CARN BREA MINING SOCIETY

NEWSLETTER

June 2023 No 89

2023/ 2024 OFFICERS AND COMMITTEE

CHAIRMAN	Tony Brooks	Polstrong Cottage Polstrong Camborne TR14 0QA	TEL: 01209 713506
VICE CHAIRMAN	Derek Stonley	Meetings Only	
MINUTE SECRETARY	Linda Beskeen	72 Albany Road, Redruth TR15 2HY	TEL: 01209 204280
TREASURER	Jon Nurhonen	Pelistry, 8 Tolroy Road, St Erth-Praze, Hayle, TR27 6EZ.	TEL: 01736 850643
MEMBERSHIP SECRETARY	John Jenkin	Fairport, 7 Trewirgie Hill, Redruth, TR15 2TB.	TEL: 01209 314697
PROGRAMME CO-ORDINATORS	Maureen Gilbert and Lawrence Holmes		TEL: 07771 573244 TEL: 01872 278234
INTERNET OFFICER	Roger Jelbert	webmaster@cbms.org.uk	TEL: 01736 711122
NEWSLETTER EDITOR	Tony Brooks	t.pbrooks@talktalk.net	TEL: 01209 713506
News Sheet Editor	Derek Stonely	derekstonley646@gmail.com	TEL (01503) 250485

COMMITTEE MEMBERS

Kevin Baker (NAMHO rep), Lawrence Holmes, Frank and Jane Kneebone, Guy Travers

BOTALLACK SUB COMMITTEE
Trustees
Tony Brooks (Chair) 01209-713506
Kevin Baker 01209-614674; Lawrence Holmes 01872-278234;
Frank Kneebone 01637-873135; Jon Nurhonen 01736-850643; David Burkitt 07775 753722

SOCIETY WEB PAGE ADDRESS http://www.cbms.org.uk

KING EDWARD MINE MUSEUM WEB PAGE ADDRESS http://www.kingedwardmine.co.uk

SUBSCRIPTIONS :- If there is a red cross in this box your subscription may still be due

£18.00	Single membership
£25.00	Family membership
Junior	Free (under the age of 16 years)

Front cover drawing of Tyack's 60" pumping engine house, Basset & Grylls (SW 694378) by David J Froggatt

A Student at Geevor

Reminiscences of 1961 (Part 2)

Following my underground initiation at Geevor, as recounted in the December 2022 Newsletter, my next task was as helper to machine miner Tommy Stevens, a compact, very strong individual, perhaps in his late forties, who lived at Heamoor inland from Penzance, and rode his motor bike each day across the Penwith moors to the mine. Tommy was friendly and approachable, and said he would show what he wanted me to do once we had reached our working place, where there was work for at least a week on what he called "reclamation". I still had no idea of Geevor's underground layout, but realised that we had left the shaft higher than on my first day, and that the level we were on had far fewer workers active. On the way, we passed one side tunnel from where the most appalling smell emanated. There were no toilet facilities underground, and I imagined how hellish it would have been in earlier decades when far more men would have been working – any romantic vision of Cornish mining dispelled in an instant.

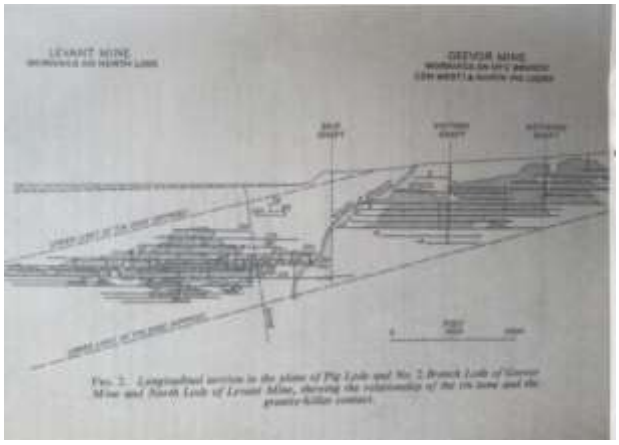
We reached our working place, where in part the lode above the level had been stoped away into a darkness far beyond the reach of our carbide lights. The rail tracks had been lifted from the floor, and beyond, what was left of the lode was a section with several deep holes roughly boarded over with planks. Tommy warned me to be careful not to miss my footing, and it sunk into my brain that beneath the planks there could be a hundred feet more of stoped-out ground, right down to the next level. It was our job to drill the remaining sections of lode beneath our feet, retreating block by block and blasting the last of the ore down to that level, from where it would be trammed away. Tommy had a

Holman air-leg drill and several drill steels of varying lengths, and there were flexible hoses for water and compressed air that ran from the drill over the timbered voids back further in the level to where metal pipes were held by clamps at about head height. I was shown how to connect each hose to valves at the end of the pipework, how to turn on the supply, and how to ensure that the hoses did not become entangled, not easy to learn by the light of a carbide lamp. Back at the drill, Tommy would tell me when he was ready, and I was to turn on the supply of both air and water before joining him, where the noise was immense and the working space very constrained.

It took a whole shift to drill a sufficient number of holes to blast out a single block of ore, which supposedly only extended about six feet below us, the remainder having been stoped out from beneath by miners working upwards from the level below. We could hear trammers working down there, and Tommy would call to them occasionally to let them know of our progress. Once he was satisfied with the pattern of holes drilled, we returned to where the metal pipes ended, Tommy carrying the drill while I followed, coiling up the hoses. Nearby was a small side excavation or "cubby", furnished with a crude bench of planking, and further back a separate space with two locked wooden boxes, one for explosives and another for the shiny metal detonators, each the thickness of a pencil and perhaps an inch and a half long, which were crimped individually to lengths of white fuse.

It was "massle time" ("massle" with a long "a" to rhyme with parcel), for us to rest and consume what food and drink we had brought down with us – a pasty and flask of hot sweet tea for the most part. "Massle" was the Geevor equivalent of the "croust" at South Crofty, but although I knew about "croust" and had seen the word in print, I have never seen "massle" anywhere, and would welcome any reader to enlighten me, if only for the correct spelling! These breaks with Tommy were always enjoyable, and I learned from him some of the local mining history, especially the disastrous

flooding of Wheal Owles and the man-engine disaster at next-door Levant. Tommy was particularly worried that Geevor was almost at the end of its life. The Geevor lodes extended north-westwards towards the coast, where the same lode complex had been worked at Levant for over a mile out under the Atlantic. Levant had closed in 1930, and since then the sea had broken through to its old 40 fathom level. The eastwards "inland" extensions of Geevor's lodes were already worked out, but although the lodes improved in quality westwards, they could not be safely mined as the extent of Levant's old workings was not known, having never been properly surveyed. As can be seen here from the longitudinal section through both mines, (annotated as Fig.2 in an old technical paper), if Geevor had holed into Levant's sea-flooded workings, it would have suffered a catastrophic inundation, the mine filling to level 3. Work was beginning on the technically difficult and dangerous task of finding where on the seabed the water had broken in, but Tommy was pessimistic about its success.



After "massle time" the holes were charged ready for the blast. From one locked box came sausage-sized sticks of gelignite, a yellowish substance the consistency of fudge and loosely wrapped in waterproof paper bearing the legend Polar Ammon (I think a Nobel product). The fudge tended to weep a clear liquid that stung in contact with bare skin and was unpleasant to handle. Each stick would be carefully pushed into the blast hole with a long wooden tamping rod, the final stick having the metal detonator pushed into the fudge with the fuse leading out of the hole, which was then plugged tight. This procedure was applied to each hole. Once all was ready, Tommy yelled down to make sure nobody remained on the level below, and he then produced a "cheeser", a kind of industrial sparkler that burned with a hot white flame that I suspected was magnesium-based. Each fuse end was touched by the "cheeser" and immediately took fire. It took about a minute to light all the fuses, and we had perhaps another two minutes to withdraw the access planks and retreat to our cubby. With a great "whumpf" the blast roared past us, and then we turned on the air slightly at the supply valve to clear the toxic fumes from the explosion. On our way back to the shaft station, we would hear the curious single tapping noise in the granite sidewalls transmitted from blasts as other miners detonated their rounds. We waited our turn at the shaft station, men from the deeper levels being hoisted first, and finally we headed up to the surface and bright daylight, our shift over.

It took us about ten days to complete the "reclamation", after which we moved to a development heading on a lode. Here, different procedures applied. We had to drill a pattern of holes into a rock face some eight feet high by six feet wide, the lode about two feet wide dipping at about 75 degrees with granite in both footwall and hangingwall. Here, the airleg on the Holman drill came into play, maintaining the heavy machine at a workable height for the operator, particularly for the set of holes at the top of the face. It was my job to hold the drill steel in a tight grip while Tommy rotated it carefully until the drill bit had securely penetrated the rock. The water from the drill head would run down my arms and into my overalls, so it became routine to be thoroughly soaked by the time each round had been drilled. Our blasting routine was unchanged, but I was never allowed to charge the holes or set the detonators, Tommy adhering

strictly to the blasting regulations. On subsequent days, our shift began by barring down any unstable ground or slabs of granite, disturbed by the blast, that might fall unexpectedly and cause injury. We then awaited the arrival of the trammers with an Eimco loader to clear everything broken in our previous shift. The routine was repeated shift after shift, the development end on the lode advancing about six feet with every blast.

One day, the normal drilling routine came to a sudden stop. Tommy was drilling steadily away on the hanging wall side of the lode when all at once the drill steel lurched forward, and in a flash, he cut off the air to the machine. The noise reverberated away back along the level, and he listened carefully. "Vugh in there", he grunted. I knew that vugh was a Cornish term for a naturally occurring cavity on a lode. About four feet in front of us, invisible behind the solid granite, was a void of unknown size and shape, potentially filled with water under pressure. But nothing happened, and Tommy worked the drill in short bursts, feeling forward as delicately as a dentist probes a tooth. The vugh was empty, and we went on with our blast as usual.

I however was extremely excited, knowing that the vugh might be lined with mineral crystals of museum quality, and I begged Tommy that we get to the face early the next shift, before the arrival of the trammers, to see what might have been uncovered. It had been a good blast and a pile of granite and lode material lay broken in a pile. There were the remains of the vugh, elliptical in shape and originally just wide enough to squeeze into a veritable crystal cavern. On one barely damaged side that remained, clusters of green fluorite crystals, the size of sugar lumps, hung like bunches of cuboid grapes, some of the cubes being capped by hat-like. fingernail-sized platy crystals of chalcocite (grey copper ore); here and there, fangs of brilliant clear quartz crystals poked out; there was even a little cassiterite, the colour of dark honeycomb - "stones of tin" in old-term parlance. My exploration geologist mentality came to the fore: I was the very first person to see this wonder. It was clear that the mineralising process had been of insufficient strength or duration to produce a solid vein, and that the crystal cavern had settled down to a two hundred and seventy million year wait, while dinosaurs rose, ruled and were wiped out by asteroid impact, and ice ages came and went. I scrabbled frantically with a drill steel to prise off fragile specimens to put into my rucksack, but soon the trammers arrived, the Eimco loader gouging forward, the multi-million-year existence of the crystal cavern obliterated in less than half an hour.

(To be concluded in Part 3).

Field Trip to Tregonning Hill

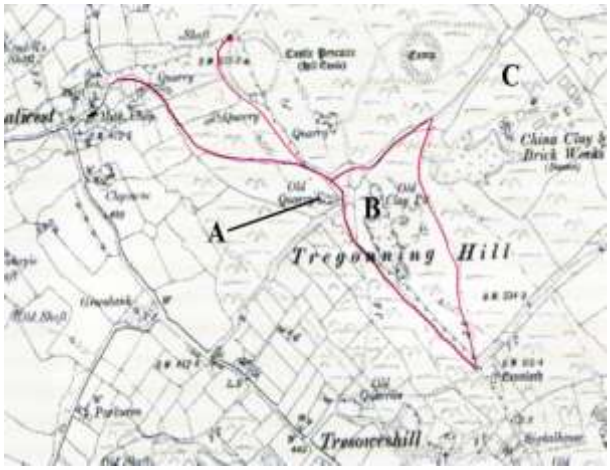
Saturday 25 March 2023

By Lawrence Holmes
Photos from Steve Barber

In the few hours preceding this trip the heavens opened. Most attendees reported flooding and water pouring off fields as they approached the Godolphin area. However, the rain stopped and the cloud and mist thinned significantly. By 1300hrs nine people including guides Steve and Jill Polglase, had gathered in the small car park at Balwest Chapel. More than one person attending perhaps wondered why the guides had stout wellingtons on as well as good protective clothing!

The 194m high Tregonning Hill is the westerly of two granite hills overlooking Mount's Bay and is only a mile from Steve's home at Wheal Breage. There is much to see on the hill including the Preaching Pit, Cookworthy Quarry and memorial, Signal House, County Quarry and memorial to crashed RAF plane, Trig Point with topograph, and the grade II listed Germoe War Memorial and Iron Age Hill Fort (Castle Pencaire).

Steve casually mentioned that the rain was returning around 6-0pm, so just after 1-0pm we set off up the tarmac road briskly climbing towards the summit. Steve set the scene well and throughout the trip mentioned many other locations which we could just glimpse through the mist and low cloud. Mining locations included Great Work Mine, Wheal Vor, Mount Whistle, Boscreege, Tresowes, Wheal Reeth, Wheal Grey China Clay Pit, Wheal Breage, Bal an Dreath and Balwest.



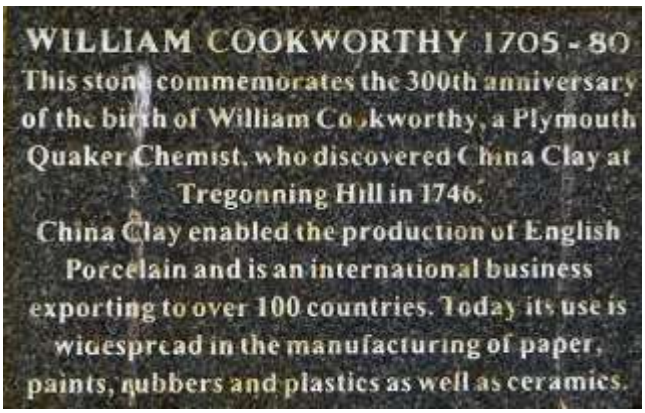
The Route

But the main claim to fame of this location was the discovery of china clay on Tregonning Hill. While visiting the area in 1745, William Cookworthy, a Plymouth chemist, observed a very fine clay being used to repair furnaces. He subsequently searched for a suitable clay so that porcelain could be made in Britain and found that when mixed with china stone, the clay from Tregonning Hill was suitable. He took leases on the hill and exported the clay from Porthleven to Plymouth.

Moving westwards and higher, most of us realised that we should have had stouter footwear ! The previous rain had made the ground very wet and muddy, deep puddles abounded and wellingtons were definitely the gear for the day. The first stop was the small opening on the right leading to the 'Preaching Pit'.(A on map). For many years Ashton Methodists have congregated here for their Sunday School celebrations. Nowadays Christians of many denominations meet annually for ecumenical services. It is possible that the Preaching Pit was favoured as a smaller version of Gwennap Pit near Redruth.


The Preaching Pit

Next stop was the Cookworthy Memorial which commemorates the 300th anniversary of the birth of Cookworthy on 12 April 1705 in Kingsbridge. The quarry where the main extraction took place is just beyond the memorial (B on map).



Cookworthy Plaque

To the north-east is Carleen, surrounded by the Wheal Vor mining complex. Eastwards is the Signal House and a burial mound. We then made our way north westwards along muddy and wet paths. In the lower fields were the remains of the Tregonning Hill China Clay and

Brick Works, established by William Argall in 1875.

The party at the Cookworthy Memorial

A Scrivener kiln is the only part of the brickworks which can still be seen. (C on map). In the early 1880s, ten people were employed at the brickworks and the approximate annual number of bricks produced was 150,000.

Brickworks kiln

Other noteworthy parts of the walk included the overgrown elvan quarry passed on the climb back to the top of Tregonning Hill, the elvan being used on many of the local roads. Galloway cattle had been kept for a while on the eastern flank of the hill, their impact upon the landscape being that they had prevented development of scrub and bracken, now sadly spreading once more.

On westwards we plodded heading for the War Memorial. Steve mentioned flora and fauna and even birds. The War Memorial is the highest point on the hill at 194 metres above sea level. The views are normally stunning ! Germoe War Memorial is built on top of the great fort of Castle Pencaire c.250 BC. A double ditch probably surrounded the fort and evidence of this can be seen on the northern side. Castle Pencaire would have overlooked a number of hut circles. Of the two that are still visible, one measures about 70 yards in diameter. Within these circles, there would have been a number of smaller huts where the Celts lived and sheltered their animals from marauding wolves and other predators. But it was windy and the mist was increasing. Maybe Steve's prediction of 6-0pm was correct ? On the last leg of our walk, we passed a small overgrown quarry known as County Quarry.

On the 26 September 1941 three Beaufort Bombers of 217 Squadron Coastal Command were dispatched to attack what was believed to be an enemy vessel in the Bay of Biscay. Two of the bombers were unable to find the vessel, the third bomber saw it but didn't attack. Returning to base they broke formation. One plane landed at RAF Chivenor and another at RAF St Eval, which was near the present St Mawgan. The third plane Beaufort MK1 crashed on the edge of the County Quarry on Tregonning Hill. An unusual memorial sculptured in natural in situ stone gives their names as Pilot Officer J R Harrison, Pilot Officer PF Opperman, Sgt HL Carter and Sgt DA Ryder.

The trip downhill to the car park for some reason seemed easier and quicker than on our outward trip. In the car park . Steve and Jill invited us to have a cup of tea at their home at Godolphin. Thanks to Steve and Jill!

Tinsley 'Cornish' Engine House

By David J Froggatt

While doing my railway research I came across a mention that there used to be a Cornish engine house situated at Tinsley Park Colliery, near Rotherham, Yorkshire, so I decided to delve further.

The engine had originally been installed new at Wheal Seton. Today, there is little to see of Wheal Seton as the Camborne-Redruth bypass runs right across the former site. Wheal Seton had been a profitable copper producer, although less with tin. It had been opened in 1834 and by 1837 was employing 50 people. High production of copper ore brought success over the years despite the price being below average, and the crash of 1866 had caused the demise of several other mines.

Eventually, in March 1874 it was decided to sell the mine as a going concern and work ceased. However, there were no bids at the auction and the assets were disposed of separately, I was soon able to establish that in 1874 a 70" engine, built by the Copperhouse Foundry had been sold to Tinsley Park Colliery by F W Michell for the sum of £1800. This included two boilers. There was an additional sum of £120 for dismantling and haulage to Camborne Railway station. The engine was erected at Tinsley in a new engine house at No.8 Shaft. (*Francis William Michell 1828-1901, was then the head of the Michell family of Redruth engineers. Just to confuse the researcher, his father 1780-1860 was also called Francis. FW's son was Francis Hawes Michell 1872-1935, who, for many years was lecturer in mineral dressing at CSM. His son, known to me as Frank Michell, was the lecturer in Mineral Dressing and Vice-Principal when I was a student at CSM in the early 1960s – ed*).

This structure was still on site for many years after the closure of the colliery in 1940. After closure, the site was used by the Ministry of Fuel and Power from 1945 until September 1957, with the rail lines to the colliery being removed in December of that year.

A Visit to the Levant Copper Mine in 1887

Abridged from the MS of Frank Allum, who wrote it whilst on a walking tour in Cornwall. Originally published in 'Old Cornwall', Spring 1953. I know nothing of Frank Allum except that later he was Deputy Master of the Royal Mint in Perth, Australia. He was obviously a keen observer and leaves us with a remarkably clear description of his visit ed.

The Levant Mine, near St Just, is very deep and extends a considerable distance below the sea. The knowledge of these facts was sufficient to make me, when at St Just, to try to get permission to descend. I went therefore to the Mine Office one morning and applied to Major White, the Manager, who readily accorded to my request, and appointed a man to act as my guide.

Major White on the left

I was first shown round the engines, crushing machines and other works at the top of the mine, whilst an attendant was getting ready the clothing in which I was to descend. This consisted of a rough cotton shirt, canvas trousers and jacket, linen skull cap and a stout hat. I retained my boots but was directed not to wear any socks: the reason for this was that the heat of the mine would make it uncomfortable to have on more than necessary, and that the clay mud of the mine would get over my boots and spoil the socks. There is a great deal of red clay everywhere below the surface and it seems to possess a power of dying everything it touches a deep red colour.

After dressing, we went a little way down the face of the cliff and entered a little tunnel. We lighted our candles and proceeded a short distance to the top of the shaft. In this mine, as in most Cornish mines, the method of descending is by ladders and not, as in coal mines, by means of a cage. *The main access ladderway was in Engine Shaft. I presume this short tunnel was driven in to intersect the shaft perhaps 30-50 feet down. This would have kept the men clear of the top of the shaft with its moving machinery, balance bob, capstan etc... Man Engine Shaft had a similar access - ed.*

A candle embedded in a piece of clay was now stuck on my hat, and, my guide going first, we commenced our descent. After about eight minutes I asked if we were nearing the bottom. My ideas of depth seemed to amuse my guide somewhat, and he told me that I was then at the 90 fathom level, and that the bottom was at 320 fathoms. On hearing this I thought I would keep silence on the subject of the mine having any bottom at all and braced myself up to the prospect of continuing this sort of work for the rest of my mortal career. Thus determined, I seemed very soon to reach the 240 fathom level and found to my surprise that my companion was quite willing to give up this sort of thing if I were. He said that I should see nothing different if I went lower down and would have more "travelling" (climbing) to do on coming up. I left the matter in his hands, and so it happened that the 480 yards level was the deepest part I reached.

The pump is in the same shaft as the ladders. A great rod of wood goes up and down in the shaft and works, simultaneously, pumps at convenient levels. The water could not, of course, be forced up one pipe to a height of 320 fathoms at one stroke of the pump. At one place I saw the water, which had been raised up one section of the apparatus, gush out of a pipe and run along a little trough into a receiver. From whence, at the next stroke of the pump, it would be forced up the next section, and so to the top.

The great wooden plunger slowly going up and down, sometimes close to one's elbow, and at others further away, is just a little disconcerting. There is also the rushing sound of the water as it rushes up the pipe at each stroke of the pump. But these things, although in the same shaft, do not make such a noise as the box, in a

neighbouring shaft (*Skip Shaft – ed*) laden with the produce of the mine. The passing of this machine is made known first by an indistinct rumbling which, however, very rapidly increases to a loud clattering noise, which again as rapidly dies away to a little tinkling sound, and almost immediately all is quiet again. By this means the ore is raised from the bottom to the surface in four and a half minutes.

Leaving the bottom of the shaft we began out subterranean and submarine wanderings, until we came to a place where the way widened out a little and my guide pointed out a dark place in the middle of the track and said "*take care of that hole, that's eighty fathoms."* Of course I said yes, but in fact I let that hole take care of itself, giving it a wide berth as the two or three feet to the side would allow. This hole is the shaft down which is thrown the ore obtained in the level we were exploring; all the stuff being hauled to surface from the bottom level. This shaft is fed by means of a little tramway. We waited to see a truck emptied at this place. There was a rumbling in the tunnel and suddenly a truck, with a lighted candle stuck on the front, came clattering into sight. It stopped over the shaft, the candle was removed, the front of the car unhinged and its contents precipitated down the shaft. As soon as the truck returned we followed it and I found that we had not only waited to see the operation of emptying it, but that, as the tunnel was only just big enough to let the car pass, it was quite impossible to go along it until the whereabouts of the car had been determined.

When we came to a place where we could crouch out of the way of the car, we waited for the passing of the next loaded one. By this time I had become accustomed to the short distance sound travels in this mine and was prepared for the sudden appearance of the car. It was a strange sight, the car was running without any assistance down the slight inclined level while the half-naked man in charge of it was riding on a step at the back and leaning over the top. Running as hard as he could and splashing heedlessly through the pools of mud and water which covered the way, a little boy brought up the rear. This red-ochre tinted boy looked quite like a sprite as he dashed by us, candle in hand, trying to keep place with his truck. The man cannot ride on the truck all the time as there are places where the tunnel is only about 4ft. 6in. in height, and there would not be space for a man's head between the top of the car and the roof of the tunnel. On the return journey the boy pulls the car with a rope and the man pushes from behind.

Again we went on until we came to the "submarine engine." This consists of two steam boilers and a steam engine. They are about quarter of a mile below sea level, and about the same distance out under the sea. The engine is for hauling the stuff from one level to another, both are a great distance below the engine itself, and the engineer only knows when to start and stop his machine by the ringing of a bell. This man has the hottest post in the mine as the temperature is usually 100 degrees. The boilers lie in a place hollowed out by the side of the level and the engine is in a little cavern beyond them.

After a short walk we came to a place where the tunnel widened to about ten feet and was shored up with baulks of timber. Here, out of the way of the cars, were three men and a boy having their lunch. We joined them, taking seats on the ground. I shared a piece of paste cake with my companion and learned how to drink out of a miner's canteen. I tried in vain to avoid covering my brick-like piece of pie-crust with red clay, but as my hands were enveloped in a complete glove of this charming material, I was obliged to give up my endeavours. The canteen is a sort of flat barrel holding about two gallons, as one has to drink out of the bung hole, it is a little embarrassing to a novice to do it neatly.

Lunch being over we continued our onward march till we came to a junction of two levels. The tramway went to the left while we turned to the right. Our level was very rough indeed here and there so steep as to necessitate the use of a short ladder, to reduce the visitor to the necessity of using both hands and feet in order to proceed. When, however, this level became so unlike what its name implies, as it did at this point it was called a "back". A "back" is a place where the actual removing of the ore is in progress. (*I think that he might have misunderstood his guide and what he is describing is a back stope – i.e., one that is worked upwards – ed).*

The method employed to dislodge the ore is as follows: The miner takes in his hand a boring tool, something like a crow-bar with a chisel-shaped end and hammers it against the rock. Each time he strikes the head of the tool he turns it round a little, and thus slowly makes a hole in the rock. The depth to which the holes are made depends on the thickness of the lode, but the usual depth is two or three feet. When the required depth is arrived at, a charge of dynamite is pushed down to the end of the hole and fired off by means of a fuse, and a large piece of rock is torn away. Gunpowder is also used, but I could not find out what was the reason of employing both explosives,

Returning to the level again and re-passing the submarine engine, we commenced travelling up the ladders. Here again, returning was more trying than going had been. When descending, the chief thing is to get a good grip of the slimy iron rungs of the ladders, and to let oneself down. But, when ascending, there is, in addition to the difficulty of getting a good hold on a round piece of iron covered in wet clay, the strain of having to pull one's weight up. This is not very noticeable at first, but it does not take many hundreds of feet of vertical travelling to impress it on one very forcibly.

However, we went up eighty fathoms without a halt and then took a rest. I was very much out of breath, but I found t0 my great consolation, that the miners who were going up at the same time were in a similar panting condition.

We did not do any more climbing but finished our journey on a machine called a man-engine. My guide was a little bit dubious about my venturing on such a machine, but I was very anxious to avoid further ladder climbing if at all possible, and so we went up by means of this contrivance. It consists of a long rod made of baulks of timber about 18 inches by 24 inches in section, which stands at a slight slanting angle. On this rod steps are fixed at distances of four fathoms apart, with a handle just above them for a man to take hold of. There are stagings built in the shaft at corresponding distances of four fathoms, with a hole in each sufficiently large to admit a step to pass through. The rod goes continually up and down a distance of four fathoms; consequently anyone who wishes to ascend has merely to wait until a step comes down to the staging on which he stands, and promptly get onto it. It will immediately go upwards, carrying him with it. On arriving at the next staging, he must step off at once and wait for the next higher step to come down for him; on this he must get as before, and so on until he reaches the top.

The fact, however, connected with this machine which is most fruitful of accidents is the variation in the rate at which it works. Generally it moves rather quickly, but occasionally it will go very slowly, and even stop for a short time. It did this once when I was on it and kept us all waiting for about half a minute in mid-air. My guide, who was on the step above, shouted down to me not to let the handle go as the engine would go on again directly, which it did after some hesitation. The reason why the changing rate at which the machine is worked is dangerous is because persons accustomed to use it may be taken off

their guard, and may step off and on to it either too soon or too late, and thus be precipitated down the shaft, or perhaps get a foot cut off. This last thing is very easy to do. I had not realised that there was such a danger until, when my candle was rather low and consequently I could not see very well. I put out my foot to get upon the staging just a moment before we were level with it. Fortunately my boots were somewhat roomy and my foot did not quite reach the end the end of this one, which was caught by the staging and suddenly bent down, and my foot itself somewhat hurt by the process. The step did not fit the hole very exactly and so I escaped unhurt from what might have been a serious accident. I had my candle attended to after this.

At last a sickly blue streak began to find its way down the shaft and after a few feet more journeys we arrived at surface. Here I met Major White and two ladies waiting to see me emerge. Major White usually waits to see any visitor come up in order to be quite sure all is well with him. I was, by this time, in a somewhat soiled condition; quite in fact a 'job lot' slightly spoiled by mud and water. My patched but originally clean white canvas garments, made to fit all sized persons from six feet downwards, were stained all over with red clay, as were also my face and hands; and although I had forgotten the fact myself, I was standing there in broad daylight with a lighted end of candle sticking to my hat.

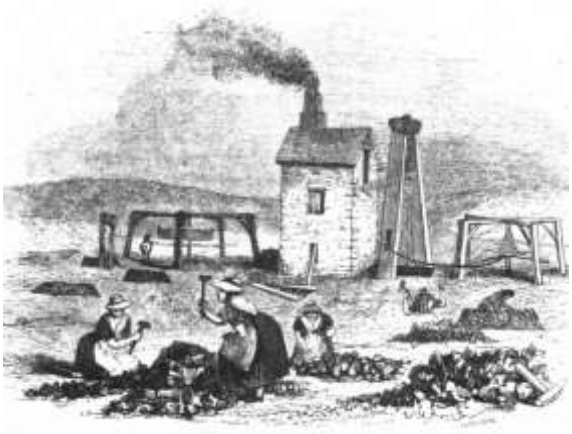
The ladies who were, I think, Londoners, had driven over from Penzance with the intention of going down the mine. But when they heard that they would have to descent ladders and would be obliged to don a costume similar to the one supplied to me they, not unnaturally, 'concluded to don't'. Hearing however that there was a visitor down already, they decided to wait and see him emerge, and content themselves with what amusement that sight might afford, which in the event appeared to be no small amount.

I found the red clay very tenacious and had some difficulty in ridding myself of it, notwithstanding that the mine people had provided me with a warm bath and plenty of soap. I got back to the hotel at five o'clock having been absent eight hours, and underground for about five and a half.

In conclusion I will just record that I enjoyed the day's exploration immensely and should like very much to go down again.

Another Print from my Collection

By David J Froggatt



A delightful little print about which I know absolutely nothing about, showing a group of bal maidens in front of an engine house.

(*In order to explore this further I asked Lynne Mayers, THE expert on bal maidens for her comments - ed*.) . She wrote:

My interpretation is that it actually represents something from c.1800 (or before) based on the variation on the Newcomen Engine in the background, but you would certainly be more able to judge that. It is hard to know how much artist licence there is in this picture – so many of these prints appear to have been drawn up in a studio well after the event! That said, I think that we have a simple sequence of spalling (2 women), to cobbing (1 woman), to something that would normally be bucking (1 woman) –

but is this woman breaking two-handed? Bucking would not be done with sharp blows – but more a grinding action – so was this an alternative – or just guess work? Finally, I have thought that the fourth figure was a boy probably working at a primitive type of buddle – or sieving in a trough. But you have made me have a much more detailed look at it. Is this person working in something that appears two dimensional – or is it something built up out of stonework?

Boy at Dolcoath.

From **"**Old Cornwall" magazine – Federation of old Cornwall Societies, Autumn 1991 Interview with Mr T Wills, then 86. He was born in 1897.

I went underground aged 14 at Dolcoath working with 8 men and 4 boys stoping. There was a big donkey house for the miners' donkeys and a clay house. We four boys used to beat up enough clay every day for eight miners and ourselves. The clay was grey and came in blocks about nine inches square. We mixed it with water on the bench and beat it up with iron staves. (*I presume this was candle clay- ed?)*

Mining Custom at Pendeen

J.Pearce, in the Federation of Old Cornwall Societies' magazine of Summer, 1933, wrote:

The writer's attention was recently called to the observance of a custom among miners which was formerly of frequent occurrence, but now, owing to the unfortunate decline in the number of persons employed in mining activities, is becoming comparatively rare.

On the first appearance of a miner at the Bal, after the birth of his child, his comrades seize his hat and, despite any protests of his, burn it. This is done after the birth of the first child only, and no explanation is given, other than it would be bad luck to resist.

It would be interesting to know if this practice is common to other mining parishes in the county, where perhaps more details might be obtained which would allow of an explanation of what is, at least, a curious custom.

Has anyone come across this - ed?

Welcome to New Members

Mr M Williams, Mount Hawke.

Mr B Hills, Brea.

Mr R Dixon, Oxford.

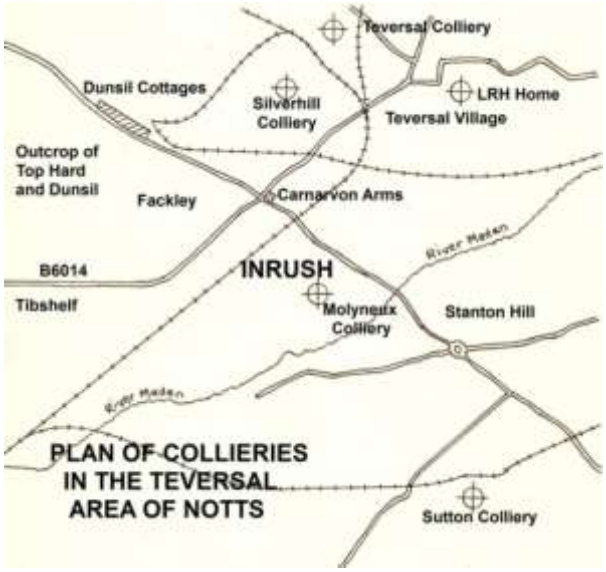
Molyneux Mine Disaster

Compiled by Lawrence Holmes

The Molyneux Mine (Colliery) Disaster took place near the small Nottinghamshire village of Teversal on 20 April 1869. Teversal is 3 miles west of Mansfield and 15 miles north of Nottingham. The area is in the western part of the North Notts/Derbyshire coalfield where coal seams are nearing the surface as they approach the outcrop a mile or so to the west. Coal had been mined from the 16th century by bell pits (many in the Meden Valley), drifts and shafts. By the early 1800s coal mining was widespread. 19th century collieries (also called pits) tended to be shallower and wetter as the outcrop was neared. As in metal mining, coal was generally owned by a mineral owner (Lord) who leased an area of mineral to a mine operator for the payment of a royalty.

The Molyneux landed gentry family of Teversal were connected with coal mining in the area since 1677. In 1703 there is a record of them beginning to drive an adit or 'sough'

(pronounced 'Suff'), which is a drainage ditch or tunnel cut just below the level of the coal seam.



The water flowed along the sough into the Great Lake at Hardwick. The Molyneux Sough was extended gradually over many years and by 1761 the sough had reached nearby Huthwaite and was completed about 1774.

One of the local Top Hard seam pits was deepened in 1780 to find out what lay beneath and a new seam of good quality coal was struck. This was called the Dunsil Seam because the shaft that intersected the new coal seam was near the Dunsil Cottages near Teversal. By 1814, water had become a problem and a steam driven pump was installed at a point a little to the left of the road up to Wild Hill from Fackley Toll Bar (quaint names near Teversal). Without this pump the Dunsil seam would have been drowned out.

In 1820 the workings were abandoned and not until 1856 were operations resumed. Most of the mine had been worked by the longwall method of coal extraction. In 1855 the Countess of Carnarvon (local mineral owner) leased the colliery, now called Molyneux Mine, to two Sutton in Ashfield men, John and German Buxton, who personally supervised the underground workings. Later a disagreement arose between these two and German Buxton left, his place being taken by James Eastwood, an iron founder of Derby. Eastwood provided most of the required capital, and in 1865, after he and John Buxton quarrelled, his firm, 'Eastwood and Swingler' became sole leaseholder of Molyneux Mine.

James Millership had come to work at the Molyneux mine around 1865 after having previously been a mine Manager in West Bromwich, Staffordshire. He resided at nearby Skegby with his wife and 5 children aged 17 to 6 years. He was the undermanager and he supervised the day to day running of the mine assisted by a deputy-undermanager, George Churchill. A plan of the workings was prepared by the mine surveying firm of John Boot and Son of Huthwaite, who were employed not by 'Eastwood and Swingler', but by the royalty owner, Lady Carnarvon. Ultimately these plans were found to be defective. It was common in the early part of the 19th century for mine operators to be hesitant about employing their own surveyor but more common for the mineral lord to employ a professional surveyor. The main role of the mineral owner's surveyor was to calculate royalties on coal mined and not normally be used for the good mining practice or safety of the mine.

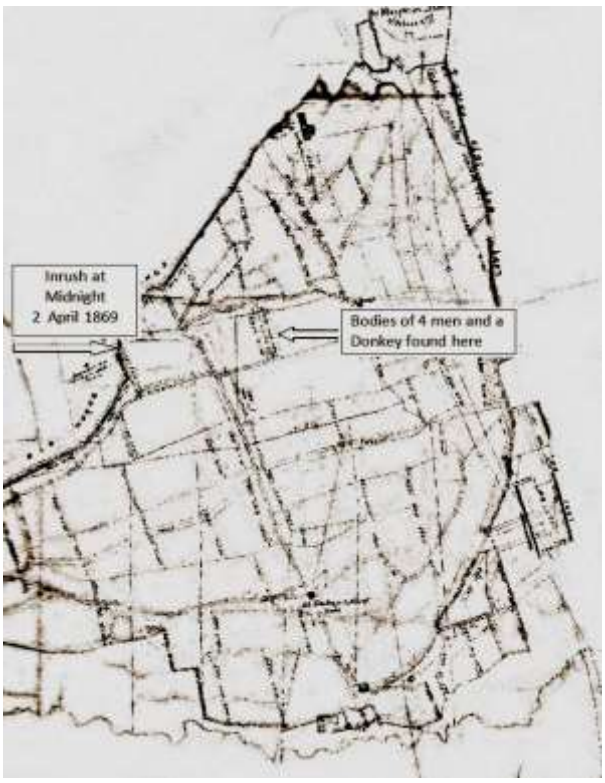
At 8-30 pm on the night of 20 April 1869, just as the night shift men were beginning work, they struck an old water filled tunnel. The waters rushed into the Molyneux Colliery levels and soon filled the Top Hard and Dunsil workings. Four men, Joseph Cooksey, William Wood, Samuel White and George Godson were drowned. Three other men, William Godson, James Dennis and John Prior managed to reach the pit bottom where the water was rising steadily.

At Molyneux Colliery there was neither winding engineman or watchman on duty once the night shift men were wound down and the day shift

bought up. Escaping miners Godson, Dennis and Prior attempted to climb up the winding rope with no success. They shouted continuously and rang the hammer-bell which was used for signalling in the hope that a passer-by might hear. (This illustrates how shallow the mine was). After about two hours they were heard by Henry Spittlehouse of Tibshelf, a pump man working a drainage shaft engine some distance away, who had by chance strolled over to the Molyneux Shaft. He was unable to work the winding gear himself, but fetched help and the three men were saved. After this, William Godson was always known as 'Squealer Godson', and his nickname became a byword in the district.

An inquest was held at the Carnarvon Arms public house in Teversal, the coroner being a local solicitor, Mr D W Heath. Health and Safety legislation was still in its infancy in the mid-Victorian era and many small pits, like Molyneux, were run on a shoestring budget. At the inquest, the fact emerged that Molyneux Colliery was severely under capitalised. The mine still relied upon natural ventilation and the air was so foul that another shaft had to be sunk before the bodies of the four men could be recovered. It also appears that the pit was using a primitive winding system, whereby the men had to ride sitting on a crossbar at the end of the hemp winding rope, not in a cage. Neither was there a second way out of the mine.

The Mine Surveyor, John Boot, was greatly criticised for the inaccuracy of his plans. A barrier of twenty-four yards should have been left between the Molyneux workings and some old Top Hard works of considerable extent, which were bounded by a water level. According to Boot's plans, the Molyneux workings were some seventy yards from the old level, but they were in fact right on top of it.



Plan of Molyneux Colliery showing location of worked areas, inrush and location of bodies.

It was also found out that mining surveyor John Boot had not been down the colliery for some five years or more, and his son, J.T. Boot, had not been down for a considerable time either. They said they '*did not like the method of descent down the shaft'*. Swinging at the end of a rope could not have been exactly comfortable. The actual surveying work at Molyneux Colliery had been delegated by John Boot to W G Treadwell of Alfreton (John Boot's son-in-law), who had been down the pit several days prior to the accident, but was unable to complete his survey owing to the foul air of the mine. There was also a suggestion that '*Trespass into other owners' lease areas had taken place'* but this was not proven.

The undermanager, James Millership, was deemed to be at fault as he knew of the waterlogged workings in the area, but had failed to bore ahead for water. John Buxton, the late partner of Eastwood said at the inquest that he had warned Millership "*.....to be careful, and that if they did not take care then all the men would be drowned*".

John Boot

He also claimed to have notified John Boot and a previous mines inspector, Mr Hedley, about the position of an old water-logged pit, which he could have drained had he not left the concern when he did. A workman, Mansfield Macduff, said he had warned those responsible of the grave risks they were running and had threatened to report the inadequate ventilation and drainage to the Mines Inspector. Another workman, Robert Moakes, testified that Millership had not, so far as he knew, bored for water since July 1868.

After the accident it was decided to drain the mine and pumps were set working 24 hours a day. A portable engine was lent by the Stanton Iron Company, but even so, it took some weeks to lower the level of water enough for anyone to go down the Molyneux Colliery. The bodies of the drowned men were recovered three weeks later on 20 April. The mines Inspector, Mr Evans, instructed his solicitor, Mr Heath (who was also the coroner), to take out a summons against Millership and the case was to be heard at Mansfield on 7 July. However, Millership disappeared, and the summons was never served. It was thought by some, that the company, 'Eastwood and Swingler'. should be prosecuted, but the Mines Inspector did not subscribe to this view. He considered that as they had entrusted the running of the colliery to Mr Millership, they were entitled to regard him as solely responsible.

That the pit was grossly under-capitalised, had only one means of egress, an antiquated winding system, inadequate drainage and ventilation, plus inaccurate plans and no winder on the night shift, it seems did not apparently reflect upon the owners!

After the disaster, the owners of Molyneux Mine appointed a Mr Gillatt, *'A gentleman of great experience'*, to manage the mine, though he did not become a full time manager, he was employed on a 'consultation' basis and probably served several collieries. Not being able to compete with the new local collieries of Teversal and Silverhill, opened by the Stanton Iron Company in 1868 and 1873, the Molyneux Pit finally closed in 1877.

Today the site of the Molyneux Mine is being affected by creeping residential development. The Carnarvon Arms is still active on the crossroads. New collieries, opened in period 1867 to 1875, have all worked and now closed in period 1980 to 1992. New coal mining sculptures and memorials have sprung up in some attempt to remember the heady years of a thriving but dangerous coal mining industry.

Postscript

In 1956 Lawrence Holmes qualified as a professional mining surveyor. In 1966 Lawrence and Chris Holmes bought a house in the small, picturesque village of Teversal, Notts at an auction held at the Carnarvon Arms. The house was 1km north east of Molyneux Mine site. They could hear the fans going and wagons clanking at nearby still active Silverhill Colliery. In 1969 they sold the house and moved to Cornwall knowing nothing of Molyneux Mine nor the inrush which killed four miners. They knew nothing of the Wheal Owles Disaster (10th

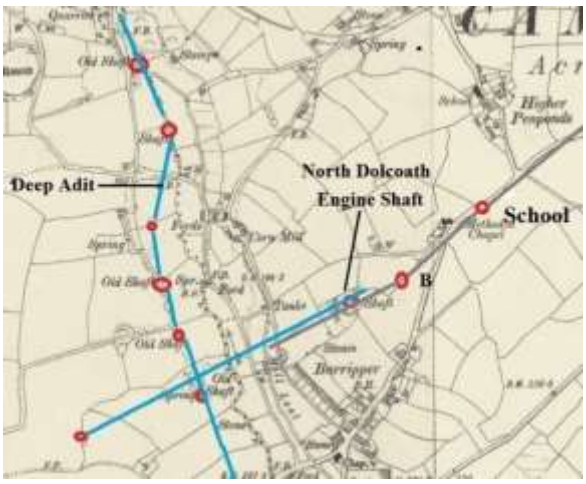
January 1893) a similar inrush of water which took a larger toll of Cornish miners' lives. Coincidentally both were caused by poor surveying and inaccurate plans.

Where was this?

Answer North Dolcoath 1914

North Dolcoath lies just north of the road through Barripper and east of the stream. In the 19th century it was not uncommon for promoters of a new mine to take the name of an adjacent, or not so adjacent, successful mine and tack on N. E. S etc. presumably in the hope that gullible potential shareholders would be tempted to invest. Dolcoath Mine itself lay close to the Red River east of Camborne and was Cornwall's most successful mine in the 19th century - for many years employing over 1000 people and was eventually 3000 feet deep. So we have West Dolcoath, South Dolcoath and our North Dolcoath which lay some 2 miles south west of Dolcoath.

Early mining in this area, which started in the late 1800s, included the driving of a deep adit, or drainage tunnel, from its portal just north of the present railway viaduct. This adit followed the line of the stream crossing under the Barripper-Carnhell Green road, just west of the chapel, and thence to the mines then being developed further south.



Plan of adits

I have sketched in the approximate line of the Deep Adit (in blue), Shallow Adit (in grey) and the associated shafts in red. The adit would have been driven very slightly uphill from the entrance. Adits are normally very small and often coffin shaped. The rock would have been broken by hand using a minimum of the expensive gunpowder. Little shafts would have been sunk, or mined up, at regular intervals to permit the removal of the broken rock probably using a windlass.

The main period of working of North Dolcoath was from 1857 to 1867. Deep adit was driven along the lode and in the autumn of 1858 a deposit of silver rich ore was discovered. Engine Shaft was sunk and equipped with a beam pumping engine, the mine was making money and the future looked promising. Unfortunately, by 1860, the silver rich ore was exhausted. Despite sinking the shaft down to 600 feet below adit, results were very disappointing and only a small amount of copper ore was sold. After years of heavy losses, the mine closed in 1867.

Surprisingly, considering the mine's record, an attempt was made in 1912 to re-open the mine, presumably for tin. By March 1913 Engine shaft had been re-timbered down to 100 feet and a hoist and a horizontal pumping engine were being erected. Work ceased in 1914 on the outbreak of war. The machinery must have remained on the mine as in 1917 it was reported that the mine

would re-open once labour became available. Nothing came of this. Later, in 1927, the winder went to the West Towan mine whose remains can still be seen by the coastal footpath west of Porthtowan.

In 2001, at the request of the landowner, a team for the Carn Brea Mining Society and the Plymouth Caving Group accesses a shallow level, or adit, from the shaft marked B on the map.

Trish Browning takes up the story as Part 2 of her article - **Some Underground Explorations.**

Ali Neill, Hugh (Browning) and I had got permission from the owner, via Tony Brooks) to descend a shaft at North Dolcoath. *As I recall this was about 1990 and our members Kevin Baker and, I think, Frank Kneebone were also involved – ed.* The shaft was partly concreted and accessed through a trapdoor. The shaft was about 60 feet deep and equipped with a metal ladder. *As this adit system used to be used as a source of water, pumped from Penponds pump station, this shaft was probably used as inspection access by South West Water – ed.*

At the bottom the upstream end went east to a blocked shaft with no way on. The other way headed west towards Engine Shaft and the valley. The level continued to a hole in the floor with water flowing into it. Beyond this was a pile of muck which we climbed up. The slope downwards was too steep to clamber down as it went into a water filled hole. Ali tried kicking some of the muck down to enable him to get down. However, we kept hearing bits of rubbish falling off the walls completely changes the area. We did a very hasty survey and made our way out. We were lucky not to have been there when the fall occurred. The fall of rubbish we had heard the first time was a warning.

Hugh near the bottom of the ladder

Hugh crossing the hole

Where was this?

Answers to the Editor please.

Entry to King Edward Mine

King Edward Mine is losing its annual financial support from Cornwall Council. As a result, the Museum has decided to stop offering Carn Brea Mining Society members a discount in their shop. Society members will still get free entry on showing their membership card.

Communication with Members

Over the last 2 years, some members have said that they no longer require paper copies of both the News sheet and the longer Newsletter. They really want CBMS to move to the 21st century & use electronic communication. Obviously CBMS will save on postage, printing & paper by using this method but ask us only if you are happy. There is another possibly more important reason for using email. What happens if evening meetings are cancelled at short notice for whatever reason? This occurred back in January & unfortunately not everyone was told & members duly arrived at KEM in atrocious weather. Imagine how they felt.

To help your committee, it would be useful to have an up-to-date email address for each of our members or, if you don't use email, a telephone number that can be used for notice of cancellations. Everything will be done in accordance with GDPR regulations with only committee members holding these details. If you are happy to provide information, please email Maureen Gilbert - maureen15jg@gmail.com as she already holds a list of members for label printing purposes.

Programme

18 July The Red River from source to mouth & prehistory until the present day with Professor H Paul Williams. This talk will trace a lot of the history through many historic & modern (some aerial) photographs. It is hoped that members of the audience will be able to add to the Professors knowledge with their reminiscences.

19 Sept Cornish Lithium, an update from a member of staff.

23 Sept (Sat) Open morning at Condurrow.

17 Oct The Lady Agnes with Roger Radcliffe. Life on board a coastal schooner sailing copper & tin to Wales and bringing coal back to St Agnes.

21 Nov Underground photographs from trips in Cornwall by Roy Morton

5 Dec Member's Medley

2024

16 Jan Lesser known mines & minerals with Kevin Baker

Your thoughts on potential programme content would be appreciated.

Notes for Authors

Please supply typescript using Word & Times New Roman with the font set at 12 point. Please do NOT wrap text around any images or use borders as it makes it difficult to arrange pages economically. Just indicate in the text where you would like images to appear.

CARN BREA MINING SOCIETY
INCOME AND EXPENDITURE
1st April 2022 - 31st March 2023

OPENING BALANCE **£2,870.96**

Income for year to 31-3-23		**Expenditure for year to 31-3-23**	
Subscriptions	£1,534.00	Membership Sec's expenses	£365.79
Donations	£270.00	Printing	£291.00
Interest	£2.19	Treasurer's expenses	£4.08
	£1,806.19	Web site	£168.88
		Speakers	£85.00
		G. A. Insurance	£143.94
		Condurrow Mine	£600.00
		KEM Ltd (Venue fee)	£100.00
			£1,758.69

Opening balance + Income for year to 31-3-23			
£2,870.96	+ £1,806.19	£4,677.15	
Less expenditure for the year to 31-3-23		£1,758.69	
		£2,918.46	

Current account balance	£1,783.11
Reserve account balance	£1,008.69
Cash	£126.46
	£2,918.26

Signed *J. L. Nurhonen* Hon Treasurer Date *18-4-23*
J. L. Nurhonen

Treasurer's Report

Jon Nurhonen commenced his report by thanking all members for their financial support over the last year. With funds slightly up on last year, he could see no reason to propose a subscription increase. There are concerns about charges continuing to increase. Amongst other things electricity costs £28 per month now but is likely to increase. (see article elsewhere in this document) With £600 from subscriptions going towards the running costs at Great Condurrow, Jon pointed out that the band of volunteers at the mine do pay some costs themselves in addition to their CBMS membership.

Jon reminded those present that membership is now due and if you wish to pay your subscription by bank transfer, please contact him on jonnurhonen@btinternet.com & he will provide you with the necessary bank details. Please note that he will be unaware of your payment until the monthly CBMS bank statements are to hand.