

Farewell Sid Perou

On the 15th July the renowned cave cinematographer and film director, Sid Perou sadly passed away in Thailand. His funeral was held on the 18th July in Thailand, but his family will also be celebrating his life at an event in the UK (date and location to be announced).

Younger club members may not have encountered Sid and his amazing series of caving films. In the 1960s he worked at BBC Ealing Studios as a sound recordist and in 1967 due to his caving hobby, he was assigned by the BBC to work on the documentary "Sunday at Sunset Pot" covering the attempted rescue of caver Eric Luckhurst from Sunset Hole. Due to Sid's caving experience and the limitations of the camera operator he was asked to take over filming operations - which he thoroughly enjoyed. At the completion of the film he decided to become an independent filmmaker and left the BBC, moving to Yorkshire. His first commission was for BBC *The World About Us* to film "The Lost River of Gaping Gill" in 1970.

He went on to be involved in numerous cave documentaries and films covering a range of outdoor activities. His speciality was rigging the lighting underground so it appeared as if the only source of light was the cavers' caplamps.

These days with the improvement in LED lighting and camera technology we are spoilt when filming underground. But years ago trying to illuminate scenes with car headlamps and batteries or struggling to drag generators underground only to find things still looked dark was quite a challenge!

Sid was always very generous with help and advice to other cavers attempting to make underground recordings and will be missed by many in the caving community.

Kelvin



Sid Perou giving the after dinner talk at the SCMC Annual Dinner in 2002.
(Kelvin Lake)

CCC & CNCC Change of Name

The Cambrian Caving Council has changed its name to Caving Wales (Ogofa Cymru). Caving Wales is still the national association for caving in Wales, the Forest of Dean and the Marches for individual cavers, caving clubs and similar organisations.

The Council's constitution has also been replaced by a modernised 6 page version.

The website has been updated to reflect the new name, but the URL is (currently) still:

www.cambriancavingcouncil.org.uk

Council for Northern Caving Clubs

Is now Council for the Northern Caving Community.

BCA Data Breach and New Membership Platform

On 1 July, BCA became aware that some data collected during processing of Direct Individual Membership fees via Paypal could be found by searching for a member's name on Google. The source document was removed within an hour and Google's cache was cleared within a day. The main risk is that the data could be used for phishing, that is, impersonating a trusted organisation in order to obtain more sensitive information. The BCA has sent a warning to all the affected email addresses.

This old system will be decommissioned as BCA membership will shortly be moved to JustGo.com an online global membership management platform. This will allow all BCA registered cavers to login and manage their personal details. Clubs will have their own page and be able to set up a club profile, renew their membership, add members etc.

More details on the BCA website: british-caving.org.uk



Tankerville Adit Investigation

30th May 2024

Nick Southwick was asked if the Club would be interested in investigating an adit on the hillside behind Dove Cottage, Tankerville. Three club members, Nick, Peter Eggleston and Kelvin Lake decided to do a recce to see what the situation was.

The level was hardly visible, so a little digging was carried out. After removing various parts of a washing machine and fridge, plus a bit of dirt the entrance was enlarged enough to see inside. It looked as if it might go and head towards a collapse in a neighbouring field. Following two hours of digging it was possible for Kelvin to squeeze into the hole. However, it was not what it seemed. The level was only 3m deep from the lip and descended into a narrow gully about 40cm wide and 70cm at high at it's highest point.



The Level as discovered.



Peter working on the entrance...



A rake was useful for bits of fridge...



It initially looked promising



And was a tight fit ...



Sadly it didn't go far!

The entrance was covered over to prevent pets and other animals falling in. Thanks to Sue Gardner for cups of tea, and locals Alex Gardner and Noel Evans for their help. Alex also lent us a fragment (July to December 1894) of a Snailbeach Ledger which includes Tutwork Bargains, Agency work details, rents and workers details.

New Bolts for Clive Traverse

As part of the plans for improving the traverse across the Maypole winze at Clive copper mine Andy Harris has made some stainless steel 'P' hangers. So far he has made two bolts at 8" long, six bolts at 9" long, and one at 9.5".

They have all been cleaned with acetone and placed in a plastic bag to prevent contamination. So they are now ready for use!

The next stage in the plan is to install and test one or two of them.

Andy has an idea about how to make a tester/puller out of a clutch puller. Once the resin is fully cured we can give them a pull and hope they stay in!

Andy thinks that we need nine for the actual traverse so he may need to get another 1 metre length to make a further three.

He thought he could get four out of each metre, but the eye takes up about 100mm so can only get three of adequate length per bar.



The 8, 9 and 9.5 inch bolts. The eyes took some bending and may be welded to remove the gap.

(Andy Harris)



SCMC - Trips Summary

May and June 2024

Although the Club trips programme has been dominated by NAMHO, a number of other trips have also taken place over the past few months.

Sunday May 12th - Williamsons Tunnels -

Organised by Steve Holding, six club members (Steve, David Reeve, Cara Allison, Julian Bromhead, Mike Moore and Beverley Cooper) joined the trip to Liverpool for a tour of the latest excavations at the Friends of Williamsons Tunnels (FoWT) complex. The digging there is still making progress and it has been interesting over the years to see newly excavated areas turn into huge chambers once cleared of the fill.



Club members at the Friends of Williamsons Tunnels Mason Street site. *(Picture courtesy FoWT)*

Saturday May 18th - Visit to Snailbeach by FoWT.

This was a 'return' visit organised by Steve Holding for volunteers from FoWT to have a look around Snailbeach.

Saturday May 25th - Clive Mine. Oliver Beard organised this trip for a visiting caving club. Several club members, Steve Holding, James Hobson, Lois Dennis, and David Heavey helped with the trip.

Saturday June 15th - Dinorwic Slate Quarry

Members present: Andy Harris, Neal Rushton, Julian Bromhead, James Hobson, Graham Smith, Kelvin Lake, plus Robert Oldhall (ex-Dudley CC). The trip had been planned by Gareth but unfortunately he wasn't able to join us on the day.

Driving to Dinorwic through heavy rain, we weren't feeling too keen. As we put our waterproofs on in the car park of the Welsh National Slate Museum things looked bleak! However, as we made our way up to the A2 Garrett Incline drumhouse and on to the remains of the Anglesey barracks (a group of 20 dwellings, with 10 on each side of the street) the rain eased and we were able to discard the wet weather gear.



The remains of the Anglesey barracks. *(Kelvin Lake)*

Trudging up the A3 and A4 Garrett Inclines several lengths of rail, haulage rope and rollers were visible. When we reached the Power house for No.2 Quarry Mill and the line of Village Tramway at the top of the A4 Garret Incline we headed off along the A4T Mills Level on the Braich side of the quarry.

Graham was keen to explore parts of the climbers 'Snakes & Ladders' route with a view to having a weekend in the area climbing it. Parts of the route involved walking through Twnel Sinc Galed that lead through a small quarry with its 'hidden' waterfall to a larger one with a chain hanging down the quarry face from a tunnel two-thirds of the way up.



Cable and roller bearing on the A3 Garrett Incline.

From there we explored another tunnel into the south west side of Australia pit - which had an interesting set of steps up the side to Llwybr Llwynog level, but only James Hobson ventured up them. When he returned we retraced our steps out the tunnel, then ascended a 'B' incline to reach the Llwybr Llwynog level with its compressor house containing the remains of an Ingersoll-Rand type 10 compressor. This proved an ideal spot for lunch, before we attempted the long, long, long, climb up the hillside to the Albion Level.

Albion level has a number of surviving buildings including a quarrymans' caban with a stove and benches. Until a



SCMC - Trips Summary

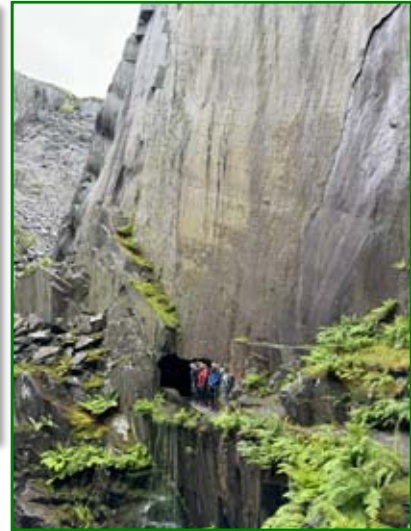
June 15th - Dinorwic Slate Quarry, continued ...

few years ago there were still coats hanging on the wall, but these have gone.

The internal walls of the caban are covered in quarry workers' graffiti and one section has a panel listing the names of various quarrymen that worked Albion and Pen Garret (*Hogiau Pen Garret*). Sadly, this is being defaced by people scribbling their own names over it.



Twnel Sinc Galed.



Club members in Sinc Galed (small quarry) with its waterfall.

Two haulage winches also survive on Albion, along with parts of Blondins (a form of quarry crane) and a set of 3 ladders up the quarry face to Pen Garret Level, another part of the 'Snakes & Ladders' climbing route. The huge stone and chain anchors for the Blondins are on Pen Garret along with the remains of more buildings and a double drum house. A set of steps from this level lead up to Australia Level.

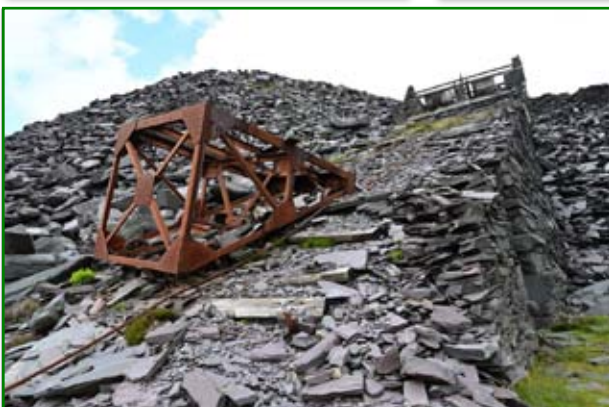
On Australia there are a lot of water pipes, plus a large water tank behind a long building that still contains some interesting machinery. At the northern end of it is another Ingersoll-Rand Type 10 compressor with its associated air tank. The middle section of the building appears to have been an engineering workshop and/or forge. This leads into the southern section in which there is a very large compressor made by the Tilghman Sand Blast Co. Ltd, of



Graham testing a chain on part of the 'Snakes & Ladders' route.



James Hobson on the steps at the end of the lower Llwybr Llwynog tunnel.



Incline drumhouse and trolley on a 'B' incline.



Climbing the long steep steps to Albion Level.



SCMC - Trips Summary

June 15th - Dinorwic Slate Quarry, continued ...

Altrincham, Manchester. This company mainly built compressors for sandblasting, but they were used in quarries for air drills, which is what it was probably used for here (Benjamin Chew Tilghman invented the Sandblasting process in the USA c1870. He formed 'Tilghman's Patent Sand Blast Co' in London, then opened a factory in Sheffield, followed by a new Altrincham factory in 1879).

South east of the compressor house is the Australia mill, a slate sawing mill with 36 saw tables (possibly made by Ingersoll-Rand, but no makers names were seen). The tables were belt driven from two sets of line shafting in an attached building on the northern side. Once sawn, all the slate trimming was done by hand in this mill.

A quick trip up the C6 Incline took us to Egypt Level. The incline is unusual in that the winding drums are in an underfloor pit below the rails at the top of the incline. The operation of the drums was controlled by a ships' wheel working rack gearing in a small cabin. Graham Smith remembered the wheel being in place, but sadly someone appears to have pinched it.

To return to the cars we descended to Australia Level, past the mill, down the C5 and C4 inclines to reach the main path on the A4T mills level and retraced our steps down the A4 and A3 inclines to the museum car park.



Stove and benches in the Caban on Albion Level.



One of the electric haulage winches, Albion Level.



Part of the Blondin anchor chains on Pen Garret Level.



Tilghman Sand Blast Co. Compressor, Australia Level.



Lineshafting that drove the Australia mill saw tables.



Andy Harris amongst the 36 saw tables, Australia mill.



SCMC - Trips Summary

June 15th - Dinorwic Slate Quarry, continued ...



The saw tables - the belt drives came through wall slots.



Saw table clutch mechanism and belt drive pulley.



C6 Incline top, the drums are under the rails.



Control cabin on Egypt Level for the C6 Incline.

SCMC - Trips Summary

July

Saturday 20th July - Clive Copper Mine. Steve Holding and Kelvin Lake lead a trip around the upper level of Clive for six members of UCET, including Les Williams and Helga Palmer (both of them had been the main underground trip organisers for the NAMHO 2024 conference in Cornwall).

When we reached the northern end of the mine, the air seemed much fresher than normal. A couple of the visitors, who are involved with Derbyshire Bat Group spotted some bat droppings on the floor between the Liesegang rings and the area below the climb up to the Cobalt workings.

The droppings may have only been from a single bat, but the question remains how did it get in there?

After the trip, the visitors headed off to Hawkestone Park to visit the follies and "King Arthur's" grotto - a former copper mine.

Sunday 21st July - Snailbeach. Steve Holding took Les Williams and Helga Palmer on a tour of Perkins Level and the surface buildings of Snailbeach.



The UCET group examining the Liesegang rings.



Helga taking a picture of the blue-green coloured patterns by the Liesegang rings.



NAMHO Conference 2024 - Cornwall, 28th June to 4th July

Tin, Copper, Gold, and

The conference this year was hosted and organised by the NAMHO Officers and friends. Initially intended to be held at Heartlands the modern visitor centre around Robinson's shaft and the Grade II* listed 80" beam pumping engine house and engine, plans had to be hurriedly re-arranged when the Council decided to close the centre (hopefully NAMHO will get its deposit back, eventually!). Luckily the nearby Kernow Resilience Hub was able to accommodate the conference, providing rooms for the talks, bar (run by the Hidden Earth team) and traders.

In 2020, plans for a conference to celebrate the long history of mining in Cornwall had to be cancelled due to COVID. Then the theme was to have been "Tin, Copper and Gold", this year it was expanded to include other minerals and metals - such as China clay and Lithium.

Nineteen club members were involved in the conference (Roger Gosling and Kevin Baker as organisers) and amongst us we managed to go on most of the NAMHO organised trips, plus a few extra ones arranged by Gareth. Some club members camped, while others were in various holiday cottages or hotels, but all enjoyed the week visiting new sites and re-visiting old favourites.

The organisers, speakers and volunteer trip leaders all deserve a big THANK YOU for putting on a varied and enjoyable conference.

Brief Underground Trip Reports:

Holman's Test Mine by Julian Bromhead

Julian Bromhead and Alan & Vicky Robinson attended a NAMHO organised trip on 29 June to Holman's test mine near Troon. The 'mine' is in fact a series of tunnels within granite originally created by Holman Bros of Camborne to test their rock drills. Camborne School of Mines (CSM) utilised the mine for teaching purposes from the 1920's onwards and took over the mine completely after the closure of Holman's Ltd, using it for teaching until 2017. The mine is now owned and maintained by a private company, Event Horizon, and is used as a specialist underground test facility.

The visit took in some of the former Holman test areas where the walls are riddled with test drill holes, and areas formerly used by CSM for blasting and mucking out training where Eimco shovel loaders, tramways, a winch incline and other machinery is still in place. An ex miner and former CSM instructor, now working for Event Horizon, gave a demonstration of a rock drill.



The conference camp site with the Old Cook's Kitchen engine houses and New Cook's Kitchen headframe in the background. (Vicky Robinson)



Tim Welburn of Sub. Brit & WCMS tries his hand at rock drilling. (Vicky Robinson)



Typical access tunnel in Holman's Test mine with a large number of drill holes in the wall. (Julian Bromhead)

Right: We successfully mined a rock! (Vicky Robinson)

Rocker shovel (Vicky Robinson)



Slusher & grizzly. (Vicky Robinson)



NAMHO Conference 2024 - Cornwall, 28th June to 4th July

Brief Underground Trip Reports continued ...

The 'Blue Mine' by Kelvin Lake

This is an interesting copper mine absorbed by Tresavean Consols in 1860 (the two may have been linked but this is unproven). It worked until about 1895. The current entrance appears to be in the middle of a bamboo forest! A series of ladders (a couple of which were quite long) took us down about 160 feet (~49m) to connections to shafts. Lead by Gary Parrot (an ex-Geevor miner) he explained that they were in the process of installing traverses round the shafts to access further workings. Due to time constraints it wasn't possible for us to cross the traverses during the NAMHO visit.



Alan Robinson fighting through the bamboo.
(Vicky Robinson)



View down one of the ladders in the 'Blue Mine'.
(Kelvin Lake)

However, we weren't here for the ladders, but the stunning blue copper staining that adorned the lower levels and the walls on the way down! Hence, the mine being known as the 'Blue Mine'. An interesting fact is that examples of Linarite $PbCu(SO_4)(OH)_2$ have been found here in the past. There were no signs of it in the workings on this trip. Linarite is a deep azure blue crystal named in 1839 by Ernst Friedrich Glocker after Linares, in Jaén, Andalusia, Spain (where it was first discovered). Linares is an area which club members have visited on several occasions.



Club member Jeremy Stopford and Derek Fincham.
(Kelvin Lake)



One of many blue ribbon formations in the lower level.



Darker blue 'pebbles' under a lighter blue layer by the lower boardwalk.



Left: Alan Robinson in the lower level with the remains of a wooden plank boardwalk.
(Vicky Robinson)

Right: A miners clay tally stuck on the wall near a haulage shaft.
(Kelvin Lake)



NAMHO Conference 2024 - Cornwall, 28th June to 4th July

Brief Underground Trip Reports continued ...

Cligga (Friday 28th June) by Gareth Rushton

Members present: Gareth Rushton, Graham Smith and Andy Harris.

I was keen to get down to Cornwall and make the most of the conference week, so I arranged to visit Cligga mine on the north coast near Perranporth on the first day. Club members met at 12pm and proceeded to head to the cliff. We entered level 1 for a more casual walk around than we had previously had time for when we were first taken in here two years ago by our friends at CBC (Carbis Bay Crew). This time we had a go with the latest in bat burner technology (no bats were harmed during these tests) in the form of a Fenix search and rescue light to obtain some photogenic pictures of the grizzly and light up some big drops to lower levels.



Andy Harris looks grizzly - sorry looks at the grizzly on Cligga Level 1. (Gareth Rushton)

We proceeded back out of level 1 and down the cliff face following the miners path. Whilst it isn't in great condition and is narrow in places, it didn't seem any worse than two years ago. We took the fairly typical route around level 2 and 3 visiting 'Contact' shaft and the area of the clay plaques to update SCMC's to include the 2024 trip. While there, Andy also left his own mark (very nicely done) in a secluded corner in the form of a copper plate recognising the club's visits (with room for return trips), let's hope it is left intact. We ventured through the 'big stope' area and headed down to level 3 and the sea portal before heading back towards Contact shaft where it was noted that the water level was much higher than usual. A quick break again for some atmospheric pictures and it was time to head out and make our way to the accommodation and the conference opening ceremony.



Graham Smith by a winze in Cligga Level 1. (Gareth Rushton)



Graham by the flooded base of Contact shaft. (Gareth Rushton)



Possible collapsed ore chute in Cligga. (Gareth Rushton)

Tywarnhayle (Saturday 29th June) by Gareth Rushton

Members present: Gareth Rushton, Neal Rushton, Graham Smith, Andy Harris and David Reaves

Following the South Crofty trip in the morning (arranged by NAHMO), club members made their way to Porthtowan to visit one of our classic trips in the area. The group mustered below the remains of the world's first froth flotation plant before heading up the spoil tips to the entrance. Making our way through the crawl and negotiating the dumped waste and fallen material from the roof, we dropped down into the main tramming level. Heading off towards the 'Railway' shaft we got a good look at the extensive timbering and stoping within the mine.

Upon reaching the railway shaft we set up a life line and proceeded to ascend the 40m or so of fixed ladders at the side of the slip way. Once everyone was safely to the next level up, we headed down the manway ladder for 10m or so and then wound our way through the tops of the stoping before heading down the ship rope to land back on the tramming level and make our way out the way we came in. It was at this time that David came a bit of a cropper at the bottom of the ship rope, but managed to 'style it out' and no harm was done.



NAMHO Conference 2024 - Cornwall, 28th June to 4th July

Brief Underground Trip Reports continued ...

Unfortunately on the way out, I also managed to slip and had a little incident whilst negotiating a small lift to a sand slope above. Somehow I didn't manage a clean movement up onto the foothold and fell back a few feet into the level below, resulting in a twisted ankle. Much to Graham's dismay, I didn't give him notice that I was going to do such a silly thing so he didn't manage to get his camera out in time to record the moment for posterity.

All in all, a great trip and everyone but me was fine, my foot is still painful!



'Railway' shaft, Tywarnhayle. (Gareth Rushton)



Andy Harris in a Tywarnhayle stope. (Gareth Rushton)

Wheal Pell, St. Agnes (Sunday 30th July) by Julian Bromhead

Julian Bromhead and a group of three from other clubs joined a trip led by Ari Cooper. A 40m shaft abseil led to an intermediate level which was explored then a 35m winze was descended to access a lower tramming level with extensive workings. This level had crotch deep ochreous water in places but led to areas with extensive secondary copper staining.

There were also artefacts such as miners picks and hob-nail boot prints. Stope workings were ascended to the intermediate level followed by a 40m Prusik up the shaft to exit. An excellent trip!



One of the group descending the shaft at Wheal Pell. (Julian Bromhead)



Copper staining in the lower tramming level. (Julian Bromhead)



Wheel with copper staining. (Julian Bromhead)

Wheal Luna, St. Agnes by Steve Holding

The underground trip to Wheal Luna had more participants than our guides seemed to be expecting – many of them being SCMC members – including Andy Harris, Steve Holding, David Reeves, Alan and Vicky Robinson and Graham Smith.

The trip started with quite an unusual access point – after walking down the bank, towards the sea, we crawled under a concrete leat into what appeared to be open workings. Climbing up one edge of the open workings, led into a complex series of crawls; my understanding was that some of these have been accessible for many years, but in recent years, clearing a blockage gave access to the more extended workings.



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Brief Underground Trip Reports continued ...

The first part of the Wheal Luna trip was through these complex workings that had little formal structure – these led to a protected traverse (just one awkward step) to a location with a couple of shafts, believed to originally connect to surface.



The landscape of Wheal Luna. *(Vicky Robinson)*



The mine certainly lives up to its name! *(Vicky Robinson)*

Later we came to a winze that was descended, using SRT, about 15m to a point where we had to swing into a level (the winze dropping deeper) – luckily I had Vicky in front to help pull me in! At this deeper point, there seemed to be more definitive levels but partly back-filled and still plenty of crawling – eventually we came into large workings which stretched up above us. It was easy to climb part way up these and there were some hanging ropes which suggest that higher areas have been visited but with nothing of significant merit.

The journey in seemed to take quite a while – probably due to the numbers on the trip but the exit was more straightforward. The SRT section involved a deviation, but this was easy – the interesting bit was swinging into the level and on return trying to launch yourself without dropping too much!



Lunch time for David Reeves. *(Vicky Robinson)*



Andy Harris exiting Wheal Luna. *(Vicky Robinson)*

Wheal Hermon (Thursday 4th July) by Gareth Rushton

Members present: Gareth Rushton, Julian Bromhead, Cara Allison

After a relaxing morning in Sennen, club members made the trip down into the Cot valley, the most difficult road encountered over the week, with heavily overgrown vegetation and almost zero passing places with very tight clearances. Parking up at the bottom of the valley we had a look at the remains of the processing plant of Wheal Bellan whilst awaiting Ben's arrival from Cornwall Underground Adventures who would be our guide for the trip.

Ben controls access to Wheal Hermon through his adventure company and was kind enough to show us around. We began with a short talk at the cliff top where the wooden count house would have once stood. Ben explained that the mine itself had over 20 different working periods across its time, with the earliest being around the Tudor period.

We entered the mine from the cliff and immediately came up against a number of large holes in the floor to the lower working. We crossed the voids and made it into the main stopes along the middle level utilising belay lines and fixed anchors with which to clip our cows tails into.



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Brief Underground Trip Reports continued ...

We reached one of the main Wheal Hermon stopes and proceeded to climb upwards using the belay points, rebar stirrups and stemples until we reached the mid way, where we had a short break before continuing upward.

Eventually we reached the top of the stope and scrambled up some small slopes to view an open air shaft for the mine, before doubling back on ourselves through a small crawl to reach the manway out to surface via a set of ladders.



Gareth in the Wheal Hermon stope.
(Gareth Rushton)



Trip leader Ben rigging the traverse.
(Gareth Rushton)

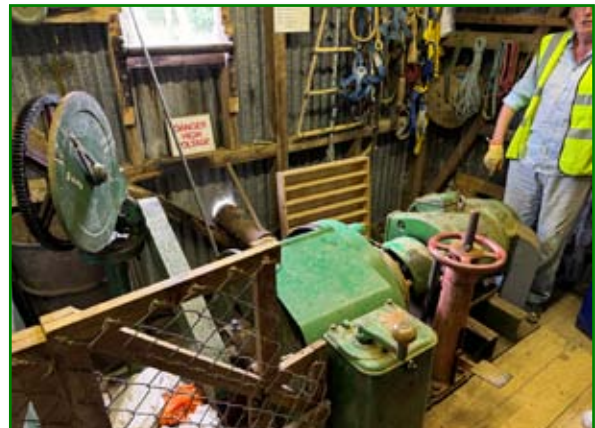


Cara climbing the stope.
(Gareth Rushton)

Condurrow Mine by Julian Bromhead

Thirteen club members attended a NAMHO organised trip into Condurrow mine (otherwise known as Great Condurrow) on 1 July. The trip followed on from a morning visit to the adjacent King Edward mining museum.

Condurrow is owned and maintained by the Carn Brea Mining Society (CBMS) a group of mining enthusiasts. It was formerly used by Camborne School of Mines who occupied the site from the 1930s to 2008. Condurrow was a prosperous mid 19th century tin and copper mine and was reopened unsuccessfully in the early part of the 20th century.



The electric hoist engine, Condurrow.
(Kelvin Lake)



Vivian's shaft headgear, worked by the electric hoist.
(Julian Bromhead)



Neal Rushton descending the ladderway.
(Kelvin Lake)



Gareth, Neal and Andy Harris stress testing the suspension bridge!



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Brief Underground Trip Reports continued ...

Access into the mine was by vertical ladders in ladderway shaft. This led to a suspension bridge installed by CBMS to replace false timber flooring that had collapsed. The various groups were guided around the two main levels in Condurrow. Exit was via a tight ladderway in Vivian's shaft which is still equipped with operational winding headgear. The mine consists of part reopened 19th century workings and newer workings developed since then. Most areas of the mine that we visited had fixed lighting and are very well maintained. The mine has its own compressors and a couple of rock drilling demonstrations were given.



Demonstration of a Holman rock drill. (Vicky Robinson)



Alan Robinson with a Boyles Bros drill. (Vicky Robinson)



Graham descending a ladder through false flooring. (Kelvin Lake)



View along a tramming level below false floors in a stope. (Kelvin Lake)



The main tramming level leading to Vivian's Shaft and the skip hoist.

Other Underground Trips

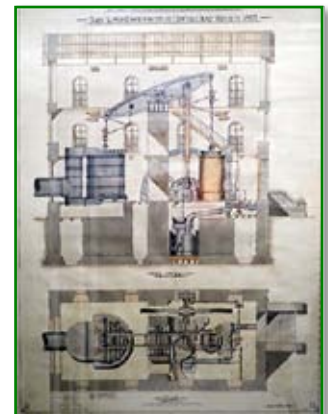
There were a few other underground trips organised for NAMHO delegates, but either club members missed them (this time) or no reports have been received. These were to: Rosevale Mine (Zennor, previously visited on several Club trips to Cornwall), Polberro, (St. Agnes), and Wheal Gorland.

Surface Trips

Kresen Kernow by Steve Holding

A tour of Kresen Kernow Archives (the Cornwall County Archive) was one of the first tours available as part of the 2024 NAMHO Conference. This was on the Friday afternoon and there were about 15 delegates present, including Jeremy Stopford and Steve Holding, from SCMC.

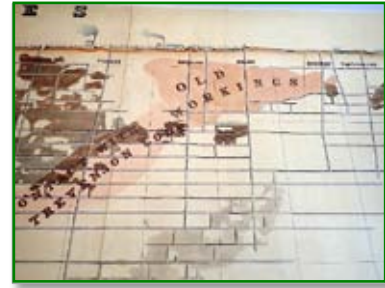
The archive is located in the old Redruth Brewery and is reputed to hold the largest collection of material in Cornwall. Friday is not a day that the archive is open to the public but one of their staff did an excellent job of showing us around and had obviously put in some preparation (*see example engine drawing, right*).



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Brief Surface Trip Reports continued ...

The strong room for the archive is modern and large, with material on two floors. Items of mining interest are not separated out but are located with other material about the individual estates, or locations, however, we were able to view a few mine plans (*see right*) – our guide having made the effort to sort out a few in advance.



The archive holds a substantial amount of material, including old photographs, as well as various types of documents, all of great interest. There were parts of the archive where more sensitive documents are stored (e.g. births and marriages etc) that we were not able to access or photograph, but otherwise we were given fairly free access to roam – inevitably some delegates were close to being lost!

South Crofty Mine (Saturday 29th June) by Kelvin Lake

This trip started in the Kernow Resilience Hub (KRH) with a lecture by the South Crofty manager Steve Tarrant. During his talk he outlined the current situation at Crofty, gave a bit of an insight into its history and outlined their plans for the future. He was very keen to stress that Crofty was aiming to mine tin and *NOT* Lithium!

Following his talk and a quick tea break all those on the mine trip travelled the short distance (about a mile) from the KRH to Cornish Metals offices between South Crofty's Old Cooks Kitchen and New Cooks Kitchen (NCK) shafts. Here we watched a safety video and had to answer a 'quiz' on the video, before donning PPE and starting the tour.

At least 8 Club members managed to get on the list for this tour, initially hopeful of an underground trip. However, with an eye to future developments the workers at the mine were concentrating on re-lining New Cook's Kitchen shaft as it was de-watered, and installing ladders in Old Engine shaft as a second means of escape. They were also working on the cage. They were adding extra braces to it so that it could be lowered down one side of the shaft, but be braced across the whole width of the shaft without the need to move the sheave wheel and winding drum.



Andy Harris heading for New Cooks Kitchen shaft. (Kelvin Lake)



Manager of South Crofty, Steve Tarrant by NCK shaft. (Kelvin Lake)



Banksman's controls for the gates at the top of the shaft.



The current winding drum of the Roskear winding engine, NCK shaft. (Kelvin Lake)



View from the winding driver's seat - there are 2 more monitors above those in the picture. (Kelvin Lake)



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Brief Surface Trip Reports continued ...



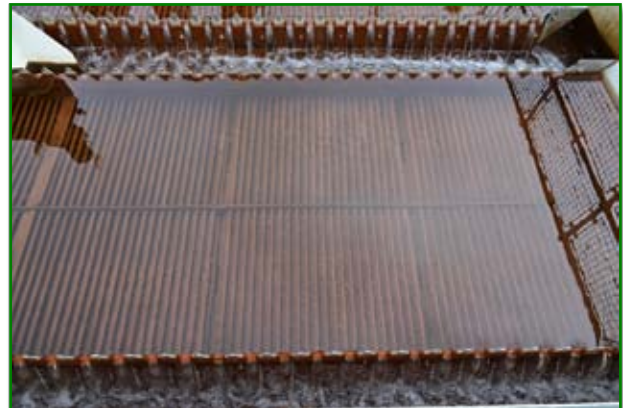
The new, larger pumps due to be installed at the 195 fathom level when water levels are low enough.



The water treatment plant beside South Crofty Sump shaft. (Kelvin Lake)



Steve Tarrant and NAMHO delegate Chris Michel by one of the Stage 1 tanks in the water treatment plant.



Plates visible in one of the Stage 4 lamella clarifiers in the water treatment plant. (Kelvin Lake)

The current winding engine is only temporary and is scheduled to be moved to Roskear Shaft as they get deeper into the mine, when a more powerful and larger one will be brought into use at NCK. The controls for the winder were interesting: 4 monitor screens, a couple of buttons and a little joystick, it is all ‘drive by computer’!

They are aiming to de-water the mine down to the 195 fathom level and install four powerful pumps in the existing pumping station down there. Later, two of those pumps will be moved to the bottom of the mine once de-watering reaches there. You can watch a snippet of club members in 1993 descending NCK shaft and watching mining 730m below adit in the very hot 400 fathom level at: www.iarecordings.org/snippets/snippets.php#Snip09 and *Snippet 7*.

From NCK we then walked over to the water treatment plant. All the water pumped from the mine goes through the plant and five stages of treatment involving adding various chemicals, and using lamella plates and clarifiers to remove various metals (as a sludge) before discharging ‘clean’ water into Dolcoath Deep Adit and the Red River. While the treated water is much cleaner than other water entering the Red River, it is not potable.

The tour was rounded off by a pasty lunch provided by Cornish Metals and a chance to view some of the recent core samples in the engineering workshop.

Wheal Maid Valley & Wheal Virgin (Sunday 30th June) by Gareth Rushton

Members present: Gareth Rushton and Neal Rushton.

We undertook a series of short walks today, starting with a leisurely walk around the tailings dams of Wheal Jane mine and Mount Wellington, located in the Wheal Maid valley. Following the route of the Redruth and Chasewater Railway we made our way into the valley, before heading up to the 1825 Taylor’s 85” pumping engine house (Grade II Listed) of Wheal Virgin. Heading further up the hill we reached the ‘Clock Tower’ where it is recorded that a clock mechanism and bell was installed within the flue chimney of the mine. At the end of the shift the bell would be rung to signal the end of work for the day.



View up the Wheal Maid valley from the Wheal Jane tailings dam. (Gareth Rushton)



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Brief Surface Trip Reports continued ...

Heading around the upper areas of the spoil heaps, we encountered numerous open shafts, some with Clwyd caps, others with caps very similar to those at Snailbeach e.g Chapel shaft. The mines in this area were very wet and merged in 1779 to form Great Consolidated Mines (or “Consols”). They replaced seven Newcomen engines with five Watt engines, which in turn were replaced later by two 90” pumping engines made by the Neath Abbey Ironworks.

Proceeding down the bank (on what felt very much like an incline) we reached the head of the main dam and made our way across to the other side of the valley. From this side we had a really good view of the syphon columns that the mine water is allowed to flow out of, from the workings into the dam. At this point, the vivid colours of the red acidic water were particularly evident.



Taylor's 85" pumping engine house of Wheal Virgin. (Gareth Rushton)



The 'Clock Tower' it's reputed that it once had a clock and bell on it.

Heading around the remaining smaller dams that provide additional capacity for mine water storage before dropping back onto the railway track bed, we came across a very short section of stone setts that had obviously been the ‘sleepers’ for the railway at some point, fixing the track at the correct gauge like concrete sleepers do on the modern railway. With the weather on our side, we made our way to the next location:

‘Ale & Cakes’ Mine by Gareth Rushton

A short drive away from Wheal Maid Valley is the lonely Grade II Listed stamps engine house at ‘Ale & Cakes Mine’, part of the United Mines. It was built in 1899 (30 years after United Mines closed) to house a 34” engine to rework the old waste tips. The engine house sits prominently on a hill, with a small plateau to the north where the water source for the steam engine could be found, (at the time of our visit just a dried up depression).

Whilst there is little more to see than the house itself, it was particularly nice to visit and largely in good condition.



The stamps engine house on ‘Ale & Cakes’ mine. (Gareth Rushton)



Interior rear wall of the stamps engine house. (Gareth Rushton)



Rear of the engine house, with dried up engine pool in foreground.

Wheal Peevor by Gareth Rushton

Not far from Redruth are the remains of Wheal Peevor. Interestingly this is one of the few places where all three engine houses for the whim, pump and stamps engine (all Grade II Listed) are still standing.

The first structure in the centre of the site is the impressive pump engine house on George’s shaft. An elderly 70” pumping engine was squeezed into this building in 1912 which originally housed a 60” engine erected in 1872.



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Brief Surface Trip Reports continued ...

A short ascent of some metal steps into the pumping engine house gives a nice view of the whim engine house to one side and the stamps house towards the bottom of the site.

Retracing our steps, we proceeded to the whim engine house that once housed a 22" winding engine. It wound from the same shaft as the pumping engine. The walls of the whim house are not in as good a condition and some bracing was evident to provide support.

Heading down the hill to the 1876 house of the 32" stamps engine, it could be seen that a small section of the bob wall had been removed and a steel prop is now used to support the structure. In 1912, twenty-four head of Californian stamps and a horizontal gas-oil engine were installed. Part of the plug door in the bob wall was removed for the drive belt and 2 iron pipes used as the support, these were replaced during conservation work in the early 2000s. The bases for the engine and the flywheel to drive the stamps battery are all present.

Further down the hill we could see the two engine houses of West Peevor mine (Mitchell's shaft pump and the stamps engine house). As we headed towards them, we came across the remains of two Brunton calciners and associated labyrinths and flue systems but these were in very poor condition.



George's shaft 70" pumping engine house. (Gareth Rushton)



The 1872 George's shaft 22" winder engine house. (Gareth Rushton)



The 32" stamps engine house at Wheal Peevor. (Gareth Rushton)

Wheal Prosper & Trewavas Mine by Gareth Rushton

Members present: Gareth Rushton, Neal Rushton, Steve Holding, Andy Harris, Alan Robinson, Vicky Robinson and Graham Smith.

Club members met at Rinsey Head, (the road down was a little special!) and proceeded to make our way east along and down the coastal path, firstly coming across the imposing 30" pumping engine house of Wheal Prosper (Grade II Listed). Erected on Engine shaft in 1860 it also pumped, via flat rods, Leeds' shaft below the car park to the north-west. There is a large adit at the foot of the cliffs below the engine house. Sadly the building has suffered fairly substantial subsidence in recent years and cracks are evident in numerous locations. It is assumed that the sand lobe that the house is perched on is suffering from erosion and has settled. The National Trust have confirmed that they are aware of the problem and a design to remedy the situation is being discussed, but will be at significant cost.

Proceeding along the path on the top of the cliffs the terrain became more rugged, and after some 30 minutes we arrived at the two Grade II Listed pumping engine houses of Trewavas Head. Whilst these do not cling to the cliff and are not as exposed as those at Botallack, they are brilliant pieces of engineering. However, it is yet to be fully understood why the houses were built in such locations, with the shafts right on the cliff edge. Some shaft collars had been raised by use of dry stone walling from large boulders and look very precarious.

After spending some time viewing the houses and taking pictures of the shafts, we had a little look at an adit that we had found in the cliff, but none of us were ready to get wet so we gave it a miss on this occasion but with plans to return. A quick scramble back up the hill and we were on the coast path heading back to the cars before a trip to the Blue Anchor in Helston for a swift one after stopping off for some food and to watch the England game.



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Brief Surface Trip Reports continued ...



Club members by Wheal Prosper's 30" pumping house. (Gareth Rushton)



45" pumping engine house at New Shaft, Trewavas. (Gareth Rushton)



Members heading for the 1834 Old Engine shaft, Trewavas. (Gareth)

South Wheal Frances (Monday 1st July) by Gareth Rushton

Members present: Gareth Rushton, Neal Rushton, Cara Allison, Julian Bromhead, David Reeves, Andy Harris, Graham Smith and Helen Nightingale.

Following an extensive day of trips at King Edward Mine and Condurrow, club members and a guest made the short trip past Wheal Grenville over to South Wheal Frances.

The first structure encountered was the imposing whim engine building and its size is simply immense, this was by no means a small operation and the final depth of the shaft is reported to be 622m. Beyond here we moved to the boiler house that produced the steam for the whim and pumping engines. Adjacent to this is the large Grade II listed pumping house on Marriott's shaft which I remember being at least 8m or so in diameter. The 40" beam engine built by Hathorn Davey & Co. Leeds set to work in 1899 was unusual in that the riveted steel plate bob was below floor level and had two inverted vertical cylinders (40" diameter high pressure cylinder, 80" low pressure cylinder).

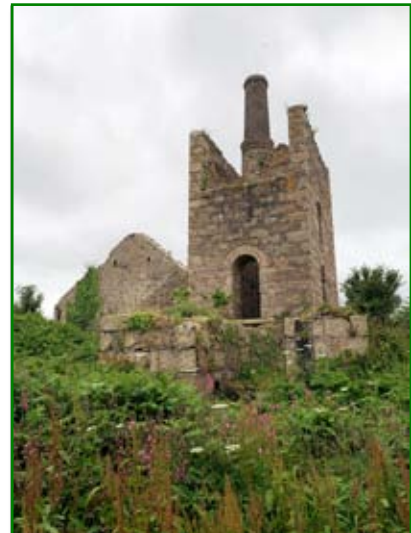
Further along the site were the compressor house and the base of the large ore bin that was connected to the pit head by an elevated tramway to convey wagons of ore from the shaft to storage for processing.

At the bottom of the site was the whim engine and pumping engine houses of Pascoe's shaft, these were both in excellent condition, including the rare sight of the remains of the boiler house for the whim engine.

A short walk back up the hill brought us to the final structure on the site, the very impressive miners' dry, the size of which I have not seen anywhere else in Cornwall.



The huge miners' dry at South Wheal Frances. (Gareth Rushton)



The 1880 Daubuz' 30" multipurpose engine house. (Gareth Rushton)



Club members by Marriott's shaft. (Gareth Rushton)



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Brief Surface Trip Reports continued ...

King Edward Mine (Monday 1st July) by Kelvin Lake

Kevin Baker had arranged with King Edward Mine for a visit by NAMHO delegates. Most of the Club members still in Cornwall attended and were given a guided tour of the site by museum volunteers. Mining on the site began for copper as Old Tye Mine which closed in 1830. Re-opened with Great Condurrow in 1844, it became South Condurrow Mine in 1850. Following the discovery of the western end of the Great Flat Lode and the switch to mining tin, it became the most profitable mine in the Carn Brea region in 1878, paying dividends until 1893. The mine closed in 1896. Camborne School of Mines (CSM) was presented with the eastern part of the mine in 1897. The mine was renamed King Edward Mine on the accession of Edward VII in 1901.

CSM equipped the site with workshops, lecture rooms, a survey office and a small tin processing mill with all the latest ore-dressing equipment. Almost all of these facilities survive today, forming the key elements of the mining museum. Our tour took in the amazing survey office and the displays in the former boiler house. At the top of the site, work is underway on 'Sump' shaft to erect the wooden headframe from Concord Mine. The adjacent wooden engine house holds the original horizontal steam winding engine made by Holman Bros which was returned here in 2003.



The survey office at King Edward Mine. (Kelvin Lake)



The newly re-constructed 'Sump' shaft. (Kelvin Lake)



Delegates listening to Syd Geake by 'Sump' shaft. Can you spot the 10 club members in the picture?



The Holman Bros. steam winder, now demonstrated with compressed air. (Vicky Robinson)



Name on the Californian stamps



The working Round frame.



A small ball mill in King Edward mill.

From the winding engine house we passed through the adjoining mine buildings and their displays to the centrepiece of the museum, the processing mill. All the equipment was demonstrated including the Fraser & Chalmers Californian stamps, probably the only surviving, working stamps of this type on their original site. Delegates took some time examining the working ball mill, shaking tables, round frame, rag frames, and other equipment.



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Brief Surface Trip Reports continued ...

Imerys Pit to Port Trip (2nd July) by Roger Gosling

This trip, organised by Kevin Baker, was very popular and booked up very quickly. The trip was almost an ‘SCMC special’ as, out of 20 of us, there were 17 SCMC members on the trip; Cara Allison, Kevin Baker, Julian Bromhead, Peter Eggleston, Roger Gosling, Andy Harris, Steve Holding, Kelvin Lake, David Reeves, Alan Robinson, Vicky Robinson, Gareth Rushton, Neal Rushton, Graham Smith, Jeremy Stopford and Edwin Thorpe.

Our trip started at the Imerys UK Head Office in St. Austell. We were all there by 10am for a prompt start with our steel toecap boots on; all other PPE gear (tabards, helmets and ear plugs) was provided by Imerys. After a quick welcome to the site from Mark Hewson (CEO of Imerys UK), we set off by coach to visit our first site, a view point above the huge Imerys Littlejohns Kaolin mine. Malcolm Rogers, our guide for the day, and an ex Imerys employee, described the activity.

The pit operates 24/7 with 4 different shifts of 5 or 6 Imerys direct employees. There are about 200 blasts per year, using about 1,000 tons of liquid explosives (drilling and blasting are subcontracted to other companies). The area is then ‘washed’ by a ‘monitor’.

This automatically sweeps around blasting water at 1,300 litres per minute at 15 to 20 bar. Washing out the feldspar from the material, the slurry then flows downhill and is pumped through filters and bucket wheels. Sand and gravel is screened out and transferred to the aggregate partner companies for further processing and separation. The clay/kaolin slurry is pumped to a series of hydro-cyclones to separate out the micaceous content leaving the kaolin slurry to be pumped up into holding tanks (each holding about 1,100 tons). At all stages ‘the product’ is sampled and tested for numerous physical properties (brightness, viscosity, casting rate etc.) and chemical content (Arsenic, Iron, Potassium etc.) to meet customer specifications.



The Imerys welcome committee, our guide Malcolm on right (Roger Gosling)



Delegates and coach at Littlejohns Kaolin Mine. (Vicky Robinson)



Panoramic view of Imerys Littlejohns Kaolin Mine with Brookland Sand & Aggregates operation in the left foreground and Imerys hydraulic mining in the left background.

(Kelvin Lake)



Hydraulic monitor at work in Littlejohns Kaolin Mine.



Part of the Brookland sand and aggregates operation.



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Brief Surface Trip Reports continued ...



Bank of bucket wheel classifiers.



Hydro-cyclone refineries, Littlejohns mine. (Kelvin Lake)

The 2 to 2.5 million tons of feed, intermediate products and final products each year is transferred to the main refining and drying plants by Imerys' own underground pipelines (there are about 200 miles of these!) at a rate of about 40 to 50 tons per hour.

Waste materials are processed by Brookland Sand and Aggregates (about 1.8 million tons per year). Due to the dualling of the A30 this part of the operation has recently been very busy. One product for which there is currently no market is micaceous waste, which is stored in 'mica dams'; one possible use investigated was for kitty litter, but proved to be not economic.

The company is the second largest user of water in the south west, (second only to South West water!); they use 8 million cubic metres per year, it is extracted from over 60 places in the area.

In a busy month 13 million kWh of electricity is used at the pit and their processing plant (which we visited in the afternoon). About half the power comes from 4 wind turbines, 8 solar farms and some small hydro systems, the balance is from the grid, these facilities are all operated by other companies. Imerys have their own high voltage electric network with 60 sub stations, 40 miles of underground cables and 20 miles above; they switch energy around as required and it's also possible to feed energy back into the National Grid.

The large trucks in the pit are maintained by another subcontract company. Larger wheel loader tyres costs about £20,000, they wear out a set of tyres in 18 to 24 months, smaller dump trucks tyres are about £7,000 each.



First stage refiners - Supercone separators at Trebal Refiner Site.



Delegates in the Centrifuge building at Trebal Tank Site and Refiner.



Alfa Laval centrifuges in the Trebal Centrifuge building. (Kelvin Lake)

Trebal Refiner Site

After spending some time at the pit we re-boarded the coach and *followed* the clay product to the Trebal Tank Site and Refiner. This is one of the largest clay refining facilities in the UK and was first commissioned in 1974.

The product undergoes a series of refining stages and treatments utilising Dorr Oliver settling tanks, chemical dosing, Supercone separators, centrifuges and Alfa Laval cyclones. In Cornwall the clay is stained with ferrous minerals and so looks very yellow-white, competitors have blue-white clay, which is more in demand, so the appearance has to be chemically modified.

From the centrifuges it passes through an ozone clarifying process to deal with any organics in the clay before passing to the last stages at the Trebal site - dewatering and filtering. The product runs through a series of special wire wool disc filters before a huge liquid helium cooled superconducting magnet removes any iron impurities.



Liquid Helium cooled magnetic separator area, Trebal.



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Brief Surface Trip Reports continued ...

Imerys Rocks Drying Site

The final stage for the product is for it to be dried to 10-12% moisture content. This takes place at the Rocks drying site. It is the largest Tube press facility in the world, and the new sections were commissioned in 2008.

The main part of the site is a large three storey building. We started at the top which is fed with clay slurry by the use of high pressure pumps. This floor gives access to the top of 120 tube presses which compress the clay to remove moisture. On the middle floor we could watch the clay being compressed, then on the ground floor the compressed clay was taken by conveyor to large ovens for final drying before storage and shipping.



Top of the tube presses at Imerys' Rocks Drying Site.



Middle floor of the tube presses. (Vicky Robinson)

Ten different grades of clay of varying quality parameters are produced, these are further refined to 40 different grades of clay (many different aspects are controlled e.g. viscosity, particle size, brightness and mineralogy). When used in paints, for example, their 'Supreme' product (the most expensive) is 90-95% less than 1 micron in size (compared to human hair at 75 microns), other aspects controlled include acidity and the brightness of the clay particles.

The finished products are loaded on to lorries or trains to go to customers in the UK, or to their facility on the Fowey estuary to be exported by ship. Although we didn't make it to the port on this trip, I did manage to see the loading wharfs while on a river trip in July 2022.



View from the river Fowey in 2022. (Roger Gosling)



The Imerys quay on the River Fowey. (Roger Gosling)



Detail of the ship loading facility. (Roger Gosling)



Clay wagons on the wharf in 2022. (Roger Gosling)



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Brief Surface Trip Reports continued ...

Imerys British Lithium Pilot Plant (2nd July) by Roger Gosling

Before we visited the Rocks Drying site and whilst eating our packed lunches, we moved on to Stenalees for a tour of the pilot plant. After a strict safety briefing, we were taken through the building having the process explained to us. Unfortunately I didn't really understand all this, but the intention of this project, started in 2021 is that if the extraction of lithium (as lithium carbonate, Li_2CO_3) from granite is successful, the process will be scaled up by a factor of about 1,000 times. At the moment they can lay claim to be the World's first end-to-end lithium pilot plant treating lithium mica granites to produce high-purity, battery-grade lithium carbonate, and so far they have produced the only UK lithium carbonate. This is a massive investment but if it works it should be very profitable as lithium is currently in big demand worldwide mainly for use in batteries.

More information on the pilot plant can be found on the imerysbritishlithium.com/pilot-plant/ website.



The Imerys British Lithium Pilot plant building.



Diagram of the Lithium process.

(Vicky Robinson)



The Lithium pilot plant processing line.

(Kelvin Lake)



The filter and concentration end of the main plant.



Concentration flasks, so far made 99.9% pure Li_2CO_3 .



Differential pressure gauges in the test lab. (Kelvin Lake)

Summary

A hugely interesting day, provided free for us by Imerys. Many thanks to Malcolm Rogers who was a superb guide, Kevin Baker for organising the day with Mark Hewson, CEO of Imerys UK. At the conference on the Saturday afternoon, Mark had given a very interesting talk:

China Clay Industry - Linking Cornwall and France and the New Industry of British Lithium.



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Brief Surface Trip Reports continued ...

Geevor, Levant and Botallack (3rd July) by Graham Smith

A packed day for a number of us, hosted by Kevin Baker. We had a personal guided trip around the Geevor museum site, the newly restored ball mill was run for us and we got to see part of the ore separation plant in action. The mill can be seen at work in 1987 in the 3-DVD set “*Mongst Mines and Mine Explorers*” made by Club members.



Headframe of the 480m deep Victory Shaft.
(Graham Smith)



Victory shaft winder - these museum manikins are really life like!
(Graham Smith)



The iconic locker with the mine closure date on it.



The Geevor locker room. (Graham Smith)



The Levant beam engine. (G. Smith)

A personal highlight is always seeing the old showers and lockers.

It is touching to see photographs of the former miners on the wall nearby and being able to truly put faces to the names on the lockers.

Lunch was kindly provided in the form of a huge pasty and then a swift move to Levant to see the winder in steam which had been kindly arranged for us. Here we all scrambled to take photographs of the engine in motion.

Finally the day was rounded off with a visit to where else but Botallack to see the Crowns engine houses in the evening light along with Wheal Owles. A truly memorable action-packed day.

A big thanks to Kevin Baker for organising and herding us so well.



Club members at the Crowns engine. (Graham Smith)



The Crowns engine houses, Botallack. (Graham Smith)



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Brief Surface Trip Reports continued ...

Wheal Jane Laboratory (Friday 4th July) by Kelvin Lake

This was the last official NAMHO trip of the conference, organised by Kevin Baker. After a little confusion over the meeting place we all made it to the offices of Wheal Jane Laboratory. They are still using some of the former Wheal Jane buildings and specialise in analysing a range of minerals for customers around the world. They are also processing the final batch of tin concentrate from South Crofty (before closure in 1998) using a CRM 700 Tilting Crucible furnace which we were really lucky to see in operation. Although only casting a small amount at a time the small castings are re-melted and formed into ingots of about 10kg in weight and marked with a special Wheal Jane imprint. All the ingots that they produce are already sold to Cornwall Gold Centre for conversion into jewellery.



The tin is smelted in small gas furnace. (Kelvin Lake)



Stirring the CRM 700 Tilting Crucible furnace.



Pouring the molten tin. (Kelvin Lake)



A cooled sample from the initial smelting. (Kelvin Lake)

Unfortunately as part of the re-development of the Wheal Jane site, the area housing the smelter is due to be demolished and replaced with modern industrial units. So, this was probably the last chance to see the smelting of Cornish tin in Cornwall. When South Crofty starts producing ore again, they won't be processing it, it will be sent to smelters elsewhere.

After a fascinating tour of the smelter, lead by Clifford Rice, he showed us a number of tin ingots. Some had been recovered from the seabed in 1994 from the wreck of SS Cheerful which sank 18 miles off St. Ives in 1885.



A finished Wheal Jane tin ingot. (Kelvin Lake)



SS Cheerful ingots, the upper one has been cleaned.



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Brief Surface Trip Reports continued ...



A 'blister' on a shipwreck tin ingot (~1cm diameter).



Detail of the Abhurite crystals in the blister.



Part of Wheal Jane Laboratory.

Some of the ingots recovered from another shipwreck were produced by Boustead & Co. They were corroded and covered in 'blisters'. When cleaning the ingots Clifford realised that the blisters contained Abhurite crystals. These are formed by the action of sea water on pure tin and are a complex compound of tin, oxygen, hydrogen, and chlorine!



An Atomic Absorption Spectrometer in the Wheal Jane Lab.



The Inductively coupled plasma - optical emission spectrometer.

Liam Plamer then took us on a tour of the laboratory and its test equipment. This included an iCE3000 Series Atomic Absorption Spectrometer (AAS), an Agilent 5800 ICP-OES (inductively coupled plasma - optical emission spectrometer), a Leco SC832 machine for the combustion analysis of sulphur and carbon and an X-ray fluorescence machine. Each of these items of kit were in their own test areas. This range of equipment allows the laboratory to carry out a number of different tests all within the same building - something that a lot of labs can't do!

An interesting morning, thanks to Wheal Jane Laboratory's Clifford and Liam for taking the time to show us around.

A short video snippet of tin smelting in the Wheal Jane assay office and part of a tour of the intact processing mill during InterNAMHO 2000 can be seen at: www.iarecordings.org/snippets/snippets.php#Snip11



The X-ray fluorescence machine - looks like a scanner!

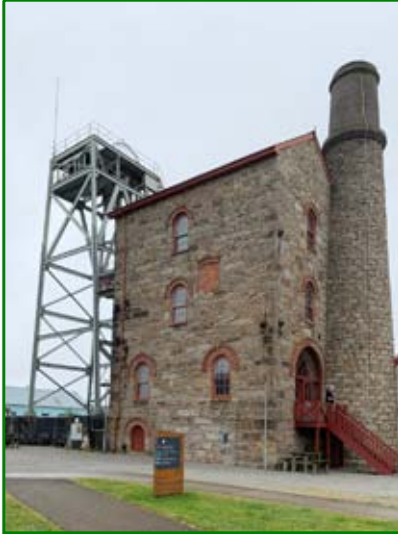


Ceramic specimen trays for the Leco SC832.



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Brief Surface Trip Reports continued ...



Robinsons shaft headframe and 80" beam engine house. (Gareth Rushton)

Heartlands (Friday 5th July) by Gareth Rushton

Members present: Gareth Rushton, Graham Smith and Andy Harris.

At the break of the final day, a small group of us decided that we would go for breakfast before the drive home, but realised we had a short time before the cafe opened, so on the way we stopped off at Heartlands, this was originally the planned venue for NAHMO but unfortunately the Council withdrew financial support for the site shortly before the conference was due to commence forcing NAMHO to find another venue.

The site at Heartlands, (Robinson's Shaft) and associated buildings formerly associated with South Crofty are all now closed with an uncertain future. We wandered around the accessible areas including the 3 sheave wheel headframe which was used for man riding in the later years of Crofty. We had a look through the windows of the capstan winder used for shaft maintenance, the pumping engine house and the ancillary buildings including the remains of the loco shed, the saw mill, carpenters shop, and fitters.

We hope that something can be done with the site to ensure its survival.



Robinson shaft capstan winder. (Gareth Rushton)



British Rail hooded clay wagon, Wheal Martyn. (Gareth Rushton)



Mica drag at Wheal Martyn. (Gareth Rushton)



Waterwheel and iron 'flat' rod at Wheal Martyn. (Gareth Rushton)

Wheal Martyn by Gareth Rushton

Members present: Gareth Rushton and Graham Smith.

The final trip for the week for some of us was to be a trip on the way back up country, and by chance Graham's first visit to Wheal Martyn. We had already had the trip with Imerys where they had shown what the modern method of china clay mining entailed, now we would see what it looked like some 100 years earlier. Starting at the bottom of the site we worked our way through the fundamentals of what, why, how etc.

We moved up the site to the power supply, a 35ft water wheel and flat rod arrangement that could convey power around the complex for the mechanical processing. We passed the furnaces and blacksmith shop that kept the pan kiln warm to dry the clay prior to transshipment.

Further up the site we visited one of the open pits that is now in the process of being backfilled, before visiting the settlement tanks and blueing house where the clay was separated from the water slurry that had been used to release it from the weathered granite.

Finally we had a look around the different forms of transport used in the process, the small wagons to convey the clay to the pan kiln, the open ended wagons that were used to load the waste material into the slip wagons that would then travel up the inclines to the top of the 'sky tips' to discharge the waste rock (think spoil heaps for clay pits). In the wagon collection is an example of the first of the British Rail hooded wagons dating from the 1980s. These wagons became famous trundling along the branch lines in the area, travelling to Fowey and Par to unload into ships in order that the china clay could be exported around the world.



Millstone Movements

Andy Wood

On the date of the first lockdown in 2020, several club members poured the concrete to form a display slab for the millstones at Cothercott Mill. Apart from displaying them better, moving them from the building's floor will permit further excavation to take place in some of the pits. However, Covid put paid to any quick action and various other issues contrived to mean that it took until 22nd June 2024 to finish the job.



Preparing the display slab, 19th March 2020. (Andy Wood)



The newly made slab 3 days later in 2020. (Andy Wood)

Andy Harris, Mike Shaw, Steve Holding and Andy Wood gathered at the site around 10am. They then set about removing a section of the fence to permit forklift access, followed by extensive bush bashing to tidy the overgrown site. Andy H had pre-made a 'rind' to fit into the top (runner) stone as the original was missing and there was much discussion of the plan to effect the movement and positioning on the plinth.

In due course, Stuart Ashley from neighbouring Upper Cothercott Farm, kindly brought his Manitou to provide the muscle, and move the millstones into place. The 'exploded' view of the stone that shows the construction method, caused some difficulties as it proved a challenge to arrange each piece correctly. Furthermore, the way it had broken apart, meant the individual pieces were unstable. Andy will return later and fix them to the plinth, replace the corroded metal band from the base stone and permanently fix the new rind.



Stuart arrives with his Manitou, June 2024. (Mike Shaw)



Stuart, Andy and Steve preparing to lift the runner stone. (Mike Shaw)



Moving the large bedstone to the plinth. (Andy Wood)



Putting the bedstone in place. (Andy Wood)



The finished millstone display. (Andy Wood)

After thanking Stuart profusely with a liquid gift, we replaced the fence and tidied up, finding a great crested newt in the debris! (it was safely relocated)



Seckley Coal and Clay Works

David Poyner

Introduction

Seckley Wood is part of the Wyre Forest, on the west bank of the Severn in the parish of Upper Arley (Figure 1). It overlooks Trimpley Reservoir, on the opposite side of the Severn. Immediately to the north are Cliff Woods and Bower Hill, where there the remains of extensive coal workings, probably dating from the 17th Century¹. To the east is Hawkbatch, also in Arley. The First Series Ordnance Survey 1" map labels coal works at SO 772 785 (Figure 2)²; a house here is known as "Clay Pit Cottage". Thus there have been mineral workings here, although they are poorly documented. This article is based on field work carried out over December 2023/January 2024.

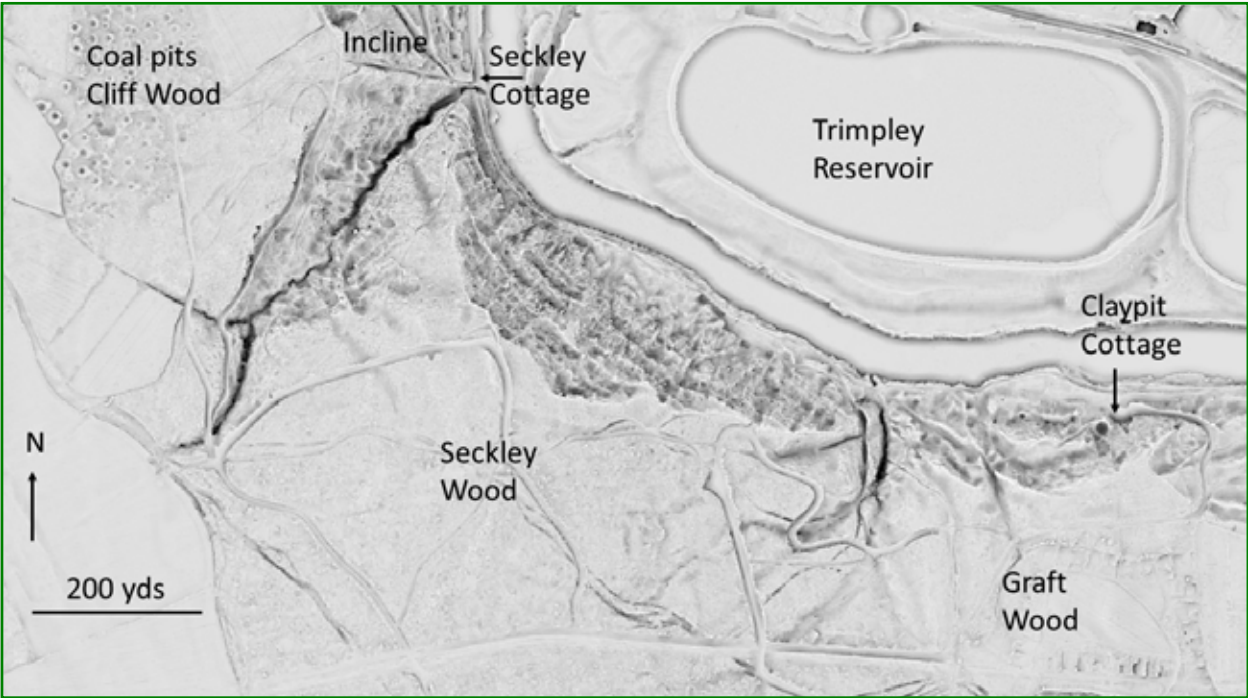


Figure 1: Seckley Wood and surroundings. (Lidar image, using Environment Agency data, SO77ne_DTM_1m)

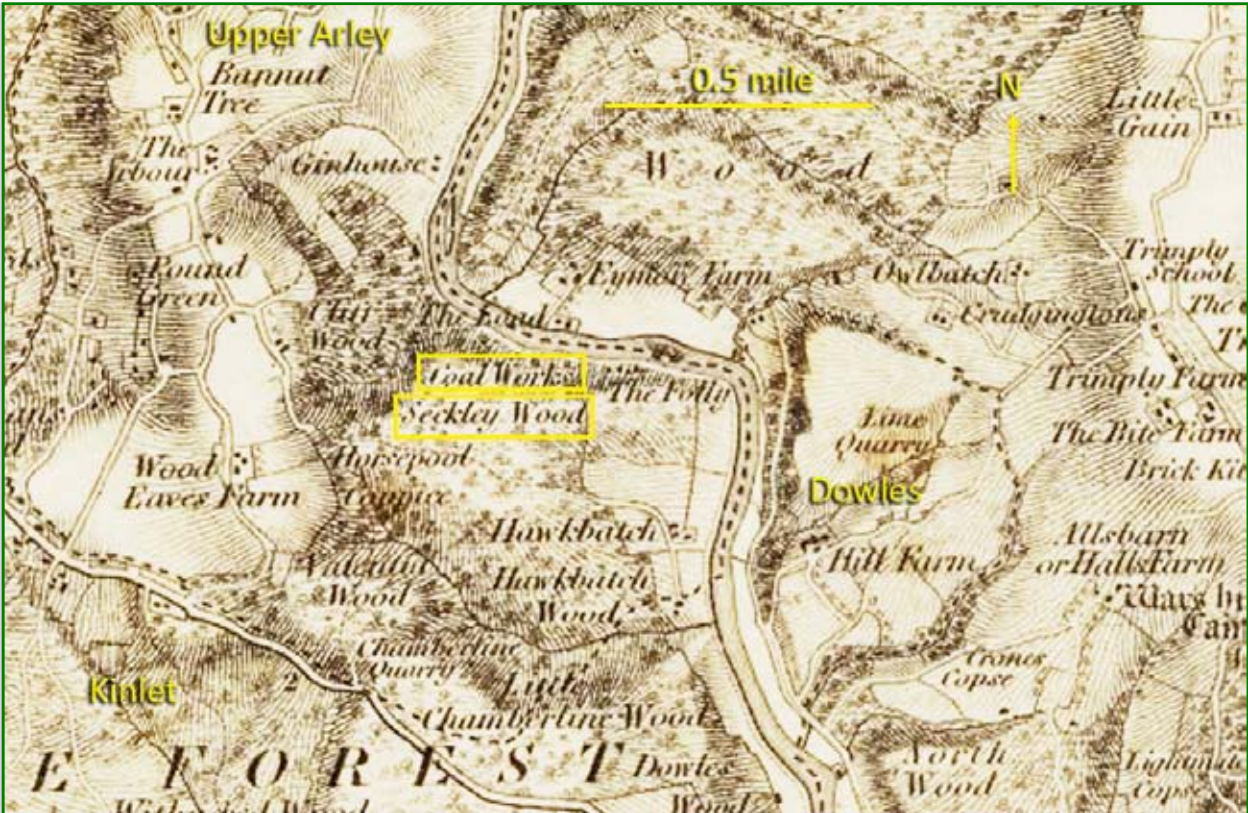


Figure 2: First Series 1":1 mile Ordnance Survey map showing Seckley Wood. (Old series Ordnance Survey maps of England and Wales) [cartographic material] (nla.gov.au)



Seckley Coal and Clay Works

David Poyner, continued ...

carried rails (Figure 8). There may be a second straight track leading into the large quarry, although this is less clear. The tow-path used by boats on the Severn runs in front of Clay Pit Cottage; one feature of note is a quantity of iron slag at SO 7718 7854; my guess is that this came from a forge (Eardington or Hampton Loade?) to surface the path.

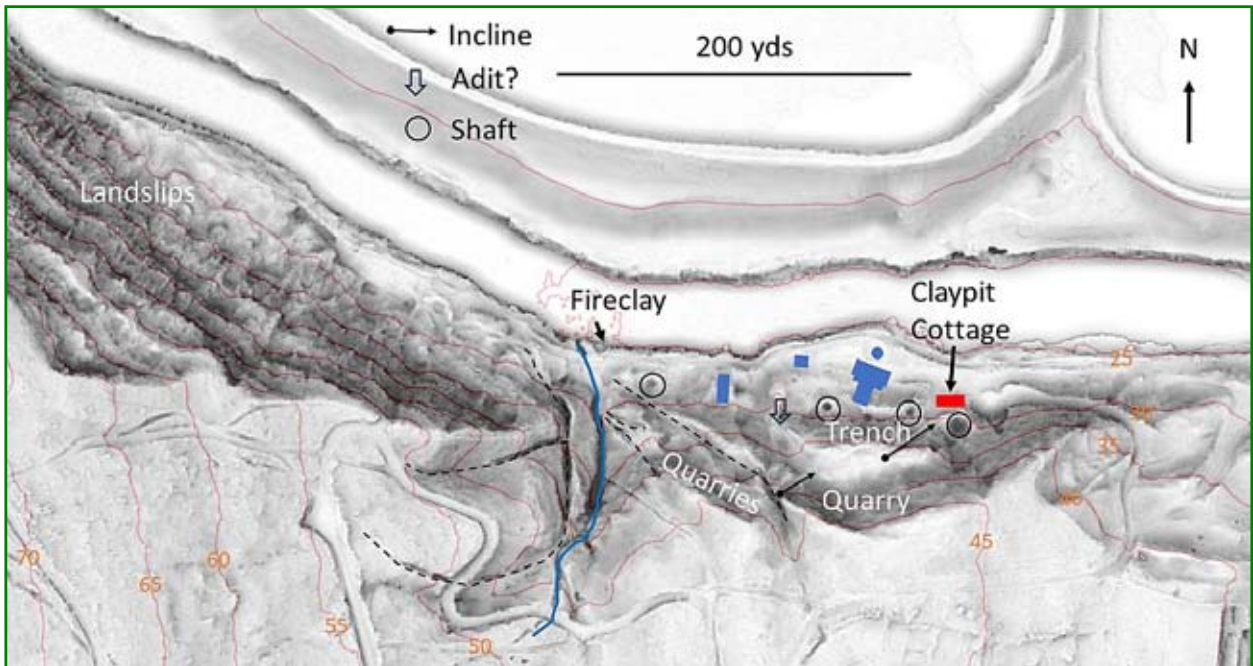


Figure 4: Lidar survey of Seckley Wood. Broken lines indicate tracks in the vicinity of the coal and clay works. Clay Pit cottage is shown in red, the probable locations of the brick works shown on the tithe map are marked in blue. Contours are in 5m intervals. *(Lidar image, using Environment Agency data, SO77ne_DTM_1m)*



Figure 5, Left: Large quarry behind Clay Pit Cottage. *(David Poyner)*



Figure 6, Right: Retaining wall behind Clay Pit Cottage. *(David Poyner)*



Figure 7: Possible adit. *(David Poyner)*



Figure 8: Incline descending from quarry to behind the cottage. *(David Poyner)*



Seckley Coal and Clay Works

David Poyner, continued ...

History

In 1776, an advert for the Hawkbatch estate in Arley noted that “an extensive” bed of clay was found near the surface and so it would make an “excellent” site for a brick works; an advert for the estate a decade earlier made no mention of this, suggesting the idea of developing a brick works came around 1776⁴. This is likely to be the bed worked at Seckley. However it is not clear if any work was done at this time. The earliest unambiguous evidence for industrial activity at Seckley is from a book of 1824, “Picturesque Views of the River Severn”, which mentions the “Valentia clay works” and the following year this was advertised for lease⁵. George Annesley (1770-1844), Viscount Valentia, inherited Arley from his mother in 1783; he assumed the title of Earl of Mountnorris when his father died in 1816⁶. The fact that the works took the name “Valentia” may mean they were established whilst Annesley still held this title. The printed First Series OS map, which was surveyed in 1828-30, labels the area as a coal works and the map shows what may be a pair of shafts by the river; one or even two others may also be indicated, but it would be difficult to distinguish a shaft from any other structure. Nothing is shown on the 1816 2” : 1 mile preliminary drawing, but its surveyors may not have been especially diligent in recording industrial features. The Upper Arley tithe map from 1838 gives no indication of coal working, but shows a brick works and the cottage (Figure 9), both owned by Annesley⁷. The main brick works building is roughly T-shaped and is probably the kiln, perhaps with an attached drying shed. A circle next to this may be a chimney stack. There are two other, oblong buildings of indeterminate function. All the buildings would have been on the level ground below the cliffs (Figure 10); there is no convincing evidence of any surface remains and all had been demolished by the time of the 1882 OS 1:2500 mapping. No tenant is recorded for the brickworks which may have been disused at the time of the survey. The cottage had two tenants which the 1841 census shows were a general labourer and an agricultural labourer. At this point the cottage was simply known as “Valentia Works”.

Thus there is firm evidence for clay and coal working from at least 1824, with the closure probably in the late 1830s. In 1870, the pioneering geologist of the Wyre Forest Coalfield, Daniel Jones reported that both firebricks and common bricks were made at the site⁸. Further details come from a history of Arley published in 1914 and written by the vicar, the Rev Mayo. Mayo drew on memories of local people and knew of the shafts at Seckley;

“Clay pits and possibly coal workings were also in existence at Seckley, below a cottage which (the oldest inhabitants tell me) formerly bore the odd name of “Glen Weathershines “ -now inhabited by Mr. George - and quite near Folly Point . A very good shaft is reported to have been here, but when it ceased working, I do not know. It was filled in during the time of the present Lord of the Manor to prevent accidents.”⁹

The “very good shaft” is likely to be the deep crater now directly behind Clay Pit Cottage. It is possible that the inclined track from the quarry to close to the shaft mouth may have been connected with its infilling, although it may have been simpler to bring the fill by barge via the river. The “present Lord of the Manor” was Robert Woodward, who inherited the lordship in 1882, giving a late 19th century for the filling¹⁰. A possible clue to its sinking may come from an account of Arley in a history of Staffordshire published in 1802;

“A vein of good pit-coal has been discovered within the bounds of this lordship; but the bed lying very deep, and near the Severn, the water cannot be kept out without more charge than the mine is worth.”¹¹

The Seckley shafts are the closest to the Severn in Arley and so are a good fit to this description. There is no sign of any winding or pumping engine house next to any of the shafts, although the deep crater may have destroyed evidence. It is only possible to speculate as to who sank the shaft. In 1779 William Ferriday, the ironmaster of Madeley and John Lyster of Broseley were given a 21 year lease of mines of coal and ironstone on the west bank of the Severn in Arley. They were allowed to erect gins and gin houses to raise the minerals and to make ways “for horses, carts and other carriages” for customers at their works. Rent rolls for Arley from 1790/1 and 1795 show no income coming from mining, suggesting they had given up their lease by these times¹². In 1800 Bannut Tree Farm, which included the Great and Little Cliffs was taken by a London tailor, Thomas Coombe. Coombe became a partner in an iron forge at Arley by 1803 and his death in 1806 was attributed to a “broken heart”, caused by losses in a mine¹³. This could be the deep shaft. However, Coombe and his chief partner, Benjamin Dugard also had a lease on a coal mine at the Tuckies in Broseley and I suspect Coombe’s financial problems were more likely to be due to the forge than any mine¹⁴. Thus the Ferriday/Lyster partnership appear a more plausible candidate for the shaft, but is no more than guesswork.

Whilst the deep shaft was problematic, other workings may have been more productive. In 1819, Annesley authorised Thomas Wagstaff the younger to get coal on west bank of Severn “under the woods”, for 1 year paying a royalty of 4/9 per ton and to supply him with coal at 4/- per ton¹⁵. Again, whilst the lease lacks precision, it fits the location of Seckley. The Seckley mines may also have been in Roderick Murchison’s mind in his Silurian System (published in 1839 but drawing on field work done in the early 1830s) when he wrote of how “some money” had been spent in the area of Arley and Shatterford, but most of the works were “now abandoned”¹⁶.



Seckley Coal and Clay Works

David Poyner, continued ...

Clearly clay was also being worked at Seckley, for the brick works. Whilst there may have been surface diggings, the effects of landslips and stone quarrying make these difficult to identify. I am inclined to take Mayo's traditions at face value and accept that there was also underground working, at least of fire clay; the sloping seam visible in the bank of the river would quickly require mining. Furthermore, clay was worked underground nearby in the Dowles valley in the 1820s.

There are two newspaper advertisements which may also relate to the brick works at Seckley. In 1829, there was a sale of 100,000 firebricks "lying near the Clay Works, within a mile and half of Bewdley aforesaid, and near to the River Severn; they will be offered in lots of 5000 each; and may be viewed by applying to John Tomlins, keeper, who resides near the spot"¹⁷. I previously thought that this applied to either Dowles or Kingswood clay works, but both of these are under a mile from Bewdley bridge. By contrast, Seckley is a little under two miles from the bridge. A vendor is unlikely to have overestimated the distance of his main market and so I suspect this refers to Seckley, with Tomlins living in Clay Pit Cottage. It is less clear how to interpret an 1836 sale of the lease of a fire-brick clay works, "near to Bewdley", with kilns, covered sheds and a "substantial quantity" of clay already got¹⁸; it could refer to any of three clay works.

Conclusion

The area by Clay Pits Cottage has had a varied industrial history. The earliest features are probably the quarrying remains, with the associated tracks. The presence of a potential incline may point to rails being used to take stone to the river. Coal mining probably started in the late 18th century with the sinking of a deep shaft and there may have been some limited digging for clay at this period. Fire and brick clay were being worked by the early 1820s for bricks, at the same time as coal was being successfully mined. A number of shafts and possibly also an adit are likely to have been used for coal and clay. The works probably closed in the late 1830s. Seckley together with contemporary fireclay mines in the Dowles valley as well as at Shatterford in the 1850s show that it was not just coal that was mined in the Wyre Forest.

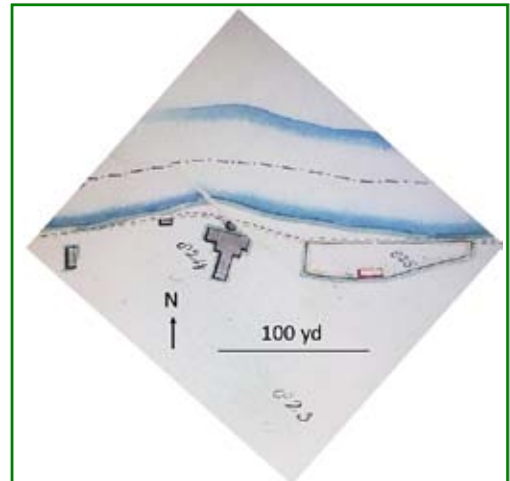


Figure 9: Brick works (grey) and cottage (red) as shown on the 1838 Upper Arley tithe map.

References

1. D. Poyner, An Early Railway Associated with 17th Century Coal Mines at Upper Arley, *Below*, 2012.2, pp. 16-18.
2. Technically the coal and clay workings are in Graft Wood, which is immediately to the east of Seckley Wood. However, the Geological Survey always refer to the workings as being in Seckley and so I have followed this nomenclature.
3. T.H. Whitehead and R.W. Pocock, *Dudley and Bridgnorth Memoirs of the Geological Survey of Great Britain*. HMSO, 1947, pg. 54.
4. Aris's Birmingham Gazette, 19-5-1766; 1-4-1776.
5. Thomas Harral, *Picturesque views of the River Severn*, 1824, pg. 272; *Berrow's Worcester Journal*, 29-9-1825.
6. [Parishes: Upper Arley | British History Online \(british-history.ac.uk\)](http://Parishes: Upper Arley | British History Online (british-history.ac.uk))
7. Worcestershire Record Office (WRO), 265.9
8. D. Jones, *The Forest of Wyre Coalfield-II*, *The Mining Journal*, 40, 31-12-1870, pg. 1092.
9. H.R. Mayo, *The Annals of Arley*, W. Hepworth, 1914, pg. 91.
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12. WRO 5467/35(vi), 10802/44(i).
13. WRO 10802/1; *Gloucester Journal*, 7-11-1803; *London Gazette*, July 1804; *Gentleman's Magazine* 1806, pg 1174.
14. Aris's Birmingham Gazette 2-11-1807; 4-1-1808
15. WRO 10802
16. R.I. Murchison, *The Silurian System*, 1839, pp. 133-134.
17. *Worcester Herald* - Saturday 21 March 1829
18. Aris's Birmingham Gazette - Monday 11 April 1836



Figure 10: Location of the brick kiln, now in the paddock of Clay Pit Cottage. (David Poyner)



We are nearly out of it....

Andy Wood

On a bright sunny day (Friday 26th July), Keith Whiddon and Andy Wood met with David Heavey and Lois Dennis at the Llyn Geirionydd car park at about 9.15am; necessitating a rather early start for the old man of the trip! This location is also the gated, but passable, level 1 adit of Pandora mine.

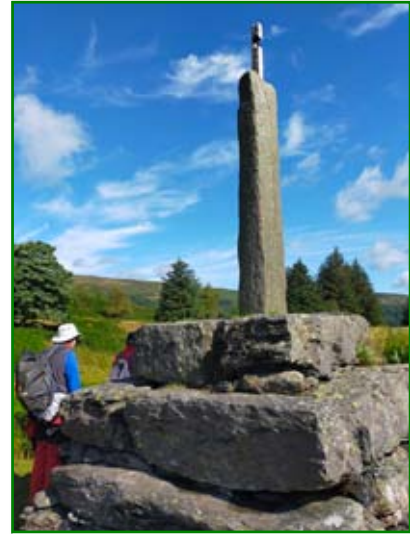
There were already wild swimmers in the water as we walked north along the road at the edge of the lake, originally the tramway from Pandora down to the aerial ropeway to Klondyke mill. We turned west where the water ended and noted the control gear for controlling the water supply to a leat, apparently still in working order. Nearby, we paused to admire the Taliesin memorial, erected by Lord Willoughby dEresby of Gwydir Castle on the supposed site of the birthplace of the sixth-century bard Taliesin.

We then headed up the hill to find the way up to Clogwyn y Fwch slate quarry but the route was extremely difficult to find as the bracken had grown up and over the barely discernible path. Keith maintained that the path was obvious a fortnight previously but we struggled to battle our way through the head high bracken laced with skin ripping brambles and tripping over unseen obstacles. Everyone took at least one tumble, fortunately without injury but complaints from the followers prompted the premature comment 'We are nearly out of it'. We weren't, and the promise of easier conditions in heather soon led us to more head high bracken. Nonetheless, we eventually found a spoil heap and scrambled up it to level 4.

Workings are mostly underground and may have begun as early as the eighteenth century. It was operated by William Turner when he came to Wales from the north of England in 1812, before moving to Blaenau Ffestiniog; this could therefore be the prototype for underground workings in Wales.

The site is unusual with workings on six levels going into a near-vertical scarp of some 400 feet on very steeply sloping ground. Because of this, there are many openings and much daylight inside with some very pretty colours on the rocks. The 'slate' is more of a stone than a fine-grained Welsh slate but would have provided satisfactory roof cover even if it was difficult to cleave.

We climbed up to levels 5 & 6 then descended the very loose and steep incline to level 3. Level 2 is inaccessible, owing to a collapse, but level 1 is interesting. Access is through a finely crafted cut-and-cover tunnel in a narrow cleft, redolent of Lake District practice. A short length of open-air leads to a sizeable cavern with the remains of some buildings just inside, thought to be where the early 'slates' were cut.



The Taliesin monument. (Andy Wood)



David and Lois fighting their way through the bracken! (Keith Whiddon)



Up the spoil heap... (Keith Whiddon)



Lois and David entering level 4. (Keith Whiddon)



Andy exploring.... (Keith Whiddon)



We are nearly out of it.... Andy Wood, continued ...



Underground building remains. (Keith Whiddon)



The caverns have several levels. (Keith Whiddon)

A need for food drove us along a much clearer path down to the remains of Klondyke mill, where we lunched and marvelled at the investment made in this magnificent structure. No expense was spared by the Welsh Spelter company when the hydro-electrically powered mill was built in 1900 in the optimistic expectation of dressing large amounts of lead and zinc ore from Pandora mine. Unfortunately and despite being in the care of CADW, the building is now a ruin.

There are extensive spoil heaps and remains of buddle pits and settling ponds. Just across the Afon Geirionydd from the mill is the gated grand portal of Klondyke mine, quite a small development with three short levels. However, this and the mill were the site of a huge money-making scam in the 1920s by a Joseph Aspinall.



Klondyke mine portal. (Andy Wood)



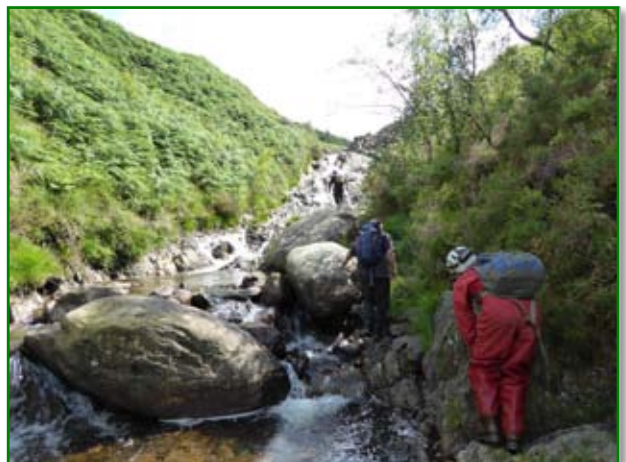
Klondyke mill. (Andy Wood)



Interior of Klondyke mill. (Andy Wood)

To return to lake level we scrambled up the river gorge, avoiding most of the water as the flow was low and exploring the various small levels on either side, some probably dating from the 1700s and most part of the Bryn Cenhadon Mines. The first one had some pretty colours inside and was quite ochrous, but a walk in the river washed most of it off! The next one had some stoping and lots of, seemingly unnecessary, timber props.

To keep some mine entrances dry, the miners diverted the river down a waterfall and through a short passage. The one opposite the waterfall adit was really nice with just over knee deep water, but then we found the dry way in! The topmost level was blind, as were all the others, but there was a rise that looked like an ore chute, next to timbers holding up a big pile of dead. Although it



Scrambling up the river gorge. (David Heavey)



We are nearly out of it.... Andy Wood, continued ...



Stope with lots of timbers, Bryn Cenhadon mine.

(Keith Whiddon)



Possibly one of the Bryn Cenhadon mine levels.

(Keith Whiddon)

seemed blind at the top, it may be that a level went off inbye and possibly connected with other Bryn Cenhadon workings.

Bryn Cenhadon was a much more substantial mine with significant recorded output. The shaft tops and open workings to surface have all been heavily fenced off to deter visitors, although there was a scaffolding pole concreted in at one place. Having examined the spoil for mineral, we cut up to the old tramway and returned to the cars. By this time, the car park was rammed and many families were enjoying the water and the weather.

Festival of Archaeology, 27th July 2024

David Poyner and Kelvin Lake set up a display of club activities and answered questions from members of the public about underground Shropshire at the Festival of Archaeology in the Great Warehouse, now the IGMT Museum of Iron, in Coalbrookdale.

This was the second such event sponsored by the Association for Industrial Archaeology at the Museum of Iron, with free entry for the public. In addition to the various Society and Club displays the museum ran a number of tours of their archives, and walks around Coalbrookdale area lead by museum volunteers.

The event proved quite popular, we had some interesting conversations - and even sold a few club publications!



The club display in the Museum of Iron.

(Kelvin Lake)

Cornish Bronze Age Tools Finally Dated

Recent carbon dating research on an oak shovel along with evidence from examination of an antler pick in the Royal Cornwall Museum's archive are thought to have identified the first Bronze Age tin mining tools to be found in Europe. The oak wooden shovel has been radiocarbon dated at around 3200 years old by the Project 'Ancient Tin Team', with a grant from the Royal Archaeological Institute. Understood to have been found in the Carnon Valley in 1815, it is formed from one piece of wood, unlike Medieval wooden shovels that are in two pieces. The antler pick, found circa 1855 also in the Carnon Valley, is 48cm long and around 3600 years old. It has tally marks carved on it, which could signify the recording of work by prehistoric miners. The research and dating for the antler has been conducted by Dr Simon Timberlake, Early Mines Research Group.

Report on CornwallLive.com, 14th June 2024



Old Cornish tools.

(Royal Cornwall Museum)



Nenthead 31st July to 4th August

Steve Holding

Those present were SCMC Members: Roy Fellows*, Steve Holding, Alan & Vicky Robinson and Paul Thorne. Also present was Peter Burgess from Wealdon Cave & Mine Society. Later in the week, we were joined by local member Nick Green and Allan Richardson (also an SCMC member).

We stayed in the Nenthead Assay House, owned by Nenthead Mines Conservation Society (NMCS).

*As usual, Roy opted to sleep in his car and cook breakfast outside – no sensible group would allow the cooking of Roy's breakfast inside anywhere they hoped to sleep!

Wednesday 31st July

There was an NMCS working party on the mine site which some of us helped with, or got in the way.

Thursday 1st August

In the morning, Alan, Vicky, Paul and Peter explored various parts of Rampgill Scaleburn and Main Veins. Steve started off with them but separated to concentrate on gas measurements – meeting up at various times in the mine. The gas measurements along the Main Vein workings near the 'County Gate' indicated lower oxygen and higher carbon dioxide than what is believed to be normal.



Carbon dioxide and oxygen readings near the 'County Gate'. (Steve Holding)

In the evening, Steve, Paul and Peter joined Nick Green and a couple of other local cavers (Carl and Lloyd) with digging in Scraiteholes, in the West Allan Valley. Roy was also along some of the time.



Old graffiti in Rampgill. (Vicky Robinson)



Site of a Rampgill dig with shoring. (Vicky Robinson)



Stone lined level in Rampgill. (Vicky Robinson)

Friday 2nd August

All of us went off either walking, or playing the tourist, in different locations.

Saturday 3rd August

Alan, Paul and Peter did a Middlecleugh to Smallcleugh through trip, while Steve simply pottered around Smallcleugh.

There was a restriction just before the scaffold dig and Michells Flats, on the Middlecleugh 2nd Sun Vein, which Steve went through but opted not to stay inbye of for very long due to the questionable roof of the restriction.



A suspicious package in Rampgill !! (Vicky Robinson)

He turned back after reaching the Cow Hill Cross Vein. The other three were also very cautious at this point. On the way out, Nick Green was met on his way in to try and make repairs to the roof – the route is now fine (for now!). *See the picture right.*



Middlecleugh 2nd Sun Vein restriction. (Steve Holding)

Sunday 4th August

Paul and Peter spent time in Brownley Hill Mine before setting off for Swaledale. Steve carried out more gas measurements in Rampgill before also setting off for Swaledale.



Swaledale 4th to 7th August 2024

Steve Holding

There were 8 of us stopping at the Low Row East* Bunkhouse, about 3 miles from Reeth. This sleeps 12, but with only one WC and one Shower, is much better with more limited numbers. It worked reasonably well with 8 of us.

*There is also a 'West' bunkhouse, sleeping 24 with two WC's and two showers, but more expensive for 'sole use'.

The SCMC members present were: Cara Allison, John Heathcote, Steve Holding, Alan & Vicky Robinson and Paul Thorne. Also present were Peter Burgess and Robert Hall – both members of Wealden Cave & Mine Society.

Sunday 4th August

We all arrived at different times and in the evening we were visited by Pete Roe – a local caver who briefed us on what was available. He had arranged some access permissions for us, which was very welcome.

Monday 5th August

In the morning, the whole group visited Danby Level. The mine workings connect to some natural (maze) cave passages that in turn give access to more mine workings, the access to the natural part being rather tight. John, Paul, Alan and Vicky went on through some of the natural cave whilst the others were content with just the mine workings. Some interesting features such as old graffiti and a shot hole still retaining its stemming can be found.



1903 Graffiti made with a candle or carbide lamp. (Vicky Robinson)



Alan at a junction in Danby Level. (Vicky Robinson)



Shot hole with stemming still in place, Danby Level. (Vicky Robinson)

In the evening, the whole group joined Peter Roe, and a couple of other local cavers with some digging in Crackpot Cave. This included a rather bizarre aspect of an underground 'Book Signing'. Emmy Hayes (one of the other two local cavers with us) had written a book titled 'Rescued' and decided to have a book signing event underground. For more information about the book signing see: *The Bookseller - News - Yorkshire author holds book launch underground in Crackpot Cave*. It will also be featured in the next issue of Below! (2024.4).

It should be appreciated that the access to Crackpot Cave is rather restrictive. Personally, I agreed to purchase a copy but not carry it out!

At the end of this cave, all present made a human chain to remove a considerable amount of rock for a dig trying to extend the cave upstream.

Whilst the entrance to Crackpot Cave is tight in places, the main streamway was large and very attractive.



Moving rocks at the Crackpot dig face. (Vicky Robinson)



Stal formations in Crackpot (Vicky Robinson)



Swaledale 4th to 7th August 2024

Steve Holding, continued ...

Tuesday 6th August

All of us were either walking or playing the tourist in various locations. On their walk Alan and Vicky visited Swinnergill Cave.



Vicky at the entrance of Swinnergill cave. (Alan Robinson)



Swinnergill is an interesting water worn cave. (Vicky Robinson)



Inside Swinnergill cave. (Vicky Robinson)

Wednesday 7th August

Alan and Vicky Robinson, Paul Thorne and Peter Burgess had a trip into Devis Hole Mine led by Pete Roe. This group descended to the area where there are lots of natural (maze) caves, partly exploited by the 'Old Man' but complex to navigate – Pete took them on a good route through these complex passages.

John Heathcote, Robert Hall and Steve Holding also visited Devis Hole Mine but kept to the upper mine workings. These do include some areas of maze cave, but these were only briefly looked at.



Candle stub on the wall in Devis Hole mine. (Vicky Robinson)



Pete Roe with a rail gauging stick found in Devis Hole. (Vicky Robinson)



Demo of how the gauging stick was used. (Vicky Robinson)



Alan in part of the Devis Hole maze cave. (Vicky Robinson)



Fossilised 'tube' worms, Devis Hole. (Vicky Robinson)



Early graffiti in Devis Hole mine. (Vicky Robinson)

Trip Report: Cambrian Quarry, Glyn Cieriog - Saturday 17th August 2024

Steve Holding

Present on the trip were Beverley Cooper (Shropshire Mines Trust), Lois Dennis, David Heavey, Chris Wood and Steve Holding.

After parking at the end of Quarry Road, the group entered via the chamber with the air receiver – using a hand-line down the slope. The various chambers to the North-West of the quarry were explored and the group went into the open quarry towards Aber Las. For most of this area, there was no running water on the surface – this being exceptionally dry (unlike the trip last December!). Re-entering the underground sections, the remaining chambers were visited and the tramway/streamway followed to the concrete pipe at the South-Eastern end.

The group then returned up the tramway to exit via the open chamber with the air receiver. The trip took about three hours.



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6

Andy Wood and Kelvin Lake

Day 8 - 2nd May

Today we planned a more leisurely day with a morning in and around Águilas followed by visits to a couple of sites in Almedricos, finishing off the day at the Lorca Sulphur works.



The main sites visited on day 8 of our 2023 Spanish trip, to the south and west of our base at Casa Perez.

This map has been simplified from the 590-site interactive map developed by Peter Eggleston for the Spanish trip. You can access the map at https://www.iarecordings.org/maps/Spain_2023_v03.html
Username: **SCMC**, Password: **s8z75qu8t7**

Heading south west to Águilas from our base at Casa Perez we met our local guide for the morning Antonio Frutos. He first took us to the beach at El Hornillo to give us a view of the 170m long pier: *Embarcadero del Hornillo*. Opened in 1903, and built under the supervision of engineer Gustavo Gillman it is considered to be an historic monument and one of the two most important of its kind still standing in Spain. Currently undergoing restoration, the first phase has cost a million Euros (75 per cent of which came from national government funds and the rest from the Águilas Town Hall). Unfortunately we were there 2 weeks too soon - the first phase was completed just after we came home and the public allowed on it.



El Hornillo mineral pier (Embarcadero del Hornillo).



Entrance to the discharge tunnels for the ore hoppers.

This was once one of the main wharfs in Spain connecting the inland mines to sea transport. Between 1887 and 1894 the British company, Great Southern of Spain Railway Company (GSSR) built a railway from Lorca in Murcia to Baza in Granada with a link to Águilas. Iron ore from the Las Menas mines in the Sierra de los Filabres in Almería formed the bulk of the material brought to the pier. The line and pier handled over 11 million tonnes of minerals between August 1903 and April 1936, most of which was shipped to Britain for processing. There grew up a significant British population in the town, so much so, that there is still a British cemetery here (which, thanks to Andy Wood, we visited later in the day after getting permission from the British Ambassador!).



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6 Andy Wood and Kelvin Lake, continued ...

The pier is on the side of a cliff and two cut and cover tunnels were built to provide a huge ore hopper above them. A fleet of bulk freight wagons were purchased from America and the discharge chutes into the ore hopper and from the pier were designed to match the unloading doors on the wagons. Thus, if a ship was waiting at the pier, a train could travel straight through a tunnel and immediately load the ship. If there was no ship, a line on each side and above the tunnels took the trucks high enough to unload into the hopper. Discharge chutes in the tunnel roof, again spaced to match the trucks, allowed trains to be loaded from the hopper when a ship came in. An average of 3,000 tons of iron ore was shipped every day, or around 1/3 million tons per year. A third, blind tunnel was added for wagon storage.



The renovated ore hopper tunnel, part of the museum.



One of the ore chutes in the roof of the railway tunnel.



Large opening in the tunnel. A ventilation shaft?



50,000 ton capacity iron ore hopper for Tunnel No.1.

A new metal walkway has been built on top of the tunnels along the line of the railway to act both as a footpath and a viewing point for the cleverly designed ore store. The remains of tall wooden ventilation 'towers' along the line of the ore hoppers still survive, although in a poor condition. A good view of the pier and bay can be had from the end.

While we were at the end of the walkway above the tunnel, a gentleman turned up and added a vinyl wrap to the information board. The board had been heavily scratched and was illegible, so the addition of the new vinyl allowed us to work out what we could see around the pier and in the bay. It seems that the Romans were active on the island out in the bay with a mining and smelting site.



Pier with the managers house and offices on the left.



Restoration work underway on the pier decking.



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6 Andy Wood and Kelvin Lake, continued ...



You meet some strange characters waiting for trains!
(Kelvin Lake)



GSSR points lever by Alderston Foundry Co. Ltd.,
Glasgow & Middlesbro', 1899 (weight 1900).

After spending some time exploring Tunnel No.1 (which had been opened up especially for us) and the route of the railway over the top, we returned to the cars and said goodbye to our guide Antonio.

British Cemetery

From El Hornillo it was a short drive to the north side of the town and the main Águilas Cemetery. In an enclosed area at the northern corner is the British Cemetery used by the British (and other nationalities) who lost loved ones from 1897 onwards (some graves appear to be earlier). Some also appear to be mariners who died around the pier at El Hornillo.

Águilas Railway Museum

Continuing with the railway theme, we paid a visit to the GSSR railway museum situated beneath Águilas station in the original cellar and strong room. There is an extensive and eclectic collection of memorabilia, models and old photos illustrating the history and life of the railway - or so Andy Wood told us, as he had visited it before. However, on this occasion the museum was closed!



Entrance to the British Cemetery.

The branch line to the El Hornillo pier started from here. The railway was extended from the station, over a bridge, to reach the shore near the cliff top on the same level as the elevated pier.



Águilas railway museum, "Museo FFCC" (GSSR).



Gareth cadging a footplate visit on the GSSR loco.

GSSR Locomotive Águilas

We followed the station visit with a walk along the sea front promenade of Águilas to get a drink and possibly an ice cream. On the way we stopped to inspect the sole remaining GSSR locomotive, named 'Águilas'.

The loco is displayed on a plinth by the town's marina. It was one of the first used in Águilas. For the technically minded it is a Mogul 1-3-0 locomotive, built in 1889 by the North British Locomotive Co. Ltd. Hyde Park Works, Glasgow. It was brought by ship, disassembled, then re-assembled in the Águilas workshops. It weighs 82 tons and had a top speed of 84 km/h. It was first used on April 1, 1890 and finally stopped November 15, 1967.



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6

Andy Wood and Kelvin Lake, continued ...

Before leaving Águilas we stopped off to see the La Loma smelter chimney. Built in the 1830s for the San José and Iberia foundries - Edward Bates Co. Iberia (1843) and La Aurora lead smelters. When the foundries closed the tunnel labyrinth was used by tobacco smugglers. Restoration work started in March 2023, with a budget of 140,00 euros, 80% funded by European Regional Development funds. The work involves replacing/repairing brickwork damaged by a lightning strike about 100 years ago, and installing information boards around the chimney.



The La Loma smelter chimney.

Almendricos

Heading west, our first port of call was the ticket office and station building of Almendricos Station. It was inaugurated on April 1, 1890 by The Great Southern of Spain Railway Company Limited (GSSR). It became an important railway junction and facilities included: a passenger building, a goods warehouse-dock, a wide track bed, sidings, locomotive sheds and roundabout, etc.

It became part of the nationalised RENFE in 1941, and has been operated by Adif since January 1, 2005 as a halt.



Almendricos railway station.



The GSSR ticket office.



Bronze age burial cists. (Kelvin Lake)

Bronze Age Village and Burial Site

A short 1km drive northwest of the station, along the RM-D17 road at El Rincón de Almendricos (“Corner of the Almonds”) is a 3,500 year old Argaric site. Classed as *Yacimiento Arqueológico*, (Archaeological site) after an excavation dig. The site consists of isolated houses with burials either inside or beside them. In one of the cists was once the remains of a man buried in a foetal position with a copper sword, copper halberd and a large pottery vase. He has been removed by archaeologists and all the cists are now empty.

Mina Amali

Further northwest along the RM-D17 we visited Mina Amali. A curious site with a series of large open stopes to surface that pass under the main mine site and connect to shafts by the remains of the mine buildings.

While most of us were content to explore the surface remains, Oliver Beard headed underground, scrambling down one of the open stopes. Standing by the remains of a small electric winder house and a tall circular concrete shaft ‘tower’ we were able to make voice contact with Oliver at the bottom of the shaft.



The stopes at Mina Amali. Club members are just visible top left, with mine buildings top right. (Kelvin Lake)



Oliver scrambling down into one of the open stopes. The entrance, as usual, has been used as a rubbish tip.



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6
Andy Wood and Kelvin Lake, continued ...



Graham, Andy Harris, and Gareth by the top of the shaft (containing Oliver) that connects to the open stopes.



Engine foundations for a small electric winder by the shaft with the tall concrete surround. (Kelvin Lake)

Lorca Sulphur Works

We rounded off the day with a visit to the remains of the Sulphur Works north of Lorca. The site had worked the La Serrata sulphur deposit, which covers an area roughly 10 x 1 km, from 1855-1959.



Entrance to the enclosed remains of the Sulphur Works.

(Kelvin Lake)



Relationship between the stopes and shaft at Mina Amali.

Much of the surrounding area has been 'landscaped' and the open pits used as waste disposal sites. There are still quite a few buildings surviving, some still with roofs, in what was obviously once a walled complex. The state of some of the walls (*see above*) was a little unnerving! Some buildings were offices, but what processes were actually happening in the other buildings is not clear.



Large building still with its pantile roof.

(Kelvin Lake)



Remains of the Sulphur Works.

(Kelvin Lake)



Gateway at the rear of the Lorca Sulphur works.



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6

Andy Wood and Kelvin Lake, continued ...

Day 9 - 3rd May

Today was a day spent looking at some interesting surface features to the south of Casa Perez.



The sites visited on day 9 of our 2023 Spanish trip, to the south of our base at Casa Perez. You can access the full map at https://www.iarecordings.org/maps/Spain_2023_v03.html Username: **SCMC**, Password: **s8z75qu8t7**

Perin Aqueduct

The Aqueduct of Perin, (Acueducto de Perin, aka: Bridge of the Cuesta de los Roses) is over 239 m long and was built between 1942-45 by the Mancomunidad de los Canales del Taibilla (MCT) to supply water to Cartagena. It is still in use and is an impressive sight as it crosses the valley.



View of the aqueduct from the road.



Club members by the aqueduct.



The enclosed top of the aqueduct.

Castillitos Battery

The main objective of the day was to visit the military gun batteries on Cabo Tiñoso Cañones. There are at least four sites in this area and we managed to visit three of them. The first, and largest, was the Castillitos Battery. It was constructed on a site 218m above sea level between 1926-1930 using modernist eclecticism creating a Disneyesque construction with fantasy turrets and gun towers. The complex houses two Vickers 15" (381mm) guns, with barrels 17m long and able to fire a 1 ton projectile over 35km (22 miles)!

The site was taken out of service in 1994, then in 2010-11 it was 'conserved' for public access. While it is possible to roam freely around the battery, exploring the buildings and guns, some of the structures are becoming a little unstable.



Stores (Almacen) of Castillitos Battery.

(Kelvin Lake)



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6
 Andy Wood and Kelvin Lake, continued ...



Interior of the stores building.



No.2 gun emplacement compressor.



Kevin operating No.2 gun shell lift.



The breech of gun No.2.



Inscription on No.2 gun's breech.



View of gun 2 from gun No.1 tower.



Fire direction control tower for gun No.2, with Atalayón Battery (349m above sea level) on hill behind.



Ship identification silhouettes in the fire control tower.

El Jorel Battery

This battery was constructed between 1926-1930 on the lower part of Cabo Tiñoso Cañones. The three batteries on this headland and the ones on the other side of the bay were designed to protect the harbour approaches of Cartagena, a major Spanish Naval port.

El Jorel housed three 1923 model Vickers 6" (152.4mm) 45 calibre anti-shiping guns. Two of them survive on site. The third one was moved to Almería during the 1936-39 Spanish Civil war. The buildings at this site seemed to be in quite poor condition and several of them have warning signs against entering. In the ammunition stores under the 6" guns the lifts to raise the shells up to the guns still survive.



One of the ammunition stores at El Jorel Battery.

This battery was also decommissioned in 1994 and along with the Castillitos Battery is now a popular tourist site - despite the narrow winding mountain road you have to negotiate to reach it.



Club Trip - Murcia, Spain, 25th April to 4th May 2023, Part 6

Andy Wood and Kelvin Lake, continued ...



One of the 6" guns at El Jorel.



6" gun ammunition hoist, El Jorel.



Andy Harris ... !



Inside the Loma Larga Battery.

Loma Larga Battery

On the way back down the mountain road from the Castillos Battery we stopped to look at the Bateria de Loma Larga ("Long Loin") a former anti-aircraft battery located near Campillo de Adentro.

Situated behind the ridge called Loma Larga it was designed to be hidden from aircraft approaching from the sea. It was armed in 1935 with four 24cm Ordóñez howitzers (240/14) with a range of 11,320 m. However, it didn't last long and was decommissioned at the end of the Spanish Civil war in 1940.



Site of one of the guns at Bateria de Loma Larga.

Isla Plana Roman Site

As it was now mid-afternoon we headed to the coastal town of Isla Plana for refreshments. On the shore of Calle Playa Isla Plana are some scanty remains of 1st and 2nd AD Roman kilns and an iron ore smelting site.

Nearby is a curious building known as the Marrana baths (Sow baths). It is built around a thermal spring and was opened to the public on May 2nd 1901 by a Dr. Vera. Additional inner walls and baths were constructed after the Spanish Civil war, but they were abandoned by the mid 20th Century.

Bolnuevo

After a short break for beer and snacks we travelled west to the seaside beach resort of Bolnuevo to see *Las Gredas de Bolnuevo* (aka Ciudad Encantada 'Enchanted city'). These are heavily eroded sandstone formations along the beach of Bolnuevo. Formed from clay (gredas), the yellowish colour is due to the large amount of sand contained in the clay. The clay also consists of microfossils dating from the Pliocene period, ~4.5 million years ago.

Andy Wood wrote a short item about these formations in [Below 2015.2 page 8](#).



Roman site, Calle Playa Isla Plana.



The Marrana baths on the seafront.



Part of Las Gredas de Bolnuevo.



What the Papers Said - about Ritton Castle Mine, part 2

Submitted by Steve Dewhirst

This article continues the newspaper extracts concerning Ritton Castle from 1853 to 1874 which might be of interest. Ritton Castle is one of the mines that tends get overlooked when talking about the mines around the Stiperstones. It was worked intermittently with various owners and names until the 1870s.

Ritton Castle - Balance in favour of the company 4,394 l. 8s.

Morning Chronicle 9th February 1857

Ritton Castle Mining Company (Limited)

Capital £12,000, in 6,000 shares of £2 each.

Directors:

D.T. Johnson, Esq., Northampton-park, Highbury.
James Garog, Esq., 15, Cannon-street West.
William Schulke, Esq., Canonbury.
William Watkins, Esq., Soley-terrace, Claremont-square.
George Prettyman, Esq., Ramsholt, Suffolk.

Bankers-Bank of London.
Resident Agent- Captain Samuel Morris.
Secretary - Mr. T. Fuller.
Offices - 51, Threadneedle-street, London.

This valuable property is situate in the parish of Minsterley, Salop, and is bounded on all sides by rich mines of the county, it being the centre, or heart, of the productive veins of this important district, all of which intersect in the Ritton Castle Mine. This fact will indicate with sufficient clearness the certainty of realizing those results which the practical miner confidently expects from such indications, accompanied as they are, with the most favourable geological conditions.

The main lode is that worked so profitably in the Old Bog and White Grit Mines; the former having yielded above £1,000,000 sterling, and the latter £500,000 worth of lead ore. This lode is intersected by those of Pennerley, the Gravels, Rock, and New Venture Mines, all productive for lead ore, and in close proximity to the celebrated Snailbeach Mine, which has yielded nearly two millions sterling worth of ore, and is still returning over 250 tons per month. The recent discovery in this mine is worth £250 per fathom, proving the district to be the richest for lead in the kingdom; the lead of Ritton Castle yielding, as per assay, 78½ per cent, and 4 ozs. 1 dwt. 16 grs. of silver per ton of 20 cwts.

This undertaking holds out unusually large promises, and, with the advantages presented, it is evident that such a favourable opportunity for investment of capital is seldom to be met with; and it is confidently expected that the available capital will be ample to bring the mine into a profitable position, and enable it to rank with the dividend-paying mines of the immediate district.

The mine being in operation - which has cost the proprietors £8,000 - namely, 3,000 fully paid up to £2, and 4,000 shares upon which £1 per share is paid - the future calls will extend over a period of two years, offering advantages to investors ; at the same time allowing any shareholders to pay up in full, and receiving a discount of 6 per cent.

There being a limited number of shares for disposal at £1 per paid up, application for which may be made at the Offices of the Company, 51, Threadneedle-street, London ; and in no case will any shareholder be liable beyond the amount of his shares.

P.S. No application will be required after the 26th inst.

Morning Chronicle, 18th April, 1959

At the Ritton Castle meeting the accounts showed an available balance of 4,000 l., which sum it was thought would be ample to develop the mine.

London Evening Standard, 9th May, 1859

From Ritton Castle, June 23, Mr. S. Morris reports:-

We are progressing very satisfactorily with the building, and are busy in the erection of the engine. The lodes are all proved to be a continuation of the Bog Mine, where they have made some valuable discoveries recently, and which will be intersected from the 35 fm. level. This mine is considered to be one of the most metalliferous in salop, it being the very centre of all the productive mines. Six lodes have already been proved in this sett; the principal one being the Bog main lode and the Pennerly, which alone has yielded £1,500,000 worth of lead ore. It is, therefore, fair to infer similar riches will be realised from Ritton Castle. A short time only is wanted to develop this valuable property.

Morning Chronicle, 27th June, 1859



Letters

Visit by Colonel Stephens Society

Dear Editor,

Seeing the note regarding the above in the last Below!, there are a couple of corrections which should be made. H.F.Stephens took control of the railway in December 1922, and railway traffic on the line ended in 1959, not 1961.

All of the facts are made clear in my 2017 book, which Colonel Stephens Society officers brought with them on their visit, to answer any questions which might arise.

I'm set to do a Zoom talk for them early next year, featuring photos which didn't get into the book. I'm trying to negotiate a small donation to SCMC for this, and will let the Secretary know if I'm successful.

Andy Cuckson

Problems at Snailbeach

Snailbeach has been plagued with a spate of minor acts of vandalism in recent months. This has taken the form of twigs stuffed into door locks, loss of the number marker by George's shaft and more recently the smashing of the rear window on the loco shed. In addition litter is being consistently dropped around the dressing floor.

Nick Southwick has made a temporary repair to the loco shed window with a polycarbonate sheet, and all the glazing bars have been recovered. With a little bit of woodwork it should be possible to rebuild the damaged section.



The damaged loco shed window.



Interior view of the damage.



Nick's temporary repair.

Stone Age Rope Making Tools

A mammoth ivory tool unearthed during excavations in sediment at southwestern Germany's Hohle Fels Cave in 2015 produced a series of 15 mammoth ivory pieces. Archaeologists have been able to assemble the pieces into a nearly complete rope-making implement. The final product, about 20 centimetres long, featured four circular holes containing carved spiral grooves (*see image below*).

The fragments lay among stone tools and other artefacts from Eurasia's ancient Aurignacian culture. Radiocarbon dating of animal bones bearing stone tool marks places these discoveries at between 35,000 and 40,000 years old. Microscopic wear and plant residue on both the Hohle Fels artefact and an earlier find indicated that plant fibres had been pulled through the holes, guided by clockwise grooves, suggesting the tool was used for making rope. Evidence of string-making dates to between 52,000 and 41,000 years ago among European Neandertals¹

Nicholas Conard, of the University of Tübingen in Germany, and Veerle Rots, of the University of Liège in Belgium conducted rope-making experiments with four-holed replicas of the ancient finds made from wood, animal bones, a warthog's split tooth and bronze. This process involved running animal sinews and five types of plant fibres through the tool openings. Thin, hand-twisted ropes, each held by one person, were fed through the holes. Another person held the implement while someone pulled and twisted the fibre strands exiting the openings into a single piece of rope. Four or five people typically generated five metres of strong, flexible rope in 10 minutes.

Read the full paper: N.J. Conard and V. Rots. *Rope making in the Aurignacian of Central Europe more than 35,000 years ago*. Science Advances. Published January 31, 2024. doi: [10.1126/sciadv.adh5217](https://doi.org/10.1126/sciadv.adh5217).

1. Science News: 4/9/2020 <https://www.sciencenews.org/article/neandertal-made-oldest-known-string>



Books

Publications are available from Mike Moore at Club meetings, or online: www.moorebooks.co.uk

Mines of the Gwydyr Forest: Metal Mining Ventures in the Heart of North Wales. (Revised 2nd Edition)

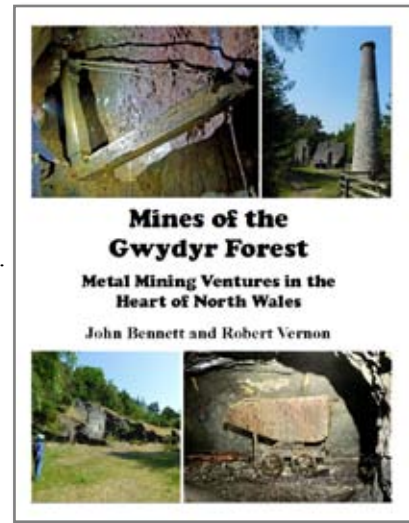
By John Bennett and Robert Vernon

Revised Second edition, published 4 December 2023.
Paperback: 562 pages. ISBN-13: 978-1838362129.
Price: £40 (Club members can get a discount from Moorebooks)

Mines of the Gwydyr Forest was originally published as a seven part series between 1989 and 1997. It was well received and was used by others to conduct their own mine explorations.

It was always intended 'one day' to publish the series as one complete volume. John sadly died in 2019, but most of his historical notes survived. Rob had fortunately kept all the illustrations, together with some of the mine plans and reports, and this has enabled 'Mines of the Gwydyr Forest' to finally be produced as one complete, revised and updated, volume.

The book starts with an Introduction followed by a section on the geology and mineralisation. This is followed with examples of early mining in Gwydyr. Much of the more detailed mining information comes from the latter-half of the 19th century, and the following sections follow a similar format to the original series. The central areas, south and north, deal with Llanrwst and Hafna mines, respectively, plus related mines; North-East Gwydyr is primarily Parc mine and the plateau area to the south; North-West Gwydyr includes Pandora and the Llyn Geirionydd area; South-West Gwydyr includes the Cyffty and Coed Mawr Pool area; Aberllyn and adjacent mines are discussed in the section on South-East Gwydyr. The penultimate chapter covers the mines on the northern edge of the Gwydyr Forest, Cae Coch and adjacent mines. The book concludes with an Epilogue.



Metal Mines of Llanengan: Mining Ventures in a North Wales Parish

By John Bennett and Robert Vernon

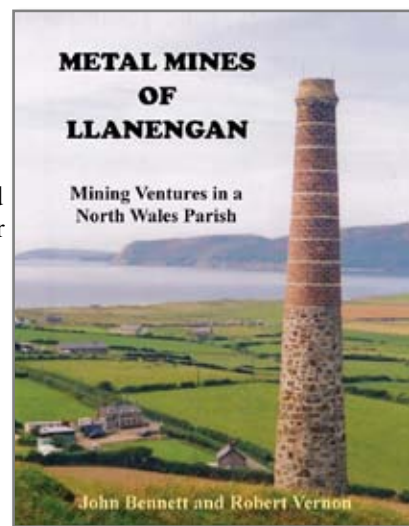
Second edition, published 5 December 2022.
Paperback: 172 pages. 18.9 x 1.19 x 24.61 cm. ISBN-13: 978-1838362119.
Price: £14 from Moorebooks. Other retailers are charging £18.00 to £25.00 - prices for second-hand copies of the First edition range from £15 to £45 !

The relatively unknown Llanengan metal mining field is found on the St. Tudwal's headland, on the tip of the Llyn Peninsula, North Wales. Its isolated position meant that it never was given the same publicity as many of the major metal mining areas. Nevertheless it was a hive of activity in the latter half of the 19th century, and the mines were deepened with the aid of steam power pumping water out of the workings, and for winding. Everything, from mine engines to coal was brought into the area on ships.

The book details the history of mining in the area from the 17th century through to its eventual demise at the end of the 19th century. Initially mining was conducted by partnerships that were eventually superseded by London based companies that acquired capital to purchase the necessary machinery to deepen the mines. Now there is very little to show that this area was once a hive of industrial activity, although the final chapter does suggest a small heritage walk around the area.

For a number of years, John Bennett and Rob Vernon were involved with the historical study of Welsh metal mining. Their series of seven detailed books on the Gwydyr Forest mines was a substantial contribution to the recording of Welsh mining history. In addition, they were also involved with mine site conservation projects in the Gwydyr Forest and elsewhere in Wales. John sadly died in 2019, and Rob is now involved with other aspects of mining history.

At the time of the publication of the first edition of Metal Mines of Llanengan in 2002, it did take their interests further and brought into the public domain a relatively unknown Welsh mining area. The publication of this second edition will hopefully make another generation of mining historians aware of this interesting mining field and is dedicated to John and his wife Elizabeth.



Books & Videos

Aberllefeni Slate Quarry

A history of the last underground slate working in Wales

By Jon Knowles

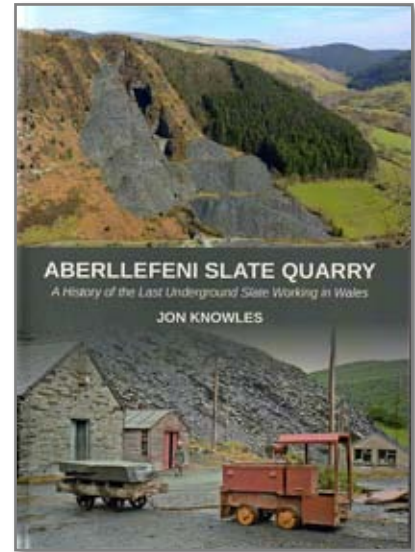
Hardback, 277 pages, colour plates throughout, A4. Price: £35.00

In Jon's own words "the book is a culmination of over 15 years exploration underground and archival research". It traces the history of Aberllefeni Slate Quarry from its inception to 2016. The quarry was one of the oldest, and certainly the last worked underground, in Wales.

Since 1985 Jon and a group of like minded colleagues have been systematically exploring the mines of the area in their spare time. After 30 years working in heavy engineering Jon relocated to Penrhyndeudraeth and is employed locally by J.W.Greaves and Sons Ltd of Blaenau, owners of the Llechwedd Mine (amongst others).

This book is a credit to Jon's expertise and determination, it is full of his own colour photographs, with black and white historical pictures. He has also provided a lot of detail of the industry itself, with the workshops and machinery supported diagrams and drawings, there are also plans of the mine. Plus a nice touch - an aerial photograph with a labelled photo on the opposite page so as not to detract from the original. I could easily go on raving about this volume but it is really an excellent piece of original work.

Mike Moore



Historic Mines of Spain Vol.4 Compilation No.57

Exploring more mines in Murcia and Andalucía

In April 2023 the Club re-visited south-east Spain to see more of the vast range of ancient and modern mines which survive so well in the country. Only highlights of the DVD are mentioned here - more details of the sites can be found in the series of reports that started in *Below! 2023.2*.

The isolated hill of Cabezo Gordo near San Javier is an important Neanderthal archaeological site and magnetite breccia has been mined there from several levels.

La Calera in the Barranco de la Mina valley was worked for iron and other minerals from 1884. A 2km long aerial ropeway was installed in 1915 and many trestles and some wire rope survive. Mining ended in 1962. Underground remains include masonry headframes and steel ore chutes.



Underground in La Calera.



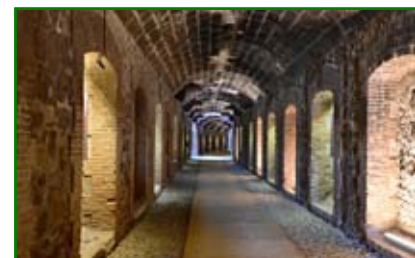
Barranco del Chaperral winder.

After visiting the rebuilt mining museum in La Unión, the Maria Dolores and Calón mines of La Parajitos were explored both on the surface and underground.

A full day was spent in the Sierra Almagrera with Rob and Boo Vernon showing us Barranco Jarosa and the almost intact British stean winder high up at Barranco del Chaperral. They then took us to El Arteal where a large tunnel, miners' village and bath house remain to tell the story of intensive 20th century mining.

Around Portmán we re-visited the wharf, the archaeological museum and the impressive Lavadero Roberto with its extensive railway infrastructure.

Corta Brunita's rusting ball mills were followed by many mines both small and large along the Rambla del Avenque, down to the tailings beach at El Gorguel. In the same day we saw the Peñarroya compressors and Túnel Lilliane at Mina Gloria; and re-visited La Parreta.



View along an Águilas rail tunnel.

Águilas has impressive iron ore hoppers above railway tunnels and a long steel loading pier. That day was rounded off with Mina Amali and Lorca sulphur mines.

Price: **£ 14.40 (DVD)** Running Time: 1 hour 15 mins. *Club discount available at meetings* or visit: iarecordings.org



Club Officers

Some Diary Dates

President: Neal Rushton

Chair: Gareth Rushton

Vice Chair (Temporary): Kelvin Lake

Secretary: Andrew Wood

scmc.secretary@shropshirecmc.org.uk

Treasurer: Marian Boston

Conservation: David Poyner

NAMHO Rep: Peter Eggleston

Membership Secretary: Julian Bromhead

scmc.membership@shropshirecmc.org.uk

Tackle: Steve Holding

Training Officer: Andrew Wood

First Aid Officer: Alan Moseley

Bat Officer: Mike Worsfold

'Below' Editor, Publications: Kelvin Lake

scmc@shropshirecmc.org.uk

Monthly Meetings - Normally held on the first Friday of the month at Allscott Social Club. **Please note:** The start time for Monthly Club meetings is 19:30 starting with a presentation or talk by a Club member (to be less than 60 minutes long), before the main meeting.

The secretary usually emails the meeting details a day or so beforehand. Please let him know if you don't receive them.

September 20th - 22th: Hidden Earth, National Caving conference at Llangollen Pavilion, Abbey Rd, Llangollen.

If you have not been to a Hidden Earth before the weekend is packed with lectures. Topics include exploration reports from the UK and overseas as well as workshops covering cave science, research, technology and photography. There are competitions, games, videos and a trade hall with caving equipment vendors from across Europe selling their latest products.

Visit the [Hidden Earth website](#) for booking and ticket details.

October 12th-13th: BCRA Cave Science Symposium. The symposium will take place on the Saturday with an interactive monitoring workshop on Sunday - featuring demos of cave monitoring products from Goodsell Systems. The BCRA AGM will also take place this weekend. Visit [bcra.org.uk/seminars2024](#) for more details.

2025

January 1st: OFD: Columns Open Day. Please contact the Permit Secretary for more information: permit_secretary@swcc.org.uk

On the day you will need to make contact with the Columns Warden before 10:00am. This should be done in person at the South Wales Caving Club, Penwyllt.

Smidgin: The Joys of Old Slate Quarries



• Catch us on the World Wide Web. Club activities & the labyrinth: www.shropshirecmc.org.uk

