mine without charge for a year. The mine was reported as being in a state of disrepair. His below ground efforts seemed to have concentrated on reopening the Penmorfa adit and on lower workings. There were no mine plans or sections available which hampered his endeavours. It isn't recorded whether there was a link between Pyllau and Penmorfa at this time.

The search using survey data....

Being unable to gain access to Pyllau Shaft (it being off our lease) our recent endeavours to find a connection concentrated on the most logical place to find one, the highest reaches of the Penmorfa system.

An area above Devil's Head Chamber could be climbed a considerable distance to an area of loose rubble and substantial menacing boulders. Crawling into these broken spaces was worrying. It wasn't a safe place to poke about in, though it was generally agreed that the nature of the rock was 'Pyllau like'.

The Attics were higher still and more easily reached. Various parties over the years had rummaged around in them looking to progress further upwards, extracting muddy rubble from various alcoves, prodding at large boulders with scaffold poles and hammering at calcified rocks in the hope of making a discovery.

Exactly how close we were to Pyllau would hopefully be revealed by our surveying. Not having access to Pyllau the position of Flat Stope had to be calculated from Andy Lewis' plans. It was part of the workings accessed off Pyllau Shaft at 101.8m AOD, and the tramming level at the northern foot of the stope was thought to have the same height. The top end of Flat Stope would obviously be higher perhaps by 4.0m, at 105.8m AOD.

It seemed clear from our surveying that the Attics lay below Flat Stope, but how far below? The height of the Attics above the survey's starting point, 'Ground Zero', a rail line at tramming level, was 91.0m. However, how high Ground Zero was in relation to Ordnance Datum wasn't known, partly due to a failure of the Disto to accurately read

along the metal reinforced pipe-work . Outside, in the middle of Abbey Road there is a point recorded as 5.6m AOD. Allowing for a drop of 2.6m to the entrance and a height gain of 1m in ever 200m along the 800m adit, Ground Zero might be deduced as being 7.0m AOD.

This adds an additional 7.0m to all our height readings within Penmorfa, the Attics were now 98.0m AOD. Depending on where we actually started digging in relation to the tilted Flat Stope of Pyllau we could be between just 3.8m to 7.8m of finding a connection. This enlightenment focused our efforts once again on looking for a link.

The Great Shale Band....

This discontinuity in the rock strata has long been regarded as a possible barrier to reconnecting Penmorfa with the Pyllau workings. In his June 1856 Report, the Mine Captain (Chief Engineer) of the Old Mine, William Vivian refers to '**the great shale, nine yards thick, which was so hard as to require blasting to sink through, but is so decomposing a character as to render it necessary to secure the shaft with timber after sinking through it**'.

This troublesome bed dipped from south to north. It was responsible for blocking the Pyllau shaft at 83.8m AOD and as expected was found slightly higher in the Attics, a sloughing off of crumbly material from the 'Skylight' at 103m AOD being attributed to it. (This has created a substantial blockage separating the Main Stemple Shaft in the First Attic from the workings in the Third Attic. Although this has been dug thorough it regularly fills with falling material.)

If a route between Penmorfa and Pyllau did once exist through the problematic Great Shale Band it would undoubtedly have deteriorated and probably collapsed Adding this fact to the huge roof fall seen within Pyllau's Flat Stope, the most likely area for a connection, suggested a breakthrough was far from certain.

UCET lend a hand....

On 4th July 2015 there was trip to the attics captured on video by Dave Flowers

<https://www.youtube.com/watch?v=gQutHGih9F0>

Breakthrough

in the attics, Penmorfa workings, Great Orme mines, Llandudno 4-7-15

It was a rare Saturday outing to accommodate members of the United Cavers Exploration Team. The starting sequence shows Mike Leahy of UCET walking nonchalantly across a tiny ledge precariously attached above the abyss in the Third Attic to check out the far side. It was an area which had probably been visited before though not often judging by the clog prints and certainly not by me. The riveting video footage and his subsequently remarks that the area looked promising for a dig would lead to our subsequent interest in this area. How right he would be.

The video continues with Mike clawing his way into a new set of tunnels by breaking through an area of calcited rocks and wet rubble in the Second Attic. (It was an area that been dug at in the past but unsuccessfully.) Amazingly after investigating the find, which included a large hole dropping to mysterious workings below, an easier way was found to exit the 'Leahy Series'. Brian Edwards had earlier heard faint noises around the corner near the abyss in the Third Attic and sure enough the explorers eventually excavated a way out at that very spot.



On 26th July GOES were back. The hole found on the last trip was descended and found to drop into our main visitor route in the P9 chamber, just after the 'Bypass'. A dig was then begun in the Second Attic just above the Wet Stemple Shaft, this being regarded as the nearest point to a large depression known to exist in Pyllau's Flat Stope. Some stubborn rocks were removed from a high alcove along with much spoil, it looked promising. The following weekend UCET joined us to push the dig some more. The weakness was dug up to a pretty grotto but sadly there was no way on and another lower line attempted was merely heading back to the attic again. The champagne was put on ice.

Day One: Ledge Dig begins...

It was the 5th of June 2016, almost a whole year later, before Dave Flowers Brian and myself arrived back in the Third Attic interested in having a look at the area Mike Leahy had highlighted in the video. Dave F got to work with his drill to set up a safety rope, the tiny ledge to the distant northern shelf seemed far too precarious and undercut for us to cross without one.

Meanwhile Brian and I entertained ourselves spanning the big drop with a ladder to reach a small tunnel seen on the far side, checking if it was a dead end. The passageway was, the person crossing survived!



Top of Wet Stemple Shaft. (DF)



Bosch Uneo in action (DF)



Brian looking after the ladder

Once our safety rope was in place, the flinging of stones, large rocks, and mud began in earnest with more sopping wet grot and rubble gradually falling to replace what was removed. Initially we appeared to be uncovering a wall though it became less distinct. It was very messy but fun hurling stuff into the blackness for it to stick on the glutinous slopes below or rumble down into the distance towards Llyn Penmorfa Chamber. We left feeling that progress was being made.

The drill in action, our antics on the ladder and the start of digging can all be seen on video at

<https://www.youtube.com/watch?v=7cz9pM6Rce4>

The ledge dig, Great Orme Exploration Society , Llandudno mines 5-6-16

Day Two: Surprise Chamber and a rock for Brian....

Three weeks later the same team were back. Before any more large rocks were thrown it was thought prudent to check were they were actually ending up. After dropping to the back of the Llyn Penmorfa Chamber most continued down the long mud bank to disappear through a circular hole in the floor. An abseil showed their final destination to be 'Surprise Chamber' located off the Wet Way route at the top end of the safety rope. We were pleased with this, there being plenty of space, no passages were being blocked and no artefacts were getting damaged.

Dave and I returned to the dig leaving Brian in Llyn Penmorfa Chamber to keep an eye on how our projectiles were travelling. We were just able to communicate down through the 'marble run'. Digging was extremely muddy but there were a lot of rocks, some quite a size which gave us hope that we weren't just digging material from the Great Shale Band but from workings above it, namely Pyllau. Thankfully there was no need to leave the security of a solid roof because as material was extracted and lobbed into the void more wet stuff gradually fell towards us. The noise of more rubble higher up avalanching was encouraging. One especially huge rock took some shifting after it fell, but with a scaffold pole lever and furious undermining it was cajoled to the edge and with an additional warning to Brian, forced over.

Catch the action on <https://youtu.be/C79pWLV3A90>

The ledge dig, round 2. Great Orme mines, Llandudno 26-6-16

Day Three: A revelation and spadework....

Despite the fun we were clearly having in the video, the mud did little to encourage anyone else to join us for our next visit on July 17th, only the same three stalwarts arriving, keen to do battle.

On route up to the dig we checked out the fall line of rocks tossed down a shaft in 'The Canteen'. We determined that they flew out of the Square Cut Shaft near Penguins and from there rolled down past the Ice Bridge to finish just above tramming level, a useful stopping point before being loaded on to ore carts. Why is this important? Perhaps because immediately next to the Canteen's shaft on the other side of an unstable area of spoil, with a handshake gap, lies Surprise Chamber. If there was once a better link between the two, rocks thrown from the Attics would with minimal encouragement have travelled down through the entire mine to adit level. Where better to have a link through into Pyllau than the Third Attic with its ore chute direct to Penmorfa adit tramming level.

Our previous excavation was found to be covered in a huge amount of wet mud that had flowed down from above. Thankfully we had brought a spade which soon proved its worth, gradually revealing familiar boulders under the slop. There were rocks as well, and one large wedged rock was especially troublesome and took some thought as well as muscle before scaffold pole levers led to its demise. This freed up more rocks and led to further mud which we continued to clear. The



Back at the sharp end. (DW DF)

suggestion of fresh air at one point, between slippages, increased our motivation. We left leaving a lot of irregularly stacked rocks that look easy to prod down. Something to look forwards to.

https://youtu.be/IK1_RXk2ccM (The ledge dig, round 3. Great Orme mines, Llandudno 17-7-16)

Day Four: Encouraging signs....

The same three clowns were back on stage the following Sunday. There was plenty to get stuck into at the dig. Mud, shale and rock had poured in from above to annihilate last week's efforts, producing a mound of squelch from floor to ceiling. Great journeys are made with a first step, and so it is with the first shovel full, then another and so it goes on. Well not exactly the same, mud sticks to the shovel and it becomes ridiculously heavy, wellies get stuck and come off, fingered gloves become mud mittens and gradually we become muddy monsters again. Rocks, especially large ones, are a distraction and provide entertainment, whilst rotating our efforts keeps our sanity, or what's left of it. After a few hours of battle we found ourselves focused on trying to dislodge an accordion of large wedged rocks just within scaffold pole range. We were unsuccessful, but before leaving we took some measurements using the Disto into the darkness beyond the rocks, recording over 4.5m, this, the lack of falling rubble and the fact that the air was definitely fresher strongly suggested we on the verge of finding something new.

<https://youtu.be/QCyyATXfaIA>

The ledge dig, round 4. Great Orme mines, Llandudno 24-7-16

Day Five: A day to remember....

Our visit on the 21st Aug turned out to be one of the most notable in the club's 31 years of existence. The very day the Rio Olympics closed, the diggers of Ledge Dig struck Olympic gold and the much talked about, looked for and long anticipated link between Penmorfa and Pyllau finally became a reality. Our surveying had shown us to be close, Ledge Dig's avalanche of mud and rubble seemed to have dried up, the air seemed fresher, it was all very positive. Those arriving that Sunday morning were looking forwards to a breakthrough. There were the usual performers, Dave Flowers, Brian Edwards and myself. We were also joined by Gareth



A clean and optimistic team. (GD DW DF BE)

Davies, back from illness and keen to be involved. Dave Broomhead was on hand to take some photo's of us all before we went in, a measure of our quiet confidence that today was the day.

We found Ledge Dig much as we had left it. Soon we had clambered up above the well wedged boulders we had exposed last time, into a roomy dry dome with shaley but solid walls (Great Shale Band?) The roof was a huge mass of solid rock. Gaz and Dave Flowers eventually widened a small horizontal tunnel in the shale below it to an area that they could just sit up in. It was now possible to gaze back over the top of our roof rock at the seemingly endless flat crevice created when it had detached from its bedding plane. I took over digging, clearing some rubble from the crevice, all very arduous in a confined space, but unfortunately the gap was just too tight to crawl through. Things looked terminal.



Digging under the rock roof. (DF GD)



Making progress. (DF)

We then realized that the left edge to our roof rock swung round into more shale and by laboriously extracting that we were able to make progress alongside the bedding plane

without actually being in it. Dave Flowers was at the sharp end when after 3m or so he was lucky enough to break into a vertical cleft. Standing up in this cleft, it was possible to peer over and down the gigantic sloping slab that dominates Pyllau's 'Flat Stope'.

There was a lot of whooping and huge smiles as Gaz and I joined him in the stope and our jubilation continued as we clambered down the massive inclined slab to the tramming level / walkway at its foot. It had been well over 20 years since Dave and Gaz had last been in Pyllau and this was my first visit but eventually we found our way to the elusive Pyllau Shaft. In high spirits we exchanged anecdotes and took photos before retracing our route. Back at the breakthrough we encouraged Brian, still below the dig on safety duty, to join us but to no avail. Exhilarated by our success the journey back down the Penmorfa workings and out to surface along the tramming adit seemed easier and shorter than usual. It had been an historic day, one we had thought about for many years and will remember for many more, our Holy Grail had been discovered at long last. The front cover of the Journal shows the successful team emerging.



In Flat Stope looking at the access point (DF)

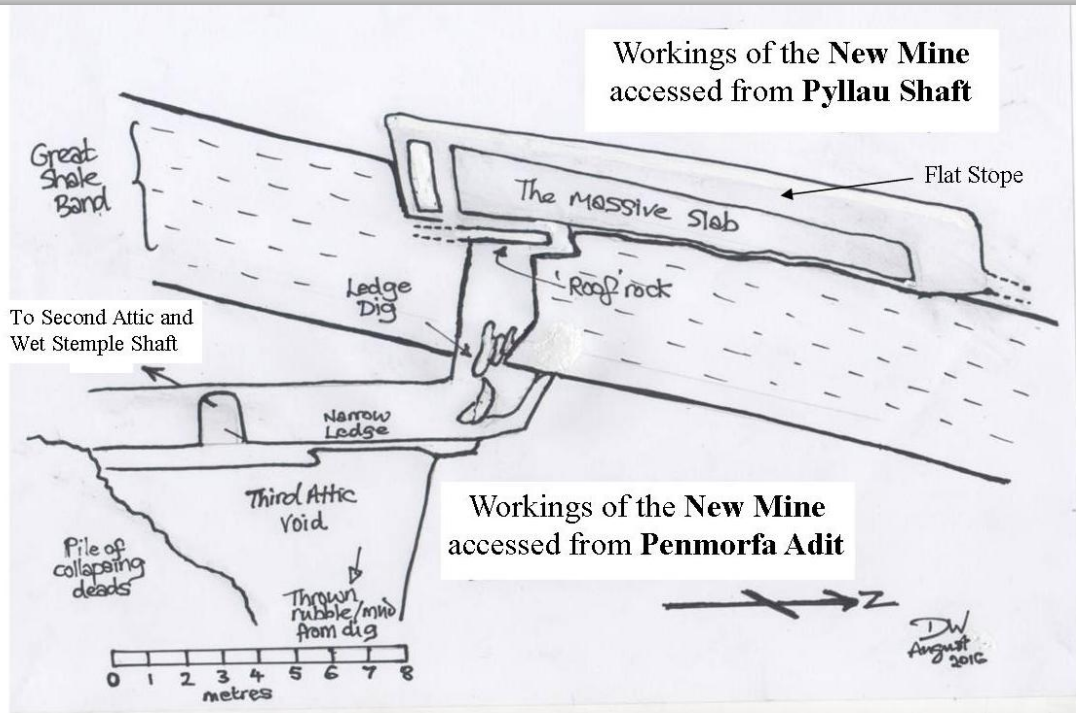
All the action can be seen on: <https://youtu.be/z-rTi0A308g>

The ledge dig, round 5. The big breakthrough. Penmorfa workings, Great Orme Mines, Llandudno 21-8-16

A video taken during an illicit trip into Pyllau workings in 1995 can be seen at:

<https://youtu.be/p4y7yc0iue4>

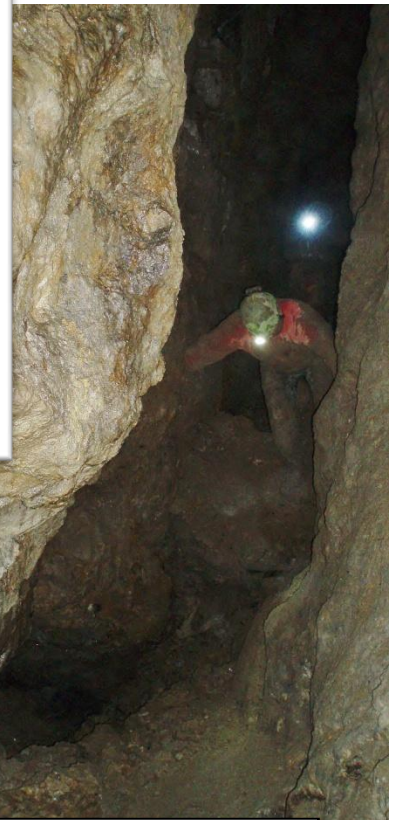
Pyllau workings 23/7/95 Great Orme mine, Llandudno.



Rough sketch of the link established between Penmorfa and Pyllau workings through the Great Shale Band.



All smiles at Pyllau Shaft (DW GD DF)



Exploring Pyllau workings (GD DF)



Pyllau Shaft with nearby clog prints and windlass



Author: Dave Wrennall

The Summit Golf Course

It is well known that the Orme used to have to an 18-hole golf course on the summit and that the course closed down in World War Two with the "Dig For Victory" campaign. Parc Farm has today replaced the golf course, though traces of the course remain on the farm. But what about the history behind the course?

Work on preparing the Great Orme Golf Course started in 1904 largely driven by Harry Parker of the Mostyn Estate Office. In November 1905 a meeting was held at the Royal Hotel to establish a golf club on the new links on the Great Orme plateau. Lord Mostyn was elected President, while Walter Wood was to be Treasurer with Harry Parker appointed Hon Sec.; James Haworth became Chairman. About 50 members were enrolled at a subscription of one guinea (£1.05) which was regarded as very reasonable. John Owen and his brother were to be responsible for the links and would employ Mr A. Joseph as golf pro. **No play was to be allowed on Sundays!**

The reasonable subscription did prove to be an attraction as within twelve months the membership increased from 50 to over 100. By 1910 there was a membership of 170.

Six months after the club was founded, we read "The course itself covers close on 160 acres of land surrounded by a wall seven foot high. It was

laid out by John Morris of Hoylake and it is of a total length of 5,128 yards with 18 holes from 165 to 520 yards, plentifully supplied with natural bunkers. The bogey is now 82."



Early view of players on the first tee, club house in the background.

The clubhouse was originally the old Telegraph Station on the summit of the Orme, but in 1908 a hotel was opened there and the clubhouse shared the hotel premises. The first tee was only 15 yards from the hotel's entrance: highly convenient! Another benefit was that Sunday golf was now allowed by popular demand.



Panoramic across the course: DW

In the following years a good number of improvements were made: holes were altered and new bunkers were added. The following table describes the golf course and shows how much the course was altered between 1906 and 1914.

HOLE NUMBER	1906		1914	
	HOLE NAME	DISTANCE	HOLE NAME	DISTANCE
First	The Paro ¹	267 yds	The Quarry	215 yds (4)
Second	St Tudno	184	St Tudno	311 (4)
Third	Lighthouse	350	Lighthouse	337 (4)
Fourth	Hades	440	Lynas	410 (5)
Fifth	Puffin	520	The Long	482 (6)
Sixth	The Rough ²	210	The Drive	211 (4)
Seventh	The Long	450	The Constable	420 (5)
Eighth	Gogarth ³	275	Penmaenbach	280 (4)
Ninth	The Short ⁴	165	Gogarth	120 (3)
Tenth	The Farm ⁵	320	The Rough	300 (4)
Eleventh	The Town ⁶	210	The Farm	260 (4)
Twelfth	The Valley ⁷	200	The Valley	230 (4)
Thirteenth	The Monument ⁸	360	The Monument	340 (5)
Fourteenth	The Circus	338	The Circus	360 (4)
Fifteenth	The Quarry ⁹	210	Paradise	175 (4)
Sixteenth	Paradise ¹⁰	250	Hades	295 (4)
Seventeenth	Punchbowl	160	Punchbowl	167 (3)
Eighteenth	Summit	240	Summit	212 (4)

- 1 The Paro had a large quarry facing the tee.
- 2 The Rough – a blind hole with a sharp drop to the green.
- 3 Gogarth – this hole is on top of a hill.
- 4 The Short is alongside the boundary wall.
- 5 The Farm is described as made difficult by a quarry.
- 6 The Town. A blind hole with a good hill to drive over. A badly pulled ball will find a quarry.
- 7 The Valley – a good drive over a valley.
- 8 The Monument. There wasn't actually a monument. It was a splendid hole with two large hills guarding the green.
- 9 The Quarry. The hole had a quarry on its right hand side.
- 10 The Paradise: a splendid hole with the green on the slope and an upward approach.

(The figures in brackets in the "1914 distance" column give the bogey)

With the First World War the golf course closed down in 1914 and didn't reopen until 1919, a year after the war was over.

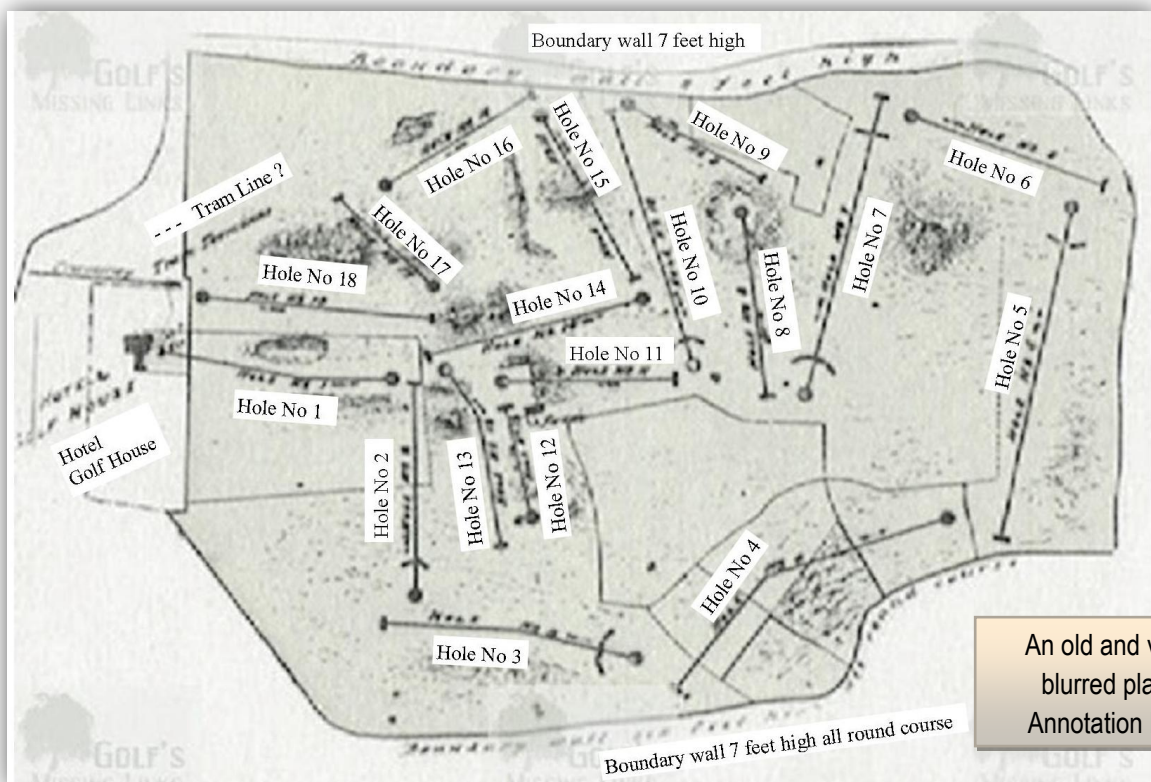
In 1914 there were 150 members, each paying two guineas a year subscription and two guineas entry fee. By 1923, the golf club had 220 members, and visitors were charged three and six pence (17.5p) a day. In 1940 there were 200 members and visitors were still only charged three and six pence a day!

The Second World War saw the golf course closed down and the land turned over to food production. The golf course was gone forever. The summit hotel was acquired by the RAF and was used as a radar station.



Early view of golfers playing in front of the hotel

The years after the war were austere years and probably the remoteness of the course counted against it being re-established; the windy weather on the summit was a drawback as well. While the setting of the course was superb, access to it in the days before the car would have been somewhat limited – though obviously the tramway would have been a great help.



An old and very blurred plan.
Annotation DW

Old pictures / plan courtesy of <http://www.golfsmissinglinks.co.uk/>

Bibliography: Golf's Missing Links / Old Newspapers

Author: Keith Morris

The Earth Remembers

(Loosely based on a GOES Summer Walk)

Katherine and Louise were best friends at school and once they had left to pursue different careers they continued to meet once a week to enjoy a night out together. A GOES guided Summer Walk around the old Artillery School appealed to both. It would be good to learn more about the exciting place where they had spent so many happy hours as children playing amongst the ruins.

A much larger group than expected gathered for the GOES walk. To Nick the walk organiser's relief the invited expert was excited to see so many interested people, especially as several had dressed for the occasion, displaying military medals and some even wearing a kind of military uniform. The expert thought that there was a chance that he would learn a great deal himself if they shared their experiences as he showed them

around the old Artillery School site.

The tour of the site developed into an enjoyable gentle ramble with the leader guiding and engaging with his large audience superbly. The number present made it impossible to examine the ruins in detail so as they progressed he constantly encouraged everyone to make a return visit and see for themselves what he was describing.

It was late, approaching 10.00 o'clock and the daylight was fading when the walk ended abruptly. A very loud bang on the shore below and a beam of

bright light arcing over the sea startled everyone into a stunned silence. The explosive sound was so loud everyone was temporarily deafened. This changed the atmosphere dramatically. Fear and nervousness took over from the relaxed enjoyment of a few moments before. By now they were a long way from street lighting and it was getting dark. What had happened? What had they just heard? What if it happened again? Nearer this time?

Nick, the walk organiser, was the first to recover, his army experience coming to his aid. He called for attention, attempting to lighten the mood and get the walkers back to civilisation safely with, "GOES can always be relied on for a big finale! And now will all present please stay together while we make an orderly return over the uneven ground with GOES members bringing up the rear".

It was during this retreat that Katherine and Louise met Robert for the first time. Like everyone else they were badly shaken by the loud noise and very aware of the change in the atmosphere. As they set off cautiously down the stony path in the growing twilight the presence of the tall, military looking man walking beside them was welcome, more so once he introduced himself and they started chatting. They repeatedly discussed what had happened, trying to find a rational explanation. Robert appeared unfazed by the incident, suggesting maybe a rockfall and a flash of harvest lightning.



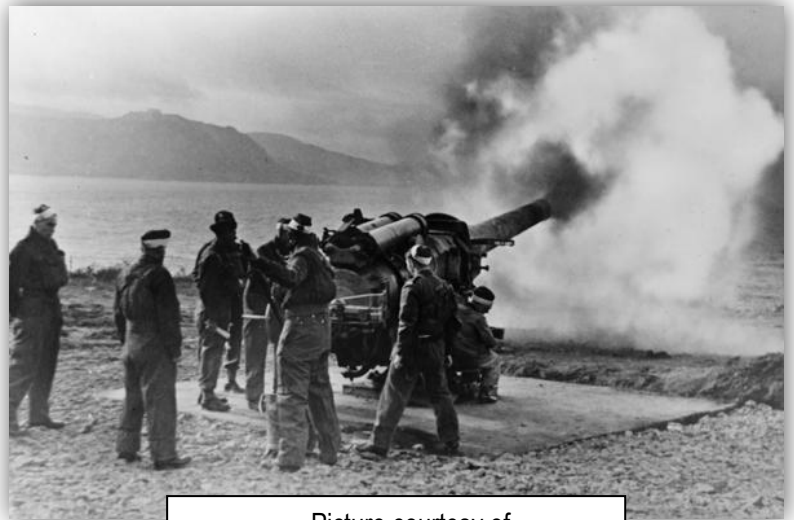
Seeing that Katherine and Louise remained rather nervous of being left alone, Robert offered to accompany them home. Gratefully they accepted inviting him to join them at their local watering hole instead. In Katherine and Louise's experience the only cure for frayed nerves was a strong drink. Robert agreed, walked with them to the pub and bought them a drink but it was the barman who brought the wine to the table. Robert had left.

The wine, two large glasses followed by their usual bottle worked wonders and by home time Katherine and Louise were giggling happily at their silliness at being so frightened and they decided to plan a return visit the following week.

Next week they took the afternoon off, packed a picnic and enjoyed lunch on the beach at the West Shore. Then they set off to retrace the route of the previous week.

The pleasant weather had enticed many people, including several from the recent GOES walk to the Artillery School site. Many recognised each other and the unexpected ending of the GOES tour was still a topic of conversation. It promised to be an enjoyable afternoon.

Katherine and Louise were alone in an abandoned building when Robert joined them. He was surprisingly well informed about the history of the Artillery School. He knew that the building had housed generators - "Look, there are the stands". He described everything so well that Katherine and Louise could almost hear and feel the noises, smells and chaos as the generators thumped and guns were fired all interspersed with shouts and cheers from the trainees.



Picture courtesy of
<http://historypoints.org/>

The three stayed together as they continued exploring. Robert brought the guns to life as he identified each concrete base and he became very animated when describing the final and largest gun; one with a range of seven miles - "Totally inappropriate for this site" he raged, "In the hands of complete amateurs casualties were inevitable. Out of sight, out of mind. No one or thing within that range was safe. Who knows what damage they did. Nothing of the sort would have been recorded. Everything kept under the radar, silence is all, for the war effort." Katherine and Louise were slightly shocked by his outburst but he calmed easily as the trio left the concrete road and began strolling along the path to the place where they had been startled the previous week. It was a lovely spot, overlooking the sea far below and in the distance, a background of the mountains of Snowdonia. They settled on a grassy bank to enjoy the rest of the afternoon sun. The talk returned to how frightened they had felt here just a week ago. How could the peace of such a beautiful spot have been interrupted in such a way?

Robert's attempt at explaining the frightening occurrences was very different from his light-hearted remarks of the previous week blaming a rockfall and harvest lightning. His musings this time were profound, so much so that they had an immediate effect on Katherine, bringing a chill to her body and goose bumps on her arms.

"The Earth has its memories," Robert began. "Sometimes when these match exactly with those of mankind they combine to create a special time when the unexplained becomes possible. It is a privilege to experience such a time and I believe we did so last week when we may have caught the briefest glimpse of the Artillery School when in action." He caught Katherine's eye; in response she gave a slight shudder and held up her forearms displaying her goose-bumps. Robert nodded and continued, "It's 2014; the world is commemorating with sadness the outbreak of the Great War and the Earth is in mourning for the tragedy of that war" He looked at Louise this time, so far she had felt nothing but, as she caught his eye, a shiver passed up her spine and she nodded. "We have been privileged, it's been a special time for all three of us", concluded Robert.

They sat in silence for a while contemplating Robert's thoughts then as Katherine began to feel that the sun was losing its power they left. Despite her companions' presence she feared the changes dusk might bring. Robert walked back with them as far as the pub but this time did not accompany Katherine and Louise inside. He left with sincere thanks for their company and for an enjoyable, if thought provoking afternoon – "Till next time".

It was November before they met again. Robert, looking extremely handsome in a grey-blue uniform and with a cap perched jauntily on his head was amongst the marchers in the Armistice Day parade. Without a twitch of recognition he noticed Katherine and Louise amongst the onlookers. They knew he had seen them and waited until, with almost indecent haste, once the ceremony had finished, Robert joined them.



R.A.F Pathfinder

All three retired to Weatherspoon's on Gloddaeth Street. This time Robert joined them inside, bought a bottle of wine and poured a glass for himself as well as for the girls. They were delighted to meet up again and although Robert hardly touched his drink, another bottle was bought and the atmosphere and the company loosened his tongue.

"I don't think it's a coincidence that we have met today. Are you interested in hearing why I think that?" he enquired. "Yes, do go on, tell us", chorused Katherine and Louise.

After a thoughtful pause, he began; "I was a Pilot in the Second World War. A good one – a Pathfinder. My every mission to France and Germany was successful, I flew so low over the sea that my navigator told me the plane felt like a ship. It was dangerous work but I loved it. Loved being in the air so much so that I volunteered during a rest period to fly to Liverpool on an errand to collect spare parts for a Thunderbolt.

If I had known at the time that I was to be given a Botha, an apology for a plane, I would not have volunteered. It struggled to get off the ground and facing a head wind, even at full power, progress was so slow that I landed in Liverpool far later than scheduled. The consignment was not quite ready so there was a further delay. Eventually, with little daylight to spare, I struggled into the air to make my return flight.



Blackburn Botha

The route took me along the Conwy Valley and that's when I took a hit from that infernal long range gun. I managed by some miracle to keep the Botha in the air but didn't make it all the way back. The plane came down in the Peak District, the damage sustained in the Conwy Valley made it impossible to gain the height needed. I didn't survive the crash more's the pity but that's not why I'm telling you this. It's what happened afterwards that I find impossible to stomach. If I was still alive it would make my blood boil. I am officially blamed for the accident. It took the investigators all of three minutes to casually conclude and record, "Pilot error". That was wrong. I must clear my name for the sake of my family and for the sake of all the other pilots similarly wronged. I will not rest until the soldier who fired that gun is identified and named as the cause of my crash. When that is accomplished I will be satisfied and will move on."

Hence this account. Believe!

Footnote:

The planes mentioned are based on actual military aircraft wrecks in the Peak District.

Blackburn Botha.

Over 400 of these planes were ordered by the RAF but they were so underpowered that they were totally unsuitable for use in combat. Instead, they were restricted to flying within the UK, used for training and for running errands such as collecting spare parts for Thunderbolts from Liverpool. The remains of a Botha discovered in the Peak District with bullet holes in its fuselage led to the suggestion in one of the authoritative texts on the subject that it had succumbed to friendly fire. This in turn became the catalyst for the great interest in trekking to view the remains of military aircraft crash sites in the Peak District. It is acknowledged that the most likely cause of the bullet holes in the Botha was its use for target practice after it had crash landed.

Pathfinder Pilots

These were extremely skilled pilots, flying ahead of bomber squadrons to mark their targets by dropping flares. To avoid detection the Pathfinders flew very low over the sea and skimmed the trees when flying over enemy territory.

The death of a Pathfinder pilot who crashed his plane into the hillside in the Peak District when flying home after his discharge from the RAF will never be explained. Was it suicide, an equipment malfunction or inexperience in solo flying which was the cause? The latter is suspected as during operational flying he would have been entirely dependent on his navigator for route finding.



Author: Judith Morris

The Mystery of Dante Roberts: Quarryman

During a GOES Summer Walk in 2015, we walked by a quarry which someone named as the Inferno Quarry. A few of the group were intrigued: how did the quarry gets its name? We had all heard of Dante's "Inferno," but how could there be a connection with that and a small quarry on the Orme? Hmm!

Months later I came across the curious name Dante Roberts & immediately wanted to connect him with the Inferno Quarry. The name Dante Roberts occurred in an article in the GOES Journal for 1998. The article was called the Ormesday Project and was written by Diane Bannerman. In her project, Diane catalogued over 80 features of the Great Orme: shafts, trials, caves, quarries and wells. The article (GOES Journal 1998, issue 1, page 10) is an essential resource for anyone interested in the history of the Orme.



While the Ormesday Project (clearly an echo of the Domesday Book) did not mention the Inferno Quarry, it did refer to Dante Roberts as being the owner of Ty'n-y-Coed Quarry; the quarry giving its name to Ty'n-y-Coed Road on the Orme. With Dante Roberts being confirmed as a quarryman, there was every chance the Inferno Quarry also belonged to Dante. It just needed proving. Piece of cake, I thought!

Diane Bannerman's article also mentioned Dante Roberts in connection with the Elephant Cave in Happy Valley. The cave isn't thought to be natural & was probably formed by quarrying and mining. The cave used to hide a squeeze called Builder's Grave which led to a further cavern; this cavern was collapsed by our mysterious quarryman, Dante Roberts. Why or when he took this action was not recorded by Diane: we can only speculate that the squeeze was dangerous as suggested by its colourful name. By the way, the Elephants Cave was apparently used as an air raid shelter during the Second World War.

A link between Dante Roberts & the Inferno Quarry would easily be found on the net, I thought. But oh! no it wasn't! The Internet turned up thousands of references to Dante's "Inferno" but nothing else of use. Very irritating indeed!

I turned to Llandudno Library in vain, though a newspaper obituary for Luther Roberts was amusing in a way. Was there a local family which liked to baptise their offspring with distinctive Christian names? Next I wandered along to the County Council's Archives full of hope, but they had no trace of Dante and nothing on the Inferno Quarry. Early, large scale Ordnance Survey maps of the Orme were produced but infuriatingly the maps designated every outcrop with the label "Quarry" without naming them!

A grave stone would be a good place to find some details about Mr Roberts, I thought, and turned to St Tudno's, but back came the answer that our man wasn't buried there. Nor was he to be found in the other local parish.

Surely the Church of the Latter Day Saints would be able to help with their vast database of ancestor information? Nope, nothing doing. Likewise with the UK Censuses, though quite a number of Luther Roberts appeared in Yorkshire, a curious hotspot for this name. Lastly, I searched Welsh Newspapers Online and Archives Wales. Again, nowt found! Also took a quick look at the Mostyn Estate records. Well they own just about everything, don't they?

In conclusion a number of possibilities arise in this sorry story. Was the Inferno Quarry name simply a mischievous spur of the moment invention? Such things have been known on GOES Summer Walks!! Or was the name given to a minor outcrop with the name only being used by a handful of local people? As to our Mr Roberts, it would appear he didn't exist as Dante Roberts. Perhaps Dante was a second Christian name; ie was he really Aled Dante Roberts or something similar. Even more likely is that Dante was a nickname. Unless you know different. Someone out there may know of a Dante Roberts, and it would be interesting to solve this mystery: who was this Dante Roberts & why was he so called? And what about the Inferno Quarry? Over to you.

Author: Keith Morris

Dante's Quarry

Addendum

Dante's Quarry was situated at the end of Ty'n-y-Coed Road at the point where it joins with Anglesea Road.

Ty'n-y-Coed Quarry, its official name, was owned by W.J. Roberts who was known as Dante Roberts. Hence, Dante's Quarry. Obviously some well-read intellectual, probably a GOES member, was influenced by an association of ideas and came up with the name 'Inferno Quarry'. This must be a fairly recent development. I had certainly never heard it referred to by that name, nor could I find anyone else who had.

I don't know why W.J. Roberts, was known as Dante nor can I find anyone who does. Why was a popular, much respected local quarry owner named after a famous thirteenth century Italian poet, Dante Alighieri, (of Dante's Inferno fame)? There is probably a simple explanation but to date I have been unable to trace it.

After the quarry ceased to operate it was used as a depot by a local Haulage Contractor Ynyr Jones and became known as Dixie's Quarry!

In the year 2000 the site was sold off, and divided into two parts. Two bungalows were built in the lower section and the remainder became a CBC picnic area.



Author: Tom Parry

Williamson Tunnels

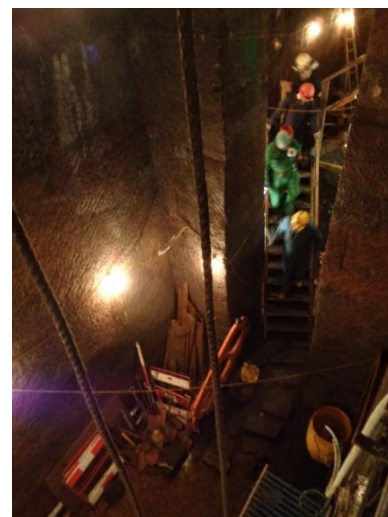
On the 17th April 2016 GOES members were hosted by Friends of Williamson's Tunnels on a visit to their Paddington site and Williamson House site on Mason Street, Edge Hill, Liverpool.

Joseph Williamson was born on 10th March 1769. His place of birth is not definitely proven, but is widely believed to be Warrington. There is virtually no information on his early years bar the claim that he left his family home aged 11 and went to Liverpool to seek employment. If he did leave his family as a child that would suggest that the family was not wealthy. He gained employment with Tate tobacco and snuff merchants, rising quickly in the firm, he married Elizabeth Tate in 1802 and moved to a house on Mason Street, Edge Hill.

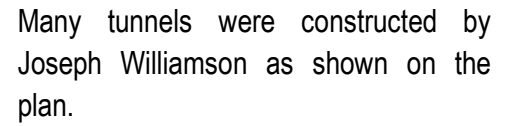
After move to Edge Hill he started building more properties but the back gardens needed to be extended which was achieved by vaulting over the sandstone quarries to the rear, this is now the Paddington Site. This gave employment to local people, a tradition which Joseph Williamson continued for many years by constructing various tunnels for no other purpose than to give employment to those who needed it.

Above the Paddington Site there was a four storey bakery which utilised the massive void below to dispose of ash from the ovens. Hundreds of artefacts were also disposed of in the same way. The Friends of Williamson's Tunnels have spent many years carefully excavating this area and recovering an amazing range of artefacts which are displayed around the cellars. We sometimes find the odd clay pipe in the mines, on the day of our visit two handfals were found.

After finishing the Paddington site visit we were lucky enough to also visit the Williamson House site exploring the cellars. Excavation of these has now commenced so hopefully a whole new set of finds will be unearthed.



All pictures from Paddington site



Further information on: <https://williamsontunnels.com/>



Ty'n-y-Fron

October 2nd 2016 saw a strong team of visitors from UCET (United Cavers Exploration Team) descend Ty'n-y -Fron Shaft (260ft) in the hope of finding a connection through the blockage into the Ty Gwyn Mine. There was a good turnout of GOES members to help with setting up and to deal with surface issues. Dave Wrennall went down with the visitors as a guide and to help with logistics. Five plastic barrels were lowered in as well as various scaffold poles to help engineer and preserve a link if established.

Once at the dig site noises could be heard made by Gaz Davies and Richie Fletcher who had made their way to the other side of the impasse, the muddy wallow that is presently the Ty Gwyn adit's terminus. They were very muffled, distant and incoherent.

For an hour or so UCET seemed to be making progress, following a thin metal pipe which had been driven into the blockage on a previous occasion, with bucket after bucket of mud and rubble being passed back along a human chain to be emptied. Optimism faded somewhat in the second hour. Above the dig there were worrying boulders which needed supporting with scaffold poles, it was proving difficult to dig in the confined space and the sticky mud had to be constantly prised off shovels and out of the buckets.

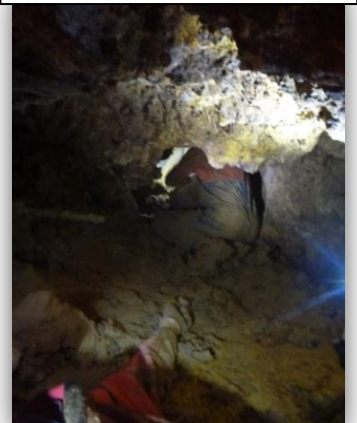
When the team eventually started making their way to surface, the metal pipe reputedly 4m long was protruding by 1m. The following weekend a rock on the Ty Gwyn side, thought to be in the way was blown up using a chemical explosive! The outcome seems to be an inflow of yet more mud. Of the 12 pegs unearthed many years ago on the left wall, only one is now visible. There is a variety of pipes on the floor sticking out of the mud and rocks on the Ty Gwyn side, maybe one of them was driven in from Ty'n-y-Fron side, however, with so much ground lost since all the pegs were showing it seems unlikely.



Richie setting up the tripod



Mike Leahy UCET at the dig.
(Following the lower pipe.)



Waiting for the next bucket



UCET team ready to help



Peg and pipes in Ty Gwyn

Friends together



http://www.goes.org.uk/assets/Journals/2003_GOES_Journal_2.pdf

Author: Dave Wrennall

Maen Sigl (The Rocking Stone)

Maen Sigl has had a sign on it (a Cast Iron one) for many years. It was broken off by vandals in 1997/98. A new sign was cast and the vacant slot was refilled. Luckily Tom Parry had the foresight at the time to have a second one cast just in case a similar incident reoccurred.

The vandals did strike again in 2015 breaking the Cast Iron sign off the rock, which must have taken quite a force to remove, as it was bonded with resin and bolts! The resulting gap was quite unsightly (as can be seen below).



At a GOES committee meeting in 2015 the issue was discussed and Nick Challinor offered to take action to replace the sign. After a chat with Tom Parry, the Cast Iron Maen Sigl copy was gathered from Tom's horde of treasures in his workshop. Not wanting to place Tom's Cast Iron copy onto the stone, Nick felt it prudent to follow Tom's excellent example and have another Cast copy made!

However, after several months of searching for someone who could still produce Cast Metal signs, he had no success. Nick then proceeded to look at other suitable materials - such as Brass, Steel, Copper, Wood, etc but after much experimentation decided none of these materials had the right look, feel, durability or affordability to be placed on this ancient monument. He also knew that the ancient Druids were watching and that their criminal adjudication site (rock the stone and you are innocent - don't rock it and you are throw off the cliff) required an appropriate sign.

Like all enterprising GOES members he persevered until he struck on a good idea, bronze resin. Having never worked with resin before it took months of experimentation before he got the mould of Tom's Cast Iron copy just right, and mastered the correct mixture of resin to bronze powder to get the right strength. Once he eventually stopped in his alchemy workshop and the sign had been painted with a matching colour to the original, it was finished. The only thing to do now was secure it to the rock without damaging the sign or the rock (strict instructions from above) - and with advice from some other members of GOES (some of it helpful some of it not!)

Nick decided to glue it on (with false screw heads in the corners for show). It has now been secure and weathering nicely since July 2016.



Members of GOES on a summer walk watching Nick test his work on the rock



Maen Sigl with the second sign

Author: Nick Challinor

GOES Summer Walks: 2016



26th May - Walking Conwy Morfa



2nd June - West Shore Walk



9th June - RA Gun Site with Merfyn Thomas as our guide



16th June - Inside Parc Farm with Doug Don as our Guide



23rd June - Visiting the Camera Obscura



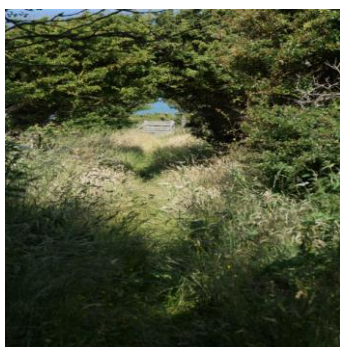
30th June - Walk around Parc Farm Wall



7th July - Under the Pier



14th July - The boat trip around both Ormes



21st July - Pink Farm Walk



28th July - Pen Dinas (Nick testing the rock and replacing the sign. c.f. article)



4th August - St Tudno's Well visit with Christine Jones as our guide (above and below)



11th August - Summit circle walk (12 and last summer walk of the year)

Pictures from: Nick Challinor

GOES Summer Walks: 2017

All walks start at 7pm and are usually gentle strolls, which last approximately 2 hours. Sturdy footwear and waterproofs. Below is a list of the proposed walks, but all are subject to confirmation. Please check the community news section in the North Wales Weekly News and the GOES Calendar (on Website), which will provide full details of the walk taking place and recommend the arranged meeting place. If however, the weather is poor, then the walk is very likely to be cancelled or postponed until a later date.

18th May. Medieval Settlement and Ski Slope area. Meet at the Great Orme Ski Centre Car Park, GR - SH 778 833.

25th May. Wendy's Botany Walk. (Walk Guide Wendy McCarthy). Meet at the Half Way Tram Station by the Water Pump House, GR - SH 772 833.

1st June. Inferno Quarry and area. Meet at the Green Triangle - junction Ty Gwyn Road/Tyn Y Coed Road, GR - SH 774 828.

8th June. Happy Valley via the steep route. Meet at Marine Drive North Toll House (steep walk, good walking boots needed and a head for heights), GR - SH 782 832.

15th June. The Brammock Rods and Bishops Quarry Walk. Meet near Half Way Tram Station by the Water Pump House, GR - SH 772 833.

22nd June. Degannwy Castle Walk. Meet at the large round-about near walk entrance, GR - SH 784 796.

29th June. Parc Farm Wall Walk. Meet at the Great Orme Visitors Centre Car Park (there may be a Parking Charge), GR - SH 766 833.

6th July. Haulfre Gardens Exploration Meet at the entrance to the 9 Hole Golf Course, GR - SH 775 828.

13th July. Nant y Gamar Walk. Meet in Craig y Don at the road 'T' junction, GR - SH 799 817.

20th July. Concrete Road loop. Meet at the 'Rest and Be Thankful Cafe' Marine Drive, GR - SH 756 843.

27th July. Little Orme Walk. Meet at the New Life Boat Station North Shore Promenade, GR - SH 771 821.

3rd August. Maes Y Facrell and NNR Area. Meet near Half Way Tram Station by the Water Pump House, GR - SH 772 833.

10th August. Conway Morfa. (Low Tide 2017hrs 1.32m). Meet at the Beacons Car Park (there may be a parking charge), GR - SH 773 791.

Walk Coordinator : Nick Challinor

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GOES meets informally every Thursday evening in The Snowdon, 11 Tudno Street, Llandudno from 9.30pm. <http://www.the-snowdonhotel.co.uk/> All are welcome.

The Great Orme Exploration Society (GOES) was formed in 1985 and became a Company Limited by Guarantee and not having a share capital on 7th April 1999. It is a member of the National Association of Mining History Organisation (NAMHO), British Caving Association (BCA), and works in association with the Gwynedd Archaeological Trust (GAT), the Early Mines Research Group (EMRG) and the Gwynedd Bat Group (GBG). Views and opinions expressed are those of the author(s) and not necessarily those of the Society.

