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**The Newsletter of the Cumbria Amenity Trust
Mining History Society**



Coniston Copper Mines, by W G Collingwood

No. 116

August 2014

Cumbria Amenity Trust Mining History Society

Newsletter No 116, August 2014.

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Society Officers and Committee Members

Back cover

Cover picture

Coniston Copper Mines, by W G Collingwood. This is one of four Coniston watercolours owned by our late Patron, JWB Hext. They were sold at the auction of his effects in May 2010. W G Collingwood lived at Lanehead, Coniston, and was a friend and companion of John Ruskin. He was a notable artist, archaeologist, historian and author. He was interested in the Coniston mines and published 'The Book of Coniston' as well as several articles, including 'The Keswick and Coniston Mines in 1600 and later', CWAAS Journal V20, and 'The Leavings of the German Miners', CWAAS Journal, Vol 8.

News

Membership

We welcome new member Fred Rattray, from Kirkby Stephen. Fred is an active member of Bradford Pothole Club. He builds and uses radio location equipment for pinpointing positions for survey points and for locating possible entrances. He is also an active cave digger with experience of shoring up digs as well as the art of using plug and feathers.

AGM & Dinner

Just a reminder that, as for the past four years, our AGM and Dinner will take place at Rydal Hall on Saturday 13th December. To ensure our reservation, it would assist the Treasurer if members would book early.

CATMHS Development Plan

The purpose of this exercise was to sample member's opinions and to seek endorsement of the committee's approach to the future development of the Society. All 90 current CATMHS members were contacted with a copy of the Development Plan and asked to respond via the questionnaire.

Some 22% of the membership responded. This has helped the committee to understand the numerous differing perspectives members hold. A compilation of anonymous comments was collated and made available to the committee. From the results a forward plan is being evolved to reflect member's views and to show how we can move forward in preparation for the next AGM.

Our stated aims have proved acceptable and we have a mandate to carry forward our proposals. Clearly the web site and the archive situation are major issues which we have highlighted and will need some careful thought. The objective to pass archives to the CRO with appropriately preserved access seems to be accepted as a necessary. The issues of formal merger and closure plan, although recognised as an ultimate possibility, are not something that members seek at this time but many understand that it may become necessary if efforts to improve the active committee membership fail. Unfortunately in the survey elements "standing for office and delivering walks and talks" have not revealed additional resources over and above those currently involved.

In the interim, while a plan is formulated, it was agreed to take the following steps to move forward and to try to understand the issues and explore potential options.

1. It was felt that the Newsletter should remain the same and by default an email version to members. Paper copies would be available for those who prefer this media. To cover the need to offer greater precision of detail for maps, photographs etc. current newsletters would be made available on the members section of the website. It was felt that historic copies should be made available to all via the website after an agreed period.
2. It was felt that a very low young person (<25 years?) rate of membership should be offered with an electronic newsletter default to encourage any younger members.

3. The chairman will approach members to try to increase the active committee membership.
4. The chairman will start informal discussion with the CWAAS and CIHS to see if there would be mutual benefit in CATMHS aligning some activities with their membership. This would of course need to meet the Charity Commission requirements for collaboration with another charity but would help our public benefit objectives under the new Charities Act of 2011.
5. Hold discussions with the Archivist to scope outstanding work to fully list all material and arrange for transfer to a final depository.

Newsletter

After considering the response to the Secretary's questionnaire, the Committee has decided to distribute the Newsletter to members by email as a pdf, but will continue to post paper copies to members who prefer to have it that way.

I go to some trouble to print the Newsletter on good quality paper and to produce glossy cover. It is not intended that members who receive it by email should need to print their own copies. However, most photographs, diagrams and plans are brighter and clearer when seen on a good quality computer screen, and it is also possible to zoom in to examine fine detail.

For this reason each issue of the newsletter will be put on the Members' page of the website so that everyone with the appropriate equipment can, if they wish, study it that way.

Our newsletters contain lots of articles and information which could be of interest to anyone carrying out research. In order to promote our interests we think that this information should be in the public domain. In future we hope to place a pdf of past newsletters on our website, free of charge and with a searchable index. Those for the current year will be restricted to the members' page.

Heritage Lottery Fund grant application

In NL 115, it was reported that CATMHS was supporting the HLF grant application for conservation work at Coniston Copper Mines and Penny Rigg Mill which would also involve the LDNPA, The Ruskin Museum, Rydal Estates (landowner) and Mr P Johnstone (landowner). There are two phases to the process and it has just been announced that the application for £400,000 has got through the first stage which decides whether it meets the criteria of the scheme. There is no guarantee that all applications get through this first stage.

The second stage involves providing greater detail of the grant application and this work will be starting shortly. It is a great credit to the society and members who over many years have pressed for conservation work to both sites to be carried out and also a huge thank you, should go to John Hodgson (LDNPA Archaeologist) for all the work he has done to help get the application through the first stage.

A fuller account will be published in future newsletters.

Warren Allison

Shafts of Light

An exhibition of Mining Art in the Great Northern Coalfield

A salute to a once essential and powerful workforce, this exhibition illustrates the hard working conditions in and around the North East, through the eyes of miners, including Norman Cornish and Tom McGuinness

The exhibition is at Bowes Museum, and runs from 17th May until 21st September

A new coal mine for West Cumbria?

West Cumbria Mining has started a project to open a new mine off the coast of West Cumbria to extract coking coal, which is used in the production of steel and is currently imported. There are believed to be over 750 million tonnes of coking coal resources, and the company is aiming to develop a mine that would produce between two and three million tonnes of coking coal per year.

It will be an offshore mine and it is anticipated that it will be accessed from a site between Whitehaven and St Bees, next to the mine worked by Haig Colliery that closed in 1986. Discussions will start soon on the location of test boreholes.

Two drop-in events were organised by West Cumbria Mining to explain their plans for a new offshore coking coal mine, likely to be accessed from between Whitehaven and St Bees.

Work will start onshore offshore undertaken to and Company is from an

It is envisaged existing rail Whitehaven considered.



with a limited program of drilling this year and in 2015 an drilling program will be confirm the coking coal quality mineability of the seams. The only planning to extract coal offshore mine.

that coal would be transported by links and by ship from port. Road transport will not be About 20% of the material extracted would be waste rock, which would be disposed of by backfilling or perhaps deposited in the old anhydrite workings nearby. There would be no spoil tips on the surface.

Force Crag Mine Water Treatment Scheme

April 2014. The construction of the Force Crag Mine Water Treatment Scheme has been completed and the scheme is now operational.


Funded by Defra, the project is a partnership between the Coal Authority, Environment Agency, National Trust and Newcastle University. This is the first full-scale passive treatment scheme for an abandoned metal mine in the UK. It will help to clean up at least 10 km of river, and prevent 3 tonnes of zinc, cadmium and lead being discharged to Bassenthwaite Lake every year.

Construction started in September 2013, with the two 'vertical flow ponds' and wetland being completed by the end of March 2014. On 31st March, the valves were opened and mine water started filling up the ponds. Because the treatment relies on microbial activity to bind metals, it will be a few months before we know how well the system is performing

The Coal Authority manage and operate the scheme, with Newcastle University undertaking a year of intensive monitoring to provide information on the effectiveness of the treatment. These results will then be used for the building of future schemes in throughout country.

Newland furnace information display


A new information board has been designed for display at the furnace site




NEWLAND IRON FURNACE

A SCHEDULED MONUMENT

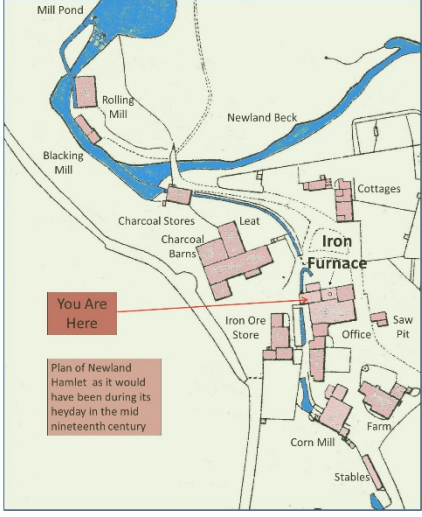
Built 1747 Closed 1891



Harry Stevenson
(Photo courtesy of the Stevenson family)



A photograph taken during the early days of the restoration work showing John Helme (left) and John Marshall



You Are Here

Plan of Newland Hamlet as it would have been during its heyday in the mid nineteenth century

History

Newland furnace was built in 1747 by Richard Ford and Michael Knott. Newland was chosen because of the excellent water supply from Newland Beck, a gentle sloping site and good access to raw materials and shipping point. At this point the company was called the Newland Company. The furnace stack was rebuilt in 1770 and is the stack that is in place today. Manufacture at Newland continued producing mostly pig iron and a forge was built in 1783 to convert some of the pig iron into bar iron. A rolling mill was built in 1799 and was the only one in the district at this time but it was not a success and closed in 1807. The Newland Company prospered under this name until 1812, when it became known as Harrison Ainslie and Co.

By 1828 the company owned the last three surviving iron furnaces in the region (Newland, Duddon, and Backbarrow). It also owned the Lorn furnace at Bonawe which it built in 1753 to mitigate the shortage of charcoal in the Furness area.

In 1873 Newland Furnace was converted to a hot blast system to make it more efficient. The furnace finally closed in 1891 due to lack of demand for charcoal pig iron over recent years. Backbarrow furnace had been modernised and could cope with the reduced market. It took over 10 years to sell the last of the grey pigs. The lease was given up in 1903, with all the iron lintels and machinery being stripped out and the furnace slowly fell into disrepair.

Newland Industries

The abundant water supply from Newland Beck led to the building of a corn mill in medieval times near to Newland Farm. The iron company bought the mill to obtain the water rights for the operation of their furnace. This in turn led to the building of charcoal barns and iron ore stores, housing for the workers including Newland House which became the head office for the company. Further development came with the building of a rolling mill, forge and also a blacking mill which made use of the waste charcoal.

Restoration

Attention was drawn during the 1980's to the parlous state of the furnace remains by Dr John Marshall (Reader in Regional History, at Lancaster University) who arranged a site meeting between local industrial history societies and the land owner, Harry Stevenson. Agreement was reached to start work voluntarily to clear the site of debris and to try to prevent further deterioration. So on 4th November 1989 the first working party, led by John Helme, assembled at the furnace for what was thought to be a fairly straightforward task which would take about six months, but has continued without a break to the present day.

For further information please contact David Robson on 01229 587153

Newland Furnace Trust is has been greatly helped by English Heritage

Mines Forum, 12th June

The meeting was held at the Coniston Mechanics Institute. Present were Alastair Cameron, (Coniston History Society, Honister Quarry) Warren Allison, Ian Matheson (CATMHS) Eleanor Kingston (LDNPA) Suzanne Southern (Environment Agency) and Donald Angus. (MoLES?)

The date which had been set for the meeting was unfortunate, as three important matters were due to be announced the following week:

Coniston Coppermines Conservation Project.

Phase one of the HLF grant application for the Coniston Coppermines Conservation Project, the decision as to whether to allow the bid to move to the second phase, was due to conclude in May, but has been delayed by technical issues until 17th June. This will in turn delay phase two until next February. If phase one is allowed then it is likely that the bid will be successful, but work cannot now begin until at least 2015.

Lake District National Park Authority Restructuring.

The LDNPA is undergoing reorganisation and the new structure is to be announced next week. This will affect many jobs and positions, including those of the LDNPA Archaeologists.

Backbarrow Iron Furnace.

There is to be a site meeting at Backbarrow next week. The bank has instructed their new architect to move with a planning application for the holiday village development. Eleanor Kingston said that the LDNPA would ensure that consolidation of the monument would be carried out before housing development commences.

Threlkeld

Not much has happened regarding flooding and pollution issues at Threlkeld mine and Yellow dam. A Project Manager is required. Decisions are likely to be delayed until the results of the pilot project to deal with metal pollution at Force Crag are known.

Greenside

The contractors have inspected the spoil heaps at Greenside mine. Planning permission is to be sought for a road up to No.1 tip. A survey using a quadricopter is to be carried out.

Tilberthwaite

Work on the dig at Tilberthwaite Horse level by CATMHS is continuing. It is becoming more technical as the level appears to bend and some of the rock roof has come down into the level. The end is not yet in sight.

CATMHS has recently published a new Trail Guide to Tilberthwaite Ghyll which is now on sale.

MoLES

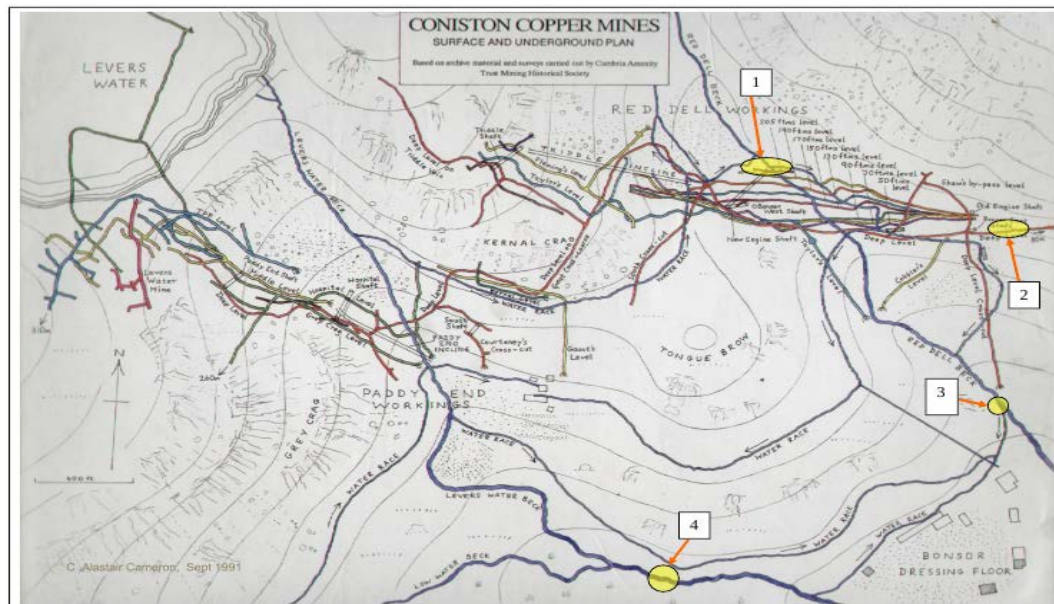
Donald Angus reported that the Mines of Lakeland Exploration Society has been wound up and its cash assets are to be distributed to the membership. A small active group of mine explorers are continuing to use the name of MoLES

Honister Slate Mine

A tunnel is being developed to the Kimberly vein where good slate was recently been found by chance when a drill penetrated a previously unknown void below K6 level. There is a theory that as the slate vein nears the surface the hade become less steep. A possible consequence is that some of the upper workings missed the good slate, which might still be present

Mayfly Survey(!)

A survey of aquatic organisms at Coniston and elsewhere is ongoing. Apparently the presence or otherwise of various species can be an indicator of various types and levels of pollution. A discussion ensued about white deposits on rocks in Red Dell Beck below Deep Level. Samples have been analysed and determined to be a FeS mineral related to magnetite. Magnetite was encountered in the very bottom of the mine and contributed to its closure at the end of the 19th century, as it made ore separation difficult. A theory is that collapses might have occurred which could have brought this mineral into solution. Another possibility is that possible changes of the pH of the water could have affected its ability to dissolve various



metals.

Plan by Alastair Cameron:

Point 1 is the location of Fe₃O₄ (Magnetite Iron) in the 'deep-bottoms' of the mine. This was found mainly in the 190 and 205 fathom levels (1200ft below Deep Level Adit) which is below sea level. We also believe that this could be the source of the nickel which was detected on the analyses. Old records suggest that 'nickel-iron' was obtained and sold from the mine.

Point 2 is likely to be the source of lead. A vein of lead was found in this part of Deep level and apparently was worked to a small extent.

Point 3 and 4 are the points from which samples were collected between 2005 and 2008.

Archaeology Volunteers Network

The Archaeology Volunteers Network is organised by the LDNPA, English Heritage and the National Trust. There are three levels of membership: Information, Members, who must commit to at least five days voluntary work per year, and supervisors, who receive training and commit ten days p/a.

The LDNPA Archaeology Conference will take place at the Theatre by the Lake, Keswick, on 2nd November

The next meeting of the Mines Forum will be on 9th October

Meets and Activities

Hodbarrow, 11th June 2014

Present: Dave Robson, Anthony Bryson, another, Ian Matheson on bike, Meet Leader Peter Sandbach and dog.

The partnership of Nathaniel Caine, a Liverpool metal dealer and John Barratt, a Cornish mining engineer who had previously developed Coniston copper mines began in 1854. The mine had been worked before without success and the partners spent the next six years developing it. The first cargo of ore was shipped from Borwick Rails in 1859 and in 1860 the take-note was exchanged for a lease and the partnership converted to a limited company. In the course of the next 108 years the mine produced 25 million tons of ore.



The walk took us past the site of No 3, 5, 8, 10 and Annie Lowther pits but there was nothing left to see there, all traces of the buildings having been removed. The main exhibits were the inner and outer barriers, two lighthouses and a windmill and the two large freshwater lagoons in the broken ground. Botany and ornithology took as much time as the mining remains; it was a gentle stroll which left plenty more to see on another visit.



Bee orchids, growing on the barrier

Ref. Cumberland Iron, A Harris

Greenside Mine trip with the LDNPA

CATMHS were asked by Kerry Powell, the LDNPA Director of Communication and Resources, to take her and some colleagues along the Lucy Level at Greenside Mine. On the Friday 13th June 2014, Colin Woollard and I met Kerry, Rec Cathy (LDNPA Ranger for Ullswater), Martin Curry (LDNPA Property manager) and Tom Hrynhow (LDNPA apprentice) at the mine.

Using some large scale plans we showed the size of the underground workings and described some of the history of the site and the route we would be taking. Having got kitted out we slowly walked through the remains of the mine to the Lucy entrance where the merits of opening the entrance properly were discussed. The reason being that the drainage pipes taking the water from the mine have to be periodically rodded out with drain rods to stop them silting up, but this is not a long term solution. Therefore, if the mine entrance was restored to what it was like when the mine was working, this would resolve that potential issue.

Starting to walk along the level we described how the miners would hand drill and blast the level at the rate of 80 to 120 yards a year depending on the hardness of the rock, (approx 26,400 holes were drilled for the mile of level) pointing out the timbers still in place which carried the bare wire cables for the original electric locomotive. Passing bad uns drift where the surveyor had got his direction wrong and cost the company around six months work driving the level in the completely wrong direction, we eventually arrived at where the level turned onto the clay vein. Explaining that the company was so far behind schedule it took the decision to drive the level west in softer ground, even though it had to support it for the entire length, before turning north into harder rock and reaching the vein after $\frac{3}{4}$ mile. It was this decision that caused problems with the five roof falls that were cleared 22 years ago when CATMHS and MOLES were given permission to re-open the level.

We described the techniques we used to clear the roof falls and how we have improved the method of digging through falls over the years. It is still pleasing to see that even after all this time all the work that was done is still standing. Arriving at the point where the cross-cut meets the vein, it was explained how the mine effectively operated as two separate mines until the connection was made between the workings. The lead ore from the higher workings would then be brought along the Lucy level. At this point the lower workings are approximately 1200 feet below the level and 600 feet above it, something which the visitors were astounded at.

Carrying on, we came to where the level has been concreted, which was done to stop the mine water being pumped from the lower workings going back down through a very porous part of the vein. It was here that clog prints can be seen in the concrete and a sentence written in chalk on the wall 'keep off you buggers', apparently this was written by the person who did the work as he was fed up with the miners walking on the wet concrete he had just laid.

Just before arriving at Smiths shaft the sixth dig CATMHS carried out can be seen. Here the current method of bolting pre-fabricated steel together and using green larch boards between the legs was used, made more difficult by having to follow the curve of the right hand wall. The visitors asked why this dig had been done, as you could walk over the fall. However it was explained that the bedrock was poor and each year the fall was gaining height to the point that it was feared it would not be possible to get over it. One of them asked how much had been expended by the societies and they were astounded by the figure of well in-excess of £10,000.

Exiting the dig, we arrived at Warsops crosscut, the first level driven in a mine in the Lake District using rock drills. It was driven by the Warsop & Hill Company in 1882 after having taken two years to sink the final part of the Low level engine shaft (later known as the Willie shaft). The whitewash on the walls can still be clearly seen, which was done by Tommy Hind who looked after the air compressors for many years and was done with a bucket and stirrup pump.

Standing at Smiths shaft, it was explained how the first electric winding engine in a British metal mine came into operation, being designed and built on site (In December 1896 my great-grandfather Joseph Jenkinson took the contract to take the first lead ore from the shaft, using the electric winder which marked its service as a proper cage shaft. He also drove the original electric locomotive for most of its working life).

Leaving Smiths Shaft, we carried on along the level, pausing to have a look at the side drive which the company rented out as a site for companies who wanted to test their latest rock drills.

Pausing at Hicks sump which is virtually in the middle of the ore body it can be seen how wide the vein is at this point. Carrying on we soon arrived at where the shaft from the Alma level drops onto the Lucy level. After a short rest we proceeded to walk back out to surface, but also having a look in the huge stope just before reaching Hicks sump, which is extremely impressive.

This had been a very enjoyable trip with people who showed a great interest not only in the mine, but in the work that CATMHS has done over many years.

Warren Allison.



The group at Smiths shaft

Tilberthwaite Mine, 29th June 2014

Warren Allison (ML), Maureen Fleming, David Taylor

Meeting at the car park below Penny Rigg slate quarry on a beautiful sunny day, we started to make our way to the upper workings of the mine using the track which went behind the cottages. This is a relatively easy climb and we paused to look at the level which was driven on a Zinc vein (most unusual for this area) which has a shaft dropping down onto a lower level, both of these were only small workings. Carrying on up the track it is hard to believe that in 1927, Joseph Coward from Coniston using six horses hauled up the air compressor for use at Borlase mine.

After a short while we arrived at the top of Crook Beck where Wetherlam mine, the numerous workings of the top part of Tilberthwaite mine, Borlase mine, Hellens mine and Birk Fell Hause mine as well as the Moor slate quarries can all be seen.

Crossing the beck we examined Benson mine which consisted of surface and short underground workings both blocked by falls. It is possible that these workings could be one of the Three Kings workings of the German period.

We carried on to Wetherlam mine which was worked in 1901 by Thos. Warsop and Charles Edwin Day when a small gravity-fed dressing plant was built which according to E Holland consisted of a crusher, a three stamp Californian battery and a patent Barlett concentrator all driven by a large paraffin/t.v.o. engine housed in a timber frame structure laid with corrugated sheets. Water was brought from a small stream which follows the vein to a storage tank and in dry periods water was pumped up from Crook beck using a small petrol engine pump. The timber frame and walls are still standing to this day. The vein was worked below the sole of the level to a distance of 13 fathoms and winding the kibble was done by a horse powered iron gin manufactured by John Fell & Co from Wolverhampton which can still be clearly seen. Holland said that in 1902, a 2 inch diameter compressed air pipe from the Bonsor mill at Coniston copper mines was installed over a distance of 1¾ miles to drive rock drills and a 'Lark' hoist and a small air pump to keep the mine dry. The horse gin was kept as a stand-by.



Wetherlam mine



Remains of the horse gin, now overgrown

It was only a short walk to the upper workings of Tilberthwaite mine where the vein can be clearly seen marked by the open stopes. This is a fascinating area which was worked by the Germans and there are also production records from the late 1690's where the ore was



apparently processed by a mill in this area. There are substantial remains of buildings which have been well described by Holland in his publication '*Coniston Copper Mines- A field guide*'. However there is still much interpretation work still to be done here. At the moment the CATMHS dig on the Horse Crag level behind Penny Rigg mill is approximately 300/400 yards short of connecting with these workings where the 540 foot shaft came to surface.

Tilberthwaite Mine which the Germans first worked

After having lunch in what is a superb setting, we walked on to Borlase mine driven in the late 1920's by the Greenburn & Tilberthwaite Mining Company consisting of two levels which produced only a small quantity of ore all from the top working. We did not visit the upper level but paused to look at the lower level entrance and the substantial remains of the building which housed the compressor brought up by Mr Coward.



The building at Borlase Mine which housed the air compressor

It is only a short distance to Hellens mine where in around 1924 Joseph and John Hellen drove a level by hand drilling.

Hellens Mine- level in the middle with the open workings to the left



Walking over the fell we soon arrived at what is probably one of the most fascinating sites in the Lake District even though it is only a small working. The mine is known as Hawkrigg or Walker Works and is an open stope driven directly on the vein and going approximately 25 feet below the sole. The stope dates back to the 1600's and one of the main features is the rainwater channel cut into the rock to take the water away. There are also the remains of a small building near-by with the roof trusses still intact and carrying several slates.

Hawkrigg Mine- Note the rainwater channel on the right hand side



The remains of the hut at Hawkrigg Mine

We soon dropped down the fell to Dr Booth's level which was driven in 1911 by Dr P L Booth of Barrow-in-Furness which undercut but did not connect with the Hawkrigg working. At this point David decided to have a look underground where there is nearly 100 yards of tunnel and it has some quite nice copper staining near the forehead.



Entrance to Dr Booths level

On leaving Dr Booths level, we slowly walked back to Tilberthwaite, first pausing to take in the superb view of Penny Rigg Quarry and the surrounding area.

We arrived back at the cars after 4pm after what was a superb day blessed with good weather and good company.

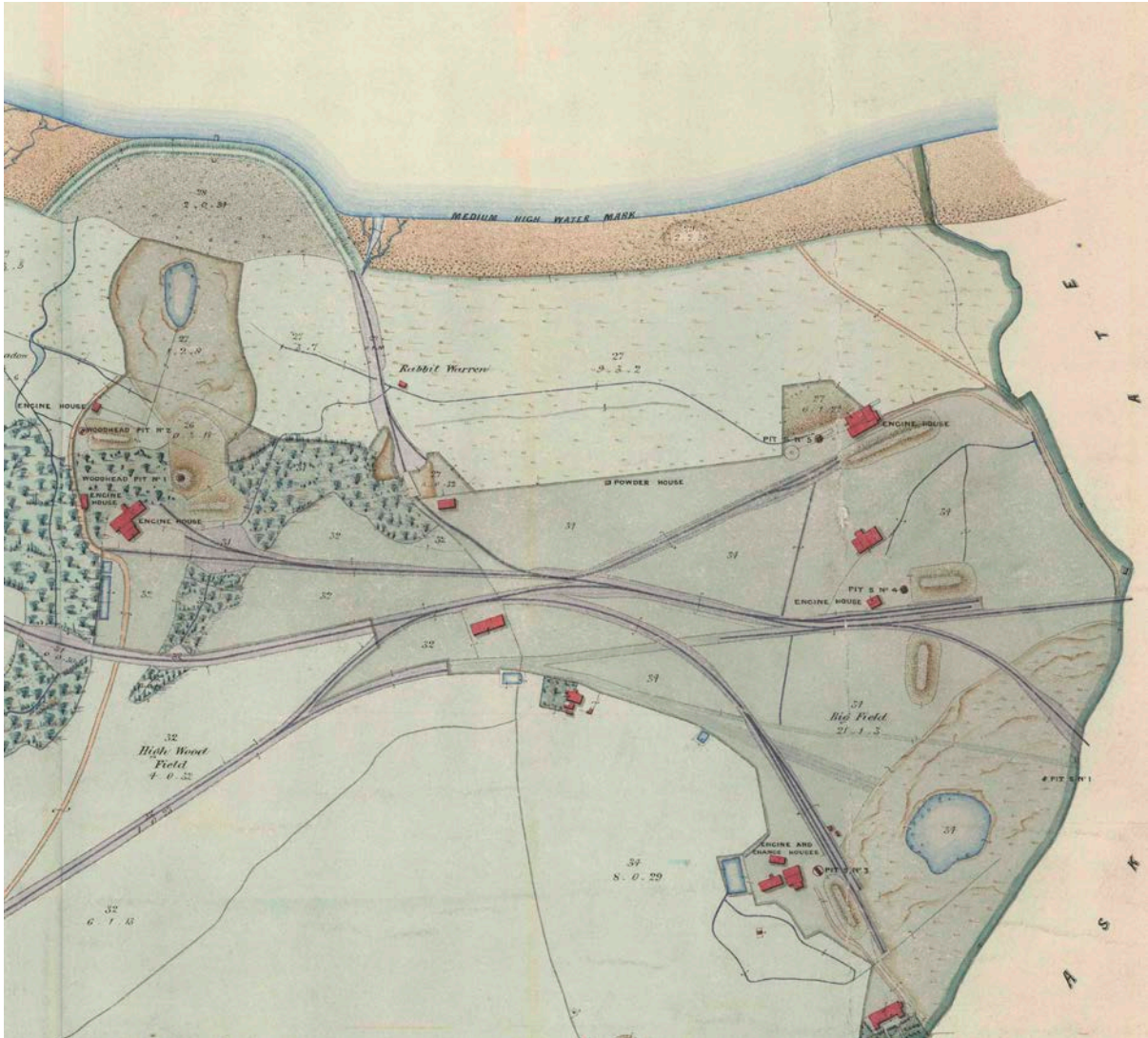
Warren Allison



View of Penny Rigg Quarry with the Penny Rigg Copper Mill just behind shown by the brown spoil heaps

Woodhead Pit 14 May

Present: A Bryson and 2 dogs, Richard and Chris Morgan, E King, D Robson, P Timewell, P Sandbach (ML) and dog.

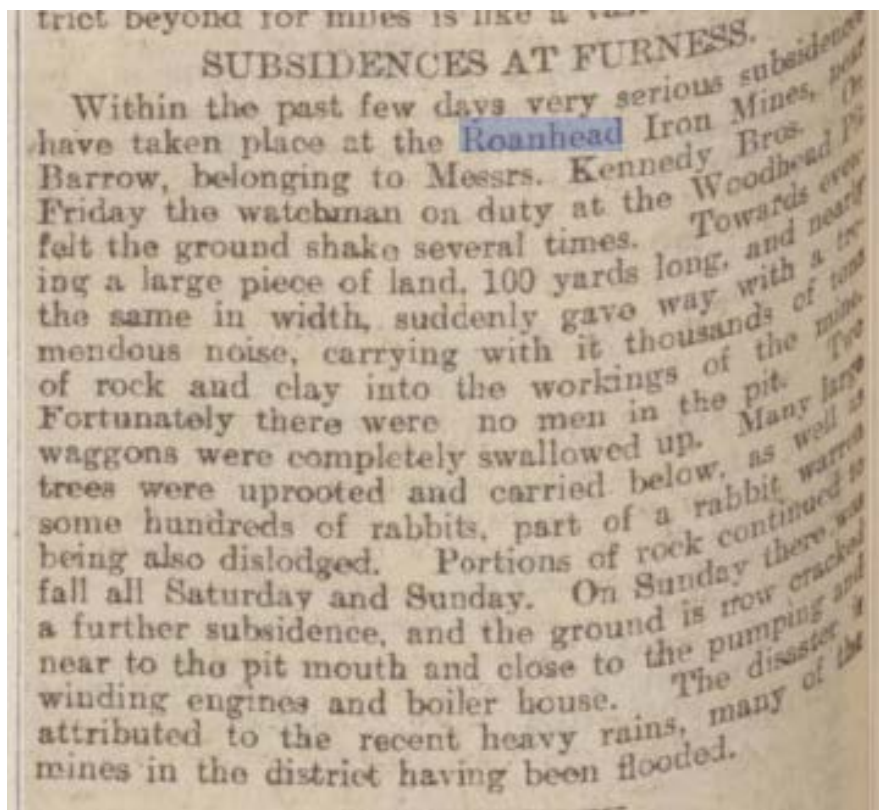


We met at Askam pier on a pleasant evening for what turned out to be a very short walk. Woodhead Pit has a sea barrier like a miniature of Hodbarrow but this has been badly damaged by the tides and gales of last winter. The mine consists of a sop and a vein working and is first seen on a mine plan of 1873. It worked for 30 years until the collapse of the vein working.*

On the way back we looked for Chapman's Lot mine. Only a small spoil heap survives, hidden amongst allotments and brambles, but this mine was the subject of a court case, Wakefield v Buccleuch, which kept Edward Wadham in expenses for years on end.

Peter Sandbach

*From the Manchester Courier & Lancashire General Advertiser, 13th October 1903



Powka Magazine

From the Kendal Mercury - Saturday 22 October 1853

Powder Magazine at Dalton.

Mr Blair made application for a license to establish a powder magazine at Dalton. He applied on behalf of a company carrying on business in Scotland, known as the Milford Gunpowder Company; the partners in which were M.B. Harrison, Esq of., Ambleside; M.M. Ainslie, Esq., of Ambleside; and – Roper, Esq., of Ulverston. In the mines and quarries of Low Furness, a very large quantity of powder was used, so much as 1,500 barrels in the year, and as owners of the various mines could only have 300lbs at one time on their premises, it was desirable that they should have a depot from which that stock could be kept up. The powder would be taken up the Duddon Estuary, and conveyed to the place without the risk to which they were now subjected. The present consumption was very large, the supply inadequate, and the establishment of a magazine at that place would be a great convenience. The magazine would be constructed in a proper manner, and would be subject to the approval of any person the Court thought proper to appoint. It would be nearly all constructed of lead, without any iron whatever, and it was not intended to store more than five tons. Powker, the



The Powka magazine, photographed in a ruinous condition for the Journal in 2007, has now been rebuilt and is in use as a stable. (P Sandbach)

place fixed upon, was within one mile of the greater portion of the works, and within three miles of the most distant. There were no buildings in the immediate neighbourhood, the nearest one being 189 yards, a cottage at which the keeper of the magazine would reside; there were others at a greater distance, but it was not supposed that any injury would be done even in the case of an explosion, a thing of very rare occurrence in a magazine.

Mr George Wadham, mineral agent to the Duke of Buccleugh, said, a gunpowder magazine would be of great service in the neighbourhood, as they often ran short altogether. The Mines and Furnace are increasing year by year. The services of the requisite notices were duly proved, and as there was no opposition, the Court granted the license

Mr Blair then said he had another application to make for another magazine, but in somewhat different circumstances: - it was also for the use of the works but to store somewhat larger quantities. They wanted to erect a magazine at Hidden hole to supply the other magazine. Hidden hole was a small island, three quarters of a mile from any house, and three quarters of a mile from the Furness Station. They could bring the powder to Barrow Harbour, remove it from thence by barges to the magazine, and from this larger one they would be able to keep up the supply of the other. The parties most interested in the matter were the Furness Railway, and the Barrow Harbour Companies, neither of whom offered any opposition. The plan s had been submitted to them and approved off. It was intended to be constructed in a different manner to the other, the walls would be 8 feet thick at the bottom and 4 feet at the top; the roof would be exceedingly light so that, should there be any explosion of the 20 tons intended to be deposited there no injury would ensue. The establishment of a magazine in that part would be a great service to Poulton and NorthWales, at which places they had to procure their powder from a considerable distance.

Evidence of the requisite notice having been adduced, the court granted the application

Tilberthwaite Penny Rigg Horse Level dig

Slow but steady progress is being made, with eleven sets of steel now installed. The dig is being slowed by the small team having to also carry the material in which sometimes is taking a full day without any work being done on the fall. As mentioned in the previous newsletter progress is also being hampered by the level turning to the right (North), although it now seems to be going straight ahead once again.



Crimping the ends of the scaffolding tubes

the trailer, it was decided to take it to the start of the track to the mine and handball the scaffolding tubes up to the entrance.

One of the days involved taking in 33 lengths of twelve and a half foot long scaffolding tubes which John picked up from Ashfell Farm. The intention was to use John's jack and ram to crimp the ends in the car park, swop the trailer over to Colin's vehicle to take it up to the mine entrance. The crimping part went well although with some funny looks for several walkers, until it was time to unhitch the trailer. At which point John announced in a very quiet voice "I have left the key for the hitch at home". Having tried for some 20

minutes to try and find a way to unhitch

As a penance John offered to carry two at a time.



If you now stand at the start of the dig, you are unable to see the person at the forehead due to the curve of the level.

Warren Allison

The Goldscope Cup

It was recently advertised in a local magazine that the Keswick Museum had re-opened after securing a Lottery bid and had been completely re-furbished. However what caught my eye was the reference and picture of an artefact made in 1858 of silver from Goldscope Mine which the museum now owns.

Arriving at the museum one cannot fail to be impressed with the building and its contents in a superb location opposite Fitz Park. However I had come to have a look at the cup and it is quite magnificent, very ornate and one striking aspect are the two figures of miners on the top of the cup. There is an inscription on the front that reads as:

Presented to George May by Andrew Richard and Catherine Elizabeth Clarke





According to Postlethwaite in *Mines and Mining in the English Lake District* and Tyler in *Goldscope and the Mines of the Derwent Fells* a company took over the mine circa 1849 consisting of Andrew Richard Clarke (two shares), Charles Nicholas Patrick Chapman (two shares), George William Horn (one share) and Thomas Hart (one share). At the end of two months Mr Horn retired from the company and his share was equally divided up between the remaining partners. In May 1850 Mr Hart also left the company after quarrelling with his partners and when the forfeiture was announced to him he refused to acknowledge it and threatened to appeal to the law in the event the mine ever became profitable. In April 1852 Mr Chapman also gave up his shares, but before departing he made an agreement with Mr Clarke that in the event the mine became profitable the amount of profit due upon the shares would be paid to equal the share capital he had invested in the mine.

Mr Clarke was now left on his own and was ultimately rewarded by the discovery in September 1852 of the large deposit of Lead ore discovered by driving the Grand Level beyond the old German Copper workings. At this point Mr Hart who had not forgotten his threat started legal action in April 1853 and after a long and costly court case succeeded in winning his case. Mr Clarke purchased his share for £4,500 but died shortly afterwards and the mine was carried on by his executors for the benefit of his children.

Tyler then states that on Christmas day 1859 the company was restructured and the lease transferred to Messrs. George John May and Richard David Holland for a 21 year term, with Clarkes shares being left in the company in trust and the newly formed company had to support his children.

The confusion with the Goldscope Cup is that the museum has a date of 1858 and Andrew Richard Clarke is named on it, but according to Postlethwaite and Tyler he died around circa 1853. I assume that the Clarkes must have known George May for some considerable period of time, that Catherine was Andrew's wife, but what had May done to be presented with such a magnificent object, and when was it actually made and presented to May? The museum is looking through its archive to see if it has any additional information which could shed answers to these questions.

Warren Allison

Wakefield v Buccleuch, 1865

A dispute over 'Chapmans Lot', between Ireleth and Duddon Sands, in Furness



Royalty boundaries marked on 1915 OS map

According to one source, the Furness Iron and Steel Company began with E T Wakefield, John Harris and John Shapter each contributing £5000 to the company. I was unable to confirm this but the religious and political affiliations of the three gentlemen may explain why a dispute over a small mine was taken to the House of Lords, twice, with considerable vitriol.

Edward Thomas Wakefield was born in Dublin in 1821 and earned his living in London as a barrister. His father was a Quaker, but he became a primitive Methodist minister later in life. He was a colleague of Samuel Gurney MP (ind) in the National Association for the relief of British miners, the Drinking Fountain Association and the Aborigines' protection Society. There is no evidence that these liberal views extended to his tenants when he inherited an estate at Portadown.

John Harris was born in Maryport in 1812. His father died at sea and he was brought up by his mother, a Quaker. He had a successful career as a civil and mining engineer.

John Shapter was born in Gibraltar in 1807. He was a barrister, acting as QC in this case.

The Duke of Buccleuch, Edward Wadham and Myles Kennedy were Conservatives and C of E. The first two owed their living to the customs of the manor and the statement "I have never heard this custom questioned or disputed" would sum up the case for the defence.

Much of the land between Askam and Marton belonged to the manor of Plain Furness where the Duke of Buccleuch was lord of the manor. The enclosed farmland was copyhold, meaning that although the land could be sold or inherited in the normal way, the incoming copyhold tenant would have to be admitted to the manor and pay some manorial fees. They would not own the mineral rights. Under the Ireleth inclosure act of 1831, the wastes of the manor were enclosed and plots 24 and 25 were sold to Jane Towers, spinster, of Ireleth. The land passed through various hands until 1865 when Joseph Sharp bought it from Richard Chapman, yeoman, and sold it a few days later to Edward Thomas Wakefield, of 4 Pembridge Villas, Bayswater and John Harris. The intention was to build an ironworks on part of the land and for Mr Wakefield to develop the other half as workers houses, with a large park, but probably without a pub, being a primitive Methodist.

At this time Kennedy Brothers had licences to mine in all three parts of the Askam deposit, at Chapman's lot by a takenote from the Duke of Buccleuch, on the Greenscoe estate on a lease from the freeholder, William Alexander Mackinnon, and at Roanhead, leased from the freeholder, Thomas Myles Sandys.

Wakefield filed his bill of complaint on 10 June 1865 against Myles Kennedy stating that Kennedy had no title to the minerals and no right to work them. He asked that the defendants be restrained from working the mine and sinking further pits, that they should pay for the ore removed, that the defendant should be restrained from causing subsidence and that he should be compensated for the damage caused. Kennedy replied that he was working the minerals under license from the Duke of Buccleuch. James Clarke gave his affidavit: He was the engineer for the Furness Iron and Steel Company and had been engaged for the past three months building furnaces on land purchased from John Chapman. He stated that Kennedy Brothers were taking about 30 tons a day and that the surface would be totally destroyed for building or agricultural purposes.

The defence made their case in chancery in August 1865. Affidavits were produced from everyone of importance in the local mining field beginning with the Duke's mineral agent, Edward Wadham. He explained that it was the custom of the area to work by top slicing, that this was the only method by which the ore could be won and would inevitably cause

subsidence. Any injunction would mean an end to iron mining in Furness. The customary tenant (in this case Wakefield) need not be asked or informed that the mining company would be searching for ore and then building engine houses and spoil heaps on his land provided that they had the consent of the lord of the manor. The customary tenant would receive payment for permanent damage at twice the agricultural value and temporary damage at three times the annual rental, paid to the agricultural tenant.

Having described the method of top slicing, Wadham went on to say that in working the mines they sometimes came across old workings from 100 years or more earlier and that these had been worked in exactly the same manner as now except that the timber used was oak and ash and thorn, where now they used mainly larch. He had never heard these customs questioned or disputed.

This statement was confirmed by affidavits from:

Robert Hannay, a member of Schneider, Hannay and Co, the most extensive iron mining firm in Furness.

Thomas Roper, managing partner of Harrison Ainslie and Co.

Robert Kendall, Harrison Ainslie's mining captain. He added that his father and father in law had been killed in a subsidence.

Thomas Lawn, mining agent. He came into Furness in 1841 and had 11 years experience as a miner and 13 years as an agent. He described an attempt made by Alexander Brogden's Stainton Mining Company to prevent subsidence by building a stone arch over the vein. The best materials were used and the most skilled masons but the arch was soon broken by ground pressure.

Richard Hosking, who came to Furness in 1840 and had been a miner since he was able to work. After working as a miner for 6 years he became a mine captain for Schneider Hannay & Co and was now superintendent of all their mines.

Stephen Jackson, manager of the Ulverston Mining Co for the past 15 years. He confirmed Thomas Lawn's account of the failed arch at Stainton mines.

Benjamin Nicholas, retired mining captain for the Ulverston Mining Company when it belonged to Charles Storr Kennedy. He said that he was born in Cornwall and had been a miner and mine captain for the past 60 years.

Myles Kennedy, iron ore master and one of the parties in Kennedy Brothers stated that he had been educated at the Royal School of Mines, he had been granted a take-note by the Duke of Buccleuch on 13 November 1862 and there had been no protest from Richard Chapman at this time.

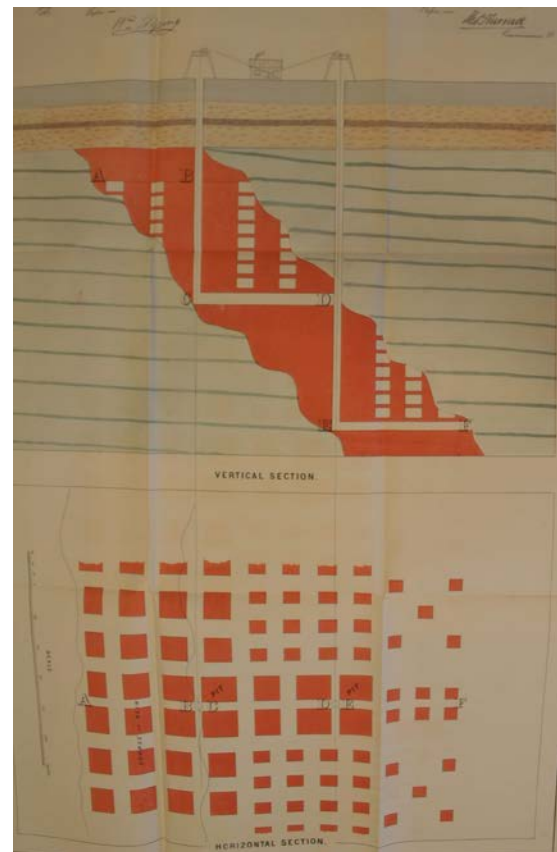
Joseph Rawlinson, iron ore merchant, stated that the mining companies sometimes bought the land to avoid surface damages and that sometimes they were able to work the mines opencast after removing the overburden, but this still resulted in the destruction of the surface.

John Bolton (author of "Geological fragments") and 11 more witnesses testified as landowners, miners, valuers, surveyors, farmers and agents. Many were over 70 years old and confirmed the lord of the manor's right to mine and the scale of payment.

The case for the plaintiff began with some big names in the engineering world arguing that destruction of the surface was not unavoidable. John Frederic Bateman FRS had been a civil engineer for 30 years. He had considerable experience of tunnelling for waterworks for the supply of Manchester, Glasgow and Halifax at a depth of up to 600 Foot. He described how the mine should be worked in parallel galleries with floors left in at regular intervals. 25% of the ore would be left but there would be no loss as there would be no timber used, the mine would be safer and the pumping would be greatly reduced.

William Craig Young had been a civil and mining engineer for 18 years. He was sole manager of Harecastle collieries and Stanmer collieries in Wales and consulting engineer to Westminster colliery. One of his duties was to work Harecastle colliery without causing subsidence on the Trent and Mersey and Macclesfield canals. Another was to work coal under the Dee at Mostyn where any subsidence would allow the sea into the workings. He had examined Kennedy's mine and was unimpressed. "The ore is of a very hard nature and incapable of being worked by pick or wedge without the use of powder. I tried drilling a hole and believe it to be as hard as limestone. The shaft is in a most insecure condition and no means had been used to prevent the quicksand from running in. The quicksand presses the timber in so as to endanger the life of any man who descends. The water admitted through the loose alluvium is pumped to the surface but there being no pump and lodge room, the water rises above the pit bottom causing the men to stand in water 18" deep. There is no means of ventilation provided and the miners working in stagnant water complain of having to wait an hour or more after a shot had been fired for the air to clear. It is difficult if not impossible to conceive of a mode of working more dangerous, more unhealthy and more expensive and inappropriate than that pursued in this mine, and in justice to the miners it should be prohibited I understand from the manager that there have been many accidents there."

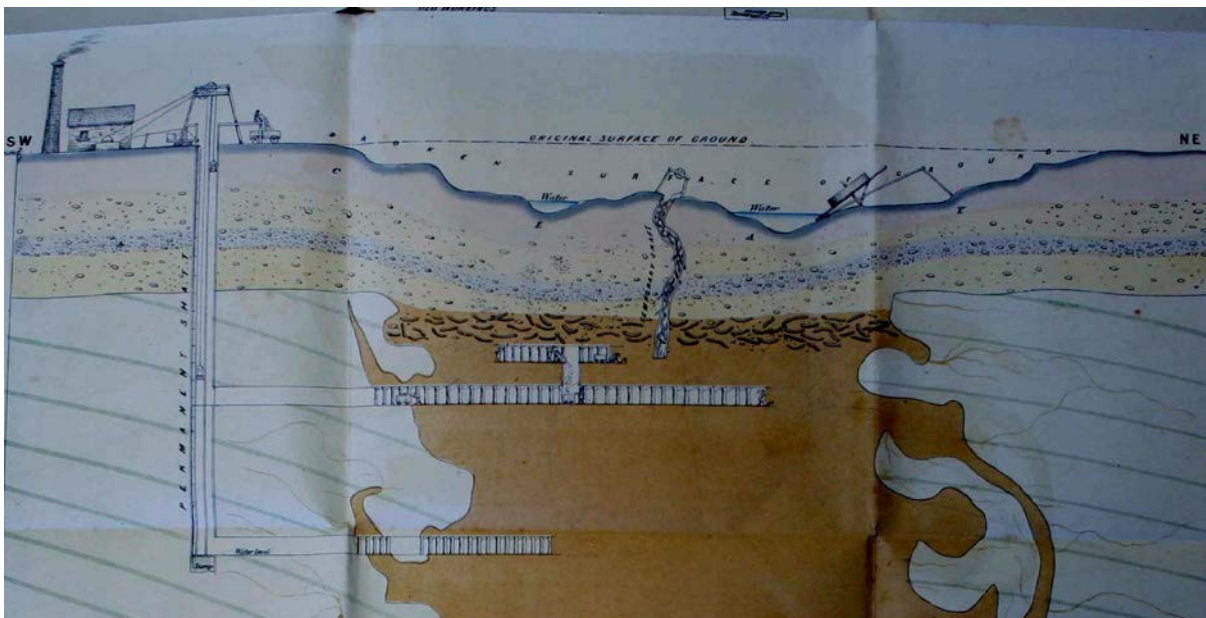
He proposed the system of working shown in this plan, with two brick-lined shafts worked from a single engine house. This would leave about $\frac{1}{4}$ of the ore in place but at no extra cost as there



would be no timbering and no surface damage. He had tested the ore in the mine and found it to be very hard.

Four more civil engineers gave affidavits to the effect that subsidence could be prevented: George Parker Bidder, late president of the ICE and a civil engineer with 40 years experience, George Clemminson Greenwell, manager of Lord Vernon's colliery with 25 years mining coal and ironstone, George Gillroy, manager of the extensive collieries of Ince Hall Coal and Cannel Co with 28 years experience in coal and other mines and George Dixon, FGS a mining engineer with 25 years experience, manager of 16 iron mines in Frizington, Cleator and Bigrigg districts. Mention was made to the practice of backfilling voids with cinder from blast furnaces cast into suitable size blocks. Thus had been tried under the streets of Wigan, where the surface with its valuable and massive buildings had been preserved.

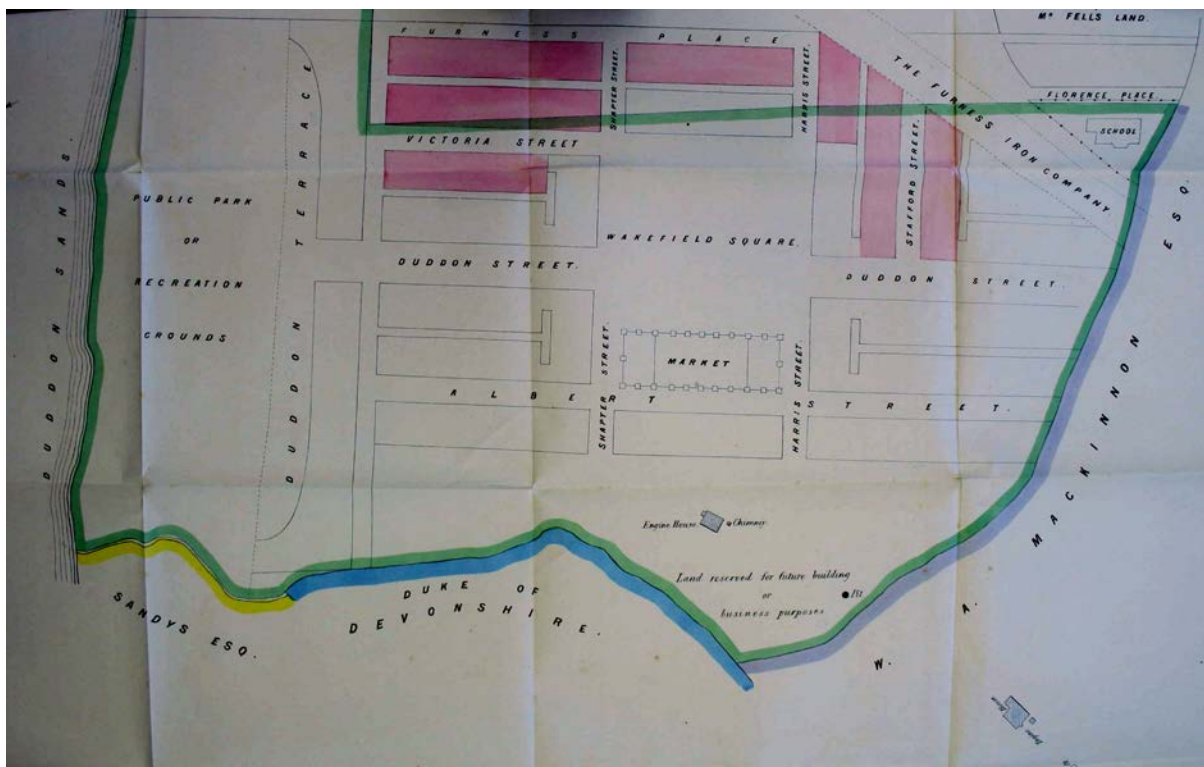
The next 6 statements were from farmers, miners and valuers to the effect that there was no such custom of allowing the surface to subside. Before the inclosure act mines were on a smaller scale and prevented from going deep enough to cause significant subsidence by the lack of pumping machinery. Furthermore there was no fixed scale of damages, a settlement being reached by mutual agreement. When the farmhouse at Thwaite Flatt fell down due to subsidence, it was rebuilt by the miners. John Nicholas, 17 years manager of Lindal Cote and Eure Pits said that the ore found in the Furness district is generally of a soft and crumbling quality and is excavated by pick and shovel. The ore at Askam is much harder.



Plan DB4 showing the effect of top slicing from BDBUC 47/3. Shaft away from the deposit with steam winding, ore moved and raised in tubs.

E T Wakefield's affidavit recorded that he was a partner in the Furness Iron and Steel Co and had bought 32 acres of land for £50,000. He repeated that there had been no custom of payment for subsidence because there had been no significant subsidence before the inclosure act. Also that the ore at Askam was very hard where the ore at Crossgates and Lindal Moor

was soft and friable. He said that the manor of Plain Furness comprises about 100 square miles and the Duke claims as Lord of the Manor to be entitled to all of the minerals in said manor, but he is not the owner in fee simple of 200 acres. "If the Duke has such rights he would be empowered to destroy anybody's buildings. In fact after I had begun to erect said works, Myles Kennedy came on the land and made a statement to our engineer in charge to the effect that he could whenever he thought fit, sink a pit under the furnaces and let them down and destroy them, and for ought that I know to the contrary the defendant may at any time attempt to carry his threat into execution." The plan below was produced with land sold for building coloured red. "Some of this land I have sold for 7/- per square yard. I expect other parts to go for 20/- a square yard and upwards"



The estate as E T Wakefield wanted it. Buildings shaded red were built and sold at the time. From BDBUC 47/3

The injunction was duly granted and the parties returned to court in March 1866 with another volley of affidavits. Wakefield brought his engineers on first, beginning with Warrington Wilkinson Smith, FRS, Hon Sec of the geological society and chief inspector of mines and minerals for the Crown and Duchy of Cornwall. He said that the mine cannot be worked by the said methods without subsidence because the ore was not substantially different from that at Lindal Moor. The ore is a confused mass of haematite in some parts dense, in others mamilated and fibrous, mixed in other places with a small portion (in irregular strings and nests) of soft ore. The ore contains isolated patches of rock and sand and muck. The whole lacks cohesion and neither the roof nor sides would hold long without abundant wooding. Pillars of ore would inevitably crumble on being exposed to the air and relieved of lateral

compression. Since the injunction was granted six months ago, the mine had been left idle and great damage had been done by the ore crumbling from the walls leaving voids behind the timbering. The portion of the mine under Mackinnon's land had only been standing for 5 weeks and the effect in this part of the mine was already visible. No serious accident had occurred since the mine had been opened, it was well timbered and any danger would only be apparent to one who was entirely unfamiliar with haematite mines. The statements and plans submitted by Messrs Bateman, Craig, Greenwell, Gilroy and Dixon had been examined and "After careful consideration I am decidedly of the opinion that Mr Bateman's plans of working are entirely unpractical chimerical and would not deserve serious criticism of any practical miner when dealing with a mine of haematite." The roof 10 yards thick would alone be worth £15 per square yard of surface.

His statement was confirmed by Samuel Holden Blackwell, a mining engineer of 25 years experience, James Dees, FGS, a civil engineer with 20 years experience and a partner in Parkside Haematite Iron Ore Co, and William Barratt, iron ore merchant. They stressed that the ore at Lindal Moor was, if anything harder than that at Askam.

For the plaintiff, George Dixon, FGS gave instances of pillars of ore being left and standing for up to 10 years. Matthew Denny gave evidence that he had searched for ore at Thwaite Flatt some 27 years previously and some farm buildings had been damaged. He had reinstated the buildings because he had given a written undertaking to do so to the freeholders, the Misses Millers. George Clemminson Greenwell, George Gilroy and William Young defended their earlier reports and James Davison stated that he had 26 years experience in Antony Hill's red haematite mines in Bigrigg Moor, Cleator Moor and Moor Row. He had often left pillars of ore to support the galleries and these pillars had stood until the time came to remove them.

E T Wakefield said that the defendant Kennedy had informed him that the vein of ore continued on to the sea and under the Duddon to Hodbarrow, and he had taken a lease of minerals under the Duddon. The surface at Chapman's Lot was 40 Ft above sea level and had been let down 37 Ft in places. The amount of injury caused by the sea breaking into the workings would be impossible to foresee.

Joseph Sharpe, yeoman and Alan Backhouse Salmon, solicitor gave evidence that no court had sanctioned the letting down of the surface without the owner's permission. Mr Salmon had been employed at the custom house in Ulverston from 1825 to 1836 and knew that before 1825 the output of the district was less than 20,000 tons per year. The engineers Greenwell, Young and Gillroy gave further statements to the effect that any houses built near the proposed mine would be thrown down and the occupants killed. More statements were heard that the ore at Askam was quite different from that at Lindal Moor.

Vice Chancellor Sir Richard Malins gave his verdict on 8th May 1867. After a thorough examination of the inclosure act he was satisfied as to the Duke's title to the ore. As to the possibility of working the ore without causing subsidence, he mentioned the eminence and expertise of the witnesses on both sides and that their evidence could not be more diametrically opposed. As a result of this conflict of evidence he was satisfied that these mines could not be effectively worked without causing subsidence. As to whether the Kennedy had a right to work the mine and so cause subsidence, the defendant had failed to establish that this was the custom. This would not bring mining to an end in the district because it would normally be possible to reach an agreement and it was only the extraordinary value placed on the surface by the defendant which had prevented agreement in this case. He would make a perpetual injunction accordingly.



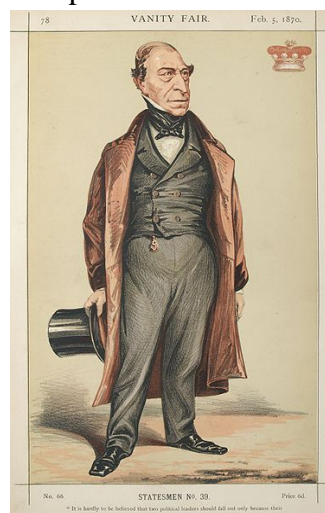
Sir Richard Malins

The verdict satisfied nobody and both sides appealed to the House of Lords. The Duke of Buccleuch insisted that he had an absolute right to the minerals and therefore a right to mine them. Wakefield continued to argue that there was no established custom of mining so as to cause subsidence, and every case that had been put forward to show otherwise was either freehold, copyhold but not part of the manor of Plain Furness, or not worked before the inclosure act. He repeated his claim that the manorial rights had been extinguished at the time of the sale to Jane Towers, therefore his land was freehold.

The appeal was heard in the House of Lords before the highest legal authorities: The Lord Chancellor, Baron Hathaway, Lord Chelmsford, a previous Lord Chancellor and Baron Colonsay, who had previously held the post of Lord Justice General.



The Lord Chancellor



Lord Chelmsford



Lord Colonsay

he Lord Chancellor gave his judgement on 25 March 1870. He said that the commissioner of the inclosure act had no authority over minerals, and therefore the Duke remained the absolute owner of the mines as Lord of the Manor. Also that causing subsidence and paying compensation was the de facto custom, regardless of whether it was a custom of the manor, and on both points he found for the Duke, with costs. Lord Chelmsford and Lord Colonsay concurred.

With the case settled in his favour, the Duke would be free to renew Kennedy Brothers lease, but he did not. Neither did Wakefield complete his housing estate. Mining resumed in 1899 under the ownership of his son, F W Wakefield. It was carried on by his widow until 1902 and then leased to Kennedy Brothers who worked the mine from their S3 pit. Chapman's Lot shaft was converted to a rise and work ceased about 1907. Kennedys' lease was not renewed in the Mackinnon section either. That was handed to the Furness Iron and Steel Co and their successors, the Askam & Mouzel Co and the Millom & Askam Co. Kennedys' S3 and S5 pits in the Roanhead royalty, which contained most of the deposit, worked until 1923.

In August 1904 the case of Wakefield v Buccleuch broke out again when it was found that E T Wakefield had not been admitted to the manor of Plain Furness, perhaps because of his belief that he owned the freehold. It was left to his grandson, Edward William Wakefield to sort that one out.

References:

Notes from Peter Burt

CRO, Barrow, BDBUC47/3 Judgement in Wakefield v Buccleuch. Contains all the affidavits and plans, printed

CRO, Barrow, BDKF 134/10 Wakefield v Buccleuch 1904

The Lancashire and Westmorland Mineral Statistics, R Burt et al

Images:

Sir Richard Malins, Copyright National Portrait Gallery, by creative commons license.

The Lord Chancellor, Baron Hatherley Copyright National Portrait Gallery, by creative commons license

Lord Chelmsford, from Wikipedia.

Lord Colonsay, caricatured by Spy. From Wikipedia.

From the Lancaster Gazette, 1st August 1883:

Another Vein of Iron Ore

We are glad to be able to announce the discovery of another rich vein of iron ore during the past week, which for quality and extent bids fair to eclipse all the recent discoveries. The mine is situate between Ireleth and Duddon Sands on land commonly known as Chapmans Lot and not far from the Askham Moor mines. The lucky finders are our respected townsmen, Messrs Kennedy Brothers, and the Royalty belongs to the Duke of Buccleuch

From The Westmorland Gazette, 14th March 1840:

The Accident at Lindal Moor

We have this week to record one of the most painful and fatal occurrences which has taken place in the vicinity of Dalton since the commencement of our correspondence with the Gazette – a circumstance which has hurried two fellow creatures prematurely to their narrow resting place - an accident so unusual, so unexpected.

It appears that on Thursday the 5th inst., Mr James Kendal, of Standish Coat, who was a short time since foreman of the well-known iron mines at Lindale Moor, but who, in consequence of ill health, had resigned the situation to his son, was tempted by the beauty of the day to take a walk down to visit his old companions; as was natural to expect they all flocked around him, and a form was placed on the sunny side of the hill for his use, but upon which many others were sitting beside himself, amongst them an old friend called William Thompson, formerly a respectable farmer at Ireleth, but who had latterly been somewhat reduced in circumstances.

About twelve more individuals were on the spot, strong and thoughtless, and happy in their fatal security, in the midst of a conversation, we may conclude, most congenial to their minds – that of the operation of the works. This was but a short distance from one of the pits then in working, when instantaneously the earth sunk, or shuddered, as it is familiarly termed, from the spot where they were sitting, and Mr Thompson and Wm Kendal were immediately precipitated into the abyss, and, in the most horrible sense of the word, buried alive. Another young man named Ryley also was sinking, but by the gigantic exertions of despair succeeded in clambering onto the solid ground. The others likewise escaped.

All the strength of the works was now summoned, and that strong body of men dug for upwards of two hours with an exertion and an eagerness which may well be imagined while a hope remained to save their fellow-men, at the end of which period the bodies were discovered, but perfectly lifeless, Mr Kendal with his head down, and the other erect.

Their bodies were interred on Sunday last, at one time, in the church-yard of Dalton, and the concourse of mourners was greater than for many years been remembered. So true is it that “in the midst of life we are in death”: two men were thus summoned to their great account. Let us hope that HE who is merciful may look mercifully on their misdeeds; let us hope that HE who chose this method of calling their existence back to himself, perhaps as a warning to others, may listen to the redeeming voice of ONE who died to save.

“O slippery state of things! What sudden turns,
What strange vicissitudes, in the first leaf
Of man’s sad history! To day most happy,
And ere to morrows sun has set –
To be a thing
O’er which the raven flaps her 2funeral wing”

They are left to their cold and silent repose, and we fervently hope that such another occurrence may not take place in this parish of Dalton.

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