C A T

The Newsletter of the Cumbria Amenity Trust Mining History Society

New Engine Shaft Wheelpit, Coniston. Photo by Mark Hatton

No. 129 November 2017

Cumbria Amenity Trust Mining History Society
Newsletter No 129, November 2017

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Society Officers and Committee Members Back cover

Editor's Rant
Meet reports - Once upon a time meet reports were recorded in a logbook. The early logbooks are in our archive at the Armitt. Quite some time ago, in order that more members could read them, we decided to discontinue the logbooks and instead to keep a record of our meets in the Newsletters, which form part of our archive and, in the course of time, become a historical record. You will find references to past reports in articles in this issue of the newsletter; during the dig at the Penny Rigg Adit at Tilberthwaite it was found helpful to make reference to several reports of past visits.

We ought to have a *complete* record of all 'official' CAT meets, ie those published in the Meets Lists. As you can see from reports in this issue, some meet leaders go to a lot of trouble to provide a comprehensive and informative report, but that is not always the case. The purpose of this rant is to remind meet leaders and prospective meet leaders that they are expected to arrange a meet report for the next newsletter. I use the word *arrange* deliberately. It doesn't have to be the Meet Leader, some of the participants could do it. There is often lots of stuff on Facebook, but that is ephemeral; it doesn't get sent to the newsletter and it doesn't provide a permanent record of the event. So, if you go on a CAT meet, how about writing a report, with or without pictures? IM.

Membership - Subscriptions for 2018
With this newsletter you should receive a membership renewal form for 2018.

We have had to make some small changes in order to ensure that the subscription income covers all the running costs of the Society, and to ensure that no section of the membership is subsidised by another. You will see that the Basic fee remains the same, but there is a small increase in BCA insurance costs. In order to cover the costs, we have increased the charge for printed and posted newsletters. The majority of members now receive their newsletter by email.

Insurance is valid from 1st January, and in order to complete the documentation by this deadline the Treasurer would be grateful for prompt renewal. Meet leaders are expected to satisfy themselves that participants have appropriate insurance, so, if you have BCA insurance via another organisation, please let us know on the renewal form.

New members. We would like to welcome:
David Hetherington - from Bentham, near Lancaster.
Julia Robson - from Pity Me, Durham.
Colin Agnew - from Carlisle. Colin is a former Leader and Training officer for COMRU.
Also former Penrith MRC, with MRC Casualty Care Cert and MLC.
Magnus Mcintosh - from Cockermouth.
Richard Parry - from Lutterworth, Leicestershire.
Chris Bunker - from Carlisle.
Roy Oxlade - from Workington. Roy is an engineer with multi-discipline background.
Tom McNally - from Penruddock, Cumbria. Tom is an outdoor instructor and photographer.
Ian Holliday - from Salisbury. Ian is interested in anything to do with Cumbrian mining, past, present and future. Over the years has visited many sites above and below ground in Cumbria including Haig, Florence, Force Crag & Carrock when they were still working. Lived in Keswick for 16 years with a family history involved in working the West Cumbrian Coalfield.

News

Ambleside Festival of the Fells

This is a relatively new event held in September each year to promote Ambleside, following the floods of 2015. It is a mountain, outdoor activity and cultural festival designed to appeal to fell lovers of all levels.

As part of the festival Mark Hatton gave an evening talk at the Golden Rule pub in Ambleside entitled 'The History of Mining and Quarrying in the Lake District and its relevance to today's hill walkers'. His entertaining talk covered the history of mining in the Lakes from the stone axes worked in Great Langdale 5,000 years ago, via the copper, lead, graphite and iron workings of the 16th to 19th centuries, through to the slate still being worked in Langdale today. It was a small and noisy venue; Mark only expected a small number of people to attend, but in the event about forty people crammed into a room more suitable for twenty. There might have been more, but some turned away.

On the Saturday Mark conducted a guided walk around Coppermines Valley and up to Levers Water. The events were free, but donations were made to CATMHS.

Flookburgh Steam Gathering

COMRU had a stand at the steam gathering held on the 29th and 30th July and this year asked if CATMHS would like to join them. Carl Barrow and myself attended on both days of the event on behalf of the Society and although there was not much interest from the public (weather forecast was not good), it was good to re-stablish relations with COMRU, which led to organising a meet at Tilberthwaite Horse Crag Level, where COMRU would

carry out a practice to extract someone from the far reaches of the level through the restricted part of the level where we had built our pack wall. It was also an opportunity to show COMRU how the society undertook it's digs, which is an area that they were not well-versed in.

Warren Allison

Archaeology in the Lake District 2017
This year the conference provided an opportunity to learn about recent projects carried out by universities, organisations and those undertaken in partnership with local communities and volunteers within the National Park. And also to celebrate John Hodgson's 24 years of service for the National Park Authority following his retirement at the end of July.

Introduction *Jane Barker, Deputy Chair, Lake District National Park Authority*

Archaeology in the Lake District National Park 2016-17 *Eleanor Kingston, Lake District National Park Authority*

Jigs, stamps and mortar stones: surveying Bonsor Low Mill and Tilberthwaite copper mine *John Pickin*

Three recent archaeological surveys in the Lake District *Jamie Lund, National Trust*

Cunsey Forge: A Refined Account of a Lakeland Bloomforge *Ian Miller, University of Salford*

Excavating Medieval Longhouses in the Duddon Valley *Stephe Cove, Duddon Valley Local History Group*

Re-thinking the Neolithic Landscapes of Cumbria and the Lakes: New dates and emerging themes *Helen Evans, Oxford Archaeology North*

Retrospective review: 24 years of Archaeology at the National Park *John Hodgson*

NAMHO Conference 2017.
In June several brave CATMHS members ventured into the darker reaches of the south-east to attend the NAMHO Conference in Surrey. (Warren is currently NAMHO's Deputy Chair) Next year's Conference has been timetabled for early June, in and around the Forest of Dean - see www.namho.org

CATMHS delegates enjoying the NAMHO Conference. Photo by Ken Geddes.

A great time was had by all in being guided around large dry stone mines around Reigate & Godstone and then military works within the White Cliffs of Dover. The hosting club, who did a great organisational job was WCMS, the Wealden Caves and Mines Society. www.wcms.org.uk/index.shtml They would be happy to escort any CATMHS members around if they find themselves lost the wrong side of London. (Plagiarised from Facebook. Ed)

Coniston HLF Grant update

The contractors have been working on consolidating the upper Bonsor Mill, some of which has proved to be problematic, and advice had to be sought from Historic England. However what has been done is superb. Archive research has continued and some of the work is quite outstanding, which will make a huge contribution to the project.

Walls of the smithy have been consolidated

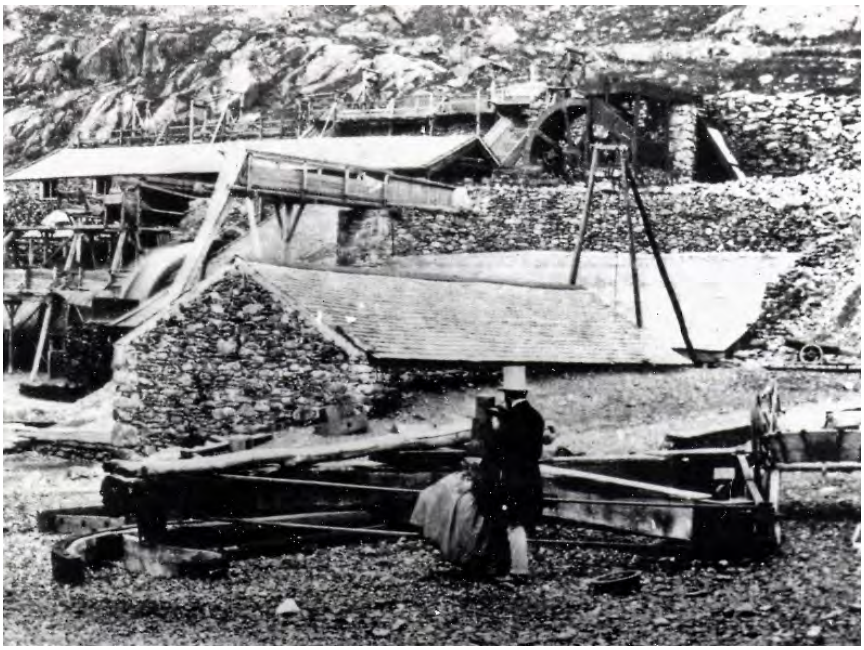
Part of Bonsor Upper Mill with the re-built tower.

Ian Matheson and I have unearthed some new previously unseen photographs of the mines and Ian has been adding these to the collection of all known photographs of Coniston coppermines. We have spent a considerable amount of time during the summer trying to date the photographs

and find out who the photographers were. During September we visited the site and have been able to identify some of the existing structures with those in the photographs. It is apparent that there several periods where the mill was re-built and re-organised.

Tower with the waterwheel pit to the left

Ian Matheson, standing in the launder which carried the water from the upper waterwheel to the lower one next to the tower



This photograph of the upper mill (which has been previously published) could be one of the earliest known (circa 1860's). The building in the foreground has been re-built and the two people could be John Barratt (mine owner) and his wife Ann Mason. What is interesting is that many of the structures in the photograph still survive and the re-built tower is just above the building and appeared to carry a wagonway. The upper waterwheel is clearly visible and there is a bell (works clock?) at the back of the building. There appears to be a balance bob beside the two people. Warren Allison.

Bonsor Upper mill

During a recent visit to examine the conservation work being carried out on the Coniston Bonsor Upper Dressing Floor site, owned by Philip Johnson, this mortar stone was noticed amongst the rubble at the base of the re-constructed barrowing tower. Another was noticed elsewhere on the site. The Lake District Archaeoligist was informed, and she reported that it has been removed to a safe place.

These waterwheels were to be seen on the site. The two part wheel is a demonstration wheel constructed for the Nenthead mine preservation site.

CATMHS Archive

Our archive at the Armitt Museum continues to develop. Colin Woolard is in the process of developing a cross referenced database for our collection so as to provide a proper record and to enable people to find what they may be looking for.

Recent additions include a copy of the NAA Penny Rigg Copper Mill survey compiled for the Lake District National Park Authority, November 2016 and 'A Short History of Tilberthwaite Mine., written for the Coniston Copper Project by Jeremy Rowan Robinson with assistance from CAT. Ian Matheson and Warren Allison are compiling a comprehensive collection of historic photographs of Coniston mines, using them to interpret the development of the site in the 19th century. Any information that might lead to the discovery of hitherto unknown photos would be very helpful.

Mo Holland has kindly given us another batch of artefacts papers and pictures from Eric's collection, which is wide ranging in its content. Some handsome framed photos of Hodbarrow mine that reputedly hung in the Hodbarrow Mine Office have been loaned to the Millom Discovery Centre which, by the way, is well worth a visit. Other documents relating to Furness Iron have gone to the Barrow CRO, whilst photos, pictures and artwork for Eric's book have been deposited at the Armitt. There is a detailed list on the CAT website. We are still looking for a suitable home for documents from elsewhere, including Wales and Cornwall and Austria.

John Muir Trust and Glenridding Common

The John Muir Trust which is based in Scotland is taking a three-year lease on Glenridding Common from the LDNPA, but this does not include the scheduled part of Greenside Mine. As part of the consultation process, CATMHS was asked to make comments on the proposal especially around the archaeological remains beyond Greenside, including the leats, No. 1 power station, Kepplecove and Brown Cove dams, the smithy in Brown Cove and the stone arched levels at the junction of Red Tarn and Glenridding Becks and at Brown Cove Mine.

The Trust is going to include the comments made in its management plan, so, on a breezy day in September, Colin Woollard and I met to view some of the remains with Pete Barron, who used to be a LDNPA ranger and now works for the John Muir Trust. We walked from Greenside to Kepplecove Dam, which was an opportunity for Pete to explain the background to the proposal, what the Trust intended to do with regards to land management and protection of the archaeological remains.

Arriving back at the car we agreed that the CATMHS would draft a brief document setting out what remains there are and information around the hydro-electric power station, which made Greenside the first UK metal mine to have an underground electric locomotive and winding engine. We offered to assist in field trips to the mine and common next year when the Trust holds its AGM at Glenridding Public Hall.

A photograph of Kepplecove Tarn, which burst in 1927, and the dam which was built to replace the tarn which itself burst in 1931. Warren Allison.

South West History & Archaeological Society visit to Force Crag Mine

Last year I took the society around the surface remains of Coniston copper mines and this year they asked if they could visit Force Crag Mine near Keswick. On the 19th August, we met at the car park just off the road to Whinlatter on another poor summer day and started to walk up the valley; it was showery, breezy and not particularly warm.

After a couple of miles, we stopped to look at the route of the tramway which was built in 1873 to take barytes down to a mill at Braithwaite. Arriving at the mine, we walked from Zero level through the area round the mill onto No 1 level and then up to No 3 level using old photographs and plans to explain the history of the mine, before retracing our steps back to the cars, after a very enjoyable day.

Warren Allison.

Newland Furnace

As reported in Newsletter 127 for May 2017, the archaeological dig carried out, with financial support by CATMHS, had been disappointing; nothing of great significance had been found. However, following the dig, Trust members met with Andrew Davison of Historic England to show him what we found. He seemed happy with what had been achieved and was supportive of additional work being carried out on Pits 2, 4 and 7 (all one now) to better understand the purpose of large stone blocks that had been uncovered. This has now been done, and has revealed what is thought to be the base for the iron blowing cylinders that were installed to improve the performance of the original bellows

Progress has also been made to reconstruct the brick arch over the waterwheel axle aperture. This has now been completed.

A larger water wheel was installed at some point, probably at the same time as the new blowing cylinders, and the axle had to be raised to accommodate this. The stone blocks which supported the bearings for both phases can be seen in the left hand picture.

There is still much more to be discovered at Newland Furnace. Perhaps the next stage might be to completely expose the blowing chamber floor, and after that to excavate the wheelpit! IM

The Furnace was open for the weekend of National Heritage Open Day. A feature was a guess the weight of a trip hammer head recently acquired by the Trust:
Visitors 59 adults, 3 children. Donations £80.99
Sales £57 included 10 booklets and guess the weight of the hammer. Hammer weighed 260Kg, 573lb.

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Warren Allison.

Beldi Hill and Swinnergill - 22nd July 2017
Present: Chris Cowdery (ML), John Ashby, John Aird, Dave Donkin, Kevin Timmins, David Appleby, Hilary Drydale, Charlie & Sue Fowler.

The purpose of the trip was to look at some of the Beldi Hill and Swinnergill lead workings. The Beldi Hill workings are the large visible workings to the North of the River Swale just downstream from Keld. The Swinnergill Mine is located at the confluence of Swinnergill and East Grain. From a geological perspective, both mines were working the same group of lead veins.

However, a dispute over the ownership of the land gave rise to a long and protracted legal dispute. In May 1767, John Parke of Low Row struck a rich vein on Beldi Hill. This was deemed legitimate because the vein was within the pastures of Crackpot Hall (part of the manor owned by Thomas Smith) rather than on the open common land. However, the 2nd Earl Pomfret decided that the land was within the common. A sequence of physical disputes took place on Beldi Hill with various shaft sinkings, fillings in, altercations etc. Eventually a court hearing was held at York Assizes in 1770, which gave a verdict in favour of Smith. Pomfret took the case to the House of Lords, winning there. Smith didn't give up here, and a second Jury Trial was held at Westminster in 1772, which returned a verdict in favour of Smith. Pomfret was effectively bankrupted by the cost of the case and never paid his miners!

The group met at the village car park in Keld. This affords excellent facilities and comes highly recommended. After the usual briefing and risk assessment, the group departed along the Pennine Way out of the village to cross the River Swale and then downstream along the northern side of the river.

After a short distance, the footpath can be left and a very overgrown track followed which descends to the Beldi Hill Low Level. This level drains the Beldi Hill workings, and was clearly used as the main haulageway from the mine. At its mouth are the remains of the ore processing plant, which has a fine wheelpit (to power the roller crusher), bouse teams, and washing kilns. From this area, a trackway leads down the valley to the smelt mill at the mouth of Swinnergill.
The Low Level was entered; it runs straight into the hill, terminating in a geological disturbance directly underneath the mine workings above. There is a choked rise on the left, from which water issues. To the right, the level turns along the vein in stone arching but soon reaches a collapse.

Beldi Hill Low Level portal

The rise is where two miners (S. Raw and James Allinson) in 1882 broke through into flooded workings above and had to beat a hasty retreat along Low Level. By the time they reached day, the floodwater was halfway up the level.

The next brief stop was the Beldi Hill Mill. This smelt mill was built where Swinnergill meets the Swale in around 1770, and operated until approx. 1883. It is in a ruinous state, but the remains of the flue running up the hillside can still be made out.

Partway up Swinnergill lies the portal of Parkes Level. This was driven between 1746 and 1749 at a cost of £300. It runs for 1200ft to enter the Beldi Hill workings at depth (albeit not as deep at the previously mentioned Low Level). As is often the case, the portal lies on the bank of a river, which has washed enough debris to nearly hide the level mouth. Peering inside the level, it can be seen that there is enough airspace to afford entry, so John Ashby gallantly went inside. He very quickly emerged again, having bottled it. A subsequent conversation with Carl Barrow indicates that the level does 'go', but he gave up after a considerable distance of deep mud. This level should enter both Beldi Hill and Swinnergill workings at its inner end.

Lunch was taken at the Swinnergill Mill which was probably built around 1807. It was finely built with substantial cut stone quoins. The collar of Smiddy Shaft is protected via a steel grate, through which can be seen a fine stone lined shaft, flooded perhaps 10m down.

After lunch, the group entered Swinnergill Mine via the Main Level, and proceeded to explore all the drives at that horizon.
Not far from the portal, a sump is encountered which drains the water from the crosscut into the Middle and North Veins. This sump almost certainly connects to Parkes Level, and should be explored!

Swinnergill Main entrance

The North Vein is blocked by a collapse not far from the cross-cut from the Main Level. It is from this collapse that most of the water issues. It is probable that a surface stream enters at this point because the water was running a very peaty brown on account of a severe cloudburst a few hours previously.

The Middle Vein can be followed all the way to the North Level in Field Marshall Vein encountering quite a few stope and flat workings.

The Main Level can be followed to a collapse which has occurred since the ML's previous visit, as he recalls previously deciding that the level was too dangerous to proceed along on account of the bulging stone arching. Now the level is blocked with a fall. This fall is probably in the area of the Shields Crosscut.

A damp rise (presumably Whim Shaft) was encountered although not looked up.
It is the ML's opinion that some of the stopes and flats could be scaled and may lead into higher level workings.

Once leaving Swinnergill Mine, the group returned to Beldi Hill and admired the Smithy building with its extant hearth. Spotting the large tips behind, the portal to Crackpot Hall Level was found, and a reduced group entered on account of the ML explaining how uninspiring the level is. The ML, David Appleby, Charlie Fowler and Dave Donkin entered the level, and stooped and bumped their way along. Partway along is the Sun Vein Sump, leading down to the Landy Level horizon. At the inbye end, the level turns along the vein into stone arching. The level is in a very poor state, but progress is possible. Just prior to the end, there is a branch, again through stone arching. After a short distance, a small chamber is entered, the exit from which is stone arching that would only be possible to pass through sideways! Whether this is ground movement or it was deliberately built that way is a matter for conjecture.

Crackpot Hall Level has a strange bench cut into one side of the level. It is remarkably convenient to support oneself on as one is doubled over, leaving the other hand free for carrying a candle. The ML has never seen it elsewhere, and its purpose remains a mystery.

Further reading:
The Hidden Side of Swaledale - John Hardy
Men of Lead - Miners of the Yorkshire Dales - David Joy
The Lead Industry of Wensleydale and Swaledale - Arthur Raistrick
Swaledale its Mines and Smelt Mills - Mike Gill. A plan of Beldi Hill can be found on page 42. A plan of Swinnergill can be found on page 47.

Devis Mine - 23rd July 2017
Chris Cowdery (ML), John Aird, John Ashby, Charlie & Sue Fowler, Dave Donkin, Carl Barrow, Mark Hatton and John Dale.

Devis Hole Mine was driven pre 1774 (MSG Journal No. 7), and closed in the 1890s when the lead was exhausted. Devis Hole is unusual because it doesn't follow a lead vein as such, rather it intersects and exploits natural cave features to give access to the ore. The ore was found both in vughs (empty examples of which can be seen), and loose galena pebbles in the gravels and clays within the natural cavities. The natural caves are quite unlike those typically associated with caves in limestone (which are formed by subterranean water flows), instead they are maze like and comprise enlarged natural fractures within the limestone. They can be dense and extensive, for example the first maze cave in Devis (the Central Maze) has approximately 1500m of passage in an area of 120m by 40m. Devis currently has 6700m of surveyed natural cave.

Other examples of mines intersecting extensive natural maze caves are Hudgillburn, Faggergill and Windegg. John Dale has carried out extensive research into the formation of maze caves, references for which are given at the end.

The group descended the short dig into a mucky damp crawl which soon opens out into the Main Crosscut. This level is an enlarged natural rift, as evidenced by the scarcity of shot holes in the level sides and the natural appearance of the limestone. Many small fissures are visible, some draining water from the level.

Devis – on the way in

A short distance in, Wellington Vein is reached, from which Robinsons Level leads via a very wet dig to the top of Pearson's Sump. Descending Pearson's Sump and alighting partway down gives access to the rest of the mine.

From here, John Dale led the group into Horns workings which is a fantastic mixture of natural and blasted level, encountering numerous breakdown chambers. The rail is the narrowest gauge that the ML has ever seen, approx 12" gauge. One can imagine children pulling tubs along these levels. At the innermost point of Horns Workings, some early Nobel Explosives are lying awaiting use, and a candle is still stuck to the wall in its clay.

Devis – one foot guage rail

Next the group worked their way towards the South Cave series via a collection of artefacts which are essentially the kit of metal parts needed to build a jack-roll. The wood has all rotted away.

Lunch was taken in the South Cave series, after which some of the group made it to Wyvill's level via the natural caves. This level was only ever entered via shafts from the surface. At this point, the group returned to day via Pearson's Sump.

Devis- early dynamite

Devis - Jackroll kit

Grinton Smelt Mill is passed on the way to/from the mine, and is well worth a visit. It has been conserved and interpretation boards placed. It is probably the most complete example of a smelt mill in the Dales.

Cave and Karst Science Vol 39, No. 1 (Phreatic cave systems under the Swaledale - Wensleydale watershed)
Cave and Karst Science Vol 42, No. 1 (Hudgill Burn Mine Caverns)
Caves and Karst of the Yorkshire Dales, Vol 2, Chapter 31 - Caves of Swaledale
Moldywarps Speleological Group Journal 12. Page 6 for text, Page 13pp for surveys.
BCRA Transactions, Volume 2, No. 4, December 1975

Roughtongill and Silver Gill mines meet- 3rd September 2017

Probably one of the best attended meets for a long time, when 25 people met at Fellside on a very blustery but dry day, and leaving very little space for anyone else to park. The meet leader even manged to get there before Mark Hatton, but on packing his bag realised that the key to Silver Gill Mine was still in the garage at home. Asking Mark to gather everyone up, he made a very quick trip back home and on getting back everyone was just about ready to move on.

Slowly walking up the long and lovely valley, we stopped to look at the old smelt mill, which was built in the early 1850's for processing the ore from Roughtongill Mine. It has been commented that it never worked, however Sam Murphy (who wrote Grey Gold, the definitive history of Greenside Mine) has uncovered production records. Around 1869, it was converted into a row of cottages which is the reason there is no slag from the smelt mill left, as it was carted away. In the late 1880's it was converted to a crushing mill to process the Barytes from Potts Ghyll Mine, where sulphuric acid was used to treat it before the effluent was dumped in the beck.

From here there is a good view of Brae Fell Mine with the best example of hushing in the Lake District, with Red Gill Mine (reputed to be of German origin) in the distance, which is the source of the finest specimens of Linarite in the world.

We carried on up the valley and stopped just before reaching Roughtongill and Silver Gill Mines, where a brief potted history was given before starting the slow walk up Silver Gill. The group was well spread out going up the gill and some had already gone into the lower of the three German levels known as New Stoln, which is one of the best examples of a coffin level in the Lakes. It is a cross-cut of about 40 yards where it splits left and right as it meets the vein, with the left-hand branch going for some 30 yards to a forehead. Unfortunately the right-hand branch is collapsed. There is also a flooded shaft in the floor which I think connects with the fourth German level which was being proposed to be driven in the 1620's.

Just before Roughtongill and Silver Gill

New Stoln cross-cut

While everyone was looking in New Stoln, I went up to Emanuel, some 90 feet higher up the fell, which we found in the late 1990's. We got permission from the LDNPA to open up the entrance as long as a gate was installed. This was to protect the remains of what was, until recently, the earliest known wooden wagonway in Europe. It was also in this level when we were clearing the backfilling that a wooden hand shovel was found which was

carbon dated to 1020-1200AD, which also exactly matches the date of the smelter at the Howthwaite Stone near Calebreck, about two miles away. This makes Silver Gill the site of the earliest proven mine in Cumbria. Cameras were going off ten to the dozen as this part of the mine is virtually untouched since the Germans worked it. The intention was to go further up Silver Gill, passing the top German level (entrance closed) known as Fortune, and come out of the top and walk over to the upper part of Thief Gill to view the workings there, but, as it was still very blustery, Mark took most of the group round to the waterfall in Thief Gill to stop people getting cold while I closed the entrance back up.

We all met at the waterfall at the bottom end of Thief Gill where there used to be a waterwheel shown on an old plan. The remains of the dam and short leat are still visible. I think that the Germans sank a shaft from here on the Roughtongill vein and drove along it, which eventually became the 30-fathom level. When you walk in the level from surface it appears where it meets the vein to have broken into older workings. It was in here many years ago I pushed the level as it goes towards Thief Gill as far as possible, going over several collapses until a large fall blocked further progress. On coming back through one of the falls, the level had been cut as a coffin level with the pick marks going downhill, suggesting it had been driven from Thief Gill.

The area of the dressing floor for the 30-fathom level.

The area of the dressing floor for the 6o-fathom level which goes in on the left-hand side of the waterfall.

The entrance to the Blind Wastel.

We walked down to the 30-fathom level, before carrying on to the 60-fathom level, with another coffin level known as the Blind Wastel, on the opposite side of the beck, which was driven on the Silver Gill vein. Some also had a look in the level which has been attributed to the Germans which is beside a waterfall lower down the beck, which Mark didn't know about. What is interesting at both levels, is how were the dressing plants built on such a steep fellside? From here we walked back to the cars after a very enjoyable day in superb company.

Warren Allison

Alderley Edge Copper Mines, 24th September

Alderley Edge lies to the south of Manchester and is an area much favoured by people who live in big houses, drive Porsches and play football. But this area also features a fascinating Copper Mine. This was the chosen venue for today's CATMHS meet. The hosts, Derbyshire Caving Club, manage access to the mine on behalf of The National Trust and had specified a capacity of 14 places, which were quickly snapped up by CATMHS members keen to visit these workings.

We gathered in the car park feeling rather conspicuous changing in to caving suits as the Porsche owners unloaded their WAGS and Afghan Hounds. And then we walked across to a stout metal gateway and descended into mining heaven. The highest level of the mine is a fascinating Bronze Age working, which flows seamlessly into a glorious Roman section. The carved shrine to The Roman God of the Underworld and surrounding Azurite spheres adding yet further to the experience of being in this magical place.

We then plunged deeper and deeper through the sandstone levels, passing through centuries of workings along the way. Upon reaching a ladderway we descended beside the gloriously rich blue flows of Copper Minerals, which quite took the breath away. Reaching the lowest haulage level of the mine we walked through a mile or more of beautiful railed adit, passing tipping tubs along the way

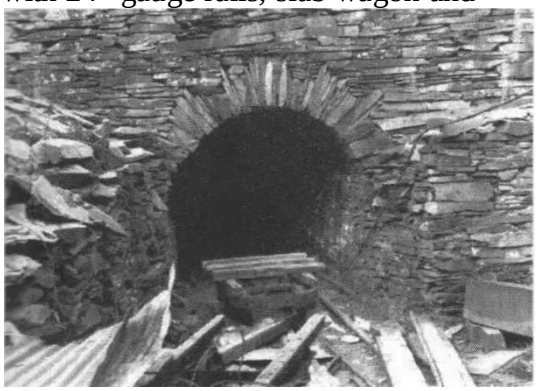
Upon reaching a flooded section we found a canoe and rafts awaiting. Surely the Queen of Sheba couldn't wish for a more elegant transport. Sadly operator error meant one canoe full of CAT members took an early bath, but even that served only to temporarily cool our ardour for this lovely mine. More miles of twisting passageways, stairways and workings finally brought us back up to day.

Here we rejoined the WAGS and Afghan Hounds on the path back to the car park. A quick change into dry clothing was followed by an extensive debrief in the adjacent pub. Everyone agreed that these mines are some of the most beautiful, interesting, varied and historic that we had ever visited.

Mark Hatton.

Moss Rigg Quarry Ten Years On

In Tilberthwaite, Moss Rigg quarry is second only to Hodge Close/Parrock quarries in size, consisting of a large open pit with its long axis running roughly NE/SW. Unlike Hodge Close it has no water feature due to base of the pit being above the valley floor and there being a drainage adit. This is pictured on the right complete with 24" gauge rails, slab wagon and compressed air main.



As can be seen on the 1915 map the level entrance had to be arched and walled up to prevent the tips from above completely overwhelming it. Originally worked as a closehead, or more likely a number of closeheads; Cameron[1] suggests that the workings were untopped in the 1880's, which would coincide with the introduction of high explosives mak- ing this process possible. Despite the un-topping all production would have been brought out of the quarry by the adit until the introduction of lorry transport well after the 2nd World War, which went along with the switch from roofing slate production to architectural cladding etc requiring much larger slate blocks for reduction by diamond saws. The area adjacent to the tramways where the buildings are shown remained the mill site until as recorded by Glover[2] the whole site was cleared in 2000 and the adit entrance blown in.

A recent visit was prompted by reading Holland[3] and Holmes[4] reports. The pit is very much deteriorated with massive falls from the NW wall which are clearly regular events, final production was from the short transverse SW wall never going more than a third of the way down the pit. Previous production involved a vehicle access ramp curving round the SW wall and along the NW wall into the pit centre. Cautious pedestrian access is still possible down the remains of the ramp but rampant vegetation impedes progress and the combination of sharp unstable slate slopes and lichen suggests that a dry day is essential.

Falls from all of the walls have reduced the area of the pit bottom to a very small level zone round the inner end of the lowest adit which has filled to half its original height. It appears that access will not be possible for very much longer.

Inside not a great deal has changed since Holland's visit in 2007; immediately above the entrance to the one accessible closehead the roof anchorage that held the pulley block used to load blocks onto the slab wagons remains in position. The closehead itself has deteriorated further and is virtually completely full of fallen slabs with no way on to the second close head.

A short way along the adit from the closehead in a cupboard cut in the side wall the Westray and Forster winch still sits

beside the base plate on which is mounted the compressed air motor used to drive it. The winch manufactured pre-1866 in Ulverston was presumably originally steam driven for marine use.

The condition of the five-way junction does not inspire any great confidence, most of the fallen blocks

are more than 2 metres high and similarly wide.

Below the adit can be seen running from solid rock into the very finely constructed arching and in the distance the collapsed entrance. The 24" gauge tramway with pressed steel sleepers suggests surplus 1st World War material, while the plastic pipe supplied water from behind the dam to the mill.

Clearly the constructor was proud of his work, it may be possible to trace him or

his descendants somewhere in the Coniston area.

All in all, a site well worth while visiting both for the under and above ground features, including the track through the site to Atkinson Ground quarry where, due to environmental

concerns, at the end of Moss Rigg working waste was transported and tipped. From here a short walk gives access to Cathedral quarry, always a good site to visit.

References: -

1 "Slate from Coniston" Alastair Cameron
2 "The Quarries of Lakeland" David Glover
3 CAT Newsletter No 88 "An Evening at Moss Rigg Quarry" Tony Holland
4 CAT Newsletter No 89 "Then and now at Moss Rigg Quarry" Peter Holmes

Plans of the underground workings can be found in Reference 4

William Bickford

Textiles at Cummersdale and coal mines at Wigton

Stead & McAlpin is a world-famous textile manufacturer, and since 1835 its mill has been located at Cummersdale, near Carlisle, a village where I have lived all my life. My father spent all his working life at the mill along with a colleague, Alan James, who is a well-known local historian, both of whom have an interest in the history of the company, and instigated its own archive. I have purchased some items on e-bay relating to the mill, but one recently caught my eye. This was the last will and testament of Mary Stead from the Parish of Bolton (near Wigton in Cumbria) dated 28th August 1841. On reading through the will there is mention of the Iron Works at Lowca (West Cumberland) and the Bolton Collieries and Limestone Quarries near Wigton. The Stead family were owners of large tracts of land in the Parish.

I discussed this with Alan, and it was Mary's grandson John who was one of the founding partners of Stead & McAlpin, and he explained why a textile company had in interest in mining and quarrying, which had been published in a company newsletter which is reproduced below:

Bleaching cloth by natural methods used to be the only available process. It took six or seven months for the fabric to be whitened by the action of light, air and moisture as it lay stretched out on bleaching fields. The gradual introduction of chemical agents during the late 18th century reduced the time to weeks and then to a matter of days. After about 1800 one common ingredient was lime.

Milk of lime was used for "bucking" or "bowking" which was a term for boiling to remove grease; lime sour was used for "souring" or "steeping" and various other solutions were used at different stages.

Anyone connected with textiles who had to undertake bleaching needed access to supplies of lime. Two years after he had taken over the Cummersdale Print Works in 1835, Thomas McAlpin went into the business of manufacturing his own. With his step-son, John Stead (*Mary's grandson*), three local coal agents and two other relations, he leased from the Earl of Egremont

the rights to certain coal mines within the Wigton, Bolton and Westward districts, together with the limestone quarries in the same areas.

McAlpin and his colleagues undertook to build their own kilns for burning the limestone into lime and to produce as little waste as possible. They used the coals from their pits to burn lime from their quarries, and presumably any excess coal was sold on the open market by the three coal merchants in the consortium.

McAlpin had to charge himself the standard rate of 10d a ton for the coal used in the lime-burning. The rent for the pits and the quarries was based upon the pit-head sale price of the coal; it was either £300 per year or one tenth of the total sale price of the coal, whichever was the greater. It was of course, necessary that they kept detailed accounts and "enter therein true, perfect and intelligible specifications". The Earl and his agents had the right to inspect both the account books and the mine workings themselves.

There were instructions about the maintenance of proper wagon-ways and spoil-heaps and about safety regulations for roofs and water levels, etc., and the keeping of plans of the workings.

The lease ran for twenty-one years from Lady Day 1837. If there were any disagreements between the parties, an "umpire" was to be appointed to adjudicate. The Earl had the right to repossess if the lessees went bankrupt, and at the end of the lease everything had to be left in a safe and well-ordered condition.

The lease is housed in the archive collection at Cockermouth.

Alan James also provided some additional information on the coal mines and limestone quarries/kilns.

Directory of 1829 - Joseph Stead, agent to the Bolton Colliery Company.

Cumberland Paquet 24th April 1838 - Notice given to dissolve the co-partnership between Sarah Fawcett, Benjamin Crosthwaite, John Stead, Thomas Christian and Thomas McAlpin, carrying on a business as coal miners at Bolton under the firm Fawcett, Crossthawite and Company, dated 15th March 1838.

Carlisle Journal 2nd March 1844 - John Walby prosecuted for stealing coal belonging to Messers. Stead, Benn and Co of Bolton, owners of a colliery and lime-kilns.

Carlisle Journal dated 8th September 1847 - Notice given to dissolve the co-partnership between Thomas McAlpin, John Stead, Joseph Benn, Thomas Jackson, John Benn, Elizabeth Nicholson, John Smith and John Caddy carrying on a business as coal miners at Bolton under the firm Stead, Benn & Company was dissolved by mutual consent on the 25th March 1847.

However, coalmining had been going on here since the mid-16th Century when Bolton Colliery was being worked by the German miners, presumably to supply coal to the smelter at Keswick.

Warren Allison

The Company Store
Today the company store today is a benign institution where one can shop for discounted goods in company time, and if the biscuits are approaching their sell by date and the fashions are last year's, well there is no obligation to buy. It was not always this way. Many companies paid their men in tokens which could only be spent at the company shop. The accusation was that the employer took the retailer's profit and offered credit to keep the men in low paid work. In a remote area the workforce would be totally dependent on the company for goods and housing.

One such remote site was Harrison Ainslie's gunpowder works at Melfort. A letterbook from 1859 records goods ordered by the storeman, John Sinclair and carried from Glasgow in the company's sloop. The goods bought were the usual groceries in wholesale quantities plus beef, mutton, ham, black soap by the firkin, pipes and tobacco. They sold remarkable quantities of lozenges, including a brand called "Rotten Horse" and another described as thick cayenne lozenges, extra strong.

An account book of from 1874 confirms that the store accounts were settled monthly, but sales were not confined to the workforce. The book lists 3 joiners, 3 powdermen, a foreman, a rabbit catcher, a hooper, storekeeper, 3 woodmen, 2 coopers, 2 farmers, a baker, a blacksmith, an inspector, 5 shepherds, a tailor a grocer, Rev Donald McGilivary and the master of the smack *Melfort*. It would appear from this book that many people made their own clothes, as there were orders for tweed, tartan, shirting, flannel and buttons. The powder workers typically spent about £1 a month but there were some much larger households, particularly those of minister, Allan Hall Esq and Robert Cookson Esq.

As the largest accounts were not those of employees and included the baker and an independent grocer, it would be hard to argue that this particular truck shop existed solely to keep the workers in debt.

It was not always the employer who ran the truck shop, as in this case at Roanhead, from the Lancaster Gazette, 7 Nov 1868:

Ulverston County Court. Oct 31st (Before T H Ingham Esq., judge)
The Truck System - Porter v Kennedy

Plaintiff (Porter) was one of a company of men engaged in the mines of the defendants, Messrs Kennedy Bros, as "Bogiers", that is wheeling the iron ore from the miners in a small waggon called a "bogie" from the shaft foot, and then it is sent to the man at the surface. Plaintiff also kept a provision shop.

Mr C T Clark, of Lancaster represented the defendants, and the plaintiff (Porter), who supported his own case, claimed £2 4s as wages due. In cross examination by Mr Clark he said: James Williams was in my employ, and not in the service of the defendants. I never received any money from John Wood in Williams's name.

Mr Clark for the defence, informed the court that Messrs Kennedy Brothers were most anxious to put down the odious "truck" system, and they hoped to have the assistance of his honour in their efforts. The present action was defended as part of that purpose.

He was prepared to prove most clearly that James Williams *was* the servant of Messrs Kennedy, who paid the men their wages in gangs through their mining captain, who took both silver and copper that he might pay each the exact amount without going for change to any public house or shop[i].

On the 8th August John Wood paid the gang in which Williams worked. Williams was not there, and his wages (£2 4s) were, at the plaintiff's request, given to him to hand to Williams. Plaintiff was afterwards asked by Williams for the money, but he refused to give it him and retained it for a shop account which he alleged Williams owed him. Messrs Kennedy hearing this, paid Williams the £2 4s and the next payday stopped it out of the plaintiff's wages. Hence the action.

These facts were proved by Mr Robert Kendall[ii], the mining captain, by James Williams and John Wood. His Honour gave a verdict for the defendants, Messrs Kennedy Bros.

Note: A **truck system** is an arrangement in which employees are paid in commodities or some money substitute (such as vouchers or token coins) rather than with standard money. Under the Truck Act 1887 the main objects were:

> 1. To make the wages of workmen … payable only in current coin of the realm, and to prohibit whole or part payment of wages in food or drink or clothes or any other articles;
>
> 2. To forbid agreements … between employer and workmen … for the deduction from wages of the price of articles.

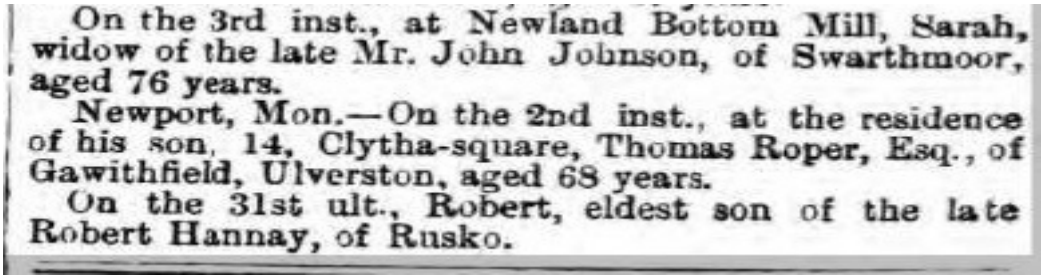
Another employer strongly opposed to the truck system was Robert Hannay. His partnership with Henry Schneider was dissolved in March 1866 with the formation of the Barrow Haematite Steel Co. While Schneider invested in Bessemer converters, Hannay bought the Blochairn iron works in Glasgow for £87,000 and invested in new puddling furnaces and rolling mills. The works was said to be the largest of its kind in Scotland. The ironworks was floated as a limited company on 31st May 1873 with a capital of £600,000.

The marriage of Robert Hannay's youngest daughter was on 28th June 1873 and that is when we hear of his views on payment in kind. The workers and tenants on the Rusko estate presented the couple with an elaborate silver epergne (table ornament). The presentation was made at Ornocknoch, and many toasts were drunk to a very popular laird. Robert Hannay's generosity to local causes was mentioned, but the statement that stands out is this: the Hannays "were the first to give their workmen the full benefit of their hard-earned pay, without allowing the truck system on their premises". That is a strong statement, in view of the scale of ironworking on the Clyde at the time.

The price of iron fell and the flotation failed. The rest of the tragedy can be told in the words of Edward Wadham, a frequent visitor to Ornockenoch for the shooting:

27 Mar 1874 ||**Hannay & Sons failed for £500,000**
24 Sept 1874...called on Mr Hannay but he was too weak to see me.
30 Sept 1874 || Mr.Hannay died at Springfield of a Broken-heart
31st October 1874 // **Robert Hannay died at Paisley – "suddenly" – no one with him //**

News of Robert Hannay Jr's suicide reached the newspapers at the same time as the unrelated suicide of Tom Roper of the Newland Company.



On the 3rd inst., at Newland Bottom Mill, Sarah, widow of the late Mr. John Johnson, of Swarthmoor, aged 76 years.

Newport, Mon.—On the 2nd inst., at the residence of his son, 14, Clytha-square, Thomas Roper, Esq., of Gawithfield, Ulverston, aged 68 years.

On the 31st ult., Robert, eldest son of the late Robert Hannay, of Rusko.

From the Lancaster Gazette, 7 Nov 1874

References

Melfort letter book, BDB2/20 at CRO, Barrow
Melfort store accounts, 1873 at CRO, Barrow

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[i]The practice of paying a foreman who would distribute the wages in the pub continued well into the 20th century at the Wolverhampton Corrugated ironworks, Ellesmere Port.

[ii]Harrison Ainslie had a mine captain with the same name. Robert Kendall of Lindal was present at the top table at Myles Kennedy's wedding in 1860, Robert Kendall of Whinfield was a pal of Edward Wadham.

The Truck System at Coniston

It seems likely that the system, whereby workers were paid in company tokens, that could only be sent in the company stores or traded locally, was also used at Coniston in the second half of the 18th century, when Charles Roe of Macclesfield was working the copper mines. This is one of Charles Roe's coins, lent to me some years ago by one time CAT member and collector Peter Hay

We have no evidence of the system being used by the Taylor/Barratt Company in the 19th century. Indeed, that company had a benevolent attitude towards its working community, supporting the school and the church financially and operating a Club subscription to provide financial aid for widows and men unable to work through injury or illness. IM

William Wakerley's narrative of the Black Lead Mines in the Low Wadhole Close in 1769.

The Bankes collection in the Dorset Record Office is not catalogued yet, but they have a grant and people employed to sort it out over the next year. Henry Bankes wrote a history of the mine – some 280 pages or so, but the bound book was too fragile to photograph it. It was literally falling to dust as I handled it. I hope they will conserve the binding so a copy can be made. Much of the collection is leases and agreements, often in a very poor condition and, sadly, calf skin folded for hundreds of years. It will take some conserving. I have got large four maps of the wad mine and am trying to ask the NT at Hollins if they are the same as theirs (ie what I Tyler used for his book). My difficulty is that Tyler's datums do not agree with John Farey's nor the later Sam Carradice survey. I do not know who is right although many are only feet out. The upper Farey's to Gill's is the most erroneous. Will have to take a tape up there sometime.....

Colin Woolard.

William Wakerley's account of the Black Lead Mines upon Seataller Common, and at Seathwaite, and of the manner of working the mine in the Low Wadhole Close in 1769. - Revised and corrected by Henry Bankes Esq^{r}.

Having been appointed by John Bankes Esq^{r} Proprietor of one half or moiety of these Black Lead Mines, to be his Agent or Superintendant at the opening and working the Black Lead Mines in the Low Wadhole Close, in the Summer of 1769. I come to the village of Seathwaite upon the fifth of May 1769.

The Proprietors of the mines thought it necessary, to erect a guardhouse in **Dickinson's Bank, where the mouth of the level of the Low Wadhole Mine came**, for the convenience of the Agents and the Inspectors, and security of the lead to be got out of the Low Wadhole Mine. And at my arrival at Seathwaite I accordingly found twelve workmen employed in building this Guardhouse.

The guardhouse in Dickinson's Bank

This house is about 40 foot in length, and 12 in breadth, and has no other floor, but the ground floor, which is laid with flag stones; the wood of the doors, window shutters and all the timbers about it is oak; and the roof is tyled with blue slate, from a quarry in that neighbourhood about one mile from the mine, called Yewcrag Slate Quarry; where likewise got and brought. The house lies east and west; and stands upon and in Dickinson's Bank, and about three yards within the wall; which parts Dickinson's Bank from the Low Wadhole Close. The house was finished on the 22nd day of May; and the whole costs and charges of building it, came to about £35.

There are three rooms in this house, all under one & the same roof and all upon the ground floors. 1st a Smithy or Smith Shop, for the grinding and sharpening of

the working tools for the mine; and into this Smithy, opens the mouth of the Old Level in Dickinson's Bank. 2dly a Common Room, Bedroom or Kitchen; for it served for all those purposes; 3dly a Store Room, beyond & through the common room, for the lead to be deposited in, as soon as it is got and brought out of the mine; and

there to be kept, untill it is dressed, and put into firkins, in order to be sent to London.

Dickinson's Bank & Purchased of the Jopsons

Dickinson's Bank, High or New Wadhole Close, & one moiety of Low Wadhole Close, were Purchased by Lease & Release of the 3^{d} & 4th of Octob^{r} 1752 by John Bankes Esq^{r}. of Daniel Jopson of Seathwaite, and of John Jopson & Daniel Jopson, his two sons. And Octob^{r} the 5th 1752. John Bankes granted a lease of all the above Premises to the said Daniel Jopson the father for 2000 years at a Pepper Corn Rent; saving & excepting all mines, minerals, timbers, trees etc.

Dickinson's Bank

Dickinson's Bank consists partly of Pasture Ground for sheep and partly of coppice wood, of Oak, Birch, and Ash, & Hazel; therin are very few if any timber trees. The wood on Dickinson's Bank has different names; some part is called Black Stock Brow; another, Thomas Brathwaite's Little Dale; another part Thorny Brow. Mr Bankes in right of his Purchase made of John Braithwaite in 1765, of his house at Seathwaite, the Risp Close, and Horse Gate Close, and another Dale of wood of about two acres at about 100 yards from the north corners of the Risp Close. Had another Dale of wood upon Dickinson's Bank about five acres called Thorny Brow which is now occupied by Thomas Dixon of Seathwaite, one of Mr Bankes's stewards of the mines. To cut down or use the coppice wood on Dickinson's Bank, no other persons have any right, except Old Daniel Jopson, the father of John & Daniel, Jonathan Jopson, and Thomas Braithwaite, all of Seathwaite; and Mr Bankes; but each has his district & separate parts of the coppice wood there, for fuels and hedging. But is not intitled to the timber on such separate part. But Mr Bankes has a right to the timber also, growing in his five acres upon Thorny Brow; by virtue of his Purchase of the Inheritance of the soil of Dickinson's Bank, High or New Wadhole Close. And one half of Low Wadhole Close, of Daniel Jopson of Seathwaite and John Jopson & Daniel Jopson his sons, by Lease & Release of Oct^{r} 3rd & 4th 1752.

Newhouse Gill is the boundary of Dickinson's Bank on the north side; as John Brathwaite late of Seathwaite informs me; and that all the coppice wood upon that piece of ground, north of Newhouse Gill, and adjoining on the south parts thereof to the north part of Dickinson's Bank, being upwards of twenty acres, belongs either to Daniel Jopson, or to his son John Jopson, both of Seathwaite; but that they have not any right to the timber growing thereon. And that this ground is held by them or one of them, of Sir Wilfred Lawson, together with

other Estates; upon the payment of a Lord's Rent of eighteen shillings a year; and of a fine of twenty pounds, payable either upon the death of the Lord, or Tenant.

Wadhole Moore, or Seataller Common

Wadhole Moore is sometimes called Seataller Common or Seataller Fell, but it is a part only of, and lies in Seataller Common or Fell. And as the said John Brathwaite tells me, is in length, about two miles; and in breadth about two miles & a half. The greatest part of Wadhole Moore is ling or heath; some part therof is rock, but the other part of Seataller Common is pretty good grass for poor ground. No other person hath any right of Common upon Wadhole Moore, or Seataller Common, but those only who have Lands & Tenements in or within the District of the village of Seathaller; and that those persons are the persons following: Thomas Gasgarth, now of Keswick, has two Tenements or Estates at Seathaller; and meadow grounds, pasture & arable belonging to those Tenements; and a right of feeding sheep and cattle upon this common; which is called a Cattlegate. And that he has about 36 or 37 Cattlegates upon this Common; and that each Cattlegate, is a right of feeding one cow or ten sheep; or one horse for or instead of two cows, or twenty sheet; and that his Estate is worth about …… a year.

That Joseph Fisher has three Tenements at Seataller, and has about 54 Cattlegates upon Seataller Common; and that his Estate is worth about £30 a year.

That John Braithwaite, cousin to the said John Brathwaite, has one house and Tenement at Seataller; and about 18 Cattlegates upon that common; and that his Estate is worth about £12 a year.

That Daniel Jopson of Seathwaite, the father of John and Daniel Jopson also of Seathwaite; though he has neither House, Tenement nor Land at Seataller, yet has 8 or 9 Cattlegates upon Seataller Common. This right he is supposed to have by reason of a Purchase supposed to have been made by his father of those Cattlegates, of somebody who had a Tenement and Lands at Seataller. For these Cattlegates, are not so inseparately annexed to these Tenements & Lands; but that they may be sold separately and alone, without the Tenement or any of the Lands.

Seataller the Chapel of Rosthwaite and Crossthwaite Villages

And that these four, but no other persons, have by virtue of their Cattlegates, a right to dig upon Seataller Common, for Peat & Turf, and Soil; but never knew nor heard that any propriators of Lands & Tenements at Seataller, or of Cattlegates

upon Seataller Common, ever dug upon that Common, or claimed a right to dig there for Black Lead, or for any minerals.

Seataller Village is about one mile north west of Seathwaite; and about one mile further and near to Keswick, lies the Chapel of Ease of Rosthwaite, belonging to the Parish of Crosthwaite; the Chapel of Ease of Rosthwaite in Borrowdale is served by Mr John Harrison Clark, who drew the map or plan of the Black Lead Mines, of Seathwaite, & the adjacent grounds in September 1769. What is called the Chapel, is only one house near to the Chapel of Rosthwaite, & belongs to Daniel Jopson of the Chapel. In the Hamlet of Crosthwaite, in Rosthwaite, there are 5 or 6 houses; in one where of Mr Harrison lives; and probably belongs to him, as serving that Chapel.

Seataller the Seathwaite Common or Fells

Seathwaite Common or Fell, is about 3 or 4 miles in length, and in some places in breadth about 5 or 6 miles. It is partly mountanous, rock grass and ling, it lies south west from Seathwaite; and is south and south west of Raven Crag, to which Seathwaite Common runs up, no others have a right of Common here, but those who have a Tenement or Lands at or within the District of the Village of Seathwaite; except John Patrickson, who has neither House nor Land at Seathwaite, in 1765. When all the Estate of John Brathwaite was sold he bought of him 20 Cattlegates upon Seathwaite Common, the only four persons who have any Tenement or Land at Seathwaite are:

John Bankes Esq^{r} who in 1765 bought of John Brathwaite one of his houses, and some of his lands at Seathwaite; to which there are 16 Cattlegates belonging upon Seathwaite Common; & of the yearly value of about six pounds.

John Jopson eldest son of Daniel Jopson, who has three houses at Seathwaite (two whereof are now empty) which with lands he has there, are of the yearly value of about £50, and in right whereof he has 54 Cattlegates upon Seathwaite Common and these Cattlegates are of the same nature with the Cattlegates upon Seataller Common. One of these three Houses John Jopson bought of John Brathwaite in 1765.

Jonathan Jopson has one house at Seathwaite, some lands there; and 18 Cattlegates upon Seathwaite Common all which together are of the yearly value of about £13.

Thomas Brathwaite hath two houses, some land there and 36 Cattlegates on Seathwaite Common; all which together are of the yearly value of about £20.

In the 22nd day of May the miners began to open **the Old Level at the Low Wadhole Mine; the mouth of which level comes into Dickinson's Bank;** and over which mouth there is a kind of a trapdoor in the smithy which opens into this old level. And the reason for building the guardhouse over the mouth of this old level was to secure this level. The only way into the mine for all the miners and labourers, by making it impossible for them to go into & come out of the mine but through the smithy; where some of the Agents or Inspectors always attended to search the miners and labourers in their way through this level from the mine.

The old level in Low Wadhole Close

This level was found to be when opened 80 yards & 1 foot long; that is from the door of the level which comes into the smithy, to the bottom of the shaft, or to the top of the sump; for where the level turns into the shaft, that point is called the bottom of the shaft, and is the top or beginning of the sump. This level was in most parts very narrow & low; in no part wide enough for a weelbarrow to pass, nor for a man to stand upright in.

In opening widening and clearing this level no lead was found either amongst the rubbish from thence taken or in the level itself. This level in Dickinson's Bank leading and belonging to the shaft & sump in the Low Wadhole Close, had not been opened nor workt in the memory of man. Except in the Autumn of 1754, when John Shepherd Esqr the Proprietor of the other moiety of the Black Lead Mine came privately over from Ireland where he lived, and began to work and open that level in Dickinson's Bank leading and belonging to the shaft & sump in the Low Wadhole Close; and got out of the said sump a small quantity of Black Lead, but to put a stop to Mr Shepherd's works Mr Bankes in Octobr 1754 sent to the Black Lead Mines Mr John Sharp from London, now one of the clerks of the Bank of England; who staid at Seathwaite four or five days, closed and stopped up the level and the works there and on the behalf of Mr Bankes was present at the division, which was very unfairly made of the Black Lead gotten by Mr Shepherd, between Mr Bankes & Mr Shepherd.

Low Wadhole Mine

Before I proceed it will be proper to explain in general what is a Level, Shaft and Sump.

A level

A level is a horrisontal drain or passage inclining upwards to the surface of the earth, with an easy ascent; either for the purpose of draining of water, or letting in air or for removing the rubbish earth, oar or metal found, from the shaft of sump. For the level runs horrisontally into the shaft.

A shaft

A shaft is a perpendicular hole or well, made deep downwards from the surface of the earth; either for the purpose of letting in air, or of bringing up the rubbish earth, oar or metal found in the working a mine; either from the shaft, or from the level adjoining to the shaft.

The sump

The sump is a continuation of that part of the shaft which is below the soul or floor of the level; that is below that part of the level which adjoins to the shaft. For all that part of the shaft which is below the floor of the level, is called the sump.

I was then agreed by the two Agents and four Inspectors to make it wide enough for a barrow to pass; and high enough to make it easey to the wheelers; which work was imediately begun, and worked in the same manner as in all other mines and levels, which is by boring holes in the rocks with hammers and hand chisels, which the miners call jumpers; these holes they make from twelve to twenty five inches deep according to the quantity of rock they intend to bring down. The hole is then filled with gunpowder, within about 6 inches of the top; which 6 inches is then filled up with bits of stones and well rammed up in order to give the gunpowder the greater strength & force. The slate chips or soft kind of stone, is used in ramming and filling up the holes; lest by using a harder kind and ramming it with an iron rammer, or pin, which they keep beating in with a hammer till it is full to the top, there would be danger of the harder stone striking fire against the iron rammer and catching the gunpowder and going off too soon; which might be attended with fatal consequences to the workmen and all near them.

The manner of boreing holes in the rock

The manner of letting a shott into the rock

Their manner of discharging or letting of this shott as the miners call it, or rather a hole in the rock filled with gunpowder, is when they first begin to ram it, they put in a thin piece of iron, which they call a pricker; which is kept in, till the hole is quite rammed up; and then drawn out gradually; for though they ram it as hard as possible yet by moving it frequently during the ramming it prevents its being set fast & they can draw it out with ease, which when done it leaves a hole large enough to receive an oat straw filled with gunpowder, which they put into this hole, left for that purpose; then they make a match of paper which is first prepared with Salt Petre, this match they stick with a bit of clay close to the straw then set fire to the paper which is made sufficiently long so as to give all near it time enough to get out of the way, before it catches the straw.

Whilst this level was making wider & higher, that is about 5 or 6 foot high and 20 inches wide; it was then agreed by the Agents and Inspectors to have the shaft

The shaft emptied

drawn or emptied; lest when they came to work in the sump, there should be a want of air, which shaft was accordingly lett to two of the miners at 6/9d per fathom by agreement; which agreement they performed and finished it in about three weeks; and left it in a workman like manner. This shaft had been filled with stones and earth in the empting and cleaning of which no lead at all was found.

Binding put into the shaft

This shaft is 16 fathoms deep from the surface to the top of the sump, or bottom and soul of the level, when this was finished and left in the manner before mentioned, it was then agreed to have a binding made as the miners call it; that is oak wood fixed in from side to side of the shaft and layd together close enough to prevent any stones going through which was accordingly done about the middle, that is about fifteen or sixteen yards from the sump face, or top of the shaft. When this was done, they then put in loose large stones till it was filled about five yards thick from the binding; these large stones were layd in such a manner and tho five yards deep, as not to stop the air from drawing through the shaft into the sump & level; for it was for the want of air, that the shaft was opened; but the filling it in again by the binding in the manner mentioned was to prevent the shaft and mine from being robbed by the means of ropes or other conveniences to lett persons down the shaft, in order to draw up lead from the sump and rob the mine; which would probably have been the case, had not this precaution been taken.

The shaft and discovery of the Black Lead Mine in Low Wadhole Close

The top of the shaft, or where the surface of the ground was now first broke to empty this old shaft is about 73 yards within Low Wadhole Close, and is supposed to be the very place on which the Ash tree grew, that was said to be blown down in Queen Elizabeth's time and as it is reported in the County of Cumberland by this accident this mine of Black Lead in the Low Wadhole Close was first discovered. It was now about the latter end of July, before the shaft & level were both finished; that is the level made high enough and wide enough and the shaft emptied and bound over and secured again in the manner before described.

The workmen then began to work in the sump; that is to draw out rubbish & deads & water with which it was filled to the top of the sump or soul of the level. These deads when brought out proved to be rich, that is a great quantity of small pieces of lead were found amongst them by buddelling & washing and picking them; which we continued to do to all the rubbish or deads that were brought out of the sump in which there was any appearance of lead.

The sump was emptied nine yards deep before any lead was got (to which depth it had been other than from the rubbish workt by Mr Shephard in 1754 as before mentioned) and and deads therein. A vein of lead was then discovered in the rock on one side of the sump which appeared to be large; and the minere thought that this vein was a leader to a large body of lead; but that was not so, for it was soon worked out. They still kept drawing out deads and water out of the sump & by that means getting deeper. There was a great appearance of lead on all sides of the sump, out of some of the veins, that looked to be of the best quality they got what lead they could; other veins that did not appear to be so good a sort of lead, they lett remain untouched and in that manner they kept working down towards the bottom of the sump, which we were all very desirous of seeing. This sump was irregular as to its width and breadth; but in most places and in general was about 3 or 4 yards wide and about six yards wide lower down, towards what we thought to be the soul or bottom of the sump; which proved to be the remains only of an old former work & a kind of a stage or binding erected there for the purpose of working and draining the bottom of this sump. For immediately under this stage or binding was a large body of water; which we endeavoured to fathom; and the water there was about eight yards deep; before we could find any bottom; but whether that bottom was solid earth and the real bottom of the sump, or another stage or binding we could not tell. For in emptying and clearing the sump we found 3 or 4 such stages or bindings. The neighborrowing people all say that they have heard that about two hundred years ago when that this sump which we were now trying to empty of the deads and water, was at that time a large vein or body of lead which they say was at that time and at other times since hath been got out and the sump dug downwards to about the depth of 60 yards from the soul of the level; and that the vein then extended as large as a sheet. The bottom of the sump was the object we were in search of but we could get no deeper than about three & forty yards from the end of the shaft. Whether this tradition be true, still remains a doubt but certain it is that there were such large quantities of Black Lead got in those days, and that the Black Lead so gotten was layd in large heaps upon the mountain like a dunghill, and but little notice or care taken of it. These accounts I think are likely to be true; as the rock on all sides in the sump is glazed with Black Lead; and there appears to have been nothing else in it. It was these accounts and appearances that induced us to work so deep as we did, and we should have seen the bottom of the sump but the season would not admit of it, and besides that reason there was a want of fresh air in the sump; which was thought to be the cause of the illness of some of the workmen at that time.

The veins of the Black Lead

The Black Lead in the lower part of the sump lies in veins, in and surrounded with a greenish blue rocky stone of a very hard kind, with no loose earth, about the lead; but always covered with a beautifull red thick water, some thing like bannish; but easily washed off. The sides of the shaft and sump appear glossey, shining, and in a manner glazed; and in some degree, as if they were lined with Black Lead. These veins appear there to be some 3 or 4 inches thick, some more and less. The whole shaft & sump seems to have been once one entire body of lead; which being taken and worked out in former times, a cavity and large hole was by that means necessarily made; which formed, what is now called the shaft and sump, and that it was one body of lead, which formerly did fill the space & place of the present shaft and sump, is plainly to be inferred from the different turnings and windings of the shaft, and sump; for they do not go down in a perpendicular line, as they certainly would have done, had they been intended originally and only for a shaft, and sump; but instead of going all the way perpendicular, and in a straight line; there are many hollows and holes on the sides, something like a short level, two, three or four yards or more long, where veins of lead must be supposed to have been and from the end thereof the shaft or sump continues and again desends.

The works obstructed by the foul air

We now having emptied this old sump 37 yards deep from the soul of the level, which comes into the bottom of the shaft, we then could fathom 6 yards more, which made 43 yards as I before observed. The air still continuing very bad, though there had been fixed in air pipes in order to bring in the fresh air and to dispers the foul, but it had not the desired effect, at this time there was no visible appearances of any lead to be gott, without shooting; that is without using gunpowder, and the works were not in such a situation as would admit of that. For the air being bad the letting of a shaft in the sump, at the depth beforementioned, the foul sulfurous air occasioned by the powder, would not have been discharged out of the sump in three days time, so as to admit of any ones going down to work in the bottom, without the hazard of his life and besides these works being old works, the rocks on all sides of the sump, being by the air and water so much tendered, or what the miners call rotten rock, that they found it necessary to fix in large pieces of oak timber from side to side, in order to support the rock on all sides and to make it safe for the miners, by preventing any part of these rocks from falling in upon them, and closing up the works; which they feared would have been the case, had they attempted to have discharged a shott therein. For thoˆ the wood was fixed as before observed, yet if the force

of the gunpowder had happened to have loosened any part of the wood work, it probably would have brought down the whole, and occasioned the rock to have fallen in and have killed the workmen.

The mine closed and in what manner

The approach of winter and the cold & bad weather in this mountainous country determined the Agents and Stewards to close the mine; and accordingly they began to close it on October the first, and finished it on the fourth, and the manner of closing the mine was this.

The shaft how filled up

The shaft having been before filled up from the binding upwards for the sake of air and to prevent theft and robbery as already observed about five yards deep or thick from the binding we now filled up the remainder of that shaft from that binding to the surface of the ground, with the rubbish and earth which had before been taken out of it, which made it to be filled up about fifteen yards from that binding to the surface of the ground; and in this manner was the shaft left secure & safe.

The manner of filling up the level

Afterwards, the level was filled up about twenty yards from the smithy towards the shaft or sump with the rubbish and deads which had been before taken out of the level; and great care had been taken to put into and bury in the level, all such deads as had any appearance of lead in them that no temptation might for the future remain to induce the rogues to make a trial to pilfer lead at the Low Wadhole.

Waters turned from the shaft into the sump to fill it

The shaft and level being thus filled up and there being a constant feed of water before running down the shaft (which during the working the mine, was by act brought to one corner at the bottom of the shaft, and so turned to run down the level) that was now turned to run into the sump; by which means the sump was soon filled to the top with water; that is to the soul or bottom of the level.

The sump

The sump is now 43 yards deep in water; how much deeper in water we cannot guess; for that depends upon the depth to which this sump had formerly been workt. And that was not known to any of our workmen nor to any other person.

The security of the Low Wadhole Mine

The Low Wadhole Mine thus closed by filling the rubbish and deads into the level and shaft, and filling the sump with water it is apprehended, that every part thereof is securely preserved against all clandistine attempts to break into, or to rob it, and the time and labour would be great and long, before the rogues could reach the place, where there is any even the least prospect of finding lead. For in working the mine in the summer in 1769 we found no lead, worthy of notice,

either as to quantity or quality, except in the sump; which is now left full of water.

No lead amongst the rubbish heaps in the Low Wadhole Mine

The rubbish and deads taken out of the level, shaft & sump at the Low Wadhole Mine were in general all thrown again into the level and shaft to fill them up; and such parts of the deads as were not thrown in again, but were left on the surface of the ground, were picked and carefully cleared of all the Black Lead that no temptation might at any time induce the rougues to make any attempt to remove and disturb the rubbish heaps in the Low Wadhole Close, in hopes of pilfering Black Lead from thence and such lead so picked was sent to London.

The High Wad Mine opened at what times & of Gotons Level

Mr Allen, a Darbyshire miner, and one of the Inspectors for the partners of the other moiety at the present opening; and who also had been employed by them at the openings in or about the year 1760 and in 1765 of the High wad Mine upon Seataller Common says, that at those two former openings, they worked only at the High Wad Mine and that the level called Gotons Level was opened in the year 1760 and likewise, that the shaft belonging to the High Wad Mine which was then opened, was not more than about 16 or 17 yards deep from the surface or the ground. And that in the year 1765, neither Gotons Level nor any other levels was opened; but that the proprietors of the mine first began to work in the Old Shaft. This High Wad Mine I have been informed by Mr Henry Bankes had been opened in the years and in the year 1713, but it had not been workt before 1713, for about 32 years; that is about the year 1681.

In 1765 a new shaft opened in the High Wad Mine and the quantity of lead got

But that the workmen and superintendants not seeing any prospect of getting lead therein had a trial for lead in a fresh place about 6 yards to the north of the Old Shaft at the High Wad Mine. And sunk about 18 or 19 yards deep from the surface; out of which New Shaft they gott about ninty six hundredweight of Black Lead. After that quantity was gott they closed the mine, as Allen tells me, by filling in the shaft about six or eight yards deep from the surface of the earth, first binding it over in the like manner as was done in 1769.

The High Wad Mine opened in 1760 and shaft how filled in

Allen also informs me that the shaft that was then opened in 1760 was filled in, in the like manner and that Gotons Level <u>which is the only level</u> at the High Wad Mine was at that time opened and that the miners then filled it in far enough to leave it as they think very safe; but he does not remember the number of yards and how far that level was then filled in. The time of the discovery of the Black Lead Mine upon Seataller Common or Fells is said to be unknown; this mine lies open and unfenced in this Common where the owners of the land in the adjoining

village of Seataller have a right Common of Pasture for sheep and for horses and cows also, tho they seldom or never feed any cows there, and this Common of Pasture for sheep there, is called a Cattlegate, that is for every one Cattlegate a Right to Feed ten sheep or one cow or bullock, and tho there is no division or boundary of the different Cattlegates belonging to different persons; yet as I am informed all the sheep do not promescuously depasture over every part of this Common, but each proprietor of lands at Seataller has his distinct place and share of the Common as belonging to his Estate; and to such spot his sheep are allotted and do confine themselves.

There were at this opening in 1769 two persons called Agents and four others called Inspectors appointed to superintend the work and to pay the expences of working the Low Wadhole Mine. One Agent and two Inspectors were paid and appointed by Mr Bankes; and the other three by the Lessees and Partners of the other moiety of the mine belonging to John Shepherd Esq^{r}. I, William Wakerley was at this time appointed Agent to Mr Bankes at the salary of £1-1-0d a week; and my travelling charges & expenses from and to London were allowed me; Charles Norman & Thomas Dixon were appointed the two Inspectors for Mr Bankes at the salary of £0-10-0d a week each. They had long before been made by Mr Bankes his two Stewards of and for the Black Lead Mines at the yearly salary of £10-0-0d the pay of which salary went on during the time of working the mine, notwithstanding their weekly pay of ten shillings. The Agent for the Lessees was Mr Francis Bill and the two Inspectors were the said William Allen & John Wren, son in law to Wilgoose; but their pay I know not.

The two Agents and four Inspectors and their pay

These were all the time the mine was opened six miners and at some times seven were employed; and three or four labourers as the work required. The works were carried on the whole 24 hours and in the night time as well as in the day by reason of the constant feed and quantity of the water in the sump. One third of the miners and labourers worked eight hours, another third worked another eight hours & then the remaining third worked for the remaining eight hours which made three ganges, or shifts, as they are called by the miners. The pay of the miners was 2 shillings per shift or day and the labourers 1 shilling and 6 pence per day or shift. Each miner as he came out of the mouth of the level into the new guard house was searcht to see if he had any lead concealed about him; and if any was found about him it was taken from him and he was directly dismissed and turned off.

Miners and labourers and times of working

The lead was secured in the new guardhouse

All the lead that was got out of the mine was brought through the level which opened into the new guardhouse built in Dickinson's Bank, and was there deposited and secured under the care and custody of the Agents & Inspectors; both of which Agents and two of the Inspectors were by the proprietors of the mine required to lie every night in this new guardhouse and accordingly they did lie there during the working of the mine.

Dressing and the manner of sending the lead to London

When a quantity of the lead was dressed, that is cleared from the earth, grit and stones by washing and scraping it, sufficient to fill about thirty firkins or more, it was packt up and put into firkins; and carried in carts from the mine to Keswick, and from thence to Kendal to be carried by the Kendal Carriers to London at the rate of three half pence a pound.

The firkins and quantity of Black Lead got out of the Lower Wadhole

These firkins were all marked with the figure 1 or 2 and numbered. The figure 1 denotes the best lead. 2 the second sort; for all the Black Lead dug and got in the Summer of 1769 was distinguished and devided into two classes only; of the best and second sort of lead, all the firkins were first weighed empty & afterwards full of lead that both the gross and net weight might be known. Each firkin had two iron hoops, one at each end. The whole numbers of firkins of all the Black Lead which was got from April the 20th the day that the works for opening the mine were first began; to Octobr the 4th in 1769, the day that the mine was closed, was 183. Of the best sort of Black Lead, there were 86 firkins; of the second best sort, there were 97. The weight of the net lead contained in each firkin is about 78 lb. Take one firkin with another and the net weight of all the Black Lead in the 183 firkins, as weighed at the mine and at Kendal was six tons, six hundred pounds and one half of a hundred and five pounds and half of a pound. This is the largest quantity, and also the best lead that hath been known to have been gotten at any one time.

The description of the situation of Seathwaite and of the Black Lead Mine

I cannot so well describe Seathwaite & its situation as by here transcribing the words made use of by **Mr Harrison for this purpose in his explanation of Septr 1769 of the map and plan of the Black Lead Mines which he then drew.**

The village of Seathwaite is inclosed on the east and west sides with mountains, of nearly the same height and elevation as the Black Lead Mine; which extend northerly, near a mile, whilst the valley between them, which is all arable & meadow ground, is little more than a quarter of a mile broad. The mountains and valley between them are much the same, on the south, but instead of arable or meadow ground it is mostly pasture. Seathwaite, the Black Lead Mines, Seataller

Village and Common, and many other places, all lie in the Manor of Borrowdale. The High and Low Wad Mine lie on the side of a very high mountain; and the ascent from Seathwaite to the High Wad Mine is about 700 yards and in a direction almost perpendicular. The mountain upon which the High and Low wad mines are; is called, as I am informed, Unnisterre which I have heard Mr Henry Bankes say, probably means the same Finisterre; and the summit of the mountain very far above and higher than the High Wad Mine appears to be the Lands End and is very high fell; and produces no grass nor herb, except wild savine. Mountains here seems to be heaped upon mountain, desolate and waste; the mountains of Borrowdale are higher than the Skiddaw mountains.

Bassingthwaite water and Keswick Lake

In the road from Seathwaite to Keswick which is about ten miles distant from Seathwaite is Bassingthwaite water. About one mile wide, and five miles long, and there is also Keswick or Answick Lake in which there are several uninhabited islands; upon one of which stands Lady Island; and whereupon Lord Drewentwater formerly had a castle, now in ruins, and quite down, at the head of Keswick Lake, which is about two miles broad, and four miles long. The River Derwent is contracted into a narrow river and turns between two precipes, the perpendicular height of which is about 200 yards. This river runs about 6 or 7 miles along this road and affords a variety of most pleasing and beautiful prospects.

Bowder Stone

Between Seathwaite and Keswick, and about 4 or 5 miles from Keswick and in Borrowdale, lies the great remarkable stone called the Bowders Stone; it is said to be much the largest stone in England; and is at least equal in size to a first rate Man of War. It lies close by the road from Keswick to Seathwaite on the right hand; and seems to be a fragment from the impending precipice above; occasioned by an earthquake or lighting or thunder; for there are many other large stones but not so large as the Bowder Stone, lying near to and at small distances from that stone.

A new guardhouse to be built at the High Wad Mine

It is not unworthy of the observation of the proprietors, that when ever the High Wadhole Mine is hereafter opened, there should be such a New Guard House built, with the same rooms, as was built in Dickinson's Bank in 1769, for the securing the Black Lead gotten from the High Wad Mine. For the present guardhouse there is 60 or 80 yards from all the shafts which have at any time been opened before at the High Wad Mine; and there had been 5 or 6 shafts opened there at different times. For the places of every new opening is called a shaft.

Alexander Anderson photographing at Greenside Mine in 1902

In January following an invitation to an open day at Glenridding Public Hall, I saw the photograph below which was framed with an inscription and had forgotten that when I was Clerk to Patterdale Parish Council from 2003 to 2013, it was displayed on the wall in the meeting room

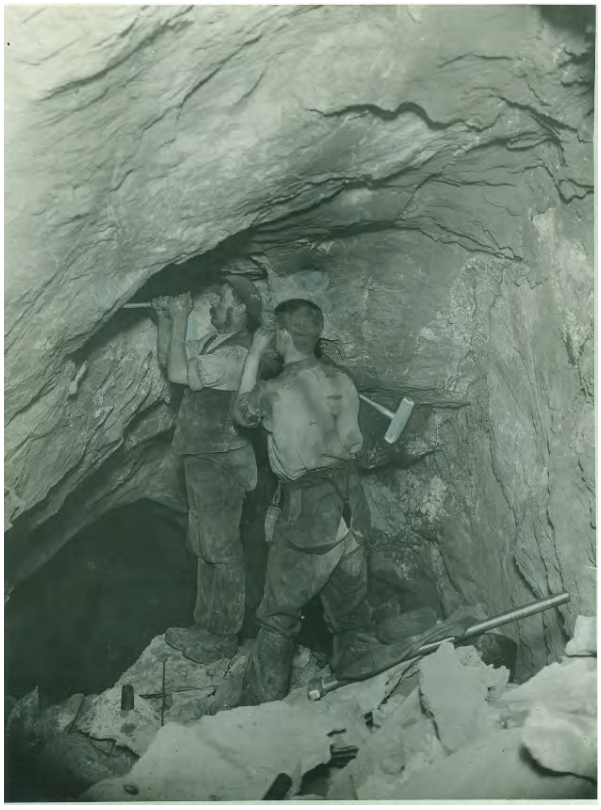
This photograph was taken in 1902 by ALEXANDER ANDERSON when working under the management of MR. W.H. BORLASE. It is presented to the GLENRIDDING PUBLIC HALL as a memorial to the MANAGERS, the MINING STUDENTS and OTHERS who carried on the production of Lead and Silver at Greenside Mine for at least two hundred years until the mine was shut down on the 31st January 1962.

I believe that Alexander also took a number of other underground photographs which have been published before and form part of the superb publication 'Life and work of the Northern Lead Miner' by Arthur Raistrick and Arthur Roberts published in 1984, as some of the men are recognisable in the various photographs. The following four photographs are in the book, but in that case, they have been cropped, whereas these are from the originals.

They had belonged to Harold Olgethorpe and were given to me during one of the exhibitions in the Glenridding Public Hall that a friend and I with help from members of CATMHS put on between 1999 and 2003 on Greenside and life in the parish while it was working.

Harold's family had a long-standing connection with the mine. His Grandfather John who in the 1851 census was listed as a lead miner living in Penrith, but in the 1871 census had become one of the lead mining agents at Greenside, had moved to Glenridding and his sons inevitably went to work at the mine. Harold's father, also called John was listed in the 1881 census as a blacksmith and Harold became its chief engineer until the mine closed.

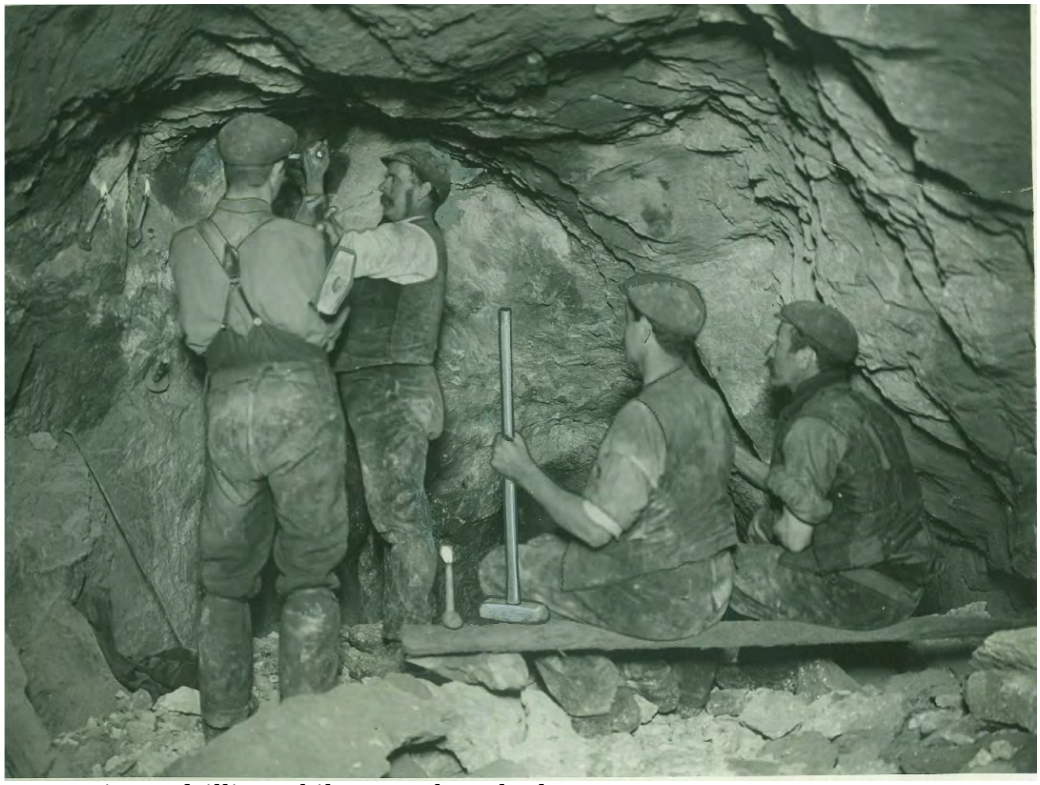
Fortunately, Harold had written some comments on the back of the photographs which are quoted verbatim.



Left: *One of the old rock drills named the Shram, one of the first used for years up to about 1909 at Greenside. The steel has chisel fit. Mr Isaacs is the driller in the picture.*

Right: *Two miners drilling in a stope. The man holding the steel is Jack Nicholson. The other is ……. Coward*

The end of a drift showing large holes drilled with the first detachable bit for rock drill invented by photographer Alex Anderson.



Two miners drilling while two others look on.

Looking through the 1901 census, Nicholson is registered as being born in Patterdale in 1852 and …. Coward was almost certainly called David, whose father James also worked at the mine and had come from Grasmere. Unfortunately, so far, I have been unable to find out anything about Mr Issacs or Alexander Anderson. Looking at other photographs taken of the mine probably at that time it makes you wonder if the three below were also taken by Alexander.

Filling a mine tub from the stopes with Captain Borlase in the middle with the tie.

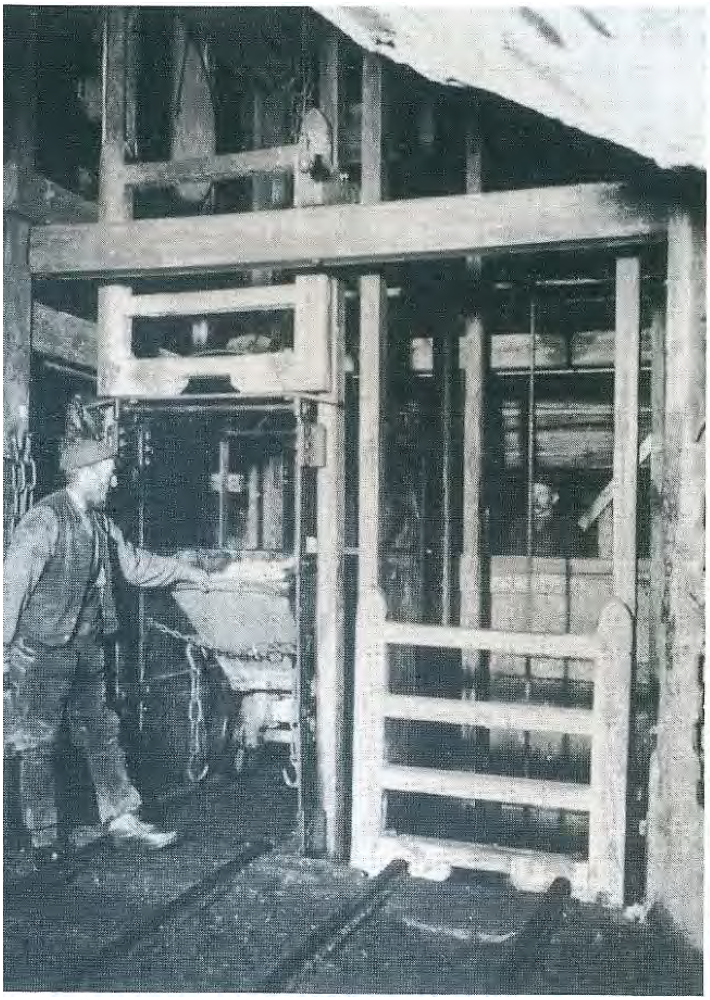
Fungus on the wall of a level

After the open day at the Hall, I was asked to write a short history and on the 30th August 1913, the Cumberland & Westmorland Herald reported on the official opening of the Hall on the previous Thursday and Greenside is mentioned:

The question of the site for the new structure was solved by the generosity of Mr. W. H. Marshall, Patterdale Hall. He was the owner of the Reading Room at Glenridding which has for half a century been used mainly by the employees of the Greenside Mine.

The residents had subscribed £167 11s, including £75 from the Greenside Mining Company.

Warren Allison



Top of Smiths shaft

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

CATMHS Newsletter No. 129, November 2017