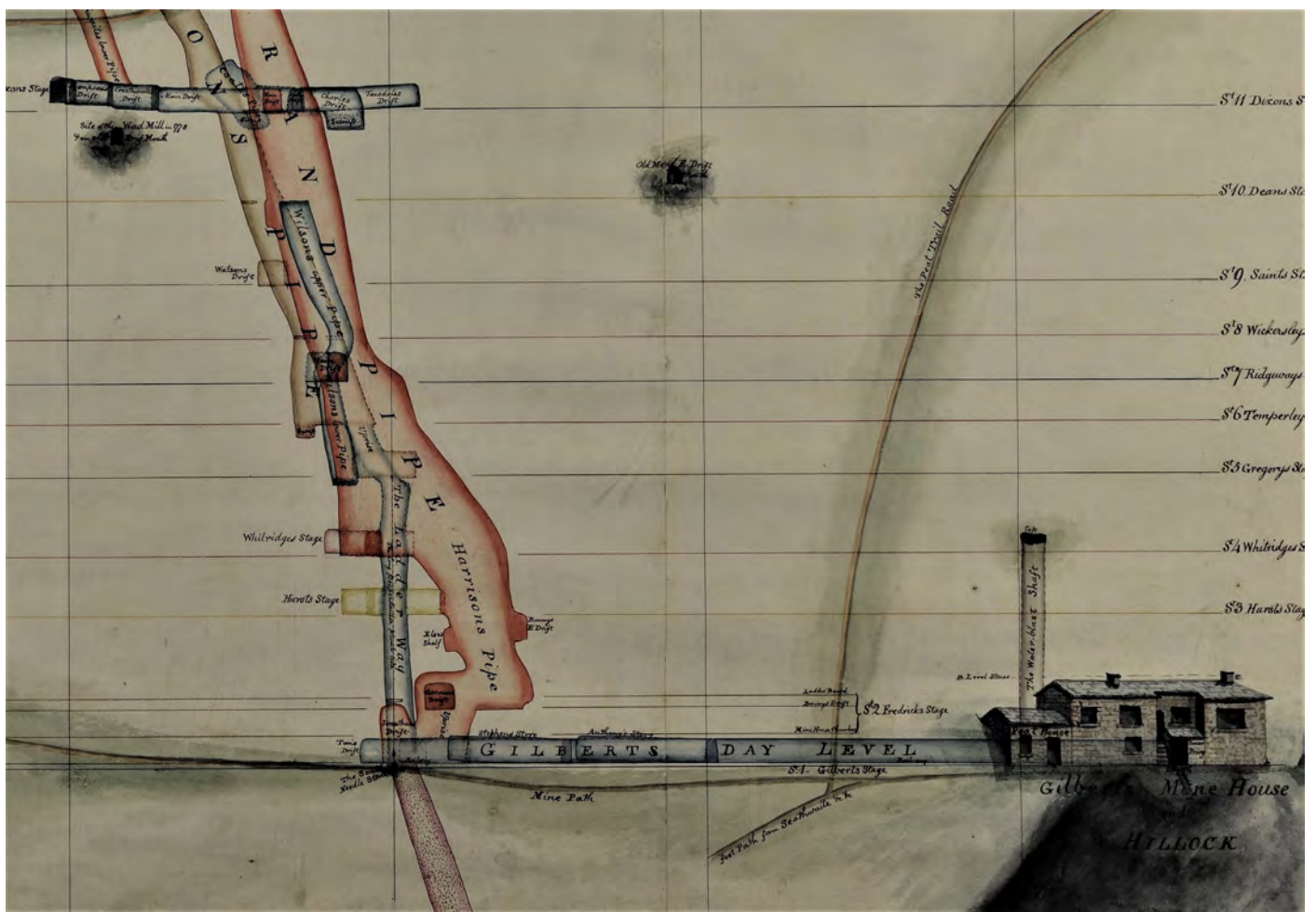


CAT

The Newsletter of the Cumbria Amenity Trust
Mining History Society



Part of John Farey's 1821 plan of Borrowdale Wad Mine. Contributed by Mark Hatton.

Cumbria Amenity Trust Mining History Society

Newsletter No 137, November 2019

Contents:

Membership

Alen McFadzean	Page 2
New members	Page 3
Membership subscriptions for 2020	Page 3
Forthcoming meets	Page 3
CAT 40 th Anniversary	Page 3

News

Archaeology Conference, 9 th November	Page 5
National recognition for the Coniston Copper Project	Page 5
Wanted	Page 6
Stolen!	Page 7
Coniston Deep Level footbridge	Page 8
Bonsor Sawmill waterwheel	Page 8
Mines Forum, 1 st October	Page 10
Environment Agency visit to Greenside mine	Page 11

CATMHS Meets and Activities

Plan of Guddhamgill and Scraithole mines	Page 13
Buttermere mines survey	Page 13
Ecton Coppermines 15 th September	Page 14
CWAAS visit to Tilberthwaite Mine	Page 16

Articles

Abbey Road to the Internet	Page 17
Low Water Power House	Page 19
Progress report at Newland Furnace	Page 25
The Coat of Arms of the Company of Mineral and Battery Works	Page 30
Borrowdale Wad Mine, John Farey's plan of 1821	Page 31
19 th C Coniston Mine ore tubs	Page 33
Christmas Quiz	Page 35

Society Officers and Committee Members	Back cover
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Alen McFadzean



It is sad to have to record the passing of Alen McFadzean, who succumbed to cancer on 5th September. Alen was a founder member of CAT and was present at the inaugural meeting at Eric Holland's house on 9th October 1979. He was very active in the Society, leading meets, and he was at the forefront of exploration.

He explored and documented areas of Ding Dong that were only accessible when the water table was low after a dry summer. With others he carried out a thorough exploration of the far reaches of the mines to find the link via the Derby Rise to the vast areas of workings beyond the boundaries of B45 Pit, and he wrote it all up in CAT newsletter No.15 under the title 'Summertime in Ding Dong'

Alen was one of those adventurers searching for Top Level Extension at Coniston, but an unfortunate misunderstanding that resulted in him not being present at the breakthrough caused a falling out. He left CATMHS for a while, re-joining in time for the 30th anniversary celebration at Rydal Hall, where this photo was taken with his wife Anne.



His greatest contribution to CAT was his writing, for he had a way with words. He was newsletter editor after Eric Holland and the quality of his writing has not since been surpassed. He contributed articles for the first three journals, 'Up above the City, a glimpse into the history of Helvellyn Mine' in J1, 'History of the mines and quarries of the Coniston Fells' in J2 and 'An account of a heading blast in a Cumbrian slate quarry', in J3, recorded there he said, 'because it simply isn't recorded anywhere else'.

He established Red Earth Publications, working from his home in Marton, and published Ian Tyler's first two books, 'Force Crag' and 'Greenside', two of his own, 'Wythburn and the Lead Miners of Helvellyn' and 'The Iron Moor', as well as a re-print of 'Elizabethan Copper, The History of the Company of Mines Royal' by M B Donald. He instigated, edited and published CATMHS' first book 'Beneath the Lakeland Fells, Cumbria's Mining Heritage' and was co-author of the chapters on iron and barytes. I remember going with him into Greenside one evening especially to take photographs for the book.

He described himself as a former shipyard electrician, former quarryman and tunneller. Climbs mountains and runs long distances to make life harder. Gravitates to the left in politics just to make life harder still. He moved away from Cumbria to pursue a career as a journalist, first with the Barrow North West Evening Mail, then with the Northern Echo in Darlington. On

retirement he and Anne moved to Orgiva in Andalucia, where he grew olives and rhubarb and worked on his mountaineering website 'Because They're There' and his blog about carving out a new life in Spain, 'Awkward Roads'. Just Google Alen McFadzean. His evocative and insightful writing always strikes a chord. I will miss him. Ian Matheson.

Just to add to Ian's memories of Alen, I first remember meeting him when he was researching for his book on Wythburn Mine, visiting the site with him on several occasions. In 1989 Ian and Jean Tyler and I asked if he would open our mining museum at Caldbeck, and this was reported in Newsletter 26, published in April 1990. It is interesting to read the article again where Ronnie Calvin RM said in his remarks: "Now is the time for the Museum to be officially opened by Alan McFadzean - his speech is far better put by Alan than by me".

In the last year, Alen had written a couple of articles on mining in Cumbria for the "Cumbria Magazine" and what a joy it was to read them, his writing was just superb which will be missed. Warren Allison.

New members.

Robert Cruikshank from High Lorton, Cockermouth.

Gareth Owen from Dinorwic.

Steven Dalgleish from Ashton under Lyne, a keen underground photographer.

Thomas Hallett from Blawith. Mountain Leader and Outdoor Ed Instructor.

David Lund from Kendal.

Robert McClymont from Barrow. Climber and member of Mountain Rescue Team.

Phillip Hall from Beckermet. Active in Wasdale Mountain and Cumbria Mines Rescue teams.

Membership – Subscriptions for 2020

Subscriptions are now due for the membership year which commences on 1st November. This gives the Treasurer time to renew BCA insurances which come into effect on 1st January. Prompt renewal would be very helpful. A renewal form is included with this newsletter, together with an invitation to the AGM and a booking form for the 40th Anniversary weekend.

Forthcoming meets

Sunday November 3rd – Florence mine

Weekend 14-15th December – CATMHS 40th Anniversary AGM and Dinner. There will be both an underground and a surface meet at Greenside on the Sunday.

CATMHS 40th Anniversary weekend, 14th – 15th December.

The inaugural meeting of Cumbria Amenity Trust took place on 9th October 1979 at Stainton Old Hall, Eric Holland's house and a working committee was set up consisting of Peter Fleming, Chairman, Alan Westall, Treasurer, Maureen Stone, Membership Secretary, and Eric Holland, Secretary. Also present were Alen McFadzean and Pete Dawes.

So this year is our 40th anniversary, something to celebrate. The 21st was marked by a weekend of talks and activities at Rydal Hall, once the seat of the Le Fleming family, landowners of the Coniston mining field, and we did something similar for the 30th anniversary.



CAT members at the 21st anniversary celebration at Rydal Hall on 3rd December 2000.

For the 40th Anniversary weekend we have once again booked Rydal Hall. The main events are on Saturday and Sunday, but people can stay on Friday night if they want.

Events will commence on Saturday morning with a surface walk to suit all abilities and interests, starting and finishing at Rydal Hall. In the afternoon there will be an illustrated program of talks to celebrate CATMHS's history, with a tea break before the AGM takes place. The Dinner will be followed by an informal evening so that members and guests can socialise. There will be opportunities to show slides and videos, so if you have anything you would like to share then put it on a memory stick and bring it along.

On Sunday there will be a choice between a surface walk at Greenside mine or an underground visit to Lucy Tongue Level.

We hope that people will want to stay overnight at Rydal Hall but it isn't a requirement, and members and guests can join in with any or all of the activities as they wish. A detailed program will be sent to all members nearer the time. The weather will be fine (?) and we are hoping for a good turnout of many long standing members as well as lots of more recent ones, for a nostalgic occasion.

We have produced a 40th anniversary publication, a history celebrating the main events and achievements of our Society. Entitled 'The Mine Explorer, Forty Years of Exploration, Research and Conservation', or 'CATMHS – The First Forty Years'. It will be launched during the weekend and a copy provided for all our current members.

LDNPA Archaeology conference.

This annual event will take place at Rheged on Saturday 9th November and will provide 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.

Proceedings will commence with an overview of Archaeology in the Lake District National Park by Eleanor Kingston and Louise Martin of the LDNPA. Of particular interest to mine enthusiasts is a talk by Warren Allison, ‘Cumbria Amenity Trust Mining History, Forty Years of Mine Exploration and Conservation’, and ‘From Slags and Charcoal to Production and Landscape Management: the medieval iron industry at Satterthwaite’ by Harold Mytum and Rob Philpott of Liverpool University. Tickets cost £15. Check out the LDNPA website.

National recognition for the Coniston Copper Project

The Coniston Copper Project has been recognised by the Association for Industrial Archaeology (AIA). Summarised from the organisation’s web site:

Britain was the first industrial nation, and for the last three centuries industry has had a major influence on the society, environment and landscape in which we live; it shaped the country and its remains provide a link with the past that can also serve the future. The AIA is the national organisation for people who share an interest in Britain’s industrial past. It brings together groups and individuals with an interest and expertise in identifying, recording, preserving and presenting the remains of the industrial past.

At its conference in Bridgwater in August, AIA presented seven awards for various achievements in the field of industrial archaeology and heritage. Most were presented to the winners by the President, Professor Marilyn Palmer MBE, and the Dorothea Award by Geoff Wallis of Dorothea Restorations, also an AIA Council Member.

The Professional Publications Award went to Peter Brown for his comprehensive work ‘*The Shropshire Union Canal – from the Mersey to the Midlands and Mid-Wales*’, published by the Railway and Canal Historical Society.

Highly commended in this category was ‘*Mine and Mill: The History and Archaeology of Tilberthwaite Mine, Coniston*’, a booklet intended for the general public presenting the findings of the volunteers, written by Jeremy Rowan Robinson and John Picken.

The Archaeological Report Award was shared between two entries, both from Northern Archaeological Associates: ‘*Low Bonsor Dressing Mill: Archaeological Community Landscape & Building Survey*’, and ‘*Penny Rigg Copper Mill: Archaeological Community Landscape & Building Survey*’.

These, together with the publication, ‘*The People of Coniston Copper: Life and Death in a Mining Village*’, demonstrated the value of community archaeology projects encouraged and supervised by professional archaeological contract units.

This is a huge accolade for CATMHS, landowners, LDNPA and the Ruskin Museum who put so much effort into the project and which members of the society should be rightly proud.

Warren Allison

Wanted

A group of fit CATMHS members who would be keen to start to investigate the many small slate workings scattered over the Cumbria fells. This could be either as part of a planned walk or a specific expedition to a site. Full explanation of what is required will be given!

Please contact Alastair Cameron, 0780 144 1386 or email cameron.alastair@outlook.com

It is now eighteen years since the project to carry out a major survey of the slate workings on Coniston Old Man was started. This work was financed by the Heritage Lottery Fund and took four years to complete. It resulted in, amongst other things, an in-depth report on the slate workings on the mountain, a web site covering our work, and a submission to English Heritage to schedule the site of the North East Shoulder of the Old Man as an ancient monument.

In 2018 member Robert Gurr proposed a brave plan to start a project to stabilise the building adjacent to Low Bank on the Old Man, a building known to slate quarrymen as The Smithy, although it was also the power house that generated electricity and compressed air for the site. His plans are reported elsewhere in this newsletter.

As this is now progressing a number of us, including Billy Gibson, George Tarr and John Dodd, all former slate quarrymen, also felt that the report produced all those years ago on the slate workings on the mountain should be reviewed in light of further information, and the web site upgraded. It is possible that other structures connected with the operation of the site may also need some attention and these will also be flagged up. This work has now started and if anyone would like to lend a hand, please let us know.

Recently I have felt that it would be a good idea to re-assemble the small troupe of people we set up a few years ago to survey small remote slate working sites in our area. When I last did a count it seemed that there were over one hundred of these sites scattered around the fells, which are hardly ever visited and which we don't really know anything about. One way of doing this could be by sectioning off the Lake District into smaller areas and planning for all the sites in each area to be assessed as part of two or three fell-walks.

To start this going it would be best to study copies of the early 20thC 6" OS maps from either the collection in the Armit Library or from the National Library of Scotland, which are free and printable, and we could get the relevant sheets printed off. These show much more ground detail than the present-day two and a half inch maps. Then teams of two or three people could take off to various parts of the area where slate workings are marked. It would probably take a few months to cover an area, but it would be a start and if it works it could be how we should proceed.

I mentioned these proposals to CATMHS member Clare Harvey, who is also a keen fell walker and had been involved in the former survey. She felt it sounded a good idea but pointed out that some of the more remote areas, such as those in the Sadgill area, are normally very wet and boggy and would be best left for drier times of the year. A good point. A printed sheet already exists suggesting what should be examined when sites are visited. I will review the contents and amend if necessary.

Alastair Cameron

Stolen!

There seems to have been an increase recently of theft of materials from mine and quarry sites. At Carrock mine the door to the Reserve Explosive Station has been removed and the bolt on the external door to the mine has been cut with an angle grinder, apparently from the inside. Although CATMHS no longer has any responsibility for the site, the entrance has been secured and John Brown and Warren Allison have repaired the bolt.



Michael Oddie put this statement on the CATMHS Public Facebook page: ‘The door pictured has been removed from Carrock Mine. Access to this mine is restricted. The secure door preventing access to the mine has been damaged and is currently being repaired. This is a distinctive piece of history that has been removed, I cannot believe this has been taken just for scrap as the weight and distance involved is too great. Has it been removed for someone’s ‘private’ collection? Coniston is also currently under attack as heavy metal components are being removed from the old mine buildings. Are the two linked? If anyone knows anything please let me know.’ There have been thefts from secure buildings at Brozzen Stone and Brandy Crag quarries on the Old Man of Coniston. The National Trust reports that on average there have been at least two break-ins per year at Force Crag mill.

Scrap thieves on Coniston Old Man

Scrap thieves are active on the Old Man of Coniston, rails are being lifted and stacked ready for removal on High Moss. This has happened recently and we are set to lose much more if they are not stopped. Most small artifacts have been removed from Saddlestone in recent times and at the powerhouse/smithy a heavy cast iron flywheel has gone! It seems that quite a significant amount of metal material had been removed over a period of about a month. Scrap theft is probably the reason for much of the damage to the machines in recent times. The dynamo is steadily losing components and an attempt has been made to remove the core shaft. They obviously don't care that the site is obviously now being managed. The police and the landowners, Rydal Estates, have been informed and people and organisations frequenting the area have been asked to be aware.

Robert Gurr.

Deep Level footbridge

Planning permission has now been obtained to reinstate a footbridge over Red Dell beck adjacent to Deep Level portal. Abutments had already been constructed as reported in NL 136.



Work is in progress on the footbridge and a temporary bridge has been put in place by Philip Johnston. The bridge is located a few feet south of the drainage channel from Deep Level, and at the moment doesn't actually lead anywhere. Perhaps a section of new footpath will be needed to link up with the miner's track which leads to Cobblers Level and Taylors Level and then zig zags up to the Old Engine Shaft.

The Deep Level portal, which was damaged by a landslide in 2013, will be stabilised unobtrusively by installing a drain, and the portal is to be repaired and gated once the permanent bridge has been installed. CATMHS has been asked to provide a design for the gate, and this is being produced by John Brown, with Warren Allison and Michael Oddie.

Update on the reinstatement of the waterwheel at the sawmill, Coniston Copper Mines

This is a remarkable project for which Philip Johnston should be commended, and in a small way the Society through its members, who provided photographs of the original wheel from which the current one has been designed.

Philip Johnstone has now taken possession of the wheel. He has pre-assembled the various pieces in his yard prior to erecting it in the wheel pit. Original stone was recovered to reinstate the piers which carried the launders. The wheel-pit has been cleaned out and pointed and drainage provided. Special castings have been made for the waterwheel parts. The axle is in place and final assembly is planned for the last week of October. It will be a fantastic sight once completed. Photos by Warren Allison, Ian Matheson



Mines Forum, Oct 1st 2019.

Present were Warren Allison, Mike Mitchell, Ian Matheson and Mark Simpson from CATMHS, Eleanor Kingston, LDNPA, Jamie Lund, National Trust, Liz Withey, Peter Bardsley, Environment Agency, and Alastair Cameron. Much of the meeting was taken up with discussion on matters arising from pollution which can be caused by water issuing from mines or percolating through spoil heaps or treatment waste.

Force Crag. The previous Mines Forum meeting that took place at the mine site had been helpful. Information is being collated for a management plan for the head of Coledale valley, taking into account conservation, ecology and landscape as well as the mine itself. Mark Simpson raised a concern about the frequency of monitoring of the mine site and buildings for damage, vandalism and so forth. It was suggested that photographs might be taken at regular intervals to provide baselines for monitoring. Consent is being sought for treatment of the spoil heaps and the processing site. The Coal Authority are monitoring water discharging from Zero Level and No.1 Level, and have found significant differences in the metal and mineral content, suggesting that the water originates from different sources, perhaps an internal spring below No.1 Level. This is not yet fully understood. A recent report suggests that a catastrophic collapse in No.1 Level is unlikely. About four years ago CATMHS produced a plan for stabilisation of No.3 level adit and to control water entering the mine there, but no way has been found to enable the work to be carried out and no arrangements have yet been put in hand.

Coniston. Permission has been obtained to install a footbridge across Red Dell Beck adjacent to Deep Level adit. Philip Johnston has placed a temporary bridge on site, and the LDNPA will replace this with a wooden bridge in due course. Discussions have taken place between the LDNPA and Rydal Estates with a view to installing a gate to the Deep Level adit to prevent casual access. CATMHS will provide a design and working drawings, to be produced by John Brown.

Greenside. The Environment Agency are monitoring the whole area of Greenside mine, taking account of heritage aspects. There is polluted water issuing from Lucy Tongue level and they are concerned about pollution from fines entering the beck. There is a planning application for Greenside Mine to convert the Smelt Mill, currently used as hostel and camping bothy, into three cottages for short-term holiday letting.

Greenburn. Jamie Lund recently carried out a heritage guided walk at Greenburn. It is thought that Natural England would look favourably on prospective conservation work at Greenburn and High Tilberthwaite. JL has identified some repairs needed and would welcome suggestions from interested individuals. The NT is not intending to re-build the collapsed revetment above the water wheel pit.

Tilberthwaite. Warren Allison floated an idea to temporarily drain the Hawkrigg stope in order to examine the Elizabethan workings that are currently below water. No objections were raised.

Honister slate. Alastair Cameron reported that visitor numbers had increased, but visitors were generally spending less money. Permission to install a zip wire is to be reviewed. An intention is to use it to transport stone down to the processing plant. Drone images have revealed an extensive area of structures and workings near the top of the face that have not been examined in recent times. Exploration will be difficult to carry out because of the mountainous nature of the terrain. Recently a church service was held in one of the underground chambers by St Andrews Church Borrowdale.

Coniston slate. Geological investigations are being carried out at Coniston with a view to identifying potential new working sites. Re-opening of Brandy Crag and Brozzen Stone quarries is under consideration. Coniston Tourist Information Centre and the Ruskin Museum were wanting information on slate quarrying in the area. In addition to his book 'Slate from Coniston' and the CATHMS trail leaflet 'Coniston Old Man Trail', Alastair intends to write a booklet of about twenty pages suitable for sale to the general public.

Carrock Mine. Theft of the door to the Explosives Station was reported. Also that the bolt on the external door had been cut, apparently from the inside. Later discussion suggested an increase in theft from mine and quarry sites. Rail and historic machine parts have been removed from the vicinity of Low Water Power House at Coniston, there have been thefts from secure buildings at Brozzen Stone and Brandy Crag quarries on the Old Man, and the National Trust reported that on average there were at least two break-ins per year at Force Crag mill.

Low Water Power House. Warren Allison announced a new CATMHS project, led by member Robert Gurr, to conserve the Low Water Power House and its contents.

CATMHS 40th Anniversary. 2019 marks forty years since the inaugural meeting of CAT at a meeting at Eric Holland's house. There is to be a celebratory weekend at Rydal Hall on 14-15th December. A publication edited by Ian Matheson 'CATMHS – The First Forty Years' is to be launched at that event. Jamie Lund suggested that copies should be sent to the record offices at Kendal, Carlisle and Barrow.

Visit to Greenside Mine by the Environment Agency

The Agency has had an interest in the mine for many years due to contaminated land issues and potential impact on water quality to Glenridding Beck. Liz Withey thought it would be a good idea to get the various sections of the Agency who have an interest in the mine from contaminated land, water quality, flood management, etc. to visit the mine. So, in September, I met Liz (Environment Officer), Dr Hugh Potter (Water and Abandoned Metal Mine National Lead), Peter Bardsley (Water and Abandoned Metal Mines Programme Manager, National Senior Advisor), Jez Foster (Geomorphologist), Andrew Bouth (Hydrometry) at the mine on a relatively nice and dry day.

We first looked at the plan and vertical sections of the mine, explaining the source of the water, how it flowed through the mine and exited. This included a brief explanation of how CATMHS and MoLES reopened the level, reasons why, and the work done to clear the roof falls over twenty five years ago, and the continuous checking of the drainage pipes every three to four months.

We walked through the remains of the lower part of the mine to the Lucy entrance and then onto the top of No.2 tailings dam to look over to No.1 tailings dam, which sits on the old Lucy dump. It still amazes me just how big the tip and tailings dams are, and I explained how both dams had been built and what they were sitting on.



At the end of No 2 tailings dam looking over to No 1 tailings dam

We then walked up the old incline which takes you to the old dressing floors at Low Horse level. Unfortunately part way up Hugh had to leave us for his next appointment. As we walked up the incline and for the rest of the trip the whole area was examined by the Agency as to where they would like to see some remediation work carried out to help to reduce sediments getting into the beck.

Just above the Low Horse area we stopped for lunch at the old intake for No.2 hydro power station. Comments were made ‘You cannot comprehend what these people did, the ingenuity and hard graft involved’. There was certainly an appreciation what went on at the mine.

Arriving at the High Horse workings which, no matter how many times one visits them, are still incredibly impressive, we looked around the lower area. When standing on the retaining wall of Top Dam, Jez commented ‘What a place to carry out some natural flood defence work’ to which I replied ‘It would turn the area in a way back to what it was when the mine was working’. His idea was to install natural barriers to slow the water down in times of flood, which is similar to when the mining company would deliberately drop the level in the reservoirs to prevent the risk of flooding when a storm was forecast.

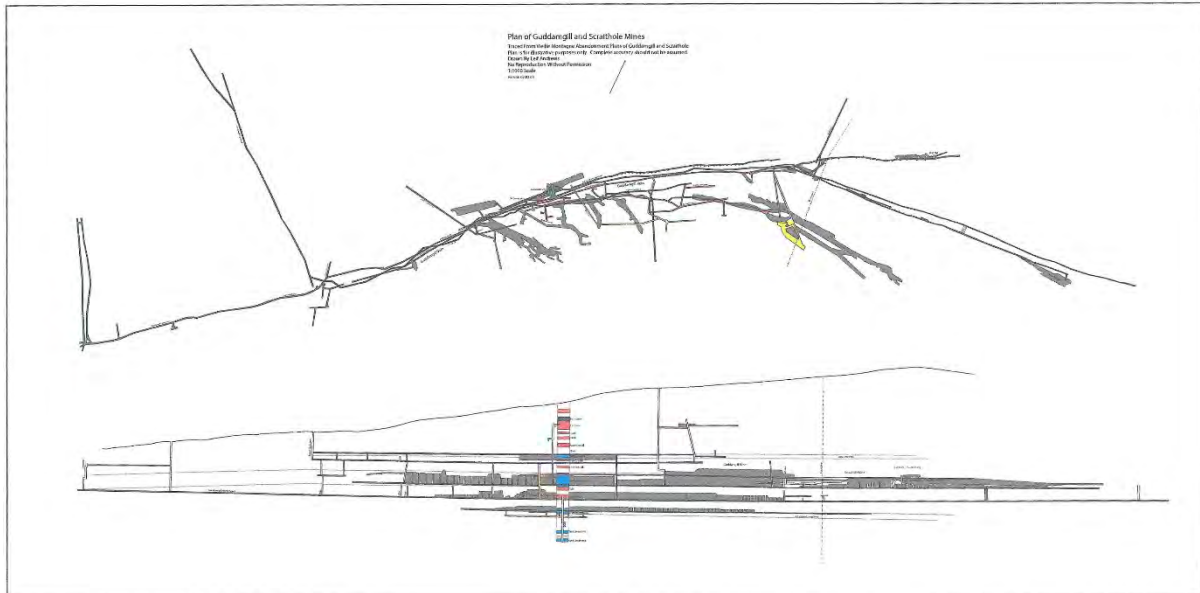
Slowly we walked back to the cars, which ended what had been a very interesting day. At the latest Mines Forum Liz commented that the work the Environment Agency would potentially like to see done, such as rebuilding the beck walls at the High Horse area, was linked to the work being proposed from a heritage point of view in a HLF bid. The visit showed once again how the various agencies are working with charities such as CATMHS in our area.

Warren Allison.

CATMHS Meets and Activities

Plan of Guddhamgill and Scraithole Mines

Further to the recent CATMHS trip to Scraithole on 5th May, which was reported by Sue & Charlie Fowler in the August newsletter, the NL Editor received an email from Leif Andrews (NMCS): “Recently I got talking to Charlie and Sue Fowler about the CAT trip to Scraithole. Earlier in the year, I traced, coloured and combined the Vielle Montagne Abandonment Plans for Guddhamgill and Scraithole. They suggested I pass the map on to you for CAT’S newsletter/journal.



This is a printed image for reference purposes, and doesn't show the detail. IM

His plan is beautifully presented, but is of too large a scale for the detail to be readable in the newsletter, and the file is too big to email as part of it. I have it as a PDF of 7.5MB. If anyone would like a copy then email a request to membership@catmhs.org.uk

Buttermere mines survey

Mark Hatton first raised interest in these mines which have been neglected as a possible area of research. The mines were started by the Germans in the early 1600's, and many years ago members of Mines of Lakeland Exploration Society opened up a coffin level in the area around Low Wax Knot, near Scarth Gap. A number of years ago a previously unknown level was opened up by footpath repairs, and the National Trust asked members of CATMHS to investigate before the repairs could continue.

Delving into the archives there is little known about the workings in this area, which stretches from Scarth Gap to Burtness Wood. A survey on the surface would help to identify where the various workings are located, which could assist in the research. I approached Eleanor Kingston at the LDNPA to ask if their volunteers would be willing to assist CATMHS to carry out a survey of the area, to which Peter Style replied on behalf of the volunteers that they would.

It is planned for the survey to be carried out in the spring of 2020, probably on a Wednesday, to which any member is welcome to come and help. There is a large area to cover and I believe there are workings to be discovered which have not been previously recorded. More information will appear in the February newsletter, but if anyone is interested, please let me know.
Warren Allison.

CATMHS Visit to Ecton Mine, Staffordshire, 15 September 2019

Mark Hatton, Jeremy Cruikshank, Carl Barrow, Garry Parsons, Michael Pringle, Derek Mitchell, Graham Derbyshire, Charlie & Sue Fowler

A party of nine CATMHS members enjoyed a fascinating visit to this historic copper mine in the beautiful Manifold Valley. Our host, Dr Richard Shaw, as a mining engineer had much to show and tell us. On an old Ore Dressing floor 140ft above river level he started by giving a brief introduction to the last 3,500 years.

Stone hammers and Red Deer antler picks from the Bronze Age had been found in shallow workings for copper near the top of Ecton Hill. In the 1600's incomers known as "Dutchmen" drove levels and shafts into the steep hillside, followed by Cornish miners in the 1700's, giving rise to the use of terminology such as "lodes" to describe the ore bodies. The copper was present in the host limestone strata in rich near vertical pipe deposits and these were mined to progressively deeper levels, pioneering the use of techniques such as blasting by explosives and dewatering using steam engines. By 1790 Ecton Deep shaft had become the deepest mine in Britain, extending 1350ft below the top of the Engine shaft and producing 10% of the world's copper. Soon after, the base of that ore body was reached and other neighbouring pipe deposits were mined, but by the late 1800's all the deposits were worked out, and production ceased in 1891.

Ecton mine is owned and run by an educational trust, and from the Ore Dressing floor we entered their information block from where Salts Level leads underground to the Engine Shaft. As the mineralised zone was reached the limestone become folded and then criss-crossed by calcite veining, the result of the natural "fracking" process that occurred when super-hot high pressure copper bearing fluids forced their way up through the rock. After a look around various tunnels, we then entered the worked out lode and by a series of ladders descended the 140ft down to the water level through the warren like subterranean landscape. Only a few traces of green and blue stained copper ore remain after the efforts of the miners to extract every last bit of value – a total of 100,000 tonnes.



At the water level was a tall chamber where a water balance beam and then a 30ft diameter water wheel had once worked prior to the advent of steam. We looked at a large circular chamber where up to fifty men and/or horses had worked a capstan to raise the ore from the shaft which descended a further one thousand feet. We looked down the water filled shaft which has recently been explored by remotely operated submersibles and where rumours of remaining riches had encouraged Victorian investors to lose their money in further prospecting. Following member musings as to whether it was geologists or accountants that were least be trusted, we exited via the Deep Ecton Drainage Level that was formerly used to remove ore to the valley floor using “canal” tub boats.

After a lunch break, entertained by a cycle event and vintage tractor run using the quiet valley lane, we walked the few hundred yards to the neighbouring Clayton Mine entrance.



Whereas the Ecton Deep mine had been owned by the Duke of Devonshire (with the profits used to provide home improvements to Chatsworth House and to build posh bits of Buxton) this mine was owned by the Burgoyne family and run as a separate enterprise. A several hundred yard wade through knee deep water led to a large chamber that had once housed a steam engine, with flues using the worked out ore pipes to discharge the smoke to the hillside above. After viewing the site of installed underground civilisation (electricity generator, compressed air facility and two seater lavatory) we returned to the outside world and the joys of the M6.

Our thanks go to Mark for organising the trip (which after a 230 mile journey started exactly at the advertised time) and to Richard Shaw for being an excellent host.

Jeremy Cruikshank.

CWAAS South West Regional Group visit to Tilberthwaite Mine

For the last few years the group has been taken to various mine sites by CATMHS and this year's visit was to Tilberthwaite Mine, held in October as the August visit had to be cancelled due to poor weather.

Seven members arrived at the car park, including Rod Chiltern who used to help the New Coledale Mining Company at Force Crag Mine. The intention was to walk up the track behind the cottages to the upper workings, cross the beck and come down the other side of the gill, stopping to have a look at Penny Rigg Quarry and then pop along to see the mill at the Horse Crag Level.

Arriving at the head of the gill, it is a good place to explain the various workings, stretching from Wetherlam Mine in the west across to Bensons Lode and onto the upper working of Tilberthwaite Mine, where north and south lodes cross the valley. I explained

that the workings were probably started in the early 1600's by the Germans, and there is a good account in Collingwood's book "Dutch Agnes Her Valentine", which is apparently transcribed from the diary of the Curate of Coniston from 1616 to 1623. It describes how the German miners lived and where they worked. The Curate walked over from Coniston with "Towsey" the main man at Coniston to view the "Three Kings Workings" at Tilberthwaite. The diary describes seeing the miners working at the foot of Steel Edge on the surface using fire-setting (there are open workings at this place with a large bucking stone) before making his way down to a level by the beck (probably what is now known as Benson's) then descending into the gill using a narrow footpath to the third working. (I think we have identified this one) Explaining how the mine always showed promise, we walked up the track which eventually takes you to Borlase Mine and other mine workings on Wetherlam to view the workings at north and south lodes. Unfortunately, it was here that Rod and his wife had to leave us due to a prior appointment with their grandchildren.

We then crossed the beck to view the open working at the foot of Steel Edge and look at the large bucking stone discovered during the Coniston Copper project; I don't know how this had not been seen before. Then following the track round, we stopped for lunch at a small ruined hut just below an open working on Benson's lode. Having eaten we made our way to look at the entrance to Benson Level before crossing the beck to walk down the opposite side.

Eventually we arrived at Penny Rigg Quarry. I had forgotten just how big this open quarry was and it is quite an impressive site. I explained that at one time the quarry had been used as a reservoir to serve the Penny Rigg Copper Mill. Taking a track which drops down onto the main road we made our way to have a look at the Penny Rigg Mill, recently conserved as part of the Coniston Copper project, before making our way back to the cars, which ended a lovely day with nice interested people. Now planning next year's trip.

Warren Allison.



From Abbey Road to the Internet, the history of the CAT Archive.

In 1987 the first Archivist, Anton Thomas, housed the collection in its own room at Anton and Sheila's home on Abbey Road in Barrow. When circumstances meant that he could no longer do so it was moved to the Armit Library at Ambleside, Ian Matheson acting as caretaker of the collection. When this arrangement became unsatisfactory it was moved again to the John Ruskin Museum at Coniston, the negotiation and move organised by the committee. In order to facilitate the arrangement and to create space for our collection, Mark Simpson installed wooden racking in another part of the museum, paid for by CATMHS. On his retirement from paid employment Don Borthwick became librarian/archivist.

Shortly after Anton stopped looking after the library, Microsoft ceased supporting their neat software version of a traditional physical card file, called CardFile. The index had then to be rebuilt in a form that could be issued to anyone requiring a copy. The then emerging PDF (Portable Document Format) was chosen, which later became the standard for archiving. An interesting if at times tedious task disentangling a mixture of text and computer code. Space at the John Ruskin Museum was restricted to one of their large double-door cupboards in the Bryan Thompson Memorial Library room, and our filing cabinet and plan chest in the public John and Margaret Dowson room. The restricted space meant the collection had to be packed quite tightly, items, files and boxes usually two deep on each shelf. A detailed set of location codes were developed so that items could be readily located.

The society's collection of drawings was built around the late Dave Blundell's collection of tracings on Mylar sheets, augmented by some of Richard Hewer's collection. Dave's collection concentrated on the Lake District and North Pennines, Richard's on the west coast iron industry and the Yorkshire dales. Additionally there was material on the Furness iron



Mike Mitchell, John Aird, Don Borthwick and Mark Simpson photographing plans at the Ruskin Museum, Coniston. Photo by Ian Matheson.

mining field and also a small number of more geographically scattered plans, some on microfiche and slides. Mine plans come in a huge range of shapes and sizes. Though dated and described accurately, anyone wishing to consult maps had to travel to Coniston and could not be sure that they would find what they wanted. Advances in digital technology came to the rescue. Both Mike Mitchell and John Aird had built rigs to mount a camera to allow very accurate vertical images to be created. On several occasions a team of volunteers accessed the drawings, helped photograph and record them, then rolled them up again and put them back in the drawers. It became quite a slick process handling sheets from A4 size up to rolls several metres long, photographed as overlapping images.

After the completion of this exercise most drawings would not be touched again until the British Geographical Survey scanning exercise, see below. A separate key-worded catalogue was built allowing maps and plans to be located quickly. The resulting JPG map images were of a size that could be emailed, though perhaps only one at a time, a big improvement.

The library had been compiled in an era of much increased interest in mining history and exploration, and a period of sometimes intense competition between individuals and groups. Often it was difficult to get access to mine plans; when it was possible a few people spent many hours carefully tracing them. Such an investment in time and their value to exploration meant that they became important assets. Pre-internet, finding out of print books and papers was difficult and often costly; it involved searching bookshops, attending book fairs, cultivating specialist dealers to get their catalogues and being first to get items ordered. All activities that are more easily achieved by an organised group, the results only shared with members of the group.

Over time mine exploration changed, the accessible mines had mostly been explored. The amount of use members made of the library significantly diminished and with an aging membership and committee the library/archive began to look like a liability rather than an asset. The CATMHS web site and a BGS scheme to scan mining plans and maps looked to provide a way forward. An appraisal was made of the archive and it was agreed that it should be focussed on the Cumbrian mining area. Items outside of this area of interest were disposed of by returning them to donors, donating them to appropriate museums or record offices or offering them for sale.

The John Ruskin Museum had provided a safe, stable storage and a friendly professional environment for the collection. They could not though supervise access to the collection. This had to be limited to members only and by prior arrangement. Access to members of the public was only possible if a member could be in attendance. The collection continued to grow by the addition of new published and donated items.

A potential move of the core of the collection to the Armit Library and Museum at Ambleside looked to provide a secure future. Through the good offices of Warren Allison and Colin Woolard an agreement was reached with the Trustees of the Armit. The Armit would provide public access to our books, plans etc., which would be professionally curated. Additionally the Armit is home to other Lake District collections, notably that of the Fell and Rock Club, making it a 'one-stop' centre for local knowledge for visitors and locals alike. Good use was made of our archive by the Heritage Lottery funded Coniston Copper Project.

Don Borthwick

Low Water Powerhouse and Smithy.

Proposed CATMHS project.

Most CATMHS members will be familiar with the old smithy and powerhouse on Low Bank on the Old Man of Coniston. Back in 1989 and again in 1999 conservation work was carried out by CATMHS to preserve the structure and the remaining machinery. The machinery consisted of a pelton wheel, compressor, air receiver tank and pipework, pedestal drill and dynamo plus a flywheel from another dismantled machine.

To date the building has stood the test of time remarkably well, mainly thanks to the previous effort by CATMHS, and remains relatively intact apart from the collapse of the roof timbers a few years ago. This building is one of several interesting structures within the ‘Old Man’ workings and arguably should be a focus of attention, due to its important role and function as the supplier of power to the whole of the slate mine complex. For such a structure to survive so many decades after the closure of the workings, complete with its machinery, is remarkable and maybe the time has now come to carry out further repairs to both the stonework and machinery in order to ensure its continuing survival.



The building in 2019. Examination of the stonework at the junction of the two buildings seems to indicate that the smithy was added to the Power House, not vice versa.

None of the structures were ever designed to last beyond the end of quarrying operations and much of the stone and ironwork around the whole workings complex is now crumbling away back into the natural environment, which in a way is simply ‘nature’s poetry’, but there are some aspects which arguably should be conserved for historical and educational purposes, one such structure being the powerhouse and smithy.

In an age when we are all so heavily reliant on energy, of which a considerable amount is not from a sustainable source, the importance of this building and its water powered machinery becomes even more significant. The conservation of the pelton wheel with regards to the power it produced in the form of compressed air to power the drills, winches and electric lighting, is a reminder that there are ways of harnessing energy which do not rob the earth of its resources but simply borrow it. The energy used to power the machinery in this case came from the modified natural reservoir of Low Water via the penstock to the pelton wheel, and was then transferred to the dynamo, compressor and blacksmith's machinery via belt drive. The spent water returned harmlessly to the beck further down the fell-side to continue on its journey, all in all with minimum harm to the environment.

Conserving this building has several benefits. It serves as a reminder of how water can be harnessed and used in industry in a responsible way, provides a historical reference to our engineering past and conserves an aspect of the social history of the men of Coniston who worked high up on the fell, producing the slates that roofed Britain and beyond.

The Structure

The proposal for the powerhouse/smithy conservation project is to split the task into two phases, phase one being the repair of the stonework and phase two the cosmetic repair of the machinery. It is also hoped to restore the pelton wheel to something near its original state, replacing some of the missing components stolen by scrap thieves over the years. This however would be a later project once the structure itself has been stabilised.

Before any work on the walls can get under way the fallen roof truss will have to be safely dismantled and removed from the building. At the moment the truss is sitting on the wall heads but totally inverted with the apex resting on the compressor. These timbers are very heavy and in order to avoid further damage to the walls and for the safety of the volunteers involved it will require careful planning to dismantle and remove them. Once dismantled it is proposed the truss timbers are plinthed on slate outside the smithy walls for future record. The two large beams that run longitudinally in the smithy end require assessment to determine their safety.

Walls

With most stone structures of semi-dressed and rubble construction walls the structural integrity relies heavily on the roof to protect the wall-heads from water ingress and the subsequent washing out of the mortar and infill which results in the collapse of many de-roofed buildings. Most slate structures use a different approach in their construction in that the slates are usually seated directly onto each other rather than on a bed of mortar, any mortar being added as infill or pointing. The benefit of this is that water ingress through the walls after a roof has been removed doesn't have the same destructive effect, as the washing of mortar does not unseat the stones. However, most variants of slate, because of their fine grained structure and the action of weathering, both physical and chemical, become 'self-lubricating', especially when wet and colonised by algae. This results in low gravitational

adhesion and ‘wall creep’. Ice and the melting, slumping and refreezing of snow, also results in ‘wall creep’ as the melting surface on the underlying ice again acts as a highly efficient lubricant. The result of the actions of both these processes can clearly be seen on many dry stone slate buildings in the Lakeland Fells and often explains their total collapse.

The walls in this case are, however, mostly intact. Most fallen stone is from the collapse of the roof frame several years ago and is limited to where the timbers were pulled from the wall-heads, which dislodged several stones from the seating areas on the wall tops. These are the main areas requiring attention. Once the walls are repaired the plan is to cap the wall heads with hydraulic lime mortar to prevent the water running through the walls. Other subjects of the proposed project would include improving the drainage from the approach to the doorway, clearing the floor inside the building of mud and vegetation and securing the building to prevent the theft of artifacts by scrap metal thieves.

There are a number of metallic items that remain within the smithy and immediate area which should also be the subject of some conservation when time allows. Within the powerhouse there are the pelton wheel, dynamo, compressor, partially restored pedestal drill and several small items. Outside is a tipper wagon chassis and nearby are a waste skip body and remains of a quarry flat. There are also a total of four wagon turntables, flight cradles and the remains of the head tree from the flight pylon on Saddlestone. The winch also survives intact. Thought is also being given to replacing the timber frame that held the control and governor mechanism for the pelton wheel. The original, however, has been stabilised for the time being.



Some of you will already know that the various sites around the north east side of The Old Man have been the target of scrap metal theft over the years and sadly this is still very much active. Most of the small items of metal from Saddlestone have now gone and the flywheel from the smithy has recently been removed. Rails have also been lifted from the Moss Head workings, though not yet removed. There are probably many other items which have gone over time which we have yet to notice.

Security of remote historical sites is always a problem, especially where there is ironwork involved. Holding on to the artifacts we have left in and around the smithy, Saddlestone and Moss Head will always be a challenge. One of the best ways to combat this problem is to show some level of maintenance and thereby give the impression the site is not abandoned and therefore not a ‘free for all’.

Time scheduling of the proposed smithy/powerhouse project has yet to be finalised at the time of writing. The project will run as a CATMHS 'dig', hopefully using both CAT members and villagers. At this stage the proposed task and application for permission to the estate is for the powerhouse and smithy. It is not possible or indeed necessary to preserve everything, though perhaps at some point in the future thought could be given to the brakeman's hut on High Moss?

Robert Gurr.

Involvement of CATMHS and Coniston residents

Robert and his son Angus have already been working on this project. At the committee meeting in September it was agreed that CATMHS would support them and prepare applications to the appropriate bodies for permission to carry out conservation work. CATMHS would also be willing to provide some financial support for materials etc., and include some work meets in future meet programs. It is hoped that individual members might get involved and participate on a regular basis. Alastair Cameron has brought it to the attention of some Coniston residents and interest has been shown by some quarrymen who once worked there.

Coniston Old Man Smithy, background information

The enormous complex of slate workings sited on the north east shoulder of Coniston Old Man is one of the biggest 'spreads' of industrial workings in the Lake District. It is impossible to determine when slate working commenced on this mountain. There is some evidence that it might have been during the Roman occupation, but this is based on the scantiest of evidence. However by the year 1200 slate was being obtained and the source was most likely the higher sites where the slate beds outcropped to the surface. Sites on this part of the mountain worked a significant band of 'silver-grey' slate. Most of this was worked as slate-mines, although two sizeable cave-workings also contributed to production. A small quantity of silver-grey slate was 'quarried' from the steep east facing shoulder of the mountain just below the summit, an area that also produced a quantity of volcanic dark-grey slate rock.

By the Victorian era slate output was extensive and the need for a central power source for compressed air for rock-drills and electricity for lighting became essential. This resulted in a new facility being constructed to provide these services adjacent to the site where a smithy had been set up a few years earlier. This became known officially as the Powerhouse and Smithy, but the official name of The Smithy has 'stuck' to the present day. There has been a lot of argument over the years as to whether it was the smithy section built first or the powerhouse. We now believe that the original smithy on the site was enlarged with an improved hearth and, at the same time, the power-house added on.

By the Victorian era slate output was extensive and the need for a central power source for compressed air for rock-drills and electricity for lighting became essential. This resulted in The Smithy being constructed. When commissioned the Smithy replaced a number of smaller

facilities scattered over the north east shoulder of the mountain and lower down the mountain, at Stubthwaite.

In 1959 the operating company that worked The Old Man Quarries became concerned at the difficulty in locating new deposits of workable silver-grey slate on the mountain. They also realised that many of the tenders being prepared for overseas contracts specifically required light-green slate. Their only source at that time was from the Hodge Close area. Quarryman Dougie Birkett remembered the time well and we have captured this in a recording made of his life working on the mountain...

“I was working at Saddlestone, just tidying up, when Brownlee came up to me. ‘What are you doing lad’, he asked. I told him and he commented ‘leave that for now and come with me - and bring your tools’. I asked him where we were going and he said ‘across to Brossen Stone’. Well. I’d never heard of it, but I followed him all the same. Eventually we got to this tiny working with a level going in. Small pony-shoes were lying all over the quarry bank. Brownlee went into the tunnel and came out with a slab of slate. Just rive that for me lad, he said. So I did, and when it split open we both just stood and stared. It wasn’t silver-grey, it was a green colour!”

The company wasted no time in developing Brossen Stone and within four years the Old Man Quarries site had almost closed down. For a few years it remained as it was after closure. But it slowly started to deteriorate. Rock falls in High Moss Head littered the chamber floor and surface movement of scree and spoil eventually blocked the entrances to the extensive Low Bank and Saddlestone levels.

In about 1965 two local lads obtained permission, or so they said, to re-claim the slates from the roof of the Smithy. This started a long slow decline in the internal structure and also in the turbine, compressor and generator. During the mid 1970’s a group of industrial archaeologists from the Ulverston area carried out some work to stabilise the structures. However serious conservation was not carried out until that by CATMHS in 1989 and 1999. A lot of good work was done during this time with Ian Matheson taking a lead. Subsequently further photographic archives of the Smithy were produced by members of CATMHS.

In 2006 the then Coniston Local History Group embarked on a Heritage Lottery funded project to assess and interpret all the industrial remains on the north-east shoulder of the mountain, including the Smithy. They were greatly assisted by John Hodgson, LDNPA Archaeologist and Ken Robinson, English Heritage, now Natural England. This project was completed within three years and a report, web site and photographic archive produced. As part of this John arranged for English Heritage to assess the site. This gave the following final summary: *‘It can therefore be concluded that the Coniston Old Man Quarries, including the spoil-tips, have an exceptionally high archaeological and educational significance, are the highest graded slate quarry remains in the Lake District and are considered to be of exceptional national importance’.*

Alastair Cameron.



Angus Gurr, working on the pedestal drill, July 2019



The Power House in 1989, with Angela Wilson & John Helme. Photo by Mike Mitchell.

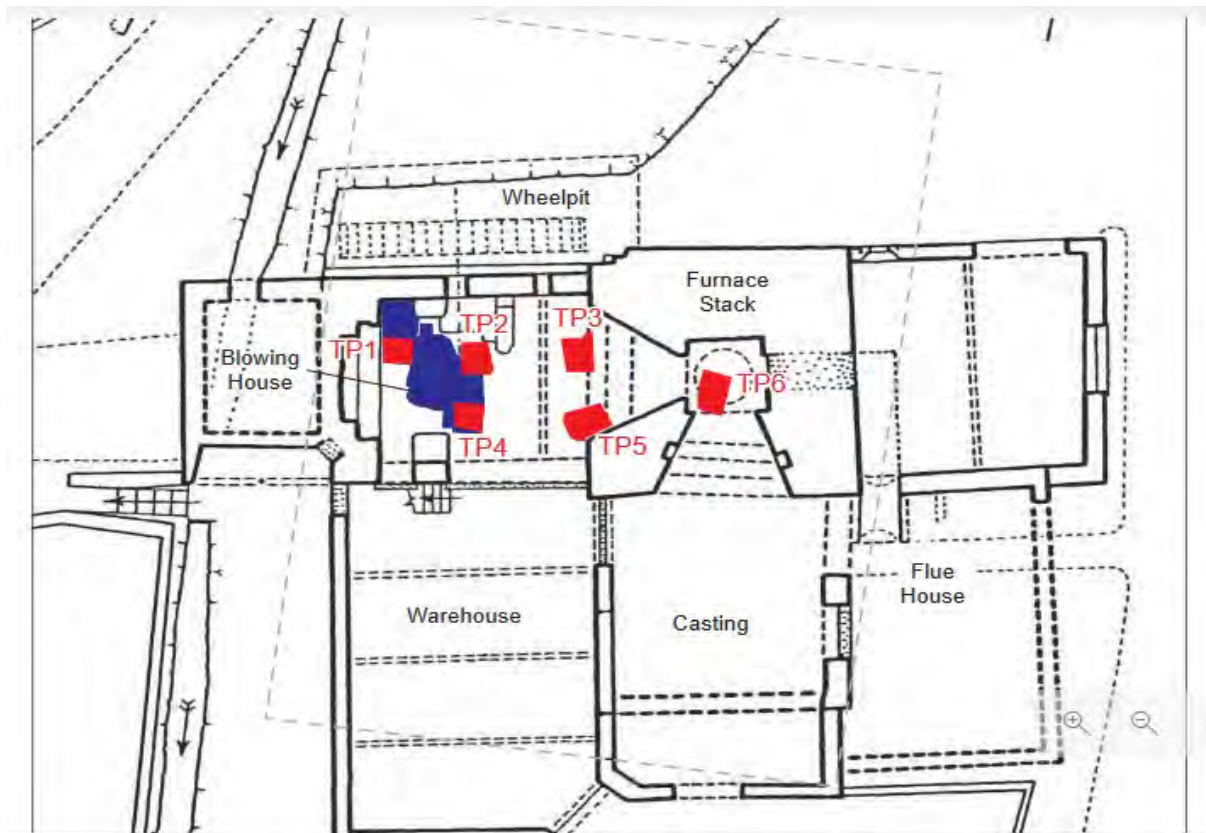
Progress at Newland Furnace

We have two ongoing excavations at Newland Furnace, one to reveal the structure of the blowing chamber and its mechanism and one to improve access.

Initial test pits

Back in 2016 we agreed with Historic England to excavate the Blowing Chamber with Greenlane Archaeology as our supervisors. Initially this was in the form of a number of test pits and this work was formally written up by Dan Elsworth of Greenlane Archaeology. Originally the test pits were meant to be temporary, however two of the six were kept as they showed promise, and permission was granted to keep these open and expand them, which formed the second phase of the project.

Finding the blowing cylinders floor



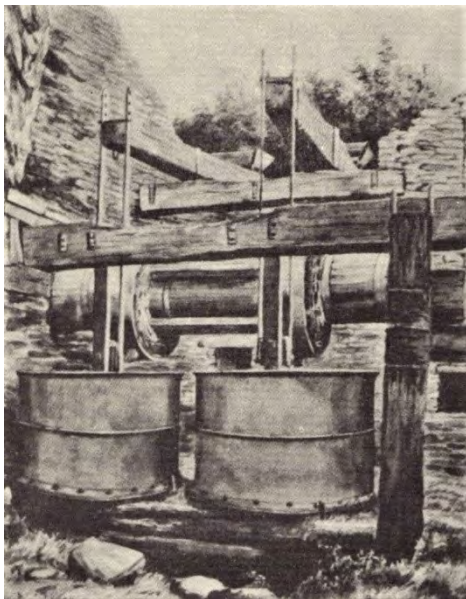
Plan of Blowing Chamber showing test pit locations. Taken from Greenlane Archaeological survey report.

Test pits 2 and 4 were explored further as they appeared to be on a hard floor. Most of the overburden was a light honeycomb furnace slag to a depth of 0.85m, thought to be brought in to level the floor when it became a workshop. Beneath this was a layer of compacted earth which in parts appeared to show evidence of “grease” which proved to be particularly resilient to digging





Blowing cylinder floor made of six dressed limestone blocks



Duddon Furnace blowing cylinders after closure. From Early Iron Industry of Furness and District, by Alfred Fell.

Once removed it revealed a beautiful limestone floor made up of six slabs with hold-down bolts showing, and the dressing to it some sort of framework. We think this is where the blowing cylinders were mounted, similar to those used at Duddon Furnace, which replaced the bellows in c1790.



Items still to be excavated as part of the work.

During this excavation work a number of enticing features were encountered which have yet to be fully uncovered. The work is being undertaken as a series of top slices with the removal of each 0.45m layer being recorded by Dan Elsworth.

Improved access

The amount of fill has meant that some visitors to the furnace had difficulty gaining access to the blowing chamber and in some cases were unable to physically access the structure. Hard hats had to be worn by all. Even the volunteers found it awkward to negotiate with a wheelbarrow full of spoil.



Blowing Chamber arch before work started



Current status of Blowing Chamber arch

The top slice has been material deposited after the furnace was closed down and few finds have been have been of interest. i.e. modern pottery, vehicle detritus and other strange pieces of metal. A gentle slope has been dug under the Casting arch to aid access.

Our neighbours' developments

Activities are going on throughout the hamlet as the surrounding housing is modified.



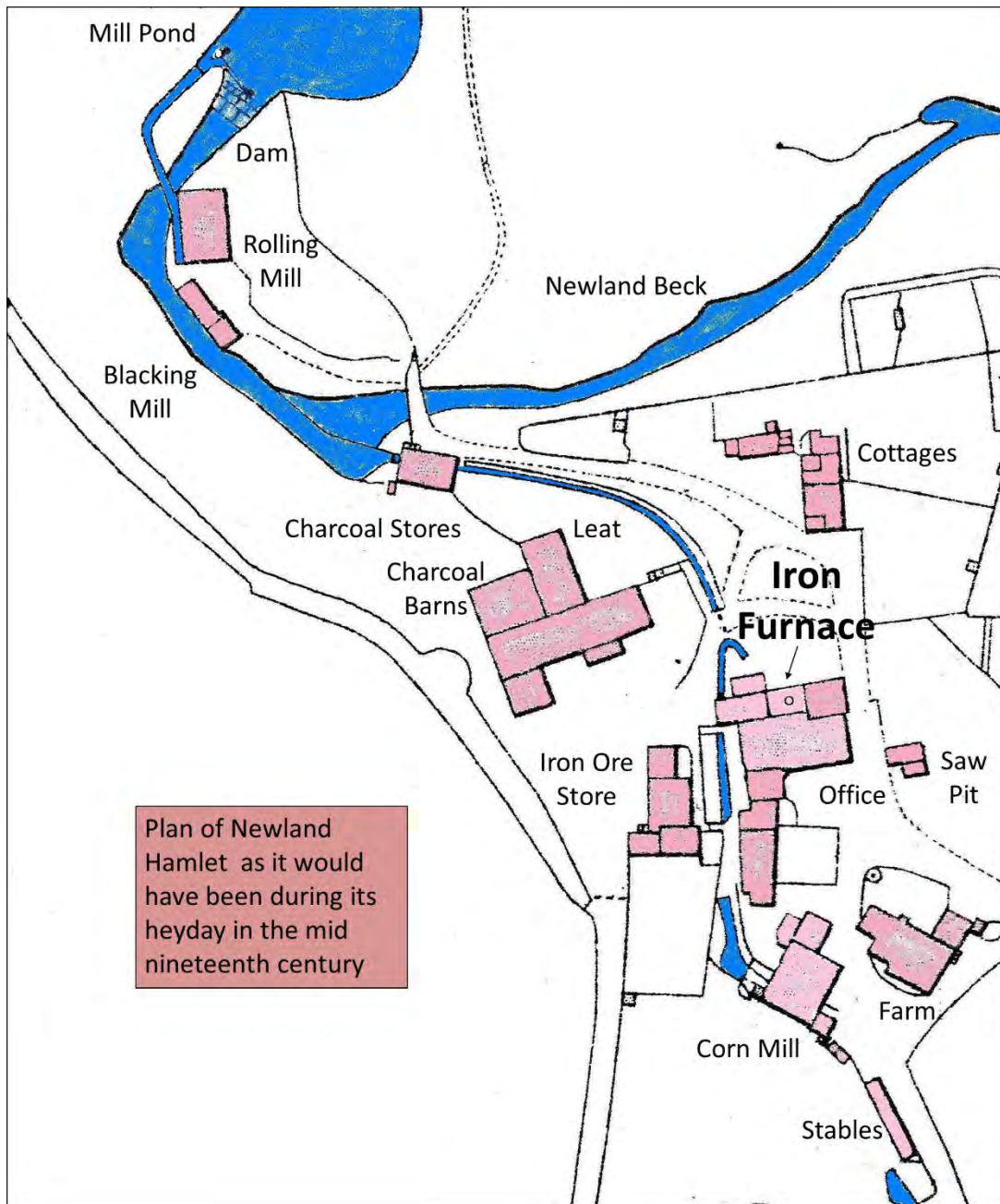
View of Blowing Chamber from adjoin workshop showing large arch for machinery access

Through the Arch

The building that joins onto the blowing chamber via a huge arch has got planning permission and scheduled monument consent to be converted into a dwelling. We don't know what the large space was used for apart from providing access to the bellows etc. The archaeology of this project is also being overseen by Dan Elsworth.

Up the valley

The blacking and rolling mills are being converted into a house and workshop with approximately the same shape and footprint faced with the original slate blocks.



3 -

Map showing the location of the Blacking and Rolling mills.

Finding a cast iron beam

At a spring work meet one of the Newland residents drew our attention to an object he had found while renovating his house. He said it had been a beam holding a swill boiler when the building was part of the farm. We thought he meant pig swill, but he went on to explain that he thought swill baskets were made on site. This would make sense as we know that Backbarrow continued to use swills well into the 20th century.



*Newland cast beam "NF*1809"*

When we arrived, we were shown a cast iron beam covered in mortar. After chipping and brushing, markings became evident which we read as "N F * 1809". It is slightly tapered and quite roughly textured, suggesting that it was sand cast.

It measures 107cm (42 inches) in length and is 6.6cm (2.5 inches) tall. Its width is between 5cm and 7cm (2 inches and 2.8 inches) due to the taper.

This is the first evidence we have seen of cast iron work attributable to the furnace, although it is said that cannon balls were cast here during the 18th century. Cast iron linings for forges have been found in recent alterations around the hamlet.

Newland on YouTube

A virtual tour of the furnace can now be taken courtesy of Anton Thomas's YouTube channel "On Any Sundry Mule". Searching for Newland Furnace in YouTube should bring this up as the first hit.

Next steps

Work exploring and lowering the Blowing Chamber floor will continue or the foreseeable future on our Saturday work meets, held on the last Saturday of the month from 1:00pm. HINT!!! Come and join us.

Dave Robson.

The Coat of Arms of the Company of Mineral and Battery Works



This is the Coat of Arms of the Company of Mineral and Battery Works. The company was incorporated at the same time as The Company of Mines Royal, in 1568. The Company was granted a monopoly to make 'battery ware' (items of beaten metal), cast work, and wire of brass and iron. They also had a monopoly on the mining of calamine stone.

The stone held up at the top of the coat of arms is calamine. This is an old name for a form of zinc ore. This is significant because zinc was alloyed with copper to make brass. And brass was the principal metal alloy used to make many utensils, implements, ornaments and wire. The wire was used to make carding tools (combs) to process raw wool. By carding or combing

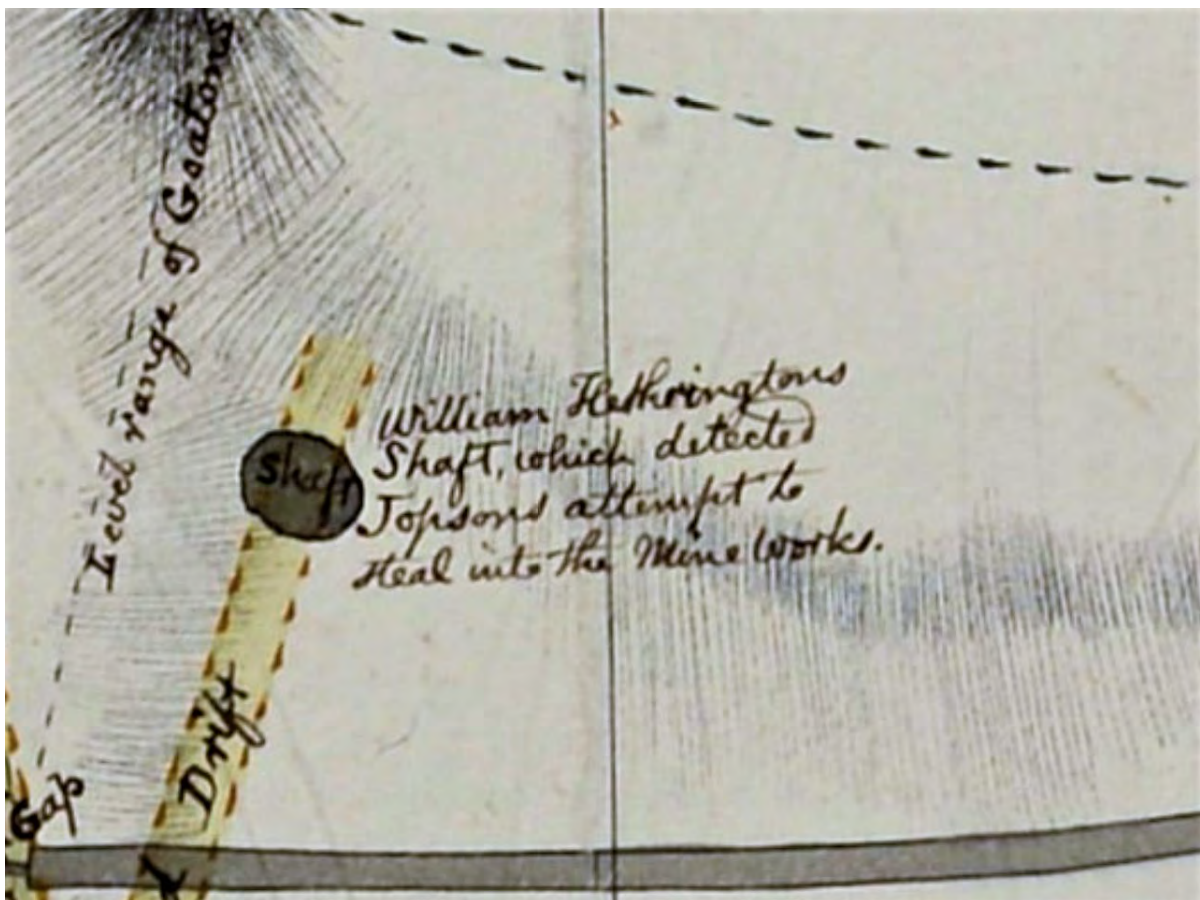
the wool the fibres were separated to allow the wool to be then spun and used to make garments, carpets, etc. etc. Such wire was of great value to the wool industry, which was very important to the economy of England & Wales in the 16th to 18th centuries.

The female figure to the left is 'Science', holding a forked hazel twig which is a divining or dowsing rod used to find metal veins & minerals underground, and the male figure on the right is 'Labour', holding a hammer used to beat the metal into shape. This is known as battery. Each figure wears a small halo on their head, which signifies an increase in Science by Labour. The shield in the centre shows a Golden Lion and a Golden Dragon. Above these are a gold coin, a ring of brass wire and a silver plate. The wire gets pride of place indicating just how important this product was to the economy of the period.

Mark Hatton.

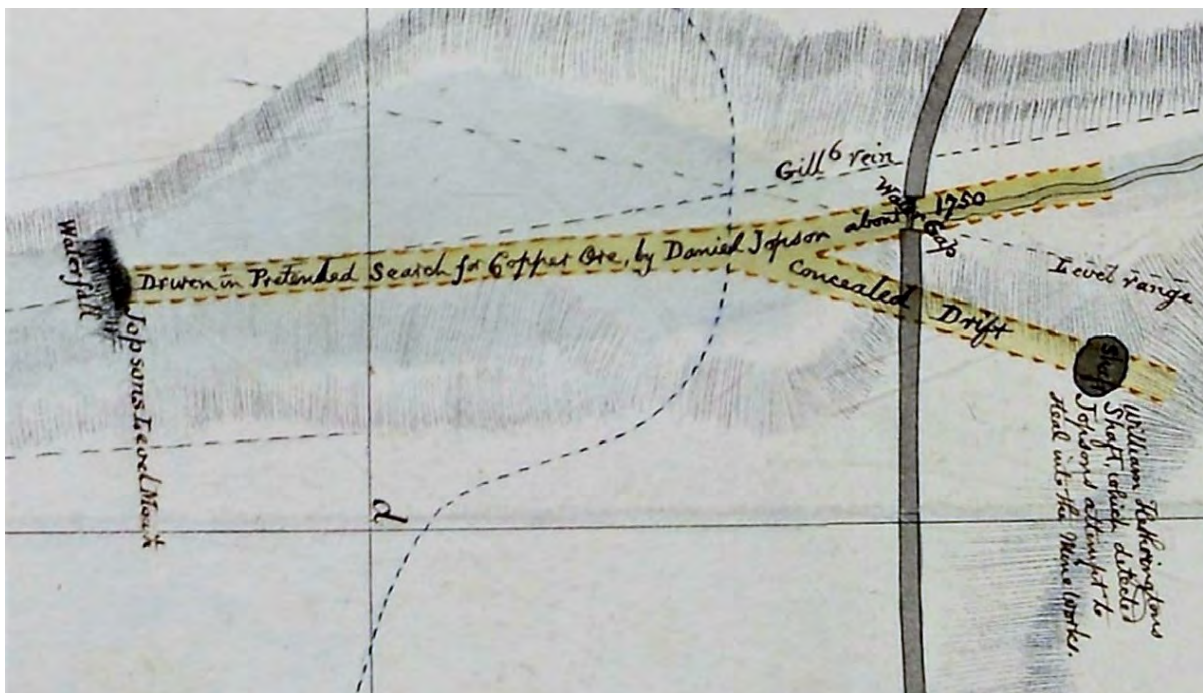
Borrowdale Wad Mine, John Farey's plan of 1821

I have been studying the Wad Mine and one corner in particular is intriguing. This is the area in Newhouse (or Miners) Gill, just above Gill's Stage. Well before Gill's Stage was driven, in the mid 1800's, this area of the mine was reached by vertical shafts from Harrison's Stage above. One shaft was named Hethrington's Shaft. On the delightful plan drawn by John Farey in 1821 he annotates his plan with the following words '*William Hethrington's Shaft which detected Jopson's attempt to steal into the mine works*'. The shaft in question is shown intersecting a level driven from the face of a waterfall in the gill itself.



Annotating that level on Farey's plan are the following words '*Jopson's Level driven in pretended search for Copper by Daniel Jopson about 1750*'.

After some investigation in that corner of the mine, we appear to have found “Jopson’s level”. It is cut to a much smaller dimension than the rest of the mine and does indeed come to day right in the middle of the Gill in the face of a waterfall.



It is also interesting to find reference to this level in this extract from a book by William Gilpin in 1772 recounting his travels through the beauties of The Lake District.

‘Somewhat further on this side is where the celebrated black-lead mine is wrought. I could not help feeling a friendly attachment to this place, which every lover of the pencil must feel, as deriving from this mineral is one of the best instruments of his art; the freest and readiest expositor of his ideas. We saw the site of the mine at a distance, marked with a dingy yellow stain, from the ochery mixtures thrown from its mouth, which shiver down the sides of the mountain.

During the periodical season of working it, for it is opened only once in seven years, many people pick up a comfortable subsistence from the scraps of black-lead, which escape amongst the coarser strata. These are honest gains. But a late prolific genius in fraud took a very indirect method of possessing a share of this rich mineral. A part of the mountain, contiguous to the mine, was his property. Here, at the expense of great labour, he sank a shaft, which he carried diagonally till he entered the mine, where, with subterraneous wickedness, he continued his depredations for some time undiscovered. At length his fraud was brought to light and he was tried at Carlisle. The peculiarity of his case had no precedent. He saved his life; but a law was obtained by the proprietors of the mine, to defend their property from such indirect attacks for the future’.

Incidentally, Tyler’s excellent book on the Wad Mine gives a different version of this story in which Hethrington was the thief who drove the illicit level. In this version of the story Hethrington was caught and tried at Carlisle and jailed. And then when he was released from jail he was employed at the Wad Mine, eventually becoming Mine Manager.

Mark Hatton.

19thC Coniston mine ore tubs

Within Coniston and Tilberthwaite copper mines there still exist some of the original mine tubs that were in use in the 19th century. There are three contemporary accounts which include information on how ore was brought out to surface:

1842. Royal Commission for Inquiring into the Employment and Constition of Children in Mines and Manufactories

When the ore is brought (by waggons on a tramroad) to the open air, it is broken by some boys and girls with hammers. This work is done in a shed having a roof and walls on three sides, open to the air on the fourth side.

1848. Account by Alexander Craig Gibson (surgeon to the mine) in his book Ravings and Ramblings around Coniston

... when you are advanced about a quarter of a mile into the level, you are at the side of the shaft (Old Engine Shaft) which reaches from the said water-wheel through all the workings down to the deepest level; and by which the kibbles containing the ore are hoisted a few fathoms above your head, and there emptied into a large hopper, the mouth of which is six or seven feet above the level, and under it the wagons are run to be loaded.

1858 From a pencil written note received from Nick Carter of Coniston circa 1968

... The work was drawn out from under the ground by horse power and then it was dressed by men and boys and women and girls which there was 50 women and about 300 men and boys. The copper raised was about 5 or 6 hundred tons a month. The work was drawn out at the rate of 8 trips a shift with 3 big iron waggons which held 2 tons each.



There are two of these very large ore tubs in the Penny Rigg adit at Tilberthwaite mine. They would seem to match the description above of ‘a big iron waggon which held two tons’. Tilberthwaite mine was operated by the same company as Coniston, and it is likely that they would have used the same method to draw material from the Tilberthwaite mine adit as at Coniston Deep Level

In the 1980’s, when we were exploring the Coniston mines for the first time there was a standing joke that one day we would find an original ore tub still standing on its rails! Well we did, although the rails had collapsed into a stope. Around a corner there was a second one.



The design is interesting. The body is mounted with its mid-point on one axle of a pair which are joined together by a hinged bar. The body can be held down onto the second axle by a chain with a ring on its end which can be looped onto a spigot on the axle. When this is removed the body can be easily be tipped around the central axle. We winched it up into a side level, rebuilt a section of tramline and put it back in place.

Whilst exploring the New Engine shaft we found another one of the same pattern. It seemed to have come off its rails and fallen onto a stemple, where it was contained by waste rock. It is still there.

Ian Matheson



Christmas Quiz

This quiz, sent in by Max Dobie, appeared in a CAT newsletter in 1982.

I don't have the answer, but if anyone can crack it I will publish the solution in the February newsletter, together with the names of those who decipher it. Give it a go!

There are FIVE mines in the side of the valley. Never mind which valley. Each works a different MINERAL. Each is worked by a different NATIONALITY. Each miner is an expert with a particular TOOL, has his own preference for DRINK and his own brand of 'BACCY'.

All you have to do is find the man who has the only WHEELBARROW.

To achieve this you are provided with lots of valuable information:

The English miner works the copper mine.

The Spaniard is an expert with a shovel.

Coffee is drunk in the lead mine.

The Ukrainian miner prefers Vodka, of course!

The lead mine is next to the iron mine.

The Medium-cut smoker is good with a joke.

Spun-cut is smoked in the barytes mine.

The miner in the middle mine prefers milk.

In the last mine on the left a Norwegian miner is hard at work.

St Bruno is smoked by the miner in the mine next to the mine worked by the man with an air drill.

Spun-cut is smoked by the miner in the mine next to the miner with a sledge-hammer.

The Golden Flake smoker always drinks orange juice.

The Japanese miner enjoys a pipe of Rough-cut.

The Norwegian miner works in the mine next to the zinc mine.

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