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The Newsletter of the Cumbria Amenity Trust Mining History Society

Tony Holland de-rigging the Traverse in Hafna Mine, CATMHS Welsh Meet

No. 125 **November 2016**

Cumbria Amenity Trust Mining History Society
Newsletter No 125, November 2016

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CATMHS AGM AND ANNUAL DINNER 2016

Along with the Newsletter you will be find the official notification of the Annual General Meeting of the Society and an Agenda. This brief note is to invite you to attend not only the AGM but the Dinner and hopefully to stay overnight. Rydal Hall is both a fine venue for the occasion and is also a highly suitable location: since it was the seat of the Le Fleming family, who were the mineral landlords of the majority of the Coniston fells including the Copper Mines Valley. Having originally been based at Coniston Hall, they acquired Rydal Hall by marriage and moved there as their wealth and influence increased (the industrialisation of the Coniston area might also have been influential in their decision).

In an inspired move our then Secretary Sheila Barker suggested the venue for the Society's 21st birthday celebrations in 2000. The event was a great success, subsequently we held the 30th birthday and every following AGM and Dinner at the Hall.

The property is very much "Queen Anne in front and Mary Anne behind" the façade having been grafted onto an older Lakeland house, the accommodation is warm and comfortable, the staff extremely friendly and value for money is exceptional!

The format is to arrive around 1600 for coffee and biscuits then the AGM starts at 1630. Hopefully this will be expeditious as the bar will be open and dinner is at 1900, three courses then coffee.

After dinner there is usually a slide show, along with the bar of course! So, if you're a long standing member or one who's just joined, come along and enjoy yourself, It's a great evening out.

Membership
Membership fees are now due. You should find a renewal form enclosed with this newsletter or attached to the email. The Treasurer and Membership Secretary would appreciate prompt payment. You are reminded that your third party insurance expires on December 31st.

As reported in the last Newsletter, so as to decrease the cost of printing and posting the newsletter and also the workload of the Editor, in order to encourage members to receive it by email the Committee has decided to reduce the membership fee. The Basic fee is now £10. If you are happy to receive your newsletters by email, then fill in only the left hand side of the renewal form which includes the statement 'I want to receive my newsletters by email, using this address.' If you prefer to pay the additional fee to receive your newsletters by post, then complete only the right hand side of the renewal form, which has the statement 'I want paper copies of my newsletter to be sent by post.' If you have joined recently and have received a welcome letter with a membership number beginning 17/xxx, then your membership is valid for the forthcoming year and you don't need to do anything.

The newsletter will continue to be published on the member's page of our website, www.catmhs.org.uk

It is important that members inform me of any changes to their email address.
Note that membership subscriptions are due on 1st November, which enables BCA insurance to be put in place for January 1st. To participate in CAT field activities you must have appropriate third party insurance

We have had a recent influx of new members through the revised CATMHS website.

Welcome to:
Peter Bardsley , Penrith. Former member of NORPEX, works at the Environment Agency.
Liz Withey, Carnforth. Liz works at the Environment Agency.
Andrew Hoe, Carlisle.
Raymond Hall, Darlington.
Garry Parsons, Bignall End, Staffs.
Jean Thornley, Darlington.
Peter Robinson, Kirkby Lonsdale.
David Donkin, Skipton.
Jason Attwood & Paige Craik, Millom.
Nick Green, Pity Me, Durham. Nick is a Trustee of Nenthead Mines Conservation Society.
Geoff Haywood, Poulton le Fylde.
Stephe Cove, Millom.
Jeremy Hunt, Wigton
Albyn Austin, Cardiff. Albyn is a long term member who has renewed after an absence.
Philip Coates, Kents Bank
Your membership is valid for 2017, so please ignore the renewal form!

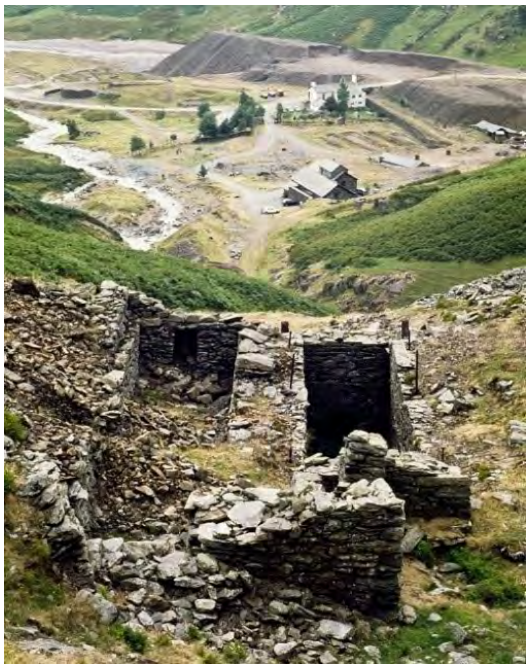
Facebook
If any member would like to join the CATMHS Facebook Group please just let me know. It is a closed group so I need your email address, the one that Facebook recognises you by, to invite you to join that group.

Mark Hatton. mhatton304@aol.com

Coniston Copper Mines HLF grant (known as Coniston Copper) update

The project has continued at a pace during the summer. The contractors have carried out repair work to the Old Engine Shaft (more to do at a later date), have taken down and re-built a large section of the Thriddle Incline, which now looks superb, re-built the tumble-down walls at the wheel pit for the Bonsor East Shaft, which is one of the only virtually complete remains of an 18th century mining structure in the Lake District. They are now working at the Paddy End dressing floors and will continue as long as the weather stays good, before returning next year.

The Old Engine shaft wheel-pit & launder towers.



Charles Roe's 18th Century Bonsor East Shaft water-wheel pit, before and after repairs.

Walling at Paddy End dressing floors.

The project has also included various ecological surveys, which fits in well with the ethos of the HLF, and also ensured that the conservation work would not be impacted. A Bat and Reptile survey has been carried out which did not show anything out of the ordinary. The Lichen and Bryophytes survey was very interesting (I have not known anything about this subject before) and has confirmed that the site is of national importance in this field. The number of Lichens found was 123, with 6 being rare and 21 scarce; the number of Bryophytes found was 167, with 7 being rare and 3 scarce. These species are known as Metallophytes, which can tolerate high levels of heavy metals and commonly exist as specialised flora found on mine spoil heaps. A report will be published in due course.

On the 3rd September there was a mining day held at the Coniston Institute where Eleanor Kingston (LDNPA) and Lisa Keys (Coniston Copper Project Coordinator) explained to nearly 50 people what the project was about. There were photographs of the underground workings taken by CATMHS members over many years on show, along with the CAT DVD and the programme that Mike Mitchell and Ian Matheson did for the Jane Foal exhibition of the mines. There were examples of the social history from the exhibitions on Patterdale which I did some years ago, to show what could be replicated in the parish of Coniston. In the afternoon, along with help from Mark Hatton, Sue Lund and Charlie Fowler (who were going to be married at the mines in five weeks' time), we led a walk from the Institute to the Copper Mines as far as the Youth Hostel, which was attended by 18 people who turned up in the rain. After explaining the site with the aid of photographs and plans we had tea and a buffet at the YHA before returning back to the Institute where Ian Matheson did a talk on the history of the mines.

On the 24th September, a volunteer's day was held at the Coniston Sports and Social Club where 22 people turned up to hear about the volunteering opportunities, which included archaeology, helping to record the remains, conservation, in helping to repair and protect the remains in the future, guiding for different audiences, and archive and social history research to uncover information about the mining operations and the people involved.

On the 29th September, as part of the school curriculum on Geography, Lisa and myself along with three people from the Cumbria Geo Conservation Group, which is a voluntary geological conservation group working to record and look after important geological sites and is an affiliated member of UK RIGGS (Regionally Important Geological and Geomorphological Sites), took 28 year nine pupils and three teachers from the John Ruskin School in Coniston to the mines, looking at the geology of the area. We started at the school and walked towards the mines looking at the rocks which had built the village before stopping at the Ruskin Museum where the geology of the area was explained. Continuing towards the mines we stopped at various points on the way looking at the geology/rocks, arriving at the intake for the hydro scheme, where I explained a little about the history of the mines and how they were worked, before arriving at Warsop's smelter where the children decided it was time for lunch. It was at this point that I managed to lock my car keys in the car (having taken it to the mine earlier in the morning) and after borrowing Lisa's mobile managed to send for the fourth emergency service known as 'mother' with the spare set.

We then walked onto the area around the Paddy End dressing floors where you get a good view of the veins at Simon's Nick and the method of mining was explained before walking back to the school. The children had had a good insight into the geology of the area which could not be got from a book (including myself who had not realised that the intake for the hydro scheme was the joint between hard and soft rock, and that the Copper Mines valley is actually a hanging valley). The children and teachers said that they had had a superb day which included comments such as 'awesome', 'cool'. There are another two modules in the school curriculum which can be based on the mines - the Industrial Revolution (history) and Copper Smelting (science) which the project will cover. I have to say that this was a brilliant day, the children were a credit to the school and on a personal level I learned so much more about the geology of the area with people who understood it.

On the 2nd October, Eleanor gave a brief update on the project at the LDNPA archaeological conference where Penny Middleton from Northern Archaeological Associates gave a talk on the survey work at Penny Rigg Mill which was recently undertaken by volunteers. Much has already been done this summer, which is more remarkable after a late start, which bodes well for next year. It must be said that this project of some £500,000 is in a way a testament to the

tenacity of our Society, who for close to 40 years has campaigned to preserve the remains. It is also bringing the history of the mines to the wider public, which can be seen by the interest of the volunteers, members of the public and even the school children.

When taking the photographs for this article, I had much more time to spend looking at the remains, and have come up with two theories as to where the German stamp mill and Charles Roe's mill were sited, which will be the subject of another article. Warren Allison.

Coniston Copper Project day at the Mechanic's Institute, Coniston.

On Saturday 3rd September a Mining Heritage Day was organised by Eleanor Kingston and Lisa Keyes at the Mechanics Institute at Coniston with the aim of promoting interest and information amongst the general public and local people.

Repairs which have been carried out to the Triddle Incline. Photos by Mark Simpson

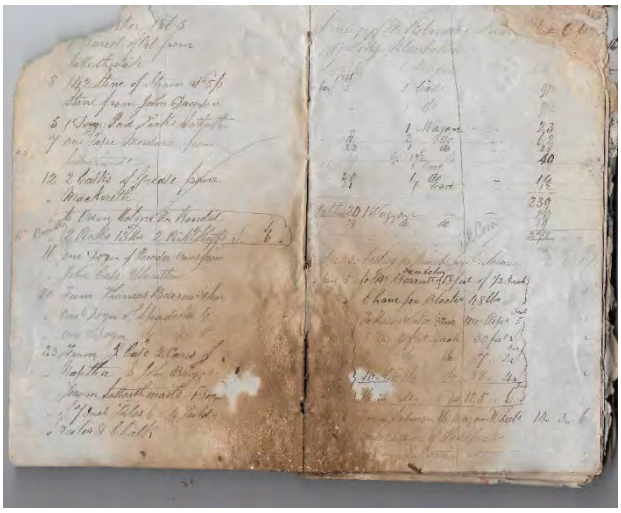
Warren Allison arranged a display of CATMHS material, which included Ian Matheson's display, used in conjunction with the Jane Foale exhibition at the Ruskin Museum, together with Mike Mitchell's video produced for the same event. Dave Bridge's excellent CD about the copper mines was shown on the permanent screen. In the afternoon Warren gave a conducted tour in very wet weather, which concluded with refreshments at the Coppermines YHA. Mark Hatton then took some of the more active visitors into Levers Water Mine and Hospital Level.

The day concluded with an illustrated talk by Ian Matheson 'Coniston Copper - 400 years in the making, the impact of mining on the village, who was involved, and about the industrial operations which once took place on the fell-side'.

Historic documents relating to Coniston
As reported in the last newsletter Mo Holland has decided to make Eric's documents publically available through CATMHS.

Below are listed the ledgers relating to Coniston mines which have been deposited at the Armitt Museum & Library at Ambleside.

Coniston EH LC 01	Slate received	1823-1836	*digitised*
Coniston EH LC 02	Materials received	1865-1867	
Coniston EH LC 03	Sales of ore	1835-1840	*digitised*
Coniston EH LC 04	Labourers ledger	1885-1887	
Coniston EH LC 05	Cost Book	1876-1891	
Coniston EH LC 06	Cost Book (3)	1843–1848	*digitised*
Coniston EH LC 07	Smith Cost	1857-1875	
Coniston EH LC 08.1	Letter book	1837-1861, 1881-1882	*digitised*
Coniston EH LC 09	Daybook, (tutwork)	1871-1872	
Coniston EH LC 10	Dressing Cost, Paddy End	1843-1854	
Coniston EH LC 11	Dressing Pay Book	1853-1859	
Coniston EH LC 12	Mine Pay Book	1840-1844	
Coniston EH LC 13	Underground Measurements	1862-1875	*digitised*
Coniston EH LC 14	Weight of Ores	1853-1860	*digitised*



It is expected that all will be photographed by the end of this year and the digital images will be available on the member's page of the CATMHS website. Serious researchers are welcome to view documents held at the Armitt, but please telephone or email in advance so they can get them out of the secure store. 015394 31212; info@armitt.com

Over the years CAT members have photographed quite a lot of historic documents, some of which may no longer be available. I think it is important that this material is preserved and made available for study or research. Below is another list, of digitised historic documents relating to Coniston. Some of them have been transcribed. These too will be available on the CATMHS website, and we hoped to add to them as more material is discovered and digitised. IM.

Digitised Coniston & Tilberthwaite mine records, by date:

Title	**Source**	**Period**
1823 – 1836 Slate		
Slate received, EH LC 01	Eric Holland archive (Armitt)	1820-1836

Coppermine 1823- 1876, John Barratt & sons:

Barratt letters to John Taylor	Hext sale (purchaser not known)	1823-1834
Sales of ore, EH LC 03	Eric Holland archive (Armitt)	1835-1840

Letter book, EH LC 08	Eric Holland archive (Armitt)	1837-1861
Cost Book No 2	CAT purchase, Hext sale (CRO)	1838-1843
Mine Pay Book, EH LC 12	Eric Holland archive (Armitt)	1840-1844
16 letters, J Barratt to R Gaunt	CAT archive (P Fleming & Co)	1841-1846
Cost Book (No 3), EH LC 06	Eric Holland archive (Armitt)	1843–1848
Dressing Cost, Paddy End, EH LC10	Eric Holland archive (Armitt)	1843-1854
Dressing Pay Book, EH LC 11	Eric Holland archive (Armitt)	1853-1859
Ore weights, Coniston & Ulverston EH LC14	Eric Holland archive	1853-1860
Smith Cost, EH LC 07	Eric Holland archive (Armitt)	1857-1875
Tutwork section, Threlkeld costbook	CAT purchase, Hext sale (CRO)	1862-1867
20 Take Notes	CAT purchase, Hext sale (CRO)	1865-1866
Underground Measurements, EH LC 13	Eric Holland archive (Armitt)	1862-1875
Materials received, EH LC 02	Eric Holland archive (Armitt)	1865-1867
Daybook, (tutwork) EH LC 09	Eric Holland archive (Armitt)	1871-1872
Memorandum of Association of the Coniston & Tilberthwaite Mining Company Ltd.	Ruskin Museum	1874.

Coppermine, post 1875, owner Thomas Wynne:

Payments book	Ruskin Museum	1873 - 1884
34 letters, re meetings etc	CAT archive (P Fleming & Co)	1875-1878
Cost book	CRO, Stafford (incomplete record)	1875 -1884
Tributers Ore Sample Book	Ruskin Museum	1875 - 1884
Cost Book, LC 05	Eric Holland archive (Armitt)	1876-1891
Labourers ledger, LC 04	Eric Holland archive (Armitt)	1885-1887

Final years:

Coniston Electrolytic Copper mines Ltd, letters written in French	Ruskin Museum	1913-1918
W T Shaw notes	CRO, Carlisle	1927
Coniston Mine prospectus	Source not known	1970
Canadian interest in Coniston copper mines		1972

A collection of about 200 mine plans from the Eric Holland collection have been listed. Most are of the Cumbria west coast iron ore mines, but there are some of Coniston. They have all been delivered to the British Geological Survey to be scanned and digitised. Once this has been done done then all the digital images will be available on the BGS website and on the CATMHS website. The original plans will returned; those pertaining to the Lake District mines will be deposited in the CATMHS archive at the Armitt Museum and Library, and it is hoped that the Cumbria iron mine material will go the CRO's at Barrow-in-Furness and Whitehaven, and be known as 'The Eric Holland Collection'.

We also have Eric's collection of mine ledgers and record books. Most relate to the Cumbria west coast iron ore mines, but there are some from Coniston copper mines as listed above, which have been deposited at the Armitt Library and Museum. If you would like a complete list email membership@catmhs.org.uk.

Ian Matheson.

Newland Furnace news
Progress towards stabilising the axle hole has continued steadily.

Some repairs were made to the torching of the charging house roof.

More Valley brand pigs were found at Backbarrow and added to the display.

These must have been washed out of the bank in last winter's storms.

A special display was put on in April for the CWAAS 150th anniversary. The Ulverston Walking Festival came the same day, and both gave generous donations. The Heritage Open Days were successful with a steady stream of visitors, more than 84 visitors over two days and £125 takings. *CWAAS members at Newland*

The main event of the year is still to come, an exploration of the floor of the blowing chamber and furnace hearth. We hope to arrange this for mid-November and volunteers will be required to help with the digging. We have scheduled monument consent to dig 7 test pits, each 1 meter square, in the hope of finding a solid floor or a hearthstone. The work will be carried out under the supervision of Green Lane Archaeology and we hope to obtain a grant towards the cost from DONG Energy Community Fund. We hope to find evidence of the arrangement of the blowing cylinders and the hearthstone and maybe evidence of a slag pot.

Newland blacking mill
Historic England will be adding the Blacking Mills at Newland to its 2016 Heritage at Risk Register, which is launched on 21 October this year. This is because of the poor and deteriorating condition of this particular structure and the absence of an agreed long term solution for repair and possible re-use. The rest of the scheduled monument, including the areas that the Newland Trust owns, will not be added to the Register.

LDNPA Archaeology Conference
The fifteenth Annual Archaeology Conference was held at the Theatre by the Lake at Keswick on 2nd October. The theme was 'Recent projects carried out by universities, organisations and partnerships with local volunteers within the National Park'

Introduction by Mike Mckinley, Chair LDNPA,

Archaeology in the Lake District National Park 2015-2016.
John Hodgson reported on the progress of the World Heritage Inscription Bid for the Lake District National Park. The Nomination Document has been completed and can be viewed on the LDNPA website. lakesworldheritage.co.uk . A decision is expected in July 2017. Eleanor Kingston then reported on the recent excavation at Cunsey Forge, Windermere, carried out by volunteers under the supervision of Oxford Archaeology North. The field work has been completed; results will be analysed and there will be a report at the 2017 conference. She went on to report on progress of the Coniston Copper Project. So far repairs have been carried out on the Triddle incline, and the New Engine Shaft and Old Engine Shaft wheel pits. Work will continue as long as the weather allows and will be resumed next spring.

Recent National Trust work in the Lake District. Jamie Lund, National Trust.
A good deal of Jamie's time has been spent on the preparation of the Nomination Document for World Heritage Inscription Bid. A routine re-painting job at Townend, at Troutbeck, revealed that rotten oak beams were causing major structural deterioration which required extensive rebuilding work. At Force Crag mine, repairs have made to the roof and cladding of the mill. Volunteers have been working to conserve the machinery inside, coating metal parts with waxoil, and an Eimco shovel has been returned to the site.

Great Grandad's Army and the Archaeology of Firing Ranges in the Lake District. Jeremy Rowan-Robinson, LD Archaeology Volunteer Network.
There were some 18 firing ranges established in what is now the National Park, the earliest dating from the 1850's, and some were in use up to the 1950's. Early OS maps enable rough dating. Recovery of spent bullets and cartridge cases indicate the type and era of firearms used. Remains can still be seen in the fells, and those at Torver, at Silver Gill, Grasmere and at Loughrigg, Ambleside, were discussed.

Geophysical survey of Roman forts in Cumbria. Karl Tayor, Oxford Archaeology North.
Karl Taylor described the three geophysical systems in use, Ground Penetrating Radar, Magnetometry, and Lidar, and discussed their uses and limitations, illustrating them with studies of Roman Forts at Ambleside and in the Lune valley

Reviving the stones from the dusty rubble: Survey and excavation of a Duddon Valley Longhouse. Jeremy Bradley, Oxford Archaeology North.

Planes, drones and broken automobiles – a community based archaeological survey of Penny Rigg Copper mill. Penny Middleton, Northern Archaeological Associates.
Penny Middleton, who prepared the Coniston Coppermines and Penny Rigg Copper Mill Conservation Management plans, which are the basis of the current Lottery Heritage funded Coniston Copper Project, concluded the conference with an outline of the history of Penny Rigg Mill, and reported on the recent survey of the mill site by volunteers.

Sixth Early International Railway Conference at Newcastle

In 2008, as a result of CATMHS discovering the evidence of the wooden waggon way that the German miners used at Silver Gill Mine near Caldbeck, I was asked to present a paper to the fourth early international railway conference at University College, London. Seeing that the sixth conference was being held at Newcastle in June, I decided to attend some of the lectures held over four days, and although not into railways, it is remarkable how much there was relating to mining, as the 'early railways', certainly in this country, were developed as a result of the industry. The following is taken from the web site of 'The Railway and Canal Historical Societies', who organise the conferences.

The 'Early Railway' is defined as 'railways which were pre-main line in concept, if not necessarily in date'. The 'Main Line' model is considered to be that established with the opening of the Liverpool & Manchester Railway in England in 1830, on the understanding that other dates are relevant in other countries.

Even amongst those interested in railway and transport history, there is commonly a lack of knowledge of the railway before the main line era. There are very few books on the subject in print, in contrast to the thousands available on main line railways. The period covered by the Early Railway conferences reaches back over 2500 years to the first known railway, the remarkable Diolkos of Ancient Greece, carrying goods and even boats across the Isthmus of Corinth. Railways were used in the medieval metal mines of central Europe, and known in England from Tudor times. By 1800 there were many hundreds of miles of lines in Britain, with the early railway regarded as a key element of the Industrial Revolution.

The technology and invention of the period before the main line was wide-ranging. Railways encompassed channels cut in stone, to wooden waggonways, to the development of iron and plate rails, haulage by man and beast, to balance and powered inclines and onwards to the invention of the steam locomotive and the long battle to establish its practicality. The great majority of early railways were private lines used to transport industrial materials, but both public railways and passenger railways pre-date the era of the main line. The conferences cover such topics as organisation and finance, the transfer of technology, and the results of archaeological excavations, with fresh researches presented, discussed and peer- reviewed for publication. The early railway remains a field of considerable discovery and reassessment: the conferences have consistently challenged established views on technology, innovation and practice.

This year's conference was held at the North of England Institute of Mining and Mechanical Engineers (*The Mining Institute)* in Newcastle. The following is an extract from its web site:

The Mining Institute owns one of the finest buildings in Newcastle, Neville Hall, a Victorian building built at the time when High-Gothic architecture was coming into fashion. The outside of the building is known to hundreds of thousands of people, it is next to the Central Station, but few people realise what is inside. Neville Hall houses the memorial to the Institute's first President, Nicholas Wood, an outstanding Victorian Library resplendent filled with superb stonework, redolent with exquisite carved stone, wood and paintings with a beautifully decorated ceiling, a vast glass roof and filled with furniture designed for the library in 1872. Below the Library is the Edwardian Lecture Theatre, modeled on the Royal Institution in London and constructed in deep red Cuban Mahogany.

What lies within the walls is centuries of history relating to the Great North Coalfield, full of tales of engineering excellence, man's efforts to wreak resources from the earth's crust and the perils that brought. The Library is of importance globally, the finest and largest coal mining library in the world and perhaps the best place to study the early Industrial Revolution which began with the use of coal as a fuel in the Great Northern Coalfield 600 years ago

The conference started with a buffet and lecture on the Thursday evening on the discovery of the wooden waggon way at the Neptune Yard at Wallsend, Newcastle. The waggon way was a timber track for horse-drawn carts transporting coal from Willington colliery in Wallsend to the staithes on the bank of the River Tyne, where the coal would be tipped into ships bound for London.

The following is from an article in a Newcastle newspaper called The Journal, written in July 2013 when the waggon way was discovered.

The discovery by archaeologists of the 1790s waggon way on the site of the former Neptune shipyard in Walker in Newcastle is described as a find of international importance.

The 25-metre stretch is central to the coal mining and railway heritage of the region and has revealed features known previously only through 18th Century engineers' notebooks. It is also the earliest surviving example of the standard gauge railway, used throughout Britain and much of the world.

"Uncovering such a superbly preserved stretch of waggon way is outstanding," said Simon Brooks, manager trusts and partnerships of the North of England Institute of Mining and Mechanical Engineers. "These tracks represent the origin of the standard gauge railway and their historic value is of universal importance. Every effort needs to be made to ensure this find is preserved intact and available to future generations. It is of the utmost importance that this unique find is kept in the region, the birthplace of the railways. The waggon way marks a major

point in the evolution of the coal and transport industries worldwide and is a reminder of the North East's global importance in establishing the modern world we inhabit."

There were many of these waggon ways in the coalfield and it makes you wonder if there were any in West Cumbria, as there seemed to be a lot of interaction between these two coalfields. One of the lectures which was very relevant to our area was the one presented by Dr Ulrich Stanjek on 'Development steps to the Spurnagelhunt'. This relates to the German hunds or rowle wagons they used at the Grasmere, Goldscope and the Silver Gill Mines, where we found evidence of a waggon way. I have contacted Dr Stanjek regarding our discoveries and hopefully he will be able to provide more information on the German period.

Warren Allison.

West Cumbria Coal Mine Developments

West Cumbria Mining is currently busy with the third phase of exploration work which will comprise six onshore boreholes all located along the coast near St Bees lighthouse. The first two of the six holes have already been completed, with all target coal seams having been intersected. The coal samples from these are currently undergoing laboratory testing to ascertain the quality of the coal and to understand other key parameters. The programme of offshore exploration will commence in Spring 2017 and will comprise of five offshore holes being drilled from a jack-up barge.

West Cumbria Mining's pre-feasibility study has now been completed, which has enabled the business to define the design of the new mine and mining method, the preferred location, and other key required elements that are necessary when constructing a modern mine. The team is now busy working to produce a definitive feasibility study which expands on the previous work already completed. A team of planning and environmental advisers are writing and collating all of the reports, surveys and documentation that is necessary in order to submit a planning application for the new mine in January 2017.

Application to re-open Guards Wood Quarry, Coniston.

Guards Quarries were well established by 1850, though had probably been worked for some sixty years previously. They were still working at the start of the First World War. They were Coniston's main supplier of Brathay blue black slate, producing a variety of building stone, slabs, and flags widely used in the vernacular buildings in the Coniston area.

The applicant (National Trust) wishes to re-open one of the quarries to provide a source of blue/black slate and appropriate stone products, such as self-ended walling stone and flags, primarily for the upkeep, repair & construction of properties in the Coniston & wider Lakes area. It will also provide a suitable source of stone for any other repair and new building work in the area.

If permission was granted, the applicant would lease the quarrying rights to a local quarryman who has already been in discussion about this. It would provide part time work for two people from the local area in this declining skilled industry. It is envisaged that the quarry would be worked on an intermittent basis as and when material was required. A small stockpile of popular products would be maintained to ensure demand could be met in a quick and efficient manner; this would be stored on site, while bigger jobs would be quarried to order.

CATMHS has written to the planning office expressing support for this application.

30th anniversary of Scottish west coast super quarry.
I became aware of this article through Alastair Lings, one time CAT member, now active with the Mining Heritage Trust of Ireland, and I include it because it sparked my interest. I sailed my yacht Tramontana around the Hebrides from 1979 until I sold her in 2012, and included a number of mining related cruises with CAT members and friends. I watched this super quarry develop and grow. At first there were objections and controversy, but 30 years later, unless you looked for it, you wouldn't realise it is there. One cannot reach it by land except by a very long and difficult walk, and it is serviced by boat from Port Appin, in Loch Linne.

Glensanda is located on the Morvern Peninsula, near Oban, and is the largest granite quarry in Europe, exporting to markets all across Northern Europe. It has an annual production capacity in excess of 9 million tonnes and some 760 million tonnes of granite reserves. It was first discovered by John Yeoman while on a boating holiday in the 1970s. The site was then named as a potential location for a super quarry in a report commissioned by the Government. Extraction began in 1986 and Glensanda undertook its first shipment that year, to Houston, Texas.

Since then more than 5,500 shipments have been made to projects throughout Europe including: the Channel Tunnel; the TGV rail line from Bordeaux to Bayonne and the Pont de Normandie in France; Deurganckdok in Antwerp; Schipol airport in Amsterdam; Moorburg power station in Hamburg; the A1 motorway from Gdansk to Torun; Riga airport; the Olympic Park for the London 2012 Olympic Games and the new London Gateway container port.

Located on the shores of Loch Linnhe and only accessible by sea, Glensanda is renowned for being one of the most efficient mineral extraction operations in the world. The granite is crushed at the top of the mountain before being fed into a 300m deep 'glory hole' and exiting the mountain through a 1.8km horizontal tunnel to the foreshore where the rock is washed, screened and stored ready for ship loading.

Glensanda, photographed from my yacht in 1986.

The site is one of the UK's top 10 tonnage ports and has its own fleet of purpose-built ships, including the *Yeoman Bontrup* and *Yeoman Bridge* – the largest gravity-fed, self-discharging

Yeoman Brook, photographed in the Sound of Luing. When loaded her draft is 15 meters

bulk carriers in the world, capable of transporting almost 100,000 tonnes of high-quality granite on each shipment. It has the capability to transport products directly from its dedicated harbour to customers in deep-water ports around the UK and Northern Europe. Not only is Glensanda one of Europe's largest resources of consistently high-quality, durable granite, it is also one of the largest single quarry operations in the world, employing 120 direct workers and supporting a further 300 third party jobs.

From the first shipment in 1986, Glensanda has come a long way over the last 30 years to become one of the most valuable exporting businesses in Scotland, accounting for close to 100% of all aggregate exported from Britain. We have continued to invest in the site over the years to get it to where it is today, including a £30 million investment in a new crusher and delivery system in 2014. Despite this investment, it's the 200-plus men and women on site, the vessel crews and our distribution network personnel that keep the operation running, 'here's to the next 30 years'.'
Some years ago I tried to arrange a CAT visit to the quarry, but they were undergoing development at the time and declined my request. Maybe another time?

Key milestones:

- **1970s:** Glensanda first spotted by John Yeoman and named as a potential location in a report commissioned by the Government in the 1970s to identify coastal super quarries
- **1986:** Quarry extracts and processes first cargo for export
- **5 August 1986:** First vessel, *Hellesport Monarch*, loaded from Glensanda
- **10 days later:** First market supplied – Houston, Texas – cargo 53,879 tonnes
- **1986–1988:** First shipments made to the Caribbean, Germany, Holland and Denmark
- **1989:** Glensanda concreting aggregates delivered to the Falkland Islands in 'big bags' – the furthest market Glensanda has delivered to
- **1991:** *Yeoman Bank* (36,000 tonnes), *Yeoman Burn* and *Yeoman Brook* (77,000 tonnes) arrive as dedicated shuttle vessels
- **1991–1992:** First shipments to Belgium, Poland and France
- **1997:** Capacity at Glensanda extended via installation of a washing and screening plant
- **March 1997:** First shipment to Spain
- **June 2000:** *Yeoman Bridge* (97,000 tonnes) enters service
- **June 2002:** First shipment to Africa (Equatorial Guinea)
- **September 2002:** *Yeoman Bontrup* (97,000 tonnes) enters service
- **2007:** More than 7 million tonnes shipped in one year
- **September 2008:** First shipment to Ireland
- **2009–2011:** Glensanda stone delivered to Isle of Grain and then shipped by barge to Olympic Park for London 2012 Olympic Games
- **14 February 2013:** *Yeoman Bridge* delivers the first 85,000-tonne cargo to the London Gateway project. The largest vessel of its size and draft to navigate the Thames so close to London
- **June 2013:** First shipment to Latvia
- **2014:** £30 million investment in a new crusher and delivery system at Glensanda Quarry
- **January 2016:** New terminal opened at Port of Tyne
- **5 August 2016:** 30th anniversary of first shipment from Glensanda
- **To date:** More than 5,500 ships loaded to more than 100 separate markets
- **By end September 2016:** 150 million tonnes will have been shipped from Glensanda.

Ore Mining in the Lake District

Work has now started on the sequel to Slate Mining in the Lake District. This time two authors are involved, not just one. The sites to be included have been selected and writing and photographic work has commenced with sites in the Newlands valley. Below is a brief 'taster' in the form of the short chapter on the Goldscope Mine. The text will include seven images.

Goldscope Mine

This old mining site in the Newlands valley, towering above Low Snab Farm and its in-bye fields, was once a rich copper and lead mine. Goldscope is one of the most important industrial archaeological sites in the Lake District National Park. Mining here was almost certainly taking place during the 13th century and finally ceased in about 1920.

Visitors walking along the farm track from Low Snab towards the valley's head will be aware of the waste tips to their right, on the eastern side of Scope End. The tunnel entrance to the most recent workings is also evident at the extreme top of the tips.

From this vantage point the lower tips, associated with earlier copper mining, are also very evident but the adits driven around 1700 to intersect the copper veins have been completely obliterated by the tipping from above.

On the hillside above the entrance those more observant will notice two areas of open-cut workings for copper ore, which, it is stated, are more than 700 years old. Although not easily visible from below, processing sites for the ore have also been found adjacent to these early workings. On the opposite side of Scope End further mining activity is evident.

In June 2001 the Goldscope Mine was designated a scheduled ancient monument.

In the 1560's Bavarian miners arrived in the district at the request of Queen Elizabeth 1st to improve the output of the mines in the locality. They quickly became aware of the presence of previous mining activity at Scope End. Through their expert knowledge they realised the exceptional potential of this site and they gave it the name Gottesgab (God's gift) which, over centuries has been corrupted to 'Goldscope'. The Bavarians were probably the most skilled ore-miners in the world at that time and they quickly introduced the technique of tunnel-driving to intersect veins underground. They rapidly increased the production of copper ore and by 1586 William Camden described Goldscope as *"...the copper works not only being sufficient for all England, but great quantities of copper is exported every year*." Sadly, in 1642 the Civil War broke out and in 1646 "*...the works were destroyed and the miners killed...*", one assumes by Parliamentary forces.

It took a long time for the industry to re-commence after reunification. Mining at Goldscope eventually resumed again but came to a halt during the 18th century as miners failed to locate the further rich veins of copper that were undoubtedly there, but evading them. However in

September 1852 something of a bonanza occurred when an extremely rich vein of lead ore was discovered unexpectedly. In some cases the vein was found to be 20ft wide. Dressing plants were installed close to Newlands Beck and a major lead-mining operation commenced and continued for up to 15 years.

During the later years of the 19th century mining activity again declined at Goldscope. Production continued in a piecemeal fashion up to the start of the Great War, and then halted completely.

The final chapter of mineral working at this historic site involved the well respected mining engineer Mr Bennett Johns, formerly the general manager at the Honister Mine. Towards the end of the Great War, with Honister temporarily 'mothballed', he was asked to try to locate the deposits of copper at Goldscope which had evaded the miners of old. Sadly he was unsuccessful.

Today much remains of this 900 year old industrial site. On gently sloping land on the west side of Newlands Beck are the remains of the processing mill constructed in about 1850 which handled lead ore originating from the mine. The mill was powered by a water wheel fed by a leat from much further up the Newland Valley. It is also thought that buried beneath the site are the remains of a copper mill constructed over a century earlier, and possibly powered in a similar fashion.

Scope End rises above the main mining site. On the west side are a series of open-cut workings, mainly for copper ore, and small underground trials onto the lead vein. Some distance up Scope Beck a dam was constructed and a water leat built to carry water down to the mine to a point beneath the open-cut workings. Here the flow was diverted underground via a 'coffin level' to power a water wheel deep inside the hill.

Also high on Scope End are a series of excavations known as Pan Holes. These are vertical rifts and were referred to in the West Guide of 1778 as *"....shafts, reaching from the top of the hill to the bottom, into which, if a large stone be let fall, it occasions a most tremendous noise..."*. It is assumed that these were constructed by the Bavarian miners. Much lower down Scope End, at an altitude of 600ft, a level was driven in 1862 in an attempt to intersect the lead vein. A mineral line was constructed from the trial, round the base of Scope End, to a location adjacent to Low Snab Farm. Part of the track-bed can be followed today.

This remarkable mine is a site well worth the attention of students of archaeology. The authors strongly recommend that those interested in gaining more information should contact a specialist body such as Cumbria Amenity Trust Mining History Society who will be pleased to give expert advice and information on the site.

A D Cameron.

Borrowdale Wad Mine, 28th August

9 CAT members met at Seathwaite Farm on a slightly grey but dry August day. The plan was to explore the Wad Mine from top to bottom, inside (Gill's to Farey's) and outside (Upper Moor down to Valley floor taking in Gilbert's along the way).

We took a couple of cars up to the car park behind the Honister YHA and everyone started the walk from there. This certainly makes the walk in way easier and allows the Upper Wad Moor to be explored. There is lots going on up on the surface of the moor, with the remains of shafts, portals and small buildings. However all the entrances are run up here. We detoured to check out the John Shepherd Esquire 1752 marker stone (which is on the western side of the mine workings about 150 yards above the top wall) We then crossed the wall and checked out the ruins of the guardhouse at Harrisons before reaching Gill's Stage where the entrance welcomes you in. A happy hour or two was spent exploring the maze like twists and turns of Gill's Stage, with a short climb up to Harrison's Stage. We then kitted up to start the through trip. This was some member's first attempt at the through trip and indeed some members were trying abseiling for the first time. But everyone took to it with great aplomb with lots of smiling faces and wide eyes, under the expert tutelage of Graham Derbyshire.

There is much to recommend this through trip as the mine is such an interesting and atmospheric place. It must have been a dreadfully frustrating place to work as there was no apparent logic to the way the wad formed in pockets and veins so digging for it was often a fruitless exercise. But when good pockets (or sops) were found there was abundant riches (no doubt mainly for the mine owners). But the legacy today is a set of levels joined by vertical pipes making for a truly three dimensional mine trip through firm rock that doesn't appear to be trying to bury you.

Once we reached Farey's Stage we crossed the top of the Grand Pipe (requiring a slightly butt clenching manoeuvre across the top of this 80 foot shaft) and returned to day. Second lunches were taken to top up calorie levels, before walking down to Gilbert's Level. Much to my surprise everyone was keen to take on the long, wet wade up this level to reach the bottom of Dixon's Pipe. This involves a 300 yard walk, a tight squeeze and then standing at the bottom of a shaft with plenty of water showering down on you. But all in the best possible taste.

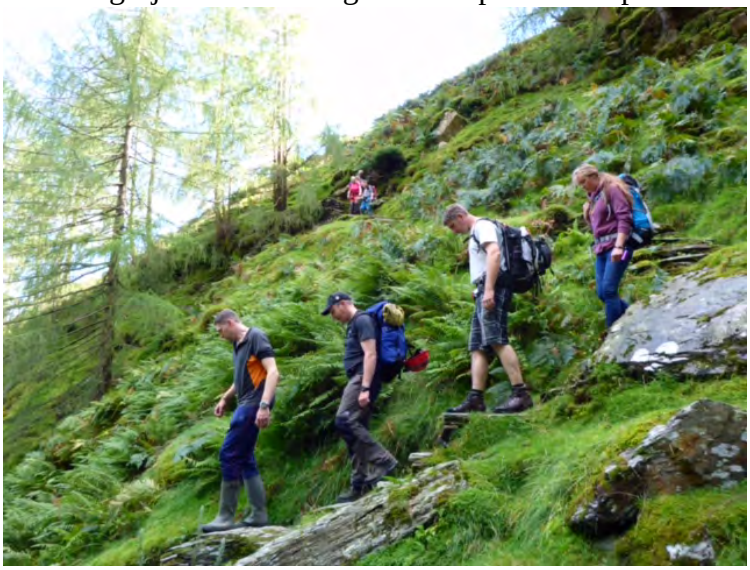
A short walk back down to the valley floor from here, passing Robson's Stage (now well run) and to the cars by the farm. Another very enjoyable day out which was really well received by all of the members who took part.

Mark Hatton.

Tilberthwaite Tour, September 4th.

A dozen CAT members and guests gathered at Tilberthwaite ready for a feast of adits in this fascinating corner of the Lakes. The tour started with a walk into Horse Crag Level to see Warren, John and Colin hard at work on the last few collapses after a 10 month rest. Everyone was in awe of the work these guys have carried out here since starting the "short dig" in 2008.

Returning blinking to day, the group moved on to the Penny Rigg access tunnel, up by the Penny Rigg open works and around to the Water Leat adit deep in the Ghyll. Crossing the Ghyll we then visited the mystery workings just off the edge of the path and upwards to Bensons. Dropping into the Ghyll we explored the initial section of Waterfall Level and marvelled at the intact pathways along the side of the Ghyll. A short walk up along the course of the river diversion to the main Tilberthwaite mine processing area, where lunch was taken beside the openworks. Interpreting the various buildings, leats, wheel pits and spoil heaps at Tilberthwaite allowed everyone's experience and imagination to run off the lead.



After lunch we walked upwards to Hellen's, Lower Borlase and over to Hawkrigg (Walkers Works). Here everyone appreciated the skills of the Elizabethan miners who exploited this rich surface copper vein, leaving so much for us still to see some 450 years later. We then dropped down to explore Dr Booths Level, which whilst much younger than the higher works, still offers much to interest those prepared to get damp feet at the entrance.

The afternoon was now wearing on but there was still plenty of enthusiasm to explore some of the various slate workings on High Rigg before dropping back down to the cars at Tilberthwaite.

Everyone thoroughly enjoyed the sunshine, scenery, mining history and excellent company that we were blessed with today.
Mark Hatton.

A great mine in Arkengarthdale on Sunday 9th October 2016
Those attending; John Brown (Meet Coordinator), Dave Carlisle (Meet Leader), Nick Green, Mark Hatton, Ian Hebson, Tony Holland, Bob Mayow, Chris Twigg.

At the express request of the Meet Leader, the name and location must remain undisclosed. Despite being driven blindfolded to the mine and our cameras removed from us, this was an enjoyable trip!

After crawling through the gate a quarter of a mile in, cold waist deep water was soon encountered, to concentrate the mind! Later, after negotiating a few tight contorted crawls through some significant collapsed ground, which would prohibit the more rotund gentleman or lady, we were privileged to see plenty of impressions of the 'Old Man' and his horse left in the soft ground (but no cameras please!). There were also some interesting and well preserved mining artefacts.

For those of us who lacked a proper understanding of what practical function some of the more curious of these had had, Dave was on hand to enlighten us. Lunch breaks on these trips in Arkengarthdale would not be the same without Dave's 'Joke of the day', told in his typical Yorkshire droll.

A hasty retreat from the mine was made by Mark when he suddenly remembered that he had a flight from Newcastle Airport that evening. With equal haste, the meet coordinator and others, realizing their bags with dry clothes and car keys were in his Land Rover, chased off after him and tried to keep up. Unfortunately the meet coordinator had severe cramp in the cold waist deep water. This was soon to be overcome by the numbing effects, allowing him to pick up speed and grab the bags before Landyfan drove off.

John Brown.

From the Mining Year Book of 1943

Wales Weekend 17th & 18th September

Attendees John Aird
Roger Ramsden
Ian Hebson
Allan Richardson (Saturday am only)
Tony Holland
Jon Knowles (ML)

Saturday 17th Hafna Mine

Despite the absence of a number of members of the Welsh team, a tough group assembled for the weekend.

This was the fourth visit to Hafna, the previous visits being in March 2015 for a general look around, June 2015 for surface exploration, and March 2016 when we started to bolt up a stope. The last visit being reported in NL 123. On arrival we split into three groups with Tony taking Allan and Roger for a general look around and descent to the lower levels, whilst Ian went searching for locations to maypole. This left Captain and the author to go along floor 3 and continue bolting. Immediately before the bolted pitch it is necessary to squeeze around a fall resting on some timbers over a flooded winze and then pass under some compacted but unsupported fill before reaching a short ascent. It was noted that more material had come out of the roof here. Proceeding swiftly on we continued bolting. After gaining further height it became apparent that what was thought to be a higher level was a series of rock pillars and planks across stemples, so it was decided to abandon the ascent.

After lunch Ian led a sporting ascent to an upper level he had discovered further outbye. This entailed some free climbing, with an electron ladder installed for those of lesser stature, and an exciting traverse of loose material covering the top of a shaft, which released rocks onto the traverse across the shaft below. A safety line was installed in case all the material and those standing on it disappeared down the shaft. Climbing further, what is certainly level 2 was attained. Whilst this level is missing outbye, a way on inbye across two winzes could be seen. This was bolted giving access to short length of level before ending in what is thought to be a collapsed open store or winze to surface. The mine section, on page 80 of Mines of the Gwydr Forest Part 2, depicts a stope to surface here.

Despite this Ian was still itching to use his maypole and progressed further inbye with Roger and Tony in an attempt to ascend the area where material had recently fallen. Captain and the author headed to day preferring the pleasure of continued life to seeing this part of the mine. The three adventurers surfaced a while later, and, whilst Ian was still itching to ascend both Tony and Roger declared it suicidal!

It should be noted that Hafna Mine has been added to the mines where access is now permitted under the agreement between Natural Resources Wales and Cave Access Limited (CAL).

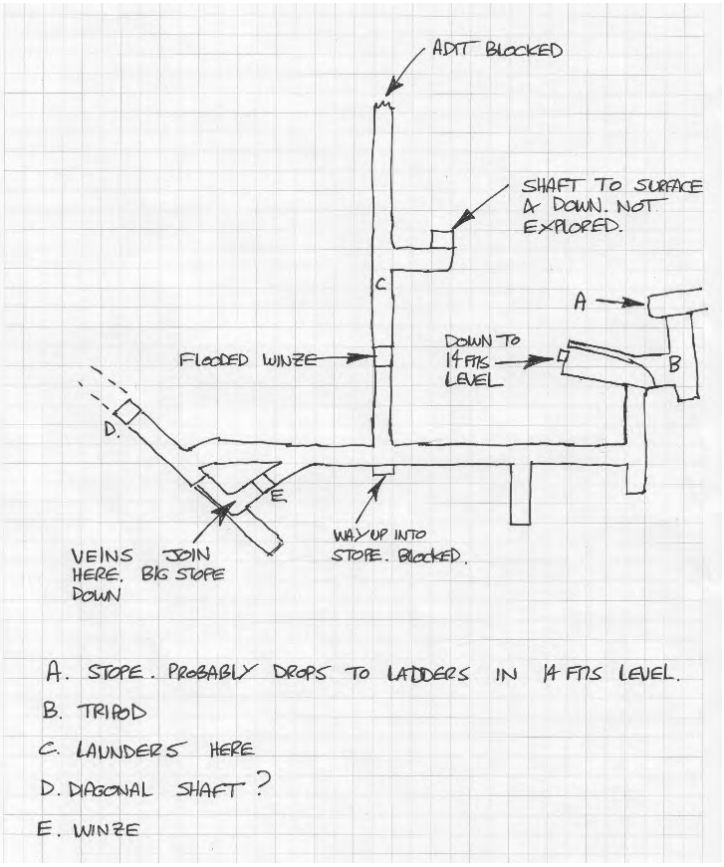
Permission to visit is required although this is not a problem for bona fide groups who have insurance.

The trip in June 2016 has not been previously written up. This mainly consisted of a surface exploration trying to find shafts and open stopes, which revealed very little and is best forgotten for the time spent flogging through forestry. However, this trip did include a descent of the compressor shaft. This is one of the many capped shafts in Gwydr although some of the bars are loose. The author squeezed through the bars with some difficulty, much to the amusement of messers Aird and Cowdery. Using a full 50m of rope a lonely descent was made down the shaft which has a lot of old rubbish in it. Landing at the bottom on a pile of deads it was not possible to proceed further since the short section of level which could be seen was full to the roof with water and the only way to remove the material would be to haul it up the shaft. The air at the bottom was also poor.

Sunday 18th Llanrwst Mine

Parc level 2 was entered and passed through. After the Roy Fellows dig the ladders were ascended to the horizontal pump rods adjacent to Endean's shaft. Progressing behind the winch, some thrutching gives access to the bottom of a stope up which an old rope ascends. The author had previously been up this in March and dragged himself and his sack up the sticky ascent and through a tight manhole to the bottom of a rubble slope. A newer rope was rigged (rope burn will not be a problem here) before ascending the slope to the Llanrwst deep level adit horizon. The remainder of the team then ascended.

The approximate layout is shown on the attached sketch which is adapted from the one generated by Margot.



For those not familiar with Llanrwst and Parc mines they both worked the same veins but Llanrwst, being higher up the hillside than Parc, was forced to install an expensive steam powered pumping system as it deepened, but despite this, and many would argue because of it, the mine eventually closed and flooded to adit level. At a later date Parc was worked underneath it and holed through, enabling Llanrwst to drain and thus exposing the entire pumping system, which was not accessible for many years until Roy Fellows re-opened this area in the 1990's. Using a plan generated by Margot Saher and obtained via Dave Tyson of CAL, the

workings were explored, with Ian ferreting into every hole, enlarging some in the process, whilst covering the remainder of the party in ochreous water.

In the main stope, which is reported to descend to Parc level 2, Tony and the author bolted along a ledge to prove a circular route in the mine where two veins join leaving a wide and deep stope.

Picture: *Looking around the "circular route" Tony and Captain are at the point where the two veins join.*

Generally the workings on this horizon contain few artefacts although the following were noted:

- A strange tripod the purpose of which is unknown.
- Wooden launders in the adit.
- The parts of a jack roll.

It was thought that the only area which has potential for further exploration is a stope at the eastern end of the workings, but the author thinks that this will connect with the area behind the winch on the level below, although it could also be possible to progress along the stope. Further study of the section indicates that a descent of the large stope to the west of the diagonal shaft should give access to 8 fathoms below adit level.

Once all had been seen the party exited through Parc in a filthy condition.

Jon Knowles

Tilberthwaite Dig

The dig in the Horse Level at Penny Rigg is now finished! After more than 7 years of hard graft and ingenuity the final meet took place on 15th October 2016. The project was interrupted twice by floods; that of 2009 destroyed the dig and washed tons of material into the adit; that of 2015 blocked the road over Dumail Raise making it too difficult to visit! The level is now drained to below wellie depth for the full length. The effort, ingenuity and sheer will power needed from John Brown, Colin Woolard & Warren Allison to achieve this feat is really quite mind blowing, but let us not forget all the other CATMHS members who have been involved in this project, not least the late Pete Blezard, who was still supporting us throughout his illness. We should also remember the late Pete Fleming, who suggested at a Committee meeting that we start this project and use it as a 'fill in' between others. Of course none of it would have been possible without the substantial funding provided by CATMHS. A full list of all members involved (including exploratory trips down the shaft) will appear in a future Newsletter article on the completed project. By then some exploration of the workings leading off the shaft will have taken place.

Ingleborough Archaeological Group trip to Greenside Mine

After doing a talk on the mine to the group last year, they asked if it was possible to have a surface trip to the mine, and this was arranged for the 20th July 2016. Eight members of the group met at the car park in Glenridding and we proceeded to the mine on a lovely sunny day.

The intention was to use old photographs of the mine, taken from the late 1880's to closure in 1962, to describe the remains on the site. We spent the first two hours in the area around the lower part of the mine, which included walking over to the opposite side of the beck, where you get a superb view of the area from Low Horse Level down to the smelt mill.

We then slowly walked up the track which brought the carts of crushed ore from the High Horse workings to the smelt mill and eventually reached the Low Horse Level. This is a fascinating place just off the main track and not visited very often. We started at the entrance to Low Horse and followed what had been the trackway to the crushing mill. Questions were asked as to how the spoil heap on the opposite side is well below the main trackway. When the level was driven in circa 1835, a bridge was built to bring the rails across the beck and along to bouse teams where the waste rock from the 600 yard cross-cut was dropped down and then across a second bridge across the beck to the spoil heap. It is hard to comprehend how the bridge was built across what is a large gorge. The site of the bridge with the abutments is visible on either side of the gorge, and the spoil heap behind.

The ore was crushed at the site and taken down to the dressing plant just above the smelt mill by a self-acting incline railway. When the remains are viewed from the opposite side of the beck, it is a very impressive site, having being built up from the beck to a height of close to 80 feet.

The site of the crusher driven by a waterwheel to the right and the bouse team in the foreground.

We returned back to the cars at the end of a very enjoyable day.

Warren Allison.

Aerial photography

After the annual dinner two years ago, Mike Mitchell and Mark Simpson impressed the gathering with some impressive 3D images of mine buildings. Using a computer and a mouse one could see the building in its context and fly around it and view it from all angles. The images were taken by mounting a digital camera on a pole and taking multiple images of the site. These were then processed in a program which produced the moveable 3D images. Mark Simpson outlined the processes in his article 'Patience and a Pole' in Newsletter 118, February of last year. As technology continues to develop, more becomes possible and equipment which was once only available to professionals becomes more affordable. Mike and Mark have continued with pole photography, which is suitable for recording small sites, and have both invested in quadricopters, which enable much larger areas to be surveyed and recorded. As well as orthographic aerials and 3D models, video flyovers can be made at the same time. Help is needed to put the 3D files onto the 3D section of the CATMHS website.

Using a camera on a pole at Cunsey iron furnace, Windermere.

The value of this work is becoming recognised by both the LDNPA and the National Trust. Archaeological volunteers have finished the survey at Sandbeds mine and there has been flood damage to the site. Messrs Mitchell and Simpson carried out aerial photography to compare with the photographs taken during the survey by Oxford Archaeology North. They also carried out an aerial survey of Myers Head Mine after the flooding, showing damage to the stone launders which could be compared to the survey they did a year ago. Yewthwaite Mine has been visited for the NT and aerial images of the stream erosion produced, copies of which have been sent to the National Trust and LDNPA. As has been seen at the Archeology conference on Sunday 2nd of October, this is a valuable tool for recording the state of sites over time, e.g. Myers Head Mine and (more rarely) conservation works (Coniston Copper project).

Aerial view of the Paddy End Dressing floors taken from a UAV. (If you are viewing this image on a computer you can enlarge it to study the detail.)

More on Spotthow Gill mine, from Dave Bridge

Further to Mark Hatton's report in the last newsletter the following information has been supplied by Dave Bridge:

I've managed to search out what information I have on the history of Spothow Gill copper mine, although I realize it may be too late now to catch the August Newsletter. The most detailed historical research and description of the mine to my knowledge appears in "Notes on Mining in the Cumbrian Eskdale Part 2 - Spot How Gill or Birker Copper Mine" by Albyn Austin. Albyn, who left the area some years ago, gave me a copy of his hand-written notes but I've never seen them published anywhere. (Albyn has recently re-joined CAT. IM)

The mine is in the royalty of the Stanleys of Dalegarth Hall, and I understand that archive material was unfortunately lost when the Stanley's solicitor had a clear out. The following is from what information Albyn was able to gather together from other sources.

According to Hutchinson's History of the County Cumberland, 1794 and 1797, copper veins had been discovered at that time but Hutchinson states that "no mine as yet exists", and there is no mention of the mine by Mannix and Whellan in 1847. The Leconfield Estate annual mines report of 1854 however, refers to "the Birker Copper Mine [as it was then known] in Mr Stanley's Royalty" and Whellan in 1860 refers to copper being worked there by the Birker Copper Mining Company. This is confirmed by the 1861 census returns for the Eskdale area which lists 4 copper miners, including the manager Joseph Harrison, who was born at Caldbeck.

From the maps of the area it can be deduced that there was some further activity at the site as a dam was built after the 1863 First Series OS map was published, and in Bulmer's 1883 directory there is still a reference to the Birker Copper Mining Company working copper in Eskdale. According to Col Stanley the mine was last examined by an exploration company in the early 1960's.

Bearing in mind that the price of copper peaked in 1805 during the Napoleonic Wars and then again in the 1850's, Albyn comes to the following conclusions:

"I would guess that the top adit was begun in the early 1800's, but abandoned after about 1815 until the 1850's when the upper workings were enlarged and the middle adit driven to drain the vein lower own. The low level adit would also have begun about 1860 and continued driving with the small team of miners mentioned in the 1861 census. The dressing floor might also have been constructed in the early 1860's after the site had been surveyed by the Ordnance Survey. The mine was probably abandoned again round about the great trade depression of 1866 and remained so until briefly reopened and re-examined in the 1880's.
The mine seems to have been abandoned since that time, though it was examined by an exploration company in the early 1960's and at the present time by the Institute of Geological Science.". Dave Bridge

From the article 'The Eskdale Copper Mine' by Albyn Austin in the CIHS Newsletter, August 1990:

Eskdale is well known for its iron mines and the railway built to serve them – the Ravenglass and Eskdale Railway. Less well known is that the dale also contains a copper mine. The mine is only small, but remains much as it did 100 years ago. It is situated in a very pleasant gill under Harter Fell, about one mile down the dale, west of the cattle grid at the bottom of Hardknott Pass. Leave the road at the footpath at Whahouse Bridge and proceed to Spothow Gill about GR 205004.

In the trees is the tip from a low level which is open to an air shaft at the south edge of the wood. Above the trees are the foundations of a building and a tip on the edge of Spothow Gill. The mineral vein runs NW-SE on the west bank of the gill. Two levels have been driven on it, the lower can be found in the east bank of the gill just beyond the tips. It runs under the stream, driven presumably in the hope of cross cutting a more promising vein. The upper can be reached with a scramble up the gill or by following the ruined remains of a rail track built on an artificial ledge. Both levels connect into opposite ends of a small stope, about 30 feet high. Traces of iron pyrites can be found in the vein, and small amounts of iron-copper (chalcopyrite) exist on the tips. Below the mine the gill has been diverted with a dam, and the eye of faith can see remains of a dressing floor. Part of an old iron gear wheel was found there some years ago and is now in the Whitehaven Museum. At the low level a length of L-shaped railway track still remains.

Little is known about the mine's history. Hutchinson in his 1794 history notes that veins of copper exist in Eskdale but no mine as yet exists. The 1841 census lists seven miners in the dale, but these could be iron miners. The Jefferson county history in 1842 repeats Hutchinson, and the 1847 Mannix and Whellon directory includes nothing. The 1851 census lists three iron miners and two miners (unspecified). However the 1856 annual report on the mines of the Leconfield Estates notes a copper trial at Bird How "almost due north from the Birker Copper Mine in Mr Stanley's Royalty".

The 1861 census lists four copper miners, two iron miners and two miners. The copper mine's manager or captain was 63 year old Joseph Harrison from Caldbeck. He was assisted by another Harrison from Caldbeck (probably his son) and two other miners, one born in Keswick and the other in Longdale. The first series Ordnance Survey map of 1863 shows the mines much as they are today with rail tracks coming out of the lower and middle levels. The Gill however still followed its original course, and no track from the top level is marked. In the 1871 census only two miners are recorded, one of whom was managing the Boot iron mine in 1873. The 1881 census lists about 50 miners, though these seem to be associated with the mine at Boot. However the 1883 Bulmer History and Directory still states that the Birker Copper Mining Co. is working copper in Eskdale. By the time of the second Ordnance Survey map of 1865 the mine seems much as it is today and is marked "Old Copper Mine".

Thus, to summarise, the mine was working between 1856 and 1863 at least, and probably a few years either side of this. It may also have worked or been reworked in the 1880's when the Boot iron mine shut.

Wellington Pit, King Pit, Haig Pit, Saltom Pit and Duke Pit

Having offered to transfer the banners celebrating the 150 years of the Cumberland & Westmorland Antiquarian & Archaeological Society from the County archive at Carlisle to Whitehaven, I decided to use the day to have a look at the coal mine remains in the town and especially Saltom Pit. Arriving at Whitehaven early, I visited the Beacon Museum at the harbour which is adjacent to William Pit and it is well worth a visit. There is much to see, not only on coal and iron mining, but other industries such as Whitehaven Pottery, Marchon Chemical Works etc., as well as the way Whitehaven developed, which was one of the first planned towns in the country. Its development owes much to the Lowther family, as it was Sir John Lowther, inspired by Christopher Wren's designs for rebuilding London after the Great Fire of 1666, who laid out the original grid system of streets and specified the type of houses to be built. Many historians believe that New York's street system is inspired by Whitehaven's grid system. The walk would start at the remains of Wellington Pit next to the Beacon.

Wellington Pit

The pit was sunk in 1838 and closed in 1932 with the workings stretching out under the Solway for over four miles and was well known for being a very fiery pit and the scene of many accidents. The architect of the surface buildings was Sydney Smirke, who designed the circular reading room at the British Museum, The Imperial War Museum, Carleton Club in Pall Mall, Brookwood Cemetery and the Nave roof at York Minister (and also Whitehaven's Mansion House, 19-20 Irish Street). Today the most striking feature is an air vent for the workings, the Candlestick chimney, reputed to be based on a candlestick in Whitehaven Castle, which was the family home of the Lowthers.

Postcard showing the pit as viewed from the seashore

On the 11th May 1910, following an explosion and fire, 136 men and boys were killed.

The explosion was caused by a build-up of Methane or fire damp being ignited by a spark or naked flame. The main route out of the mine for the men working underground was blocked by the subsequent fire. Rescuers battled through the night and well into the following day to try to get through to the trapped miners but eventually the regional mines inspector ordered them to pull out as he felt it was not possible for anyone to have survived, and ordered that the area should be sealed off to starve the fire of oxygen.

It was to be several months before the mine was re-opened to allow for the gruesome task of recovering and identifying the bodies. Several families lost more than one member and Tom McAllister died with his two teenage sons James and John and left a widow and six more children. When the mine was re-opened, several of the doors had chalk messages written on them showing that some of the men and boys had survived for a while after the explosion and fire. All together 85 women were widowed and 260 children lost their fathers.

All that remains today are the Candlestick, some of the high retaining walls which form the boundary of the car park and the Wellington Lodge, a white crenelated building which was the entrance lodge for the pit and is now used by the Coastguard.

Just above the car park below the candlestick is a memorial to the people who were killed and also to the men who tried to rescue them.

The candlestick today, overlooking Whitehaven harbour

Wellington Lodge, now used by the Coastguard

Arial view of the mine showing the railway lines from the other pits and the bridge marking the line of the Howgill incline.

Leaving Wellington Pit and following the footpath, which was originally the line of the railway, it is only a short distance to the site of King Pit, which is marked by a small stone cairn. The pit was sunk in 1750 by Carlisle Spedding, the famous mine agent for the Lowther family. By 1793 the pit had reached a depth of over 160 fathoms, which at the time made it the deepest in the world.

Haig Pit

Not far from King Pit is Haig Pit, the last of the West Cumberland coal mines to close, on the 31st March 1986. In 1888 the Lowther family released their colliery rights to The Whitehaven Colliery Company, and subsequently ownership changed several more times, until all operations were nationalised in 1947.

Apparently the Haig Pit shafts were named after General Sir Douglas Haig and were sunk between 1914 - 1918 by a local firm, James Johnson & Co. The shafts were numbered 4 and 5 as the mining company already had shafts 1, 2 and 3 at Wellington Pit nearby.

Both shafts were sunk to a depth of 1200 feet with the narrower number 4 shaft being used to move men and materials, while the larger number 5 shaft was used for the extraction of coal. A third existing shaft, originally sunk in 1737 and known as Thwaite, was later enlarged in 1939 as part of a ventilation improvement project. Winding in both shafts was powered by two Bever-Dorling steam engines, which were installed in 1920 and ran continuously for 66 years until the mine closed. These engines are now the only examples in the UK and there is only one other example known to survive world-wide. In 1987 the engine-winding house was granted Grade II listed building status which saved it from ultimate demolition. As reported in the last newsletter the museum at Haig has closed, but just prior to closure Number 4 steam engine had been restored to full working order, and Number 5 is waiting for restoration.

There were explosions in 1922, 1923, 1927 and 1931, which caused the loss of 74 men, with several smaller incidents over the years. However, the worst one was in 1922 when 39 men lost their lives, According to HM Chief Inspector of Mines, Mr. Thomas H Mottram it was caused by an explosion and fire damp propagated by coal dust ignition caused by shot firing.

Haig Pit today

Saltom Pit

Carlisle Spedding worked as a steward for Sir James Lowther, the landowner who owned most of the Whitehaven coalfield and apparently despatched him to carry out undercover 'industrial espionage' at the coal mines in Newcastle. In 1729 when Spedding returned, he started to sink Saltom Pit which was the first undersea mine in England and by 1731 was 456 feet deep, the deepest undersea mine anywhere at the time. The shaft was only about 20 feet above the sea shore and a large retaining wall had to be built to protect the mine. The first major problem was encountered in how to drain the mine of water and an early Newcomen steam engine was installed. Lowther had already been the first to set up a Newcomen engine in Cumberland in 1716; it was operational at the Stone Pit at Whitehaven, and eventually he had five draining the mines.

Saltom Pit today

The Newcomen engine at Saltom Pit was erected in 1731/32 and was equipped with a 902mm diameter brass cylinder 2.74m long costing £1,146. This engine was replaced in 1737 by another, with a 1.07m diameter iron cylinder. Its pump had a bore of 216mm and it cost £1,201 19s. A similar engine, again with a 1.07m bore cylinder, was added in 1739-40 and it worked in tandem with the 1737 engine. In 1782, a single larger engine replaced the pair, but whether it was a Newcomen or a Watt type engine is not known.

The mine, in common with others in the coal field, contained large amounts of methane gas known as firedamp and was responsible for hundreds of deaths in the pits. However, Spedding piped the gas to the surface and used it to illuminate the pit head complex. He even offered the spare gas to light the town for free, but was turned down by the town trustees. The mine was worked until 1848.

Due to the large amounts of methane in the coal seams which could be ignited by candles, Spedding invented the "Steel Mill", a device that struck sparks from a flint to give illumination. He also introduced forced ventilation to try and clear the deadly gas from the deep working, but the hazard of methane explosions was never entirely overcome. In 1755 it was firedamp that claimed Spedding's own life in a pit blast, the end of a quite remarkable man who was a pioneer of his time.

Walking back up the cliff, I headed back to the town but turned right before Wellington pit, passing the remains of the Howgill Incline which was built in 1813 to replace an earlier horse drawn tramway which connected Saltom Pit to the harbour. This self-acting incline is 230 yards long and has a vertical drop of 115 feet.

After a short distance the remains of Duke Pit came into sight, which now consists of the fan house. This shaft was sunk by Carlisle Spedding in 1749 as a ventilation shaft which was later used by Wellington Pit when Duke Pit closed in 1844. The pit had two shafts; the second one was on the harbour side under the Beacon Museum and was sunk by John Piele in 1819.

The fan house was built in 1836 and housed a large fan some eight feet in diameter driven by a high pressure steam engine to ventilate the workings, creating an air flow of 23,000 cubic feet per minute. It was the first attempt at mechanical ventilation in the Whitehaven coal mines.

In 1870 a larger 'guibal' fan wheel which was 36 feet in diameter was installed and able to circulate 70,000 cubic feet of air per minute. The fan house is regarded as the best surviving example in the country.

This ended what had been a very interesting day and certainly worth re-visiting especially if the old photographs were taken to compare the sites then as it is today.

Warren Allison

From CAT Newsletter No 1, November 1981. CAT visit to Haig Colliery.
Haig Colliery at Whitehaven was visited on 13th November 1980. Ten members turned up and R Calvin came along too, making it a long day for him – he works there as a deputy. Everyone was most impressed with all they saw. The crawl through the avenue of hydraulic props was an experience indeed, and the face was a new one… the roof had only just begun to drop in the goaf. The rail ride, 'Paddy Mail' of about three and a half miles, will surely never be forgotten and everyone was made aware of the difficulty of maintaining production from so far out under the Irish Sea (5 miles or so) with something like a two hour journey from the top of the 1,350 feet deep shaft. On the surface the magnificent steam winding engines were admired … then to the baths for a wash and we found a meal had been laid on for us. Everyone was very pleased with it all and the manager has been thanked.

From CAT Newsletter No 12, 1986, by Ronnie Calvin RM
It is with very great sadness that I write a final report on Haig's last working days, and wish to pay my tribute to the miners who gave up their lives in rescue work and who lost their lives in the explosions, and whose final resting place is in Haig Colliery.

The final closing of Haig Colliery
A few notes I have of the last few weeks of Haig's life. On Monday 18th November 1985 they started to salvage Haig and by Friday 17th January 1986 all the salvage was complete on the in-bye workings and all the underground fans were stopped. On Monday 20th January 1986, I walked up to No. 5 shaft on a cold wet night to see the first loads of concrete being poured down No. 5 shaft. This was a very sad sight, knowing this really meant the end of Haig. I have a lot of very happy memories of Haig which I will cherish the rest of my life.

On Monday 27th January 1986, Mr Mapp the Manager took the last underground ride in Haig to pay a last visit to the stopping, where behind these stoppings are entombed 14 miners, killed in two explosions in 1927 and 1928, and this area is their last resting place. Salvage continued from the pit bottom area and all the salvage was up the pit on Monday 3rd February. So by Wednesday 5th February 1986, all the shuttering was complete at the bottom of No. 4 and Thwaite shafts. Again the Manager, Mr Mapp, went down the pit for the last time, and he and the Under Manager, Mr Towson and John Plummer Deputy, were the last miners up Haig. So on Thursday 6th February 1986, they started pouring concrete down these shafts and by Friday 17th February 1986, all the shafts were blocked by concrete at the bottom.

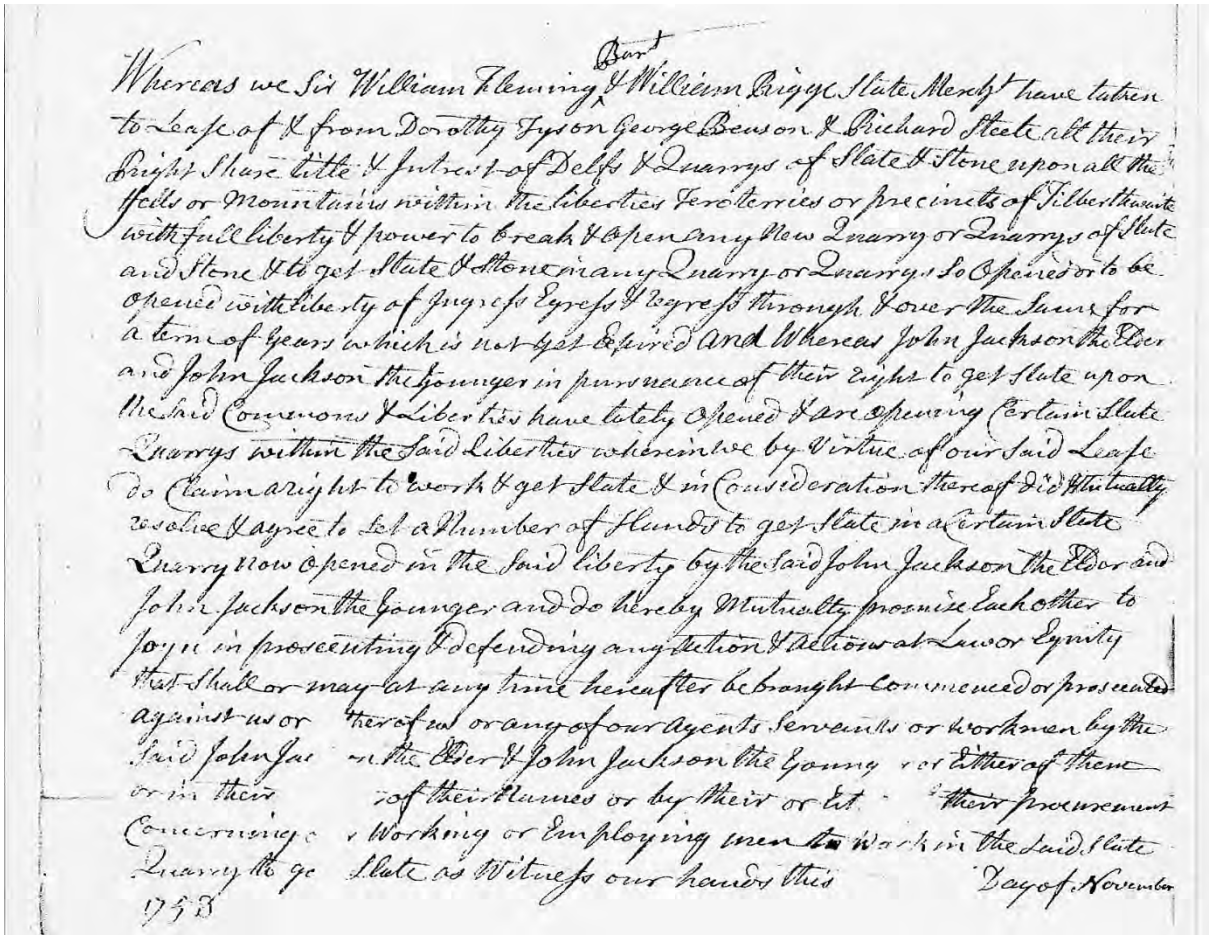
Since then they have been digging muck from around the pit top area and dumping this down the shafts and on Friday 14th February 1986, No. 5 shaft was filled to the top by 5.30pm. To date No. 4 shaft has a few feet to go beach drift and Thwaite is nearly full. They will only fill No. 4 shaft to the beach drift eye, then go into beach drift and put stoppings up. The concrete is ordered for Monday 3rd March 1986, and all the shafts should be filled by then.

There will be a Memorial Service on Thursday 27th March 1986, in respect to the 14 miners who are still down Haig. This will be held on the pit top.

In the Lead Mines from 1800 to 1900 there were 30 deaths. In that same period in one local mine in Whitehaven, William Pit, 72 men, boys and girls were killed in 6 explosions. But that's not all; a further 4 explosions in William Pit claimed the lives of 121 more miners; a very high price was paid for coal in William Pit.

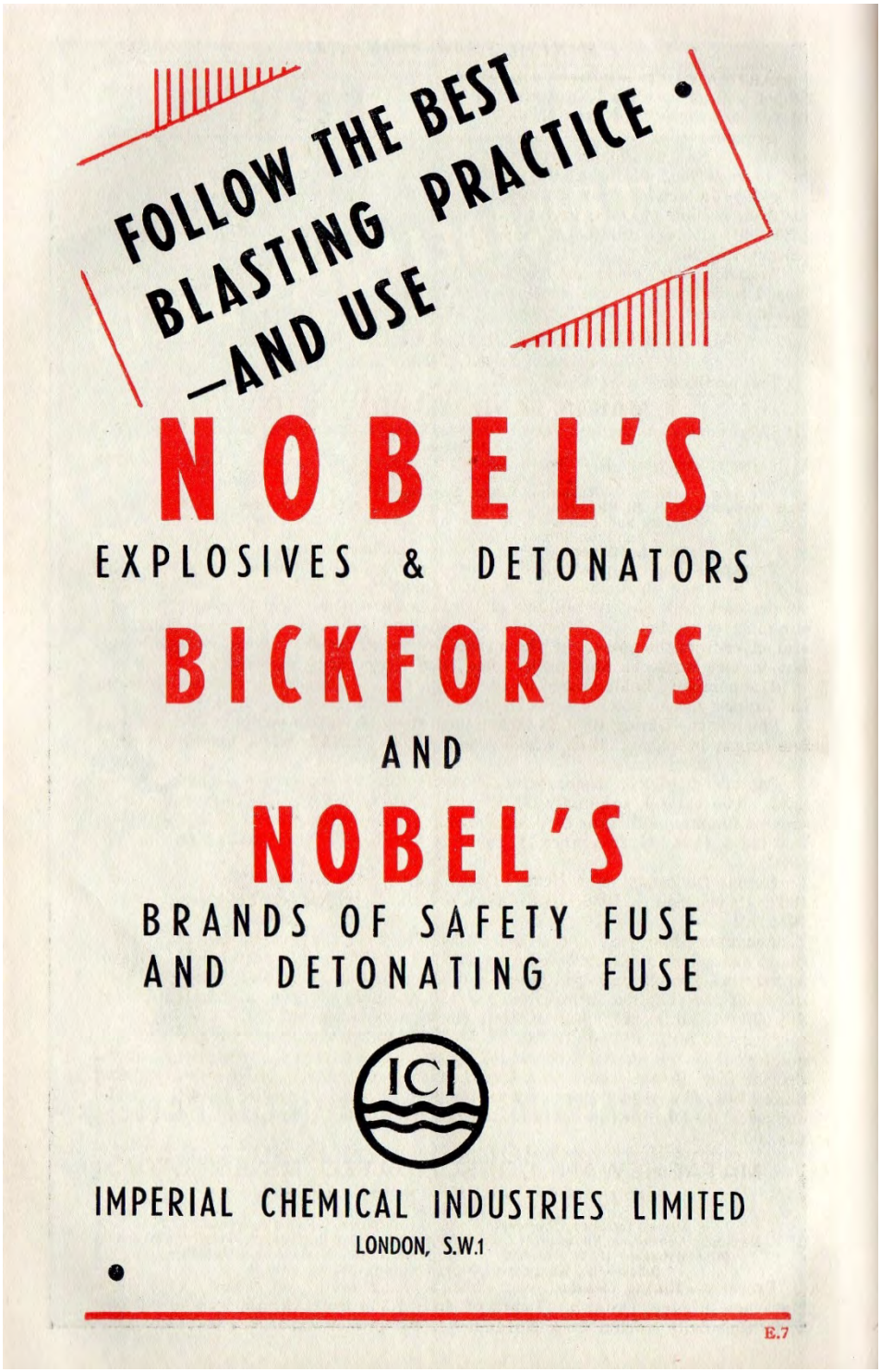
R Calvin, R M 3.3.86

Tilberthwaite slate – Dispute, November 1753. (Kendal CRO Box WD Ry 22)
Whilst looking through some of my old records recently I found this statement claiming a right as Leaseholder of William Fleming & William Rigge to work a quarry at Tilberthwaite, which was currently being worked by John Jackson and his son under commoner's rights. IM.



Whereas we Sir William Fleming Bart & William Rigge Slate Merch^t have taken to Lease of & from Dorothy Tyson George Benson & Richard Steele all their Right Share title & Intrest of Delfs & Quarrys of Slate & Stone upon all the Fells or Mountains within the Liberties Territories or precincts of Tilberthwaite with full Liberty & power to break & open any New Quarry or Quarrys of Slate and Stone & to get Slate & Stone in any Quarry or Quarrys so Opened or to be opened with Liberty of Ingress Egress & Regress through & over the Same for a term of Years which is not yet Expired and Whereas John Jackson the Elder and John Jackson the Younger in pursuance of their right to get Slate upon the said Commons & Liberties have lately Opened & are opening Certain Slate Quarrys within the said Liberties wherein we by Virtue of our said Lease do Claim a right to work & get Slate & in Consideration thereof did &c Mutually resolve & agree to let a Number of Hands to get Slate in a Certain Slate Quarry now Opened in the said Liberty by the said John Jackson the Elder and John Jackson the Younger and do hereby Mutually promise Each other to Joyn in prosecuting & defending any Action & Actions at Law or Equity that shall or may at any time hereafter be brought Commenced or prosecuted against us or either of us or any of our Agents Servants or Workmen by the said John Jackson the Elder & John Jackson the Young[er] or either of them or in their [illegible] of their Names or by their Order or by their procurement Concerning [illegible] Working or Employing men to Work in the said Slate Quarry to get Slate as Witness our hands this [illegible] Day of November 1753

Transcription: 'Whereas we Sir William Fleming, Baronet & William Rigge, Slate Merchant have taken to lease of & from Dorothy Tyson, George Benson, & Richard Steele all their rights, Share, Title & Interest of delss & quarries of slate and stone upon all the fells or mountains within the liberties, territories or precincts of Tilberthwaite, with full liberty & power to break & open any new quarry or quarries so opened or to be opened, with liberty of ingress, egress and regress through and over the Lease for a term of years which is not yet expired, and whereas John Jackson the elder and John Jackson the younger in pursuance of their right to get slate upon the said commons & liberties have lately opened and are opening certain slate quarries within the said liberties wherein we, by virtue of our said Lease do claim a right to work and get slate and in consideration thereof did ……ally(?) resolve and agree to let a number of hands(?) to get slate in a certain slate quarry now opened in the said liberty by the said John Jackson the elder and John Jackson the younger and do hereby mutually promise each other to join in prosecuting & defending any action & actions at Law or Equity that shall or may at any time hereafter be brought, commenced or prosecuted against us or either of us or any of our agents, servants or workmen by the said John Jackson the Elder and John Jackson the Younger or either of them or in their …..(?) of their names or by their order or by their procurement Concerning … Working or Employing men to work in the said slate Quarry to get slate, as Witness our hands this … Day of November 1753.'



From The Mining Year book 1943

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