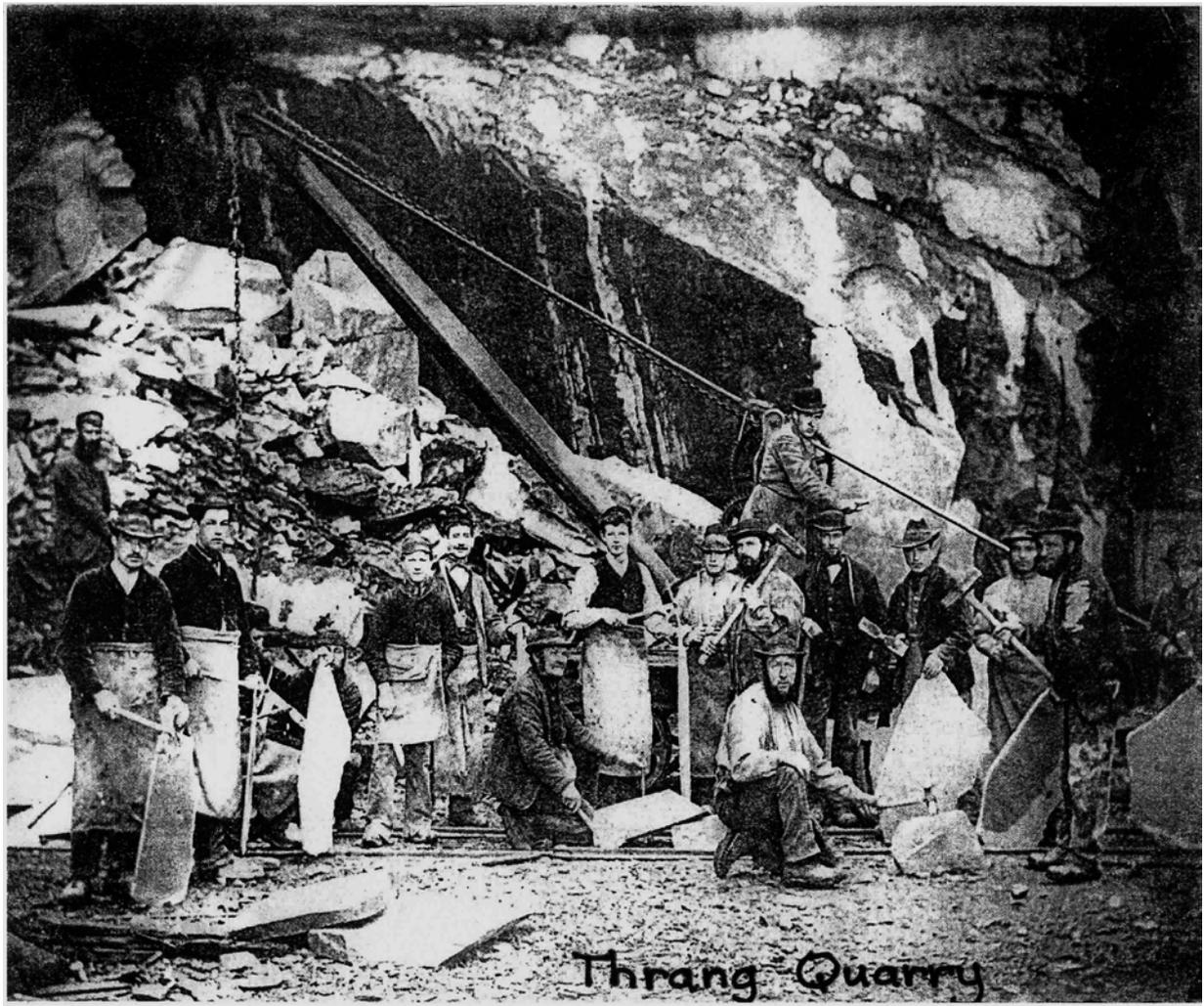


# CAT

The Newsletter of the Cumbria Amenity Trust  
Mining History Society

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Thrang Quarry, Chapel Stile, Langdale – Ted Bowness collection

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No. 121

November 2015

# Cumbria Amenity Trust Mining History Society

## Newsletter No 121, November 2015

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## **Clive Barrow**

Clive had been a friend of mine since he joined Cumbria Amenity Trust Mining History Society (CATMHS) in the early 1980s; he was a more active member in those heady days of wet mud, deep shafts, and suspect long mine level explorations, with electron ladders, SRT, digging out holes, and all that type of work.

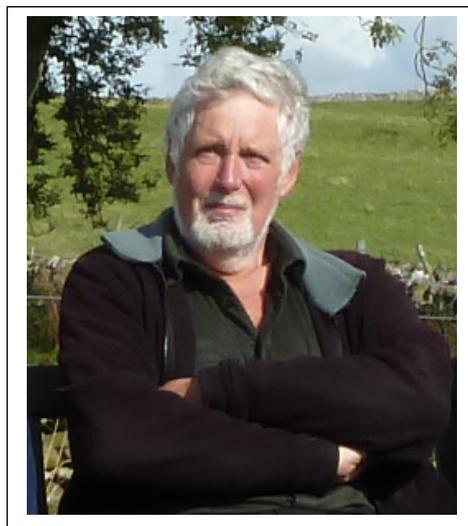
He and I spent many often wet but happy days wandering the moors above Nenthead in Cumbria looking for lost or elusive mine shafts. It was on one of these occasions that we discovered “The Frog Shaft”, so named because, on one of the early descents, Dave Bridge found a frog at the foot of the 80ft shaft: I sent a tackle bag down and the frog was rescued! The rest as-they-say is history.

Clive was a member at the formation of COMRU (Cumbria Ore Mines Rescue Unit) until the years and physical limitations caught up. He was a quiet shy gentle giant of a man with a good sense of humour, always there in the background and one hundred percent reliable. Many people would not even know he was there despite his large frame and being difficult to miss.

He was a retired electrical engineer, and expert magnet technician, he helped me many times when I needed answers to technical questions. He had recently become a proud Grandfather, and leaves a son Lee, grandson Jack, and daughter-in-law Gemma, who, I am sure, like me will miss him greatly.

I never enquired into his private life, and accepted him for whom he was, a good friend and colleague, “The Quiet Man”.

Mike Mitchell, October 2015



### **Letter to the Editor**

Dear Editor,

Regarding the review of my book on Barrow Salt in NL 120, I was sorry to hear the reviewer found difficulty in accessing the site, so I hope they will get to read this note. I should probably have made more obvious mention in the book that the remains of the Evaporation Plant and the Pier are within the South Walney Nature Reserve, so when the Reserve is shut access is difficult! Difficulty of access also plagues the Brine Wells area at Copt Hill, which though it is not on the Reserve, does suffer from a very heavy overgrowth of scrub, bracken, brambles, thorn bushes and the like. This makes it almost impossible in the summer months.

On a visit in April, when the vegetation was low I found there are, as I said in the book there might be, a few things still to see, and I maintain the site here needs some clearance work to see what we have got. Unfortunately I am not in the area, and I don't know who owns Copt Hill anyway.

The message therefore is – for Copt Hill visit in the winter months and for the Evaporation Plant when the Reserve is open. Both are possible in April. There is now nothing to see at the Reservoir area at Hillock Whins.

Brian Cubbon.

### **News**

#### **Coniston HLF Grant**

It is reported elsewhere in this issue that the Heritage Lottery Fund bid for Coniston Coppermines and Penny Rigg Copper mill has been successful. The amount of money involved is £572,000, of which £454,900 will be from the HLF. We should congratulate the LDNPA archaeologists, John Hodgson and Eleanor Kingston for this achievement.

In 2009 the LDNPA were working with Natural England to develop the Environment Land Management Scheme (ELMS). Within this scheme archaeological and historical features could receive 100% funding. ELMS closed, but before it did so the LDNPA Archaeologists obtained £15,000 from the scheme to fund two Conservation Management Plans, for Coniston Coppermines and Penny Rigg Mill. The plans were produced professionally by Archaeo Environment and comprised a historical background report, a condition survey, and a program of works. They formed a basis for funding from the High Level Stewardship Nature Conservation Scheme.

Funding in the region of £400,000 subsequently became available providing the Commoners entered into the scheme. Unfortunately the Commoners would not agree to the conditions and the money was lost.

After this setback John Hodgson decided to apply for a Heritage Lottery Fund Grant, using the Conservation Management Plans as a basis. It is this bid that has now been successful. Apparently there are still some details to finalise, but it is hoped that some conservation work may start in November this year, weather permitting.

### **Haig Colliery Mining Museum**

Haig Pit is a new visitor centre and mining museum on the former Haig Colliery Site in Whitehaven. Having recently opened to the public we would like to inform you of our tour options. Guided by a former coal miner, we can accommodate daytime, evening or weekend group visits. We can be very flexible about time.

Tour 1. Begins on Whitehaven Harbour side meeting our guide and walking up the coastal path looking at the heritage landscape as you walk. Then a tour of the new museum and discussion with the ex-miner.

Tour 2. Is a visit to the museum with an ex miner as a guide.

The charge per person on a group visit is £3.00 with refreshments in The Pit Top Café from £1.50.

We have plenty of free parking and our Pit Top Café offers home-made food and cakes.

If you have any questions or would like more information or book a visit please ring 01946 599949. We look forward to seeing you.

### **West Cumbria Coal Mine update**

Phase 1 of the new coking coal mine in West Cumbria has been completed. Four boreholes have been drilled onshore to recover coking coal samples. There is confirmation of 71 million tonnes of high quality coking coal with exceptionally low ash and phosphorous content. An extensive historical data review has been completed. Phase two involves drilling three temporary offshore boreholes and one onshore to extract coal and rock samples for testing, a Pre-Feasibility Study to set out the detail and initial design for the mine, and environmental and planning processes

If all goes well a planning application is envisaged for the end of 2016, with mine construction taking place from the end of 2017 through 2018.

A Project Update Event will be held at The Powerhouse, Haig Pit, on Saturday 7<sup>th</sup> November from 10.am – 7 pm. All members of the public are invited to drop in to find out more about the project, work to date and future plans and to ask questions.

(I understand that the coking coal to be mined is especially suitable for the production of high quality steel. It is to be hoped that the recent closures of steel furnaces at Redcar and elsewhere will not have an adverse effect on this project. IM)

### **Drainage works at Hudgillburn Mine**

The digging team has made three visits to Hudgillburn to complete the clearance of the drain. This involved pumping out the level and replacing a section of crushed pipe. A further excavation was required to uncover the pipe entrance to the culvert. Use was made of a pneumatic pipe blocking bulb constructed by John Brown to stem the flow of the water filled level whilst the excavation was completed. A sharp bend was relaxed and blockage of roots was cleared. The level has been draining satisfactorily since.

### **Mines Forum, 13th October, held at the National Trust Office, The Hollens, Grasmere.**

Representatives were present from LDNPA, Environment Agency, National Trust, NAMHO, CATMHS, Threlkeld residents, Coniston History Society and Honister Quarry.

Eleanor Kingston began by outlining changes to the English Heritage organisation. Last April it was split into two organisations: 1. To be called Historic England will deal with listing, scheduling, archaeological issues etc; 2. To be called English Heritage Ltd, will look after English Heritage properties such as Brougham Castle, Stott Park Bobbin Mill. It will be a charitable trust and it is expected to be self-sufficient, its income deriving from admission fees and sales.

### **Force Crag mine**

John Malley reported that the water treatment plant was proving to be 98% efficient in extracting metals from water flowing out of the mine. As an experimental installation it was dealing with 6l/sec water flow, which is the minimum flow, about 1/3 of the average. There had been a problem with blue/green algae which formed an impervious layer over the substrate. However, the algae appeared to be even more efficient than the compost in absorbing metals.

In Level 0 the water levels, which rise and fall in a cycle linked to rainfall are being monitored. There is still an interest in dealing with the Level 3 adit. CATMHS will address this once they have finished the Tilberthwaite project.

Two interpretive panels, funded by DEFRA are to be installed, one at the car park and one at the mine. Several universities have expressed an interest in a LIDAR survey of the whole site. This could establish the depth of scree and spoil as well as shedding light on the archaeology.

### **Greenside Mine**

A report by Charles Blackett Orde on Greenside lead mine, Glenridding and Ullswater has just been received. It will enable an action plan to be developed. Warren Allison suggested that the incline adjacent to the Lucy Tongue entrance be gated in order to protect it and also to allow people to look into it and that the Lucy Tongue Portal should be reinstated.

Eleanor Kingston promised to do a comprehensive report on Greenside at the next meeting.

### **Coniston**

EK reported that the HLF bid has been successful. It should be formalised by the end of October, and if so then some conservation work might be carried out in November, weather permitting. The grant is for £455,000, of which some £180,000 is to be spent on conservation work. Other aspects are Interpretation, Surveying and Archival Research.

Elizabeth Withey from the Environment Agency Reported that water quality monitoring was continuing. The sond placed in Deep Level (carried out by Warren Allison) showed that it takes twenty four hours for rainfall to pass through.

### **Tilberthwaite mine**

Warren Allison reported that the CAT Digging Team made the final breakthrough on October 3<sup>rd</sup>. There are a further three small falls and they intend to clear a channel through them to allow water to drain freely.

Alastair Cameron has produced a survey of the Tilberthwaite and primary processing site.

### **Threlkeld Mine**

Donald Angus reported that major work is in progress in the vicinity of Yellow Dam. It is not clear what affect this will have on the archaeology, but it is being monitored. Work is expected to be finished by the end of November.

### **Honister Quarry, etc.**

Alastair Cameron reported that No 5 Level is producing good slate. Planning consent applied for has been granted. Restrictions have been imposed in the use of the quarry road to prevent its use by recreational vehicles and tipping of quarry waste is also controlled. Permission was granted for a crusher at Hopper Quarry for the life of the mine, currently until 2043. Permission has been extended for tip working, but only hand picking is allowed at Dubs Quarry for facing stone for buildings. Dubs cottage has been restored and is now run by the Mountain Bothies Association.

He said that Burlington Slate have mothballed Kirkstone Quarry and Brossen Stone and that on Coniston Old Man only Brandy Crag is operating. Brathay Quarry is going well and Elterwater is busy and are crushing a lot of their waste.

### **Sandbeds**

Volunteers are working to record surface features.

### **AOB**

Alastair Cameron is to produce a new book, Slate Mining in the Lake District Mountains. It is to be a picture book of 100+ pages with extended captions. He acknowledged assistance from CATMHS members. The book is expected in March.

Mark Simpson reported that he and Mike Mitchell were continuing with their 3D survey of mine sites. They had recently surveyed a mine at Teeside, and were currently considering Carrock End mine. They are receptive to suggestions for sites to survey and would like to discuss the possibility of storing data and making it available on the LDNPA system.

### **Next meeting**

Will be at Coniston on 1<sup>st</sup> March 2016

### **W T Shaw**

There is an interesting article in Cumbria Magazine for September 2015, 'Cumbria Yesterday', a pocket history of Willie Shaw, who was born in Coniston in 1909 and all his life was involved in mining and quarrying in the Coniston Fells and at Hartsop. He wrote the book 'Mining in the Lake counties.

## **Archaeology in the Lake District Conference, 2015**

The 14<sup>th</sup> annual LDNPA Archaeology Conference was held at the Theatre by the Lake, Keswick, on Sunday 11<sup>th</sup> October.

**Introduction.** Steve Ratcliffe, LDNPA Director of Sustainable Development.

Steve Ratcliffe talked about archaeology and the wider cultural heritage, and gave tribute to the Conservation Volunteer Network. He announced that the HLF bid for Coniston Coppermines had been successful and a major project at Rusland is anticipated.

**Archaeology in the Lake District National Park.** John Hodgson, Eleanor Kingston, Holly Beavitt-Pike.

John Hodgson reported on the progress of the World Heritage Status for the Lake District National Park. It will be nominated to UNESCO by the department of Culture Media and Sport in February 2016. The status will engender a commitment to look after heritage and there is a management plan for 2015–2020. Information can be found on the website: [www.lakesworldheritage.co.uk](http://www.lakesworldheritage.co.uk)

Eleanor Kingston reported that the Coniston Copper bid to the Heritage Lottery Fund has been successful. The Conservation Management Plan lists 150 plus sites in need of conservation or repair, for example the wheelpit structure at Bonsor East Mine and Triddle Incline. Other examples given were problems of water erosion and management at Paddy End dressing floors and conservation of Penny Rigg Mill, a single phase medium size 19<sup>th</sup> Century copper processing plant. Information will be located at Ruskin Museum, Coniston YHA and the Mechanics Institute and interpretation panels will be located in Coniston village and on site. Three trail leaflets will be produced, there will be education packs and events, as well as opportunities for volunteers, archaeological survey projects and training for community guides.

A Rusland Horizons bid for £1.5M has been submitted. There are projects at Bethacar Moor and Cunsy Bloomery Forge, where there is interest in Mossers, stones from furnace bottoms, sometimes re-used, and in investigating a head race and possible wheel pit. At Ichenthwaite, Rusland, there are about 25 circular shallow pits used for producing charcoal and a medieval bloomery, radio carbon dated 1280-1410. Next year will be busy with exciting opportunities and projects. Volunteers are needed!

Holly Beavis-Pike reported on the volunteer network, which was set up in 2012. There are now 60 volunteers and 7 trained supervisors. She gave examples of conservation projects and archaeological surveys carried out so far: A limekiln at Grizedale; a potash kiln in the Duddon Valley. Repairs were made to the dry stone wall base of a bark peelers hut. A level 2 training day was held in March followed by a survey of a medieval sheiling at Scale Beck, Buttermere. Guided walk training took place in Eskdale.

In 2014/2015 21 sites have been removed from the Heritage at Risk Register, many concerning bracken clearance. It is hoped that a further 20 sites will be removed from the Register in 2016.

The Romans at Ravenglass project to investigate the vicus settlement, fort and bath house is nearly finished. Little was previously known about the extent of the civilian settlement. Interpretation panels are to be placed in front of the roman bath house and there is a display

case of finds at Pennington hotel, Ravenglass. A leaflet has been produced. Information is available on the LDNPA website.

**Recent National Trust work on the Lake District.** Jamie Lund

There has been no single major project this year. Next year Long houses in the Duddon Valley are to be investigated in collaboration with the Duddon Valley Local History Group. Funding bids are to be submitted to the Heritage Lottery Fund for one project for each year, 2016–2018.

Archeological conservation management has been grant aided by Natural England. This consisted mainly of the removal of bracken by spraying at Burnmoor and Hardknott Roman Fort. Secondary growth of brushwood can be a problem, also soft rush, for example at the Ting Mound in Langdale. Turf repairs were carried out at Castlerigg stone circle. Archaeological monitoring is being carried out by volunteers. Problems reported concern the growth of vegetation and influences of agriculture, such as the siting of fences and tracks and of cattle feeders, as well as from erosion by water.

There is a new management plan for the Langdale Stone Axe Factory, which extends from Langdale to Scafell to Glaramara and Borrowdale, where several sites are on NT property. Large boulders or outcrops have been used as a source of flakes rather than by quarrying. Carbon dating suggests an age of 4,000 years.

Claife Station, a Victorian viewpoint has been restored.

Hoathwaite farmhouse, which is where William Barratt first lodged when he came to Coniston to be underground mine manager, has been surveyed, revealing some remarkable panelled walls and doors and a rare surviving bed cupboard.

**Cairns, Standing stones, Settlements and Mines.** Tricia Brown and John Hinchcliffe, Lake District Archaeology Volunteer Network.

Between 2013 and 2015 the Volunteers have carried out a level 1 survey of Caldbeck Common, where they have found a possible Neolithic burial mound, a number of banks and earthworks and supposed Bronze Age burial mounds. The common, which extends to 3,600 acres at an altitude of 1000 feet is a ‘stranded bronze age landscape’ which was abandoned when the climate became too cold and damp about 1000BC.

Volunteers are surveying Sandbeds Mine with some input from Warren Allison of CATMHS. Lead and copper was mined from 1850 – 1875 and barytes from 1926-1968. All the buildings were dismantled and the machinery removed. The site is on an incline and some features have been washed out. Volunteers are using an overall plan produced by a UAV survey by Oxford Archaeology North and the 1860 OS map, from which some present day sites can be identified. They have found the sites of the stamp mill and dressing floors.

**The Seven Year Project to Re-open Tilberthwaite Mine.** Warren Allison, CATMHS.

Warren began by paying tribute to Peter Fleming and Peter Blezard without whom the project would not have been carried out. He then gave a short history of the development of Tilberthwaite Mine and Penny Rigg Horse Level and Mill, before continuing with an account of the present dig, announcing that the breakthrough occurred on October 3<sup>rd</sup>.

### **Modern imaging techniques for the recording of archaeological sites and features.**

Site recording by the use of software that performs photogrammetric processing of digital images to generate 3D spatial data that can be used in GIS applications, cultural heritage documentation, and visual effects production, as well as for indirect measurements of objects of various scales.

*Mark Simpson and Mike Mitchell have been systematically surveying mine sites using a downward looking camera mounted on a long pole, or sometimes on a quadcopter. They have spent much time and effort developing a workable system which produces excellent results. Ed.*

This method of recording is to be used in conjunction with traditional techniques, such as tape and offset, plane table and total station. (Not forgetting the dimensioned sketch) The software used in the production of our data (thereafter called composite) is “Agisoft Photoscan” and sometimes Pix4D Mapper. There are others. For further information please refer to the relevant software manuals.

The source of the imagery is by pole camera or UAV. The number of images generated can be in the hundreds for a particular project. Storage of this data, or whether to at all, is still an ongoing discussion. At this time it will be DVD which can hold up to 8Gb of data.

Scale objects: These should always be provided on a level ground surface and the vertical elements of standing structures. They can be in the form of coloured markers at 1 meter intervals on the ground or walls (annotated on the site plan). The wall markers should be vertically above one another. Where there are items like machine bases, broad staff tapes with 200mm red and white divisions should be used. Please note that “Photoscan” does not like shiny objects especially white so traditional ranging poles are not used in this context.

GPS: All sites and features should have a Grid reference (GR) taken at their centre where possible; long linear features, such as inclines, trackways or leats, should have a GR at both ends, or more if the feature is not regular. For large sites and where the aerial image may need geo-referencing, e.g. dressing floors, big inclines etc., a minimum of 4 Ground Control Points (GCP) should be placed at the site periphery. Where used these will be distinct coloured ground markers (annotated on the site plan).

For location purposes navigation grade gps devices can be used. GCP's need a higher standard of accuracy depending on the scale of the finished plan. (Better than 500mm ideally 200mm) All GR's should be 12 figures with standard of accuracy and source of information indicated on plan. Where such gps devices are not available, the GCP's should be tied together by linear measurements, with dimensions indicated on plan.

The end product: This is to aide site recording and interpretation, and, as this is digital information, the final destination is to be on the CATMHS website.

Each site or feature will have: -

- A location plan
- An orthographic aerial of the site or feature
- An oblique aerial
- 3d pdf for use in Adobe Acrobat.
- A 3d fly-around video may also be provided. (AVI)

Mark Simpson.

## **Sites photographed for 3d Imaging 2014 - 2015**

### Coniston Copper:

Bonsor Low Mill, Bonsor Powder Magazine, Bonsor East Wheelpit, Old Engine Shaft Wheelpit.

Triddle Incline and New Engine Shaft Wheelpit. Red Dell Mill Site.

### Coniston Old Man Slate Quarries:

Low Water Power House, Saddlestone Mill, Fisher Bank Riving Sheds, Mosshead Low Level.

Riving Sheds, Mosshead Middle and Top Level Floors, Spion Kop Mill.

### Tilberthwaite and Greenburn:

Pennyrigg Crusher House and Buddle House. Pennyrigg Magazine and Bothy.

### Tilberthwaite Mine:

Dressing Floors including detailed imaging of the two buildings there. Greenburn Mill Site.

### Hartsop Area:

Myershead Corn Mill, Myershead Mine and Wheelpit, Hartsop Smelt Mill, Hartsop Hall Mine. Mill.

Caudale Quarry Upper Middle and Lower Floors.

### Little Langdale:

Banks Quarry Compressor House, Two Riving Sheds. Lingmoor Quarry Incline Landing Stage.

Lingmoor Quarry Floors 2 and 3 and top of Incline. Lingmoor Fell West Quarry Riving sheds

### Honister:

Bull Gill Quarry Riving Shed, Bothy and Smithy and other remains

New Sedgwick Gun Powder Mills (NSGM), Corning House Area and other buildings

### Nenthead:

Smeltnill, Staggs Wheelpit, Smallcleugh Entrance Area.

Other sites visited – Jenny Brown's Point smelter, Sea Shore Monument at Ulverston.

Duddon Iron Furnace.

Sites to visit – Walna Scar Quarry Barracks and Riving sheds, Betsy Crag Quarry Riving Sheds, NSGM Incorporating Houses. Honister Quarries.

MWTS MFM

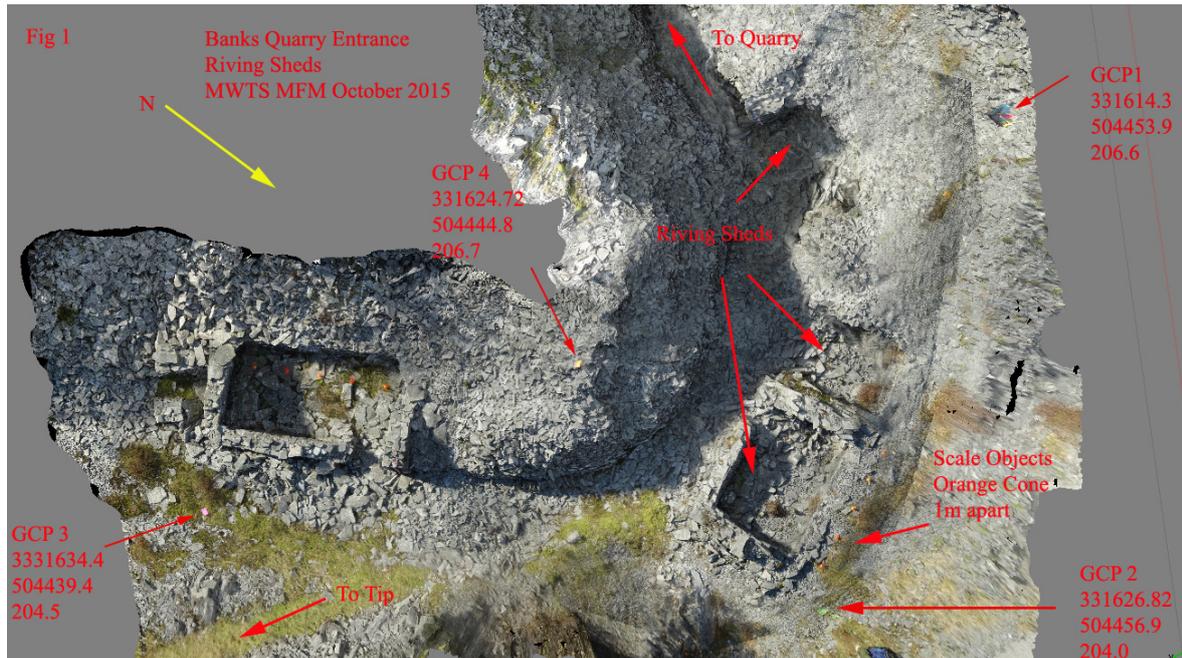
### Sites in Wales (MWTS Only)

Conglog Mill and Rhosydd Barracks and Stables, Cwm Ciprith Copper Mine Winder, South Pole.

July 2015 Mark Simpson, Mike Mitchell.

### Example of 3d Imagery, Banks Quarry Entrance, October 2015.

As part of our ongoing mine and quarry site recording Mike and I returned to Banks Quarry.



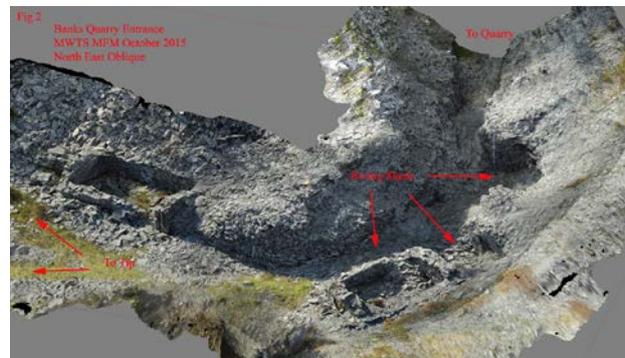
We have now split up the jobs. Mike does the pole imaging and I carry out the GPS work and positioning of scale objects. The choice of these objects is governed by what can be seen when the composite image is processed; hence orange cones for the horizontal and staff tape or bright markers for the vertical. (fig.3)



A further aide to scaling are geo-referenced ground control points, (GCP) (reflective A5 markers) which are placed at the extremities of the survey area. (See fig 1). These GCP are accurate as possible, the aim is better than 200mm. In this case I was using a Trimble 5800 survey grade GPS feeding Field genius survey software.

To round off the record I have included an oblique Fig 2, which gives a better impression of the 3d nature of the site. There is also a 3d pdf.

The Agisoft Photoscan Professional was tried out on a 30 day license. We found that the initial processing is very similar, but the export facilities are very different. The high quality orthographic JPEG images, which when used with GCPs (reference points) will give you a geo-referenced image that you can scale off and use in GIS systems. What is more the software will geo-reference all the images used to construct the 3d composite. One final thing, you can save the composite as a KMZ files which when clicked on will open into Google Earth in the right position. A truly impressive feature, but expensive, so we shall continue to use the standard Photoscan version.



Our aim is to use the above methodology for all our future site visits. The only thing mitigating against the process is that all the kit that has to be carried on site. As indicated on the to-do list, there is plenty to have a go at.

Mark Simpson October 2015.

## Surveying at Sandbeds Mine

In newsletter No 117, November 2014, it mentioned that some of the LDNPA archaeological volunteers were about to start to survey the surface working of Sandbeds Mine near Caldbeck and they have already completed many trips this year. I have been out with them on several days and have been impressed with the quality of work that they are producing. There are many features which are still visible on the ground and can be related to the 1860 OS map so it is possible to date them. These include three buddles, remains of the line of the tramway, site of a waterwheel associated with the stamps, several settling pits and associated timber launders, remains of leats etc. The survey of this interesting site will probably take another year to complete.



*The site of the crushing mill with the dump of the 90 fathom Sandbeds level and dam in the right hand side with the dump of the 90 fathom Barytes level in the middle and the stopes to surface on the Barytes vein in the top right hand corner.*



*The site of four settling ponds with the wooden launder feeding them on the bottom left hand side and the launder from the ponds on the middle right as shown on the 1<sup>st</sup> Edition OS Map.*



*Timber launder from the outlet of the ponds with the blue streaks of Lead still visible*

*The volunteers standing on the remains of one of the buddles with timber from it still visible as shown on the 1<sup>st</sup> Edition OS Map.*



*Remains of a second buddle as shown on the 1<sup>st</sup> Edition OS Map.*

Warren Allison

## **LDNPA volunteers walk at Coniston Copper Mines 8<sup>th</sup> August 2015**

Donald Angus asked if we could lead a meet for the LDNPA volunteers around Coniston Copper Mines as many of them had not been to the area before. Meeting at the information centre on a glorious day, Mark Scott and I explained the route we would be taking which would include a short underground trip.

It did not take long before we entered Copper mines valley where we stopped and explained the surface workings using plans and old photographs. We then proceeded up to Deep level and onto Cobblers level where we met some old acquaintances from outside the county coming out of Taylor level who were up for the weekend before proceeding on to the Old Engine shaft where we took on refreshments having first paused to look at the mortar stones in the spoil heaps below.

Then walking over to the bottom of the Thriddle Incline we explained about Flemings mine and the incline before going on up the fell under Kernal Crag to Hospital level, having stopped to look over to the workings at Simon's Nick and Top/Middle levels. We split the party into three groups and had a look in Courteney's crosscut as far as South shaft before starting the slow walk back to Coniston.

On reaching Kernal level we explained about the dig which the society undertook to re-open the level before carrying on to miners bridge where we decided to walk down the right hand side of the beck passing the copper house at the end of the railway line. We soon reached the village after what had been a superb day in brilliant weather and Donald recently commented that the volunteers had thoroughly enjoyed the day and that it had been one of the best trips they had been on.



*The volunteers at the waterwheel pit below the Thriddle Incline.*

Warren Allison

### **A Few Further Notes on Thrang Crag Quarry**

Following the publication of the meet report on the above quarry in the previous Newsletter contact was established with Mr Ted Bowness, born in 1928 who as a child lived at Fir Garth in Chapel Style. His Grandfather and Father worked Banks Quarry on Lingmoor.

On the shaft: -

*Why constructed I don't know, and heard nothing about an adit opening into some garden! My best memory of the Shaft was as a receptacle for dead hens ( my father was a great poultry keeper, but we never ate the ones which died, consigned them to a watery grave about the base of the shaft, which hearsay stated that it went as deep as the river Langdale Beck.)*

On the Quarry: -

*One or two possible points arise. The quarry, Thrang Crag, was certainly NOT working in 1936. I was eight years old then, and as boys we would have been fascinated to see all that went on - I lived about 100 yards from the shaft, in a house called Fir Garth, and we would have known about the workings.*

*However, a small offshoot from Thrang was worked by two old men who refused to retire! It was called Dulcanter, of all odd names, and was worked as an adit going from the SE end of the main quarry in the direction of the Chapel Stile church nearby. I just remember this happening. Village rumour was that they were forced to end when a blast lifted a piece of rock on to the church roof!*

*Possible steam engine power, as there was a large deposit of cinders at the top of the rubbish tip about 40 yards from the shaft itself*

*Have excellent photograph of workers at Thrang Crag quarry, probably about 1880/1890.*

(This is the cover picture of this issue.) It is a most interesting photograph showing at least two of the quarry men (out of presumably the total workforce of 16) holding the traditional Lakeland riving hammer. Additionally a crane is shown along with the bowler hatted operative; though it is difficult to be sure, it is possible that the crane is mounted on rails. As far as is known this is the only extant photograph of a crane in a Lakeland quarry.

History: -

*Contacted Cumbria Archives at Carlisle for Lowther Estate records, but very little available.*

*Possible mention in 1796, but certain in 1814 when Thrang mineral rights leased for seven years to John Greenup.*

*Production in year 1814/1815 was 304 tons, which to me is a massive amount! How was such a quantity moved? Must have been by horse and cart, on virtually unmade roads, and who were the buyers and in which towns?*

I am most grateful to Mr Bowness for his assistance, he has also, in the Kendal Oral History Group Interview 0236, given a detailed and fascinating account of his grandfather's and father's working of Banks Quarry.

John R Aird

### Tilberthwaite Mine breakthrough

In the May 2015 newsletter (article written in April) it was reported that work on clearing the tail up to the third roof fall was progressing well, which was completed soon after. On reaching the fall proper a hole appeared where the spoil met the bedrock and on the 3<sup>rd</sup> May, John, Colin and myself managed to access the area above which was exactly as Roy Garner had described in his article in newsletter No 45, January 1996. The vein had been stoped to a height of approximately 40 feet and there was another vein (Benson's South) coming in on the left hand side at right angles, which had also been stoped for a short distance. However, although the level could be seen going on, it was virtually full to the roof with water. There were many tide marks on the wall of the stope showing that this area of the mine had been



filled up with water for most of the time apart from periods of considerable drought. We could now understand why, on occasions when digging the second fall, the water had been pouring down the scaffolding tubes as the level behind was filled to a height of 40 feet or more. It is possible that during the 2009 floods the whole mine could have been full of water, which would account for why it was shooting out over the end of the spoil heap at the mill.

*John coming into the stope in May*

We then started to erect the steel legs and head trees ready for driving the scaffolding tubes. For the first time in this seven year project the dig was quantifiable, and only six sets would be required. We ended up driving three sets of scaffolding tubes before breaking into the stope for the second time, at which point a roof of crash barriers was put in.



*John and Colin in the stope*



*Looking down into the flooded level going on*

This allowed us to lift the material in the remainder of the fall back on top of the dig, with a pack wall being built at the front to help stabilise it and to stop the debris running back in to the level. This work is nearly completed.

On the 3<sup>rd</sup> October, the three of us went for a walk up the level as the water had dropped to just over knee deep. After about 20 yards we had to climb over a small fall, and a short

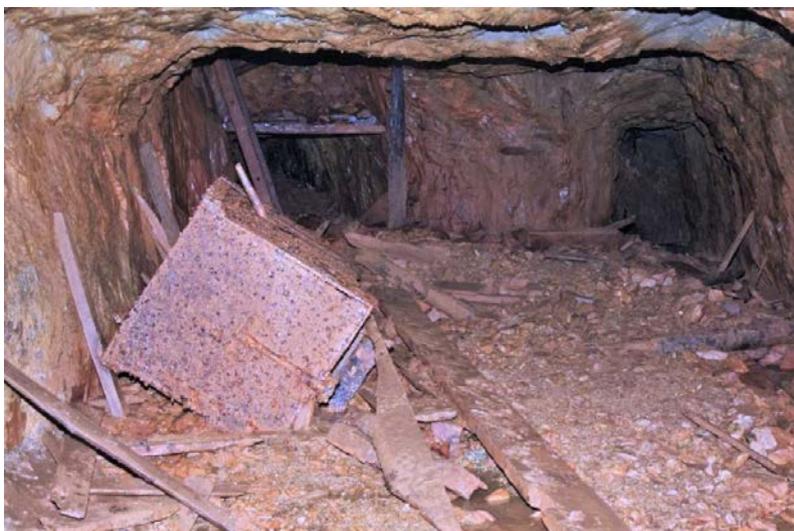


distance further on we came to Bensons North vein, which had been stoped out to about 50 feet high and 20 feet wide for a distance of around 20 yards, before a level at the back of the stope went off and split, with both short drives ending in a forehead. The rail was still in situ. We carried on up the main level with the rail still in place, climbing over another small fall before encountering an abandoned mine tub lying on its

side. A short way on the rail had been lifted.  
*John and Colin looking in Bensons North vein  
 on the 3<sup>rd</sup> October 2015*

As the level follows the vein it twists and turns many times and the walls and floor are covered in mud, with the tide mark clearly visible. There is a third small fall to climb over.

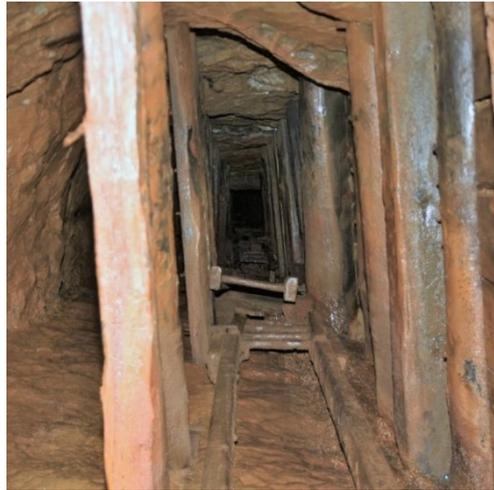
The level then turns sharp left on to North Vein and ends up at the ladderway and ore shoot coming down from the workings above. Here there is a second mine tub with the remains of a shovel on it.



The timbering in the ladderway and ore shoot is in remarkable condition although the rungs on the ladders have gone. The mine tubs are larger than I have seen in the Lake District mines and it is difficult to see how they were emptied. Although they have a door on the front it would be nearly impossible to lift them from the back.



*Bottom of the ladderway and ore pass*



We retraced our steps back to the third fall, elated that after so many years we had managed to walk up to the ladderway. We contemplated not clearing the three small falls beyond the dig. The water is just over knee deep after the first one and then it just runs on the floor. However we have put so much time and effort into the project that we will cut a channel through each of the falls to drain the water so it just runs on the floor.



*Looking along the dig with all the steel installed.*



*Building the pack wall above the end of the dig to stabilise the debris*

It is my understanding that there has not been a project on this scale carried out in the country by an amateur group and the society should be rightly proud of what it has achieved. Just to provide a couple of facts about the project, 40 sets of steel/scaffolding tubes/wooden boards have been installed and an estimated 800 tons of debris removed in clearing the three falls.



*End of the third fall with the crash barriers installed.*

It should also be said that the project would not have happened without Pete Fleming, who suggested that this would be a good one to do as a fill in between other projects, and Pete Blezard; without his experience as a mining engineer none of the projects carried out over the years would have been done, and we owe him a great deal of gratitude for teaching us proper mining techniques, which has put CATMHS at the forefront of underground digs by amateur groups in the country.

Warren Allison.

## Greenside mine meet 13<sup>th</sup> September 2015

Meet leader Warren Allison, Mark Hatton, Robin Brackenbury, Rachel Collyton, Richard Shaw, Kevin Timmins, David Taylor, Christine Walmsley, Alan Taylor and Carol Makin.

This meet had been advertised as 'bring a guest' with helmets and lamps provided, and so two members and seven guests met at the Glenridding Information Centre before travelling up to the mine. Having got changed a brief overview of the history of the mine was given and the trip was explained using large plans. Richard Shaw from the British Geological Survey had also joined us as he was interested in collecting a water sample and piece of country rock from deep inside the mine for a project the BGS is running on microbes surviving and growing in those unusual conditions where they are not reliant on Carbon for their food source.

We dropped down into the level through the concrete tubes (the door has recently been re-painted by Mike Mitchell) and proceeded up the level. For most people this was their first trip underground, so the method of driving the level using hand drilled holes and gunpowder was explained. There were lots of photographs being taken as we slowly walked up the level, eventually reaching the vein where the water rises from the flooded stope. Using the plans the extent of the workings was explained, which amazed those on the trip.



*Two of the three concrete beds for the air compressors in Warsops Cross-cut where it enters the electrical switch room*

We soon reached Smiths Shaft where we stopped for lunch before walking onto the bottom of the shaft from the Alma Level, having first passed Hick's Sump. On the way back we visited the large stope above the Lucy Level before calling in at the electrical switch room. During the trip old photographs were used to show what it was like when the mine was working.

We arrived back at the cars at 4pm having had a very enjoyable The idea for members to bring a guest is to encouraged as it is a way of introducing potential new members to the society.

Warren Allison.

*Part of the stope above the Lucy Level near Hicks sump.*



be

### **Tilberthwaite Meet, 20<sup>th</sup> September.**

Four intrepid mine explorers met at Tilberthwaite Gill on a bright autumnal day. A quick chat about route options and we set off. The first visit was into Penny Rigg slate working, which tell many stories of their history and the quarrying techniques used over the centuries that this area was worked. We then walked up the old leat and explored the water adit along the edge of the Gill. This adit is very colourful in places and ends in a beautifully arched section. Well worth exploring. We then crossed the Gill and looked in some ancient workings beside the path which suggest Elizabethan origins.

Onwards and upwards to Bensons Lode and the many surface features and workings of Tilberthwaite Copper Mines. Very little imagination is needed to see the amount of industry and engineering that is everywhere here. The work to divert the river, the ruined buildings, the deep open workings and the short levels all speak volumes of the history of this place and the men who worked here.

We then walked down in to the Gill to visit Waterfall Level. A fascinating working in a particularly beautiful setting that well rewards a visit to its colourful depths. And thankfully the Gill was so low that none of us got wet feet. We then followed the bed of the Gill downstream to visit the old “double decker” workings before climbing out and peaking in some deeply flooded workings by the main path.



The final working visited that day was Horse Crag Level. The long walk in to the working end of the level gave us all plenty of time to marvel at the work needed to create and then re-open this level. And then reaching the CAT digging team (John, Colin and Warren) we saw at first hand the work that they are doing to clear the level. We stood in awe as we watched how this team filled buckets, carted them back up the level and tipped them into a wall of dumpy bags. Shifting hundreds

of tons in thousands of bucket loads over the years has got this team almost within touching distance of their goal. A thoroughly stupendous effort.

Returning to day we all agreed that Tilberthwaite offers the most varied, interesting and exciting sets of mine workings over such a relatively small area. Well worth future visits to further explore the history, geology and engineering of this beautiful place.

Mark Hatton

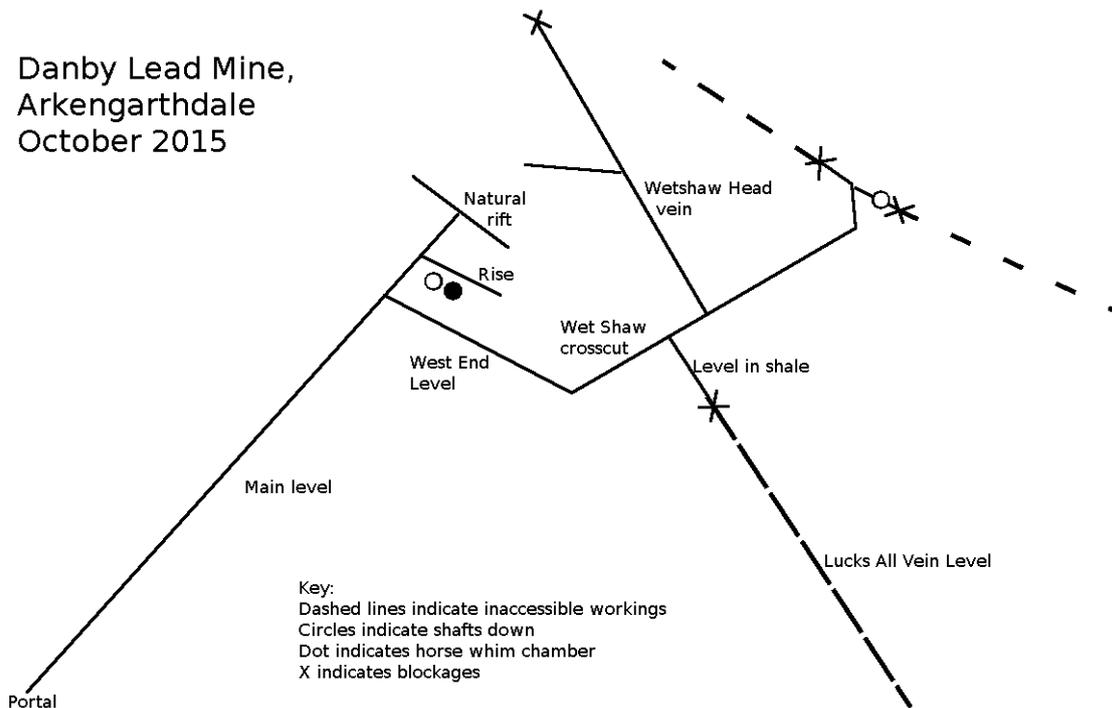
The next scheduled trip of this nature is the visit to Rigghead Quarries in Borrowdale on Sunday **7<sup>th</sup> November**. Involving a strenuous walk up to a series of interesting adits and a closehead with lots of Matt Spedding tunnels to look at. Followed by a trip in to the Bottle Mine which is literally full of bottles over 100 years old. Meet at Rosthwaite Village Hall car park for 10am start. Please contact Mark Hatton on 07774499589 or [mhatton304@aol.com](mailto:mhatton304@aol.com) if you wish to attend.

## Danby Level, 3<sup>rd</sup> October

Present Chris Cowdery (ML), John Aird, David Harper.

This trip was intended to be a continuation of the visit in April when a bolted ascent up a shaft was started.

The group parked by the roadside, and walked up to the level entrance. Removing the sheep gate afforded easy access, and the group rapidly made progress along the dead-straight level to the West End Level branch.



The planned shaft ascent was motivated by historical records indicating workings 9 fathoms above the horse level, and the fact that a blockage shown on the survey made by Mark Simpson in 1993 could possibly be passed via this route and give access to a large amount of Victorian level.

Before continuing the bolting however, the ML decided that it would be worth inspecting this blockage, so the group set off down the West End Level. The blockage was encountered, and found to be dug! Passing through the dig gave access to more level, and then a further group of digs, all just about passable with care. Access is possible to Wetshaw Head vein, which terminates in a grotty dig at the Surrender boundary. Lucks All vein seems to be drive in the shale and is in a very poor state, eventually collapsing completely. This is a pity as it should continue for a considerable distance. West End Level terminates in a fantastic arched bifurcation, giving access to two working areas, presumably main production areas. Neither continue very far on account of collapses, but some exploration possibilities presented themselves. A stemped rise was also noted just after the sequence of digs, which may be another way up into the workings 9fm above the horse level.

After this unplanned excursion, the group returned back to the junction of West End Level and the main horse level, and partook of sustenance. Then the bolting activities started, the ML placing 14 bolts before a lack of both bolts and time ended the days activities. The ascent is a couple of bolts short of seeing if a level is accessible, and the shaft / stope continues upwards.

### **Fagnergill. 4<sup>th</sup> October.**

Present Chris Cowdery (ML), John Brown, John Aird, Pete Brookdale, Duncan Jones, Chris Twigg, John Green (guide) and Dave Carlisle (backup guide).

Dave started proceedings by showing everybody his survey of Fagnergill, and giving a potted history of the mine.



Forthwith the group entered the mine, and proceeded along the very wet Old Vein Level (the ML used his waders to great effect), Dry Drift and Fourth String South to the bottom of Hurgill Shaft. Then the group passed through the Easter Rifts to Stow Chamber and thence Langthwaite Cavern, finishing at the fine chalk drawing of Doctor Hodgson. The return to the bottom of Hurgill took a shorter route, recently dug, to avoid the strenuous and complex Easter Rifts. Navigation on this shortcut proved a challenge even for our competent guides. After 'bait', the group returned to day via a different route.



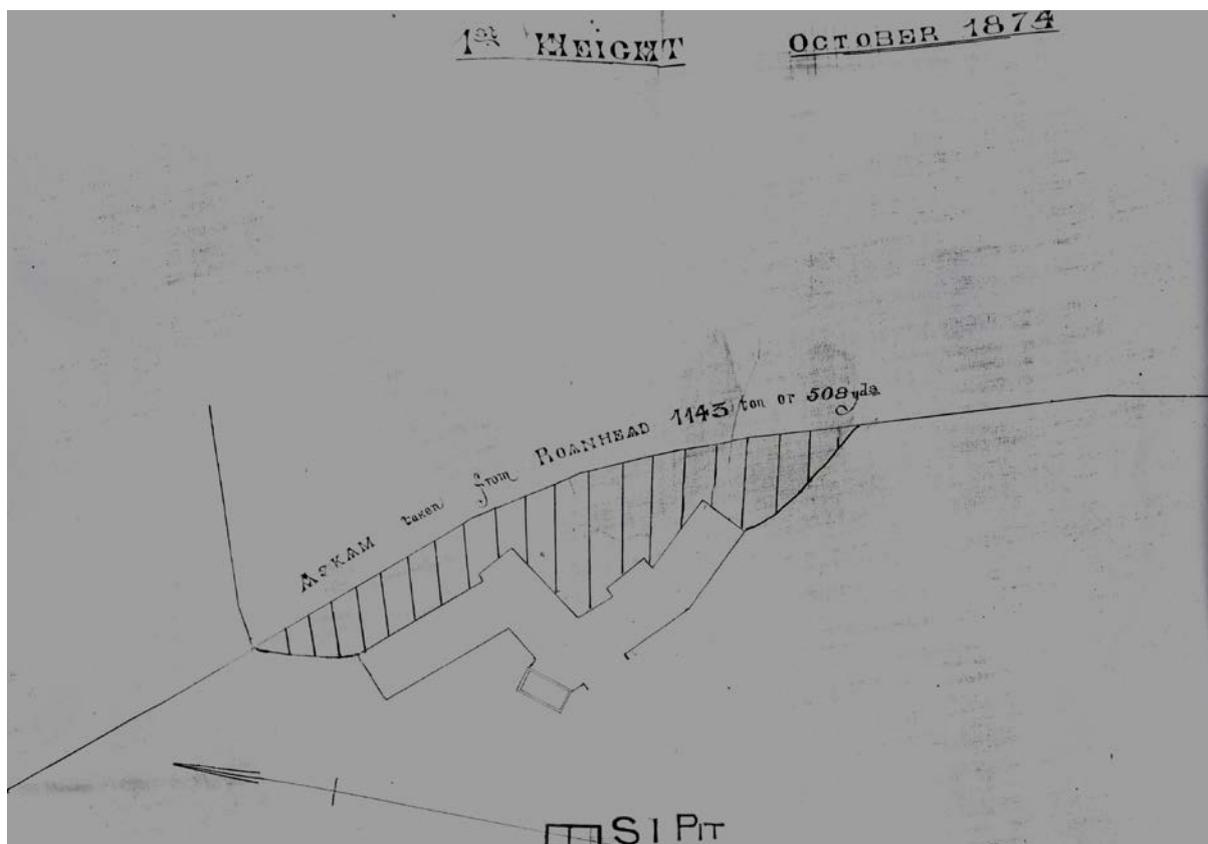
An up to date synopsis of Fagnergill is available in Chapter 31 (Volume 2) of Caves and Karst of the Yorkshire Dales.

### Trespass: Kennedy v Furness Iron & Steel Co

The Greenscoe mine was worked by the Furness Iron and Steel Co from January 1869. It was on freehold land, property of W A Mackinnon and it was only a matter of months before there was an angry exchange of letters with the previous lessors. On 21st May there was an outbreak of the running sand (sand and water slurry, described as "pissing sand" in Wadham's diary) on the Greenscoe side and Myles Kennedy's men built a dam to protect the pumps in Roanhead S2 pit. Roanhead was another freehold estate, property of Col. T Myles Sandys. E Talbot, the Furness Company's manager wrote that Kennedy was preventing 150 men from working and had stopped the supply of ore to the furnaces. "... and requires you to remove the said dam".

Myles Kennedy replied: "*Sir, Any dam that I have erected has been in my own ground and workings (and in which I cannot possibly see that you have any right to meddle) to prevent sand and water coming from your mine and endangering mine. Someone employed in your mines has been in my ground and to a great extent pulled down the dam. And I now give you notice that should this be repeated when I have again erected the dam I shall proceed against the proprietors of the Askam furnaces for the great damages that are certain to arise should my pumps be stopped from you sending your sand into my pits. I am, sir, Yours truly, Myles Kennedy*"

The trespass working was discovered in October 1874.



*Plan of trespass workings in the first height of S1 pit*

Affidavits were sworn on 6 September 1878 as the case came to arbitration. James Park said that Kennedy's men were working in their mine in the Roanhead royalty when they broke through and came suddenly upon an open space, which space was on a lower level than they were working. They looked through the opening and could see candle lights below and men at work. The space appeared about 20 Ft below. They spoke to the men, they were not Kennedy Brothers men but men in the employ of the Furness Company. The underground captain at once communicated the circumstances to Messrs Kennedy Bros manager, Henry Kendal. Once the plans had been examined and the Furness Company shown to be trespassing, Edward Wadham was sent for as mineral agent to Myles Sandys. Wadham's surveyor was denied access to Greenscoe mine to estimate the damages.

The arbitration was heard at Furness Abbey on 20 - 22 May 1878 before John Bewick, umpire and Edmund Ray and John Dixon Kendal, arbiters. Robert Ducker, an underground Captain, swore that he saw the men working at a lower level, they were in the Ronhead royalty but not Kennedy's men. He saw the men push the ore with a bar which caused the ore to run down to them. Thomas Ormandy, another underground captain remembered putting in a pillar of wood in the Roanhead royalty which was undermined by the FI&S men. Humphrey Williams, a miner working in S1 pit spoke of the wood in the drift where he was working falling in. It was in their lowest workings at that time and the ore that ran down to the lower level was cleared away by the men who were below. From the ore being taken away by the FI&S Co.'s men it was necessary to put in pillars of wood for protection. Henry Melon stated that the FI&S men were very uncivil when asked a question.

Kennedy claimed for 1782 tons of ore but expressed his disappointment with the award of £4654 plus £238 costs based on 1064 tons taken.

John Harris was the founding partner of the Furness Iron & Steel Co with engineering experience. He died in 1869 and William Crossley was brought in to replace him. W A Mackinnon Jr had Greenscoe House built for him and he was awarded a single share in the ironworks, as well as the position of director and manager. Following the arbitration he filed an affidavit to the effect that he had hired Stephen Hart Jackson on 16th May to represent FI&S Co. Hart Jackson had not previously been concerned with the reference or employed by the Furness Co. Stephen Hart Jackson had attended on 21, 22 and 23 May and had the sole conduct of the case but in employing SHJ, Crossley had acted on his own responsibility and without reference to or assent from his co-directors. He did not communicate the progress of the case to them until he showed them the award.

It sounds as if the parties were heading for another round of arbitration but on 18th August 1879 the FI&S Co went into liquidation with debts of £98,335 19s 6d against assets valued at £47,514 2s 8d. At this stage Kennedys were owed £7473 14s 9d for the award, plus ore supplied to the furnaces. Peter Sandbach.

## References

BDKF261/2/13/21 at CRO, Barrow Correspondence re dam

BDKF 261/2/8 Affidavits of James Park and William Crossley

### **Askam mines: Kennedy v Mackinnon**

William Alexander Mackinnon MP, chief of the Clan Mackinnon inherited the estates of Greenhaume and Greenscoe from his father in law. He gave a prospecting lease to Charles Storr Kennedy and this was converted to a 21 year lease of the mines on 1 January 1849. C S Kennedy died in March 1857 and the search for ore was continued by his sons Myles and Charles Burton. It was only in December 1862 with 8 years of the lease remaining that a large deposit of ore was found on the Greenscoe estate. (The smaller deposit on the Greenhaume estate is the subject of a separate article).

C B Kennedy married Elizabeth Park and had two sons, Charles Storr and Myles Burton Kennedy, but died in 1865 at the age of 32, leaving the mines under the sole management of Myles Kennedy. 1865 also saw the purchase of adjoining land at Chapman's Lot for E T Wakefield and the Furness Iron and Steel Company.

At the inauguration of the FI&S Company in March 1866 the initial partners, John Harris, E T Wakefield and John Shapter were credited with £5000 each for their investment made so far in land and in the unfinished ironworks. They were joined by W A Mackinnon, MP and his three sons, William Alexander Mackinnon Jr, MP, Lauchlan Bellingham Mackinnon, MP and Major Daniel Henry Mackinnon. (In fact W A Mackinnon Sr had recently retired as MP, Lauchlan taking his seat.) The Mackinnons held 30 of the 65 shares issued and W A Mackinnon Sr was appointed chairman.

Contracts were signed for Askam ironworks to take the ore from the Askam mine, and relations between the mining company and the landowners appeared friendly, as shown by this letter:

*Hyde Park Place, London*

*My Dear Sir, I should be pleased if you were to be considered to work the mines as you do at present when the lease is gone. No one is likely to do it so well and with so much diligence and activity as yourself and I do not think any other person would do it to more advantage. I also think that you would if agreeable become a member of the Company. We have been grand friends for many years and I do not see why any change should take place. Believe me my dear sir, Truly yours, W A Mackinnon*

The terms offered for a renewal of the lease included that the royalty should be raised from 1s 6d per ton to 2s 6d per ton and that the lease should apply to the present mine only. However, agreement was never reached; instead it was settled that the landlord should buy back the lease at a valuation reached by W B Turner for Kennedy Bros, and Henry Poulson Bowling for the Mackinnons.

On 26 November 1868 the valuers settled on £3440 for the remaining term of the lease and £3560 for the fixed plant as described in their inventory:

### **Inventory**

The following is a copy of the valuation of Mr Davison and Mr Turner referred to in the said memorandum.

Askam Mines. Valuation of plant agreed between Messrs Turner and Davison November 7th 1868.

No4 pit	Drawing engine fit up complete with boiler in good order. Mountings, steam pipes &c. Two wire ropes with shackles and couplings, fixings connected with same, water tank, taps, feed pipes &c.	£325.0 0
No4 pit weasel engine	Drawing engine fit up with wire ropes, winding gear, signal bells &c	£110.0.0
Saw mill	Engine fit up with pumping gear and driving saw mill with boiler and all mountings. One circular saw bench with 2 saws, sprags &c	£215.0.0 £20.0.0
No5	Engine fit up for pumping with strong gearing, boiler and all fittings. Drawing engine in the same house with boiler, fittings, wire rope &c	£500.0.0
No7	Engine fit up for drawing with all gear, steam pipes, wire ropes, tank &c	£160.0.0
No4	One set of pump trees about 50 Yds with working barrel, clacks, boxes, L legs, pulleys &c	£45.10.0
No5	One set of pump trees, working barrel, clack boxes, rods, L leg couplings, &c	£89.0.0
No7	Pumps, working barrel &c	£14.10.0
No6	Pumps & bore, working barrel, clack box, L legs, connecting rods, wire rope &c	£20.10.0
	Pit top plates	£20.0.0
	4 pit head gear, sheaves, slides & framework connected with same	£200.0.0
	52 bogies in working order	£260.0.0
	Picks, spades & jumpers	£20.0.0
	8 cages and 4 tumbling tommies	£38.0.0
	Locomotive house, feed pipes, valves &c	£20.0.0
	Weighing machine complete with house	£75.0.0
	Underground metals, 20 tons at £4	£80.0.0
	3216 Yds of rails at 65 lbs to the Yd=93 ton 6cwt @ £5 per ton	£466.10.0
	583 Yds do @ 41lb to the Yd=10 ton 13 cwt @£5 per ton	£53.5.0
	3224 chairs at 23lb each = 38 tons 2 cwt @£4.15.0 a ton	£157.4.6
	582 chairs @ 14 ¼ lb each = 4 tons 4 cwt @ £4.15.0 a ton	£19.19.0
	1913 sleepers @ 3s 6d each	£334.15.6
	11 pairs of points, 12 crossings and 8 switch boxes	£10.0.0
	<b>Total</b>	£3559 4.0

This valuation includes all timber erections.

W A Mackinnon then disputed the valuation on the grounds that Kennedy had no right to remove his plant. They were fixtures attached to the soil and therefore became the property of the landowner. He did not live to see the dispute settled, as he died in April 1870.

In 1871 Joseph Rawlinson was allotted 40 FI&S Co shares, and over the next few years the company took over his mines at Plumpton, Goldmire, Thwaite Flatt, Carkettle, Crossgates, Highfield, Pennington and Poaka openworks. He provided a long affidavit which, among other things explains the square holes found in engine beds. He said that he was then 50 years old and had



All



*brick or concrete engine beds have square holes as described by Joseph Rawlinson, sometimes with the wooden formers still in place. This example is the Hathorn Davey engine bed at Yarlside No 11.*

*The manhole at the base of the engine bed. This one is Sandscale No2 winding engine.*

been engaged in mining in this area for over 32 years with his late partner Robert Town. He had worked copyhold land in the royalties of the Duke of Buccleuch, Duke of Devonshire, Lady Derby and Lady Muncaster as well as several freehold lands. Because of the possibility of subsidence the common practice is to construct all tramways, engines, engine houses, engines and plant so that they may be easily removed. He stated that he had moved these items both within one mine and between mines and that it is the practise within the district to remove all engines, engine houses and machinery at the termination of a lease.

He described how wooden pipes (or in the case of brick or masonry work, holes without pipes) are built in perpendicularly in the engine bed. The framework of the engine is built on a cast iron bed plate which rests on a timber frame. The frame is placed flat on the brick or masonry work which in turn rests on the soil. Hold down bolts are passed downwards from the engine through the pipes or holes and secured by a common cotter and washer. Square openings in the brick or masonry work (called man holes) are purposefully left so that the cotter can easily be taken out. The said iron rods can be easily unscrewed and removed and the engine then becomes entirely free and can be lifted without any damage to the brick and masonry work. He goes on to describe how the winding drum could be removed in a similar way and the boilers could be lifted out after the removal of a few bricks.

The case was heard on 11th November 1872 before Vice Chancellor Vickers. Messrs Kennedy succeeded altogether, with costs. The following year Myles Kennedy became vice chairman of the North Lonsdale Iron and Steel Co. Neither the Furness nor the North Lonsdale Co ever produced steel. During the Kennedy's lease production rose rapidly to 147,000 tons in 1868. This output was never reached again but the mine worked until 1909 under the FI&S Co and their successors the Askam and Mouzel Co and the Millom & Askam Co.

Peter Sandbach.

References:

BDKF 261/1/3 at CRO, Barrow, papers in Kennedy v Mackinnon  
 BDKF 261/2/13/21 Mackinnon letter  
 BDKF 6/47 Judgement, Kennedy v Mackinnon  
 BDKF5/1/1 Ledger of iron ore carted from W A Mackinnon's mines  
 BT31/1242/2946 at PRO, Kew, Board of Trade papers relating to FI&S Co

### Henry King Spark and the red mud of Greenhaume (Dalton in Furness)

Production at the Greentarn mine began in May 1848, before C S Kennedy's lease was signed. Kennedy himself can have played little part in the mine because in 1850 Theodora Kennedy wrote to W A Mackinnon: "...Papa's present state of health does not allow him to interfere in the least with business matters. We cannot consult him in the present instance. I am, dear Sir, Yours Truly, Theodora Kennedy". Nevertheless, he lived to see the mine worked out. It produced 7400 tons in 1849, declining to 870 tons in 1853 and then nothing. This ore was carted to Crooklands sidings and the royalty payment was based on the calculation that a cart carried 12 cwt. I believe that Greentarn must be what was later called Greenhaume openworks and has now been filled with bypass spoil.

Henry King Spark was a chancer in the style of Robert Maxwell. He began work as a compositor and became proprietor of the Stockton and Darlington Times. He was involved in various partnerships in coal mines and railway companies in which he generally came away with the assets and his partners became poorer. He was active in politics and sought election as the Liberal MP for Darlington on three occasions, without success. He took a takenote for the Greenhaume estate on 30 September 1869 from W A Mackinnon Sr, but there were objections. Mackinnon was tenant for life but his son claimed that at the age of 80 he did not have the authority to sign a 21 year lease.



THE PRESENTATION TO MR H. K. SPARK, OF DARLINGTON.—It will be remembered that soon after the election of 1868 a testimonial to Mr H. K. Spark, one of the candidates for Darlington, was started. Besides a presentation of plate to Mr Spark, it was arranged that a portrait of that gentleman should be painted, and presented to the town of Darlington. The portrait has just been sent into the Council Chamber, Town Hall, as a present to the Corporation. A plate is appended to the portrait, which is one of full length and an admirable work of art, bearing the following inscription:—"Portrait of Henry King Spark, Esq., presented to the Corporation of Darlington, A.D. 1869, by 3,000 subscribers, in commemoration of his public services."

Newcastle Journal, 31 May 1870

*The portrait of Henry King Spark presented to Darlington Corporation in 1869. Reproduced here by permission of the Centre for Local Studies at Darlington Library.*

W A Mackinnon Jr demanded an increase of 3d a ton on the royalty of 1/9 a ton, and that the new lease should be confined to the existing mine. It was Mr Spark's mine manager, W A Moon who replied to the demands, saying that Mr Spark was in a disturbed state of mind after hearing the new conditions, and had only just been dissuaded from taking the next train to London to argue his case. Mr Spark had spared no pains or money to develop the royalty fully and properly and he (Moon) had been given unlimited powers to expend money and employ men. He (Spark) had acted very differently from the previous lessee, who professed to have explored every portion of the Royalty and left it discredited, whereas under Moon's direction, with Mr Spark's capital, ore has been discovered and the discredit removed ..... and so on for three pages, ending with a plea for a 42 year lease to secure the most thorough exploration. The lease was signed on 22nd April 1870, a week before the death of W A Mackinnon Sr. It was for 21 years with a royalty of 1/9 a ton, but Mr Spark had persuaded Mr Mackinnon to build a row of 14 cottages to house the miners.

Complaints began to arrive soon after:

From W&J Sparrow, Bilston ironworks, Wolverhampton 23 Dec 1870:

*"What we bought off you was haematite ore, what we received is red mud which is no use to us, will you come over to our Stowheath works and inspect the same at your earliest convenience and oblige.*

From Parkhead, Dudley 3 Jan 1871:

*Dear Sir, I have been working the last 4 days the red ore you sent here on trial. It is the worst stuff I ever tried. It is not worth 12/- per ton and if you charge me 22/- the experiment will cost me £50.*

From P Williams & Co, West Bromwich 15 Dec 1871

*Dear Sir, pray don't send us any more of that stuff you call red ore. It is nothing else but red mud with grass growing on it.*

The cottages were built and leased to Spark on 5 Sept 1873 for 18 years at £155 a year, at which point he sold out to Pearson and Knowles. Greenhaume produced 28,900 tons of ore under H K Spark's ownership and a further 301 tons under Pearson & Knowles.

John Pearson and Thomas Knowles were Wigan colliery owners with no plans to become the Greenhaume Mining Company. They planned to act as brokers, buying the cottage and mining leases, registering the company and selling it to Thomas Littler for £7000. They paid H K Spark £100 each for the cottage and mining leases, formed and registered the company and planned the sale for the 8 January 1874, at which point Thomas Littler backed out.

A clause in the agreement gave Mr Spark a 10% of the Greenhaume Mining Company and the option to buy back the mine if the company failed. The mine was abandoned on 9 August 1876 and offered to Mr Spark at a valuation of £2400, complete with 6598 tons of ore in

heaps, but by then Mr Spark's creditors had caught up with him. Pearson and Knowles were stuck between Mr Mackinnon demanding his rent, Mr Spark insisting on his right to buy and Mr Spark's trustees, who were simply uncooperative.

When Mr Mackinnon asked if the timber at the mine could be sold to pay the ground rent he was informed that some of it had been stolen for firewood and the rest had been exposed to the weather and was now only fit for firewood. The offer to pay the cottage lease in ore did not go down well: "... considering that I receive £155 per annum without the expense of collecting the rents and keeping the cottages in repair, the offer of £350 seems insufficient, especially as Mr Pearson proposes to pay me in ore instead of money. In these times it is difficult if not impossible to sell inferior ore such as that at Greenhaume and I should be incumbered with useless materiel, which by long exposure to cold and wet would every year deteriorate in value ....."

Eventually he accepted the plant, now valued at £274 8s, and 5568 tons of ore in heaps for termination of the cottage lease. In a letter dated 21 June 1879, John Pearson wrote "*the company had given up the lease after thorough exploration at Great Cost and without any return"*

The plant was auctioned on 27th August 1880 and raised £285 18s 9d, less costs of £34 13s 1d. The only bid for the ore was 1/- a ton. Mr Mackinnon was advised that it might sell at 2/- a ton if he reduced his royalty from 1/9 to 9d a ton.

TO BE LET,  
THE  
**Royalty for Iron Ore,**  
UNDER THE  
GREENHAUME & GREENSCOE ESTATES,  
TOGETHER WITH  
14 MINERS' COTTAGES.

*For particulars, apply to SALMON and  
MAJOR, Solicitors, Uiverston, or to JOHN  
S. SAWREY, 14, Union Street, Uiverston.*

RDKE/4/16

**Greenhaume Mines,**  
DALTON-IN-FURNESS.  
CATALOGUE  
OF  
**MINING PLANT**  
**IRON ORE,**  
MACHINERY, AND WORKING TOOLS,  
INCLUDING A LARGE QUANTITY OF  
LARCH PIT-WOOD, STEEL RAILS,  
CHAIRS AND SLEEPERS,  
5-Ton Weighing Machine,  
PUMP COLUMNS, BORING GEAR,  
COMBINED DRAWING AND PUMPING ENGINE,  
TWO BOILERS & FITTINGS, &c., &c.,  
WHICH WILL BE  
**SOLD BY AUCTION,**  
By **Messrs. Casson and Chamley,**  
AT THE GREENHAUME MINES AS ABOVE.  
*On Friday, the 27th of August, 1880,*  
At ELEVEN o'clock prompt,  
Unless previously disposed of by Private Treaty, in which case due  
Notice thereof will be given.

*Catalogue of the auction of Greenhaume Mining Company plant.*

Eventually the mine and cottage leases were sold to the Millom & Askam company for £200 but they did not work the mine.

Henry King Spark went into receivership on 13 July 1876. There were debts of £33,502 against assets of £344,431 and the creditors were promised 20/- in the pound within 12 months. He was released from bankruptcy on 25 November 1882 at a remarkable meeting in which Mr Bloomer, chairman of the trustees, asked to read a statement opposing the motion. When permission was denied he passed the statement to the waiting press. He mentioned the Workington colliery, for which Mr Spark had failed to find a buyer, the Merybent Mining Company, now in liquidation, and the Greenhaume mines which had been sold at a considerable loss. His share of Shincliffe Collieries was still on the books, valued at £150,000 but had been sold in 1869 for £50,000. All that was left were Keswick lead mines which had been raising lead ore to the value of £300 a year, but at a loss of £1200 per annum. Mr Spark placed a value of £50,000 on the concern. In spite of Mr Bloomer's statement the creditors accepted a settlement of an eighth of a penny in the pound. The debts were now over £80,000. Spark then retired to Barnard Castle and died in 1899 at the age of 72. His last venture was said to be a small barytes quarry in Westmorland.

William Alexander Mackinnon sold the Greenhaume and Greenscoe estates to J Clegg on 16 February 1891. There was a persistent rumour that somewhere between Elliscales and Park lay another large deposit, one that had eluded two generations of Kennedys, H K Spark, and the Greenhaume Mining Company. The local mining companies gave it no credence, as shown by their absence from the sale of 1880, but another group of prospectors came to try their luck in 1902. They were Philip Lancashire Booth, a surgeon from Barrow, William Henry Chapman, a Whitehaven solicitor and Joseph Huntruds, a Workington iron merchant and they also registered their company as the Greenhaume Mining Co. The landowners now were Jane Clegg and Emma Ramsey. The take-note was signed on 24 December 1902, the company incorporated with 5000 £1 shares on 25 April 1903, and the lease signed on 24 February 1904. The take-note included a payment of £150 for plant left by the previous Company. 3500 tons of ore was raised in 1904 but in August 1906 the company were behind with the ground rent and requested a take-note for one year to complete the shaft. No more ore was sold and the company went into receivership on April 2 1908.

Finally about 1984 the FMA dug in Green Tarn field in an attempt to find the inclined shaft sunk by the second Greenhaume Mining Co. We only found the red mud.

One detail I left out is that a clause in the lease of the second Greenhaume Mining Co was to cause no interference with Mr Baynes's magazine. Edmund Baynes was the agent for the Hamburg Dynamite Co and lived at Sea View, Ulverston. That is where CATMHS member and Newland Furnace Trust chairman Dave Robson lives now.

Peter Sandbach

### References:

BDKF5/1/1 at CRO, Barrow Ledger of iron ore carted from W A Mackinnon's mines

BDKF5/10 Theodora Kennedy letter

BDKF7/13/6 W A Moon's letter

BDKF5/1/1 Letters of complaint

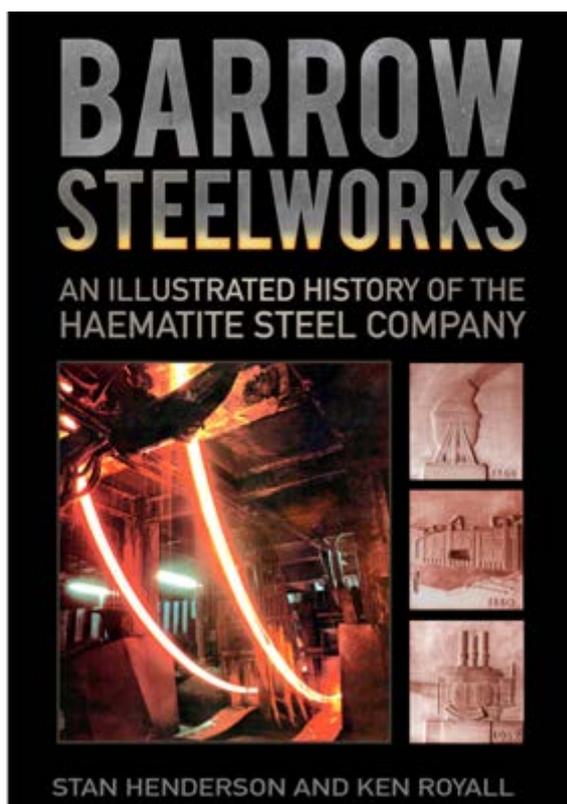
Northern Echo, 25 November 1882 - Bankruptcy of Mr H K Spark, resolution passed in favour of discharge.

Northern Echo, 24 November 1899, obituary of H K Spark

The Lancashire and Westmorland Mineral Statistics, R Burt et al

Z884 at CRO, Barrow, Greenhaume Mining Co in receivership, 1908

### New Book



For further details contact:

Cumbria Archive and Local Studies Centre,  
Ramsden Square, Barrow-in-Furness

Tel: 01229 407377

### **From the CATMHS Archive**

As I have gone through documents in the John Ruskin Museum Filing cabinet I have come across the two below. These I have both scanned and also retyped to aid readability and clarity. Talking to Warren, he had not seen the A34 document so perhaps they would make an article for the newsletter. Others may not be aware of their content.

Colin Woolard.

### **REPORT ON ROUGHTENGILL LEAD MINES – 1853**

Sir,

Having by your request inspected the above Mines, I beg to give you my views of their future prospects. As the Mines have already been inspected and their situation given, I will not enter into this detail, but suffice it to say the Mines are very advantageously situated, the lodes running into a high mountain, thereby enabling you to carry on extensive operations without any expensive outlay of machinery.

The South Roughtengill lode, the one on which most extensive operations have been carried on, has been worked through a day level driven in the side of the mountain, which intersects the lode about 60 fathoms from the surface. The lode has been driven on West from this cross cut upwards of 200 fathoms, and 70 fathoms through a continuous course of lead, with other small bunches of various lengths. At the commencement of this large bunch of ore, the lode, which is a very fine one generally from 6 to 12 feet wide and occasionally much larger, is composed of gossan, friable spar, Carb' of Lime with Phosphate and Carb' of Lead, but on getting further into the bunch of ore, the ore part of this lode was by far the greater portion cubical galena or sulphuret of lead, producing more than an average quantity of silver. The ground above the 60 fathoms level has been worked over a series of years by different parties, from whence they must have had great returns.

In order to prove the productiveness of this lode below the 60 fathoms level, before commencing a deeper adit, a hydraulic pressure has been erected in the 60 fathoms level, and a shaft run through the surface, from whence it is supplied with water. By the aid of this the Mine has been sunk to the 70 fathoms, and the level driven through the same run of ore, which from all appearances is getting more productive in depth. Preparations are making to continue this shaft to communicate with the 90 fathoms level, which is now being driven.

The 90 fathoms level has been driven to intersect the lode, and the lode driven on about 70 fathoms. The lode in this level is still of great size and is a remarkably fine looking lode, and as far as driven not without lead, but it has not yet been driven sufficiently to intersect the bunch of ore spoken of in the level above. The level is now being driven for £4 per fathom, the ground being soft, which will enable you soon to get under the shoot of ore. This will give you 40 fathom backs, from which I have no doubt you will have a very large quantity of ore. In addition to this, as soon as the shaft is holed to the 90 fathoms level, the Hydraulic can be removed to that level and the Mine continued to a much greater depth by this simple machinery, thereby for many years to come, no machinery will be required.

Nothing has been done East in the lode from the 60 fathoms level cross cut, there being but little backs, but from the 90 fathoms level 40 to 50 fathoms backs can be had, and as this lode will be intersected on this direction by other fine looking lodes, I consider it a very important part of the Mine, and at the junction rich deposits of lead may be expected. The lode in the West end of the 60 fathoms level has been disordered by change of country, but as you continue to have great advantages of high backs and an immense length in this direction, you will in all probability by continuing its driving meet with other bunches of lead.

This large lode, even at the 90 fathoms level, has the appearance of being of more than ordinary size, I do not expect to see it at its full bearing and productiveness until it is wrought even much deeper than the 90 fathoms level, when I have no doubt it will prove a great and profitable Mine.

At the Silvergill Mine a 60 fathoms level is being driven West, which will come under some very ancient workings, and where from all appearances, extensive openings have been made as deep as the 20 fathoms level, and much lead ore raised, which has proved to be rich in silver. The lode, throughout the driving on the 50 fathoms level, varying from 3 to 12 feet wide, is composed of fluccan, quartz, Carb' of Lime, with good lead, and occasionally very fine specimens of Copper.

As this lode is very easy, also the country, little time is required to drive this level under the ancient workings, which will give 30 fathoms backs for a large run of the ground, and as this lode is becoming rich in depth, there can be no doubt of having large returns from this lode a considerable time – about 140 fathoms East of this lode is the 90 fathoms level cross cut to Roughtengill Vein, which also has intersected the Silvergill lode, where it has the same fine appearance, and will give another 35 fathoms backs, and a much greater length on the course of the lode. The Silvergill lode runs into the South Roughtengill lode some distance East of this cross cut, the junction of which has not yet been seen, but I should say a very desirable and most important point to be arrived at, it being already proved where the intersections of the different lodes take place, they have been considerably enriched. The Mexico Mine, a short distance East, has opened the Silvergill and North Roughtengill lode by a 40 & 60 fathoms level, now driving towards the intersection of the 2 lodes. The lodes are exceedingly promising, producing red and grey oxide of Copper and Sulpharet and Phosphate of Lead.

The Mexico is a very valuable part of the Mine and will no doubt add much to the returns. The greater proportion of the returns made by the present proprietors have been the produce of the South Roughtengill lode, the present returns being from 35 to 40 tons per month.

As soon as the 90 fathoms level is driven under the bunch of lead, these returns will be considerably increased. A new "Stamp" and "Crusher" is now being erected in readiness for dressing an extra quantity of lead. Very convenient smelting works have been built at great cost, and are now capable of smelting 100 tons of lead per month, and might very quickly be increased to smelt double that quantity. I am convinced as soon as the 90 fathoms level is driven, enough ore can be returned from the South Roughtengill lode alone to supply the present smelting works, and if the various lodes in this neighbourhood are prosecuted by a moderate capital, with the advantages they have, there can be no doubt of making Mining and Smelting a profitable investment. One important part of the Smelting business to be looked at are the Coals, but they can be rendered at the works for 12/- per ton, which is a very moderate price.

I am,

Your obedient Servant

Wm. Mitchell, Jun.

June 22<sup>nd</sup> 1853

To: Samuel Merryweather, Esq.,  
Caldbeck Fell,  
Cumberland.

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