

CAT

The Newsletter of the Cumbria Amenity Trust
Mining History Society



Drilling rig in place at Force Crag mine

No. 106

February 2012

Cumbria Amenity Trust Mining History Society Newsletter No 106, February 2012.

Contents:

Membership

Renewals Page 2

AGM & Dinner

Chairman's report Page 2
Treasurer's report Page 4
Membership Secretary's Report Page 4
Newsletter Editor's Report Page 5
Secretary's Report Page 5

News

Forthcoming Exhibition at the Ruskin Museum, Coniston Page 5
Carrock Mine Page 6
LDNPA Archaeology Conference Page 6
North Pennines Heritage Trust Page 7
Newland Furness Trust Page 8
New book, 'Underground above Horwich' Page 8
Force Crag and Gaitgill mines Page 9
A collection of Furness mine plans Page 11
Mines Forum Meeting Page 12
Book Review Page 12

Meets and Activities

Coniston Old Man Quarries, 23rd October Page 13
Grasmere meet, 11th December Page 13
Ayton Monument and Spa Wood Ironstone Mines, 6th November. Page 16
Boxing Day Meet Page 20

Articles

Puddling Page 21

Minutes

CATMHS Committee meeting, Page 24

Society Officers and Committee Members

Back cover

Membership

You are reminded that membership subscriptions for the current year became due on 1st November and that BCA insurance expired on 31st December. Those members who have not paid their subscription should find a renewal notice included with this newsletter

News

AGM & Dinner

The Annual General Meeting was held at Rydal Hall on 10th December, followed by the Dinner. Sheila Barker stood down as secretary, a post she has filled for many years. She will continue as the CAT NAMHO representative and to deal with postal sales of CAT publications Unfortunately she wasn't able to attend due to a bout of flu, but we presented to Don a bouquet of flowers and a gift cheque for her as a token of our appreciation for all she has done for our Society. She will also receive the Chairman's Award in recognition of her work. Collin Woollard was elected as secretary in her place.

The Dinner

The dinner was enjoyed by all, most people staying overnight, although numbers were a little down on last year. Rydal Hall is a superb venue for the occasion, with good food and friendly staff. It is also very good value. The venue has already been booked for next year and a booking form is enclosed with this newsletter. The Treasurer would like to point out that the cost has not gone up!

On the day after the dinner John Aird led a meet, departing from Rydal Hall, to try to find the site of an Elizabethan mine reputed to be not far away. There is a report of the proceedings elsewhere in this newsletter under the heading 'Meets'

Officers reports

Chairman's Report to the AGM, 2011

Could I first sincerely thank the committee and members of the Society for their support during the year? Various committee members will be making their reports, but I would like to briefly cover some of the areas that the Society has been involved in the last year.

The break through at Tilberthwaite Mine was completed and the fall has been secured, it is certainly an impressive piece of work and will stand the test of time. Unfortunately it gave access to just over 300 metres of level with the rail still down for most of it to another fall although a plan has been worked out to dig through it.

The entrance to Carrock Mine has been completed and to quote from some members of the Adit Now web site `Fantastic work` and `An example to anyone of how to sort out a mine properly`. Mr McCosh the land owner from Dalmain Estates (who had been keeping an eye on what was going on) visited the site with the Society, LDNPA and English Heritage and all were extremely impressed with the project and hopefully this may give the Society access to the estates records and potentially other projects. English Heritage is also considering using the project as a case study for their web site.

The opening up of the entrance to the proposed 4th level at Silver Gill Mine was, well a disaster, it was not where we thought it would be. However John Hodgson the Senior Archaeologist of the LDNPA has given verbal permission to empty the shaft in the lowest level and this will be a project for 2012 once the method statements are in place.

Permissions are in place to open up the entrance to Sebastian Mine at Coniston in 2012.

The Society has been asked to become involved in advising the various organisations concerned with draining Zero level at Force Crag Mine and also on proposals for Threlkeld Mine. Drilling a borehole into Zero level has commenced and a pump will be installed to drain the level in 2012 with a view to re-opening it, maybe Pete Blezard will get his tubs back. However it is great credit to the Society that national organisations have at last recognised the input that it can provide and the Society will certainly benefit from this in obtaining permission for future projects.

The Society has been very fortunate to obtain approximately 50 original plans of various Iron mines in the Furness area of Cumbria. The owner could have got more money for them but offered them to the Society for £500 providing that they are deposited in the Barrow Records Office, which was an extremely generous offer.

The Mines Forum meetings continue to be a mechanism for developing good relations with various organisations such as English Heritage, The National Trust, LDNPA and the Environment Agency and the importance of this cannot be underestimated especially in obtaining permission for future projects. Two examples being, the LDNPA is looking for various sources of funding possibly £40,000 to carry out conservation work at the Penny Rigg Mill, Tilberthwaite and has subject to a method statement given tacit permission for the Society to carry out remedial work to prevent further deterioration while funding is being sought. It may also be possible for the rubbish in the shaft at Myres Head Mine at Hartsop, Ullswater to be removed to allow a camera to be put down the flooded shaft to hopefully photograph the pumps at the bottom.

There continues to be a varied list of meets and members should be appreciative of those people who organise and lead them. Could I ask if people could provide suggestions to the Meets Secretary as to what they would like to see included in future meets? The recent joint meet with the Cumberland & Westmorland Archaeological & Antiquarian Society, the country's foremost archaeological society was very well attended in atrocious conditions and as a result future joint meets are being planned for next year.

At the LDNPA Archaeologist Conference in October attended by 200 people the Society was mentioned in the opening statement by a member of the Authority, I see this as recognition of the standing of the Society.

The Society should once again thank John Hodgson and Eleanor Kingston from the LDNPA for all the help and support they have given over many years.

Finally on behalf of the Society I would like to offer its sincere appreciation to Shelia Barker for the dedication and hard work that she has given to the Society over many years not only as a member but as Secretary who has reluctantly decided to give up that position. Hopefully the Society can find a role that retains Shelia's special qualities and contacts.

Warren Allison, Chairman
9th December 2011

Treasurer's Report

To start I would again like to thank Mr Douglas Harrison for auditing the accounts; our Auditor is both competent and thorough, to these two attributes we can add lucky as well since he survived a very close shave early this year, his wellbeing preserved by one of the Swiss mountain rescue teams and their helicopter.

Reviewing the year's pantheon of activities:

Income

Discounting the repayment of our loan to the Newland Furnace Trust which appeared in last year's accounts there are only two items differing significantly from last year. Firstly we have received part payment from English Heritage for the work carried out at Carrock. I am pleased to say that the outstanding £500 has now been paid after the end of our financial year. Secondly Peter Blezard was able to sell off some of our stock of rail raising £340.

Expenditure

Operational expenses changed little with the exception of the Library, the bulk of which expenditure (£500) was for the purchase of a large number of Furness mine plans Projects Expenditure at Carrock on timber, crash barriers for roof support, drainage pipe and the gate Expenditure at Silver Gill was to provide surveillance by an appropriately qualified Archaeologist while excavation was underway.

I would like to pay credit to the team at Carrock, whose work was as always most impressive but who additionally brought the whole project in below budget and on time. I must also thank the Webmaster, Chris Cowdery whose skills and sapient savoir faire produced serendipitous solution's for the Society to the problems of on line payment.

John Aird.

Membership Secretary's Report

At the end of the year we had 108 members (10 Joint), a very slight increase from last year. 7 were new members. 65 had Underground insurance, and so could be considered active. Subscriptions were due on 1st November, and, as usual, about half have renewed at the present time. I send out reminders with the February newsletter with a big red header, and am somewhat amused by the number of renewals which subsequently come back on the original, black, reminder form. I don't routinely publish membership lists, but I can supply one at any time on request.

Newsletter Editor's Report

The newsletter continues to be well received by the membership and by other bodies who receive, and it is well supported by contributors, although it would be good to have more news of the activities of the Welsh contingent, probably our most active members!

The Newsletter is also distributed to the 6 main Cumbria libraries, who pay for it, and we send copies to NAMHO, Cumbria Local History Federation, LDNPA Archaeology & Heritage, that is John Hodgson and Eleanor Kingston, and to the Ruskin Museum.

I continue to actively monitor costs and review production methods. The cost this year was £1200, including postage, just under £12 per member. The basic subscription is £17, so we are well within budget.

We have decided this year to make the newsletter available by email, to those members who choose to receive it that way, which will save the Society some money and me some time. There are some advantages to the recipient, as the photos and plans will be of better quality on screen and one can enlarge the detail.

Ian Matheson

Secretary's Report AGM 2011

I have nothing to report that is not covered in other items; except:

In 2012 the NAMHO Conference is to be hosted by the Derbyshire Caving Club and will be held from 29th June to 1st July at Quarry Bank Mill, Styal near Wilmslow, Cheshire. The conference theme is "Copper, lead, cobalt, salt, coal, fireclay and limestone - Cheshire's mining history".

A full programme of lectures is planned for the Saturday and Sunday, along with an extensive programme of surface and underground trips, including lesser known parts of Cheshire and also North Staffordshire. Full details and booking information will be available at:

<http://www.namhoconference.org.uk>.

Although I am retiring as Secretary, if it is wished, I will continue to deal with postal sales of CAT publications. Also I will continue as the CAT NAMHO representative.
Sheila Barker.

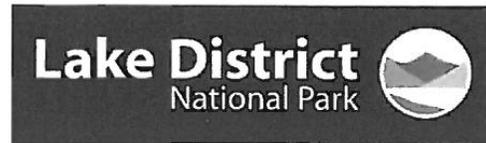
Ruskin Museum Summer Exhibition

A meeting was held at the Ruskin Museum in December. Peter Fleming, Alan Foale, Jane Foale, Ian Matheson, Mark Scott and Vicky Slowe attended. The exhibition will open on 30th June and run until 10th November. Jane Foale's art work will consist of a number of pieces produced through the rusting of steel or iron into copper-based pigments and other works using contemporary watercolour paints based on iron and copper. We hope to display some of Peter Fleming's mineral specimens alongside Jane's pigments under relevant pieces of work.

CATMHS will provide a wall mounted display and a continuously running digital display based on six themes, exploration; minerals and mineralisation; mining artefacts and structures; mining history, research and archives; and conservation. CAT has decided to purchase a 40" monitor for the digital visual display. The next meeting will be in March.

Recognition for work at Carrock Mine

The following is a letter to our Chairman from Richard Leafe, Chief Executive of the Lake District National Park:



Carrock Mine

Thank you for your letter of 5 November regarding the project at Carrock Mine. I understand that this is a historic mine of great significance and I am pleased that my staff have been able to assist The Cumbria Amenity Trust Mining History Society with the recent project to consolidate and secure the mine entrance.

We clearly have a fruitful relationship with CATMHS and I hope that our organisations will continue to work together to secure the important mining heritage of the Lake District.

Yours sincerely & well done !

A handwritten signature in cursive script, appearing to read "Richard Leafe".

LDNPA Archaeology conference

The 10th Anniversary Lake District annual Archaeology Conference was held at the Theatre by the Lake, Keswick, on Sunday 30th October. It was entitled 'Surveying the High Ground, Prehistoric Upland Archaeology in the Lake District and beyond', and was used to launch the publication of the Lake District National Park Survey, 'Cairns, Fields and Cultivation, Archaeological Landscapes of the Lake District Uplands'.

The Survey was commissioned in 1982 by the LDNPA and English Heritage, and was carried out by Lancaster University Archaeology Unit, now Oxford Archaeology North. A copy was presented to Richard Leife, LDNPA Chairman, and in his acceptance speech he pointed out that in 1982, amongst other things, Britain entered the Falklands war, Michael Jackson released Thriller, Prince Harry was born, and Sony marketed the first computer to have a built in CD drive.

The Uplands of the Lake District have been modified and changed by man since the Mesolithic period and the remains of this exploitation, particularly from the Bronze Age onwards survive in abundance across the marginal uplands, particularly in the form of cairnfields. These demonstrate how primary deforestation, led to the development of

complex settlements and field systems. The monuments also reveal how people responded to changes in climatic conditions during the Iron Age and Roman Period.

All the lectures were on this theme. Rachel Newman, Oxford Archaeology North described the survey and Jamie Quartermaine, who was involved from the outset, compared the prehistoric archaeology of the Lake District with that of North Wales. John Hodgson, LDNPA, talked about how the results of the survey would be used to manage the high ground. Phil Newman, described the prehistoric landscape of Dartmoor, and Peter Topping, using some stunning aerial photographs, described work which had been carried out in the Breamish Valley of the Cheviots to investigate the prehistoric landscapes of Northumberland.

All in all, there was a lot of talk about piles of stones, but very interesting nevertheless, with some interesting conclusions. Copies of the survey will be available at a discounted pre-publication price of £15 plus £5 p&p form the Oxord Archaeology North Lancaster, Moor Lane Mills, LA1 1GF.

IM.

North Pennines Heritage Trust

This information is about developments at Nenthead Mines following the closure of North Pennines Heritage Trust and the appointment of an administrator. The administrator was appointed at a NPHT members meeting on 28 September 2011. On the same day, an ad-hoc meeting took place of people who are interested in continuing the work of conservation at Nenthead Mines.

John Bell of Bell Tindle Williamson is the Administrator of NPHT. Mill Cottage and Bunkhouse are now for sale via Pennine Ways of Alston. Bunkhouses have been closed for business since late autumn. Museum displays are intact. Joyce Jackson, Sheila Barker and Peter Jackson have sorted offices and files. Nenthead Mines archaeology site files are now stored together.

NPArchaeology Ltd have repaired the guttering and carried out other repairs to the office buildings in the wood yard. However, it seems likely that they will move away from the site during February 2012. Newcastle University water purification experimental tank continues to operate.

New Society for Nenthead Mines

Draft articles of association for a company limited by guarantee have been produced by Pete Jackson and edited by a company formation agent via Bell, Tindle and Williamson. Taking account of company registration rules, the proposed company title is to be "Nenthead Mines Conservation Society Ltd". The draft objectives are "to preserve the remains of mining and associated industries and to conserve the geological features associated with mining in Great Britain but particularly in Cumbria and at Nenthead, and to educate the public about mining and geology".

Joyce Jackson, Sheila Barker and Pete Jackson have agreed to be the founder members of such a company and to fund the start-up costs. They have also agreed that the company will not be formed until satisfactory arrangements are made with Cumbria County Council. Please share this information with anyone who may be interested. The mailing list is maintained by Peter Jackson. pjackson@ntlworld.com, 41 Cranswick Close, Billingham TS23 3NH, 07718 385646.

Newland Furnace Trust

NFT is now registered with missionfish. The trust does not have an ebay sellers account, but anybody may sell an item and donate a portion of the proceeds to NFT. The main purpose of the account is the disposal of surplus items such as the workbench that we sent for scrap, but if anybody wishes to donate a portion of a sale to us, there will be some free publicity. Any fraction of a sale donated to charity can attract gift aid (subject to tax status). Our page is at http://donations.ebay.co.uk/charity/charity.jsp?NP_ID=51968.

Peter Sandbach, Treasurer, NFT.

New book, Underground above Horwich

This book explores the history of the mines, mining practices and miners' lives associated with the moors above Horwich, Lancashire. The Winter Hill television mast is an obvious feature on these moors but few are aware that beneath this structure lie the narrow tunnels of an old colliery that once employed young children. In 1838, the colliers who worked here tried in vain to help a young traveller who had been mortally wounded and whose murder to this day is an unsolved crime.

At Wildersmoor Colliery the men wore flat caps and clogs and used candles right up to the mines closure in the 1960s. Should they be able to return Victorian miners would still recognise it except for the absence of women and children. Montcliffe Colliery, Mountain Mine, Cabin Pit and others all have their stories, many tragic. In addition there are two new 'heritage' walks that will have particular appeal to ramblers. Route maps reveal the locations of these long lost mines and as an added bonus both walks are quieter and arguably more attractive than those around neighbouring Rivington and Anglezarke.

This first edition is limited to 500 copies and there will never be a second edition!

84 pages, 17 colour and 19 black and white images, route maps, documents etc.

All profit from sales will be donated to the British Heart Foundation.

There are approx 50 books remaining, there will not be a reprint. From junction 36 of the M6 in Cumbria you can be in Horwich in less than an hour should members wish to visit the area. The mining here was either coal or coal with clay. The cover shows Fred Dibnah underground (an unusual place for a steeplejack)

The book retails at £6.95 but you can receive a signed copy from the publisher for only £5.00 including p&p! Send a cheque for £5.00 made out to:

Astley Publications, 24 Morewood Drive, Burton in Kendal, LA6 1NE.

Force Crag & Gaitgill Mine visit, 10th November 2011

A visit was arranged to Force Crag with the Environment Agency and the Coal Authority to look at the filter system and what is being proposed at the site. This was followed by a look at Gategill Mine at Threlkeld. Present were Warren Allison, Colin Woollard, Mike Mitchell, Don Borthwick and Ian Matheson of CATMHS, Steven Johnson and Peter Beardsley, Environment Agency, Kate Rodriguez from the Coal Authority and Rob Tarrant, Atkins Ltd, Consulting Engineers.

The mine site has been identified as a major source of metal contamination which affects water quality in the downstream water courses, the River Derwent, and Bassenthwaite Lake. Water issuing from Level 1 has the greatest metal concentration, zinc and cadmium, and, after high rainfall, water percolating through the mine spoil heaps is a concern. Water issuing from Zero Level is negligible in comparison to Level 1, but as this level is collapsed there is a concern that water might burst out, causing high levels of pollution.

The site is owned by the National Trust, and has been monitored by Entec for several years. The Coal Authority has taken over responsibility for pollution from abandoned mines. £10 million has been earmarked from DEFRA in the north of England of which £1.2 million is expected to be spent at Force Crag and Gaitgill.

A pilot project, the only one in Britain, is being carried out by the University of Newcastle to treat mine water from No 1 Level. A small amount of the water issuing from the adit is passed through tanks situated in the old mine shop which contain ferrous ochre and high surface area media. Chemical action results in zinc being deposited, and the pilot has been able to remove some 30% of the zinc in the water. This would need to be scaled up to deal with all the flow from Level 1. The mine



lagoon was examined as a possible site for the scaled up plant.

Lagoon, Force Crag mine

Work is to be carried out to prevent run off water from entering the mine, to divert run off water from the mine tips and to prevent mine water from flowing down to Level 1 through the internal shafts.

Currently Zero Level is blocked and water is backed up in the mine as far as a crown hole some 80 feet above. In order to prevent a possible blowout, the contractors Atkins Ltd are to drill a series of pilot holes from the mine track to locate Zero level internally. Once it is

been found, a 10inch sleeved borehole will be sunk and a camera will be lowered down to confirm it. The mine will then be pumped out. Work on this is due to commence on November 21st. A permanent solution will then be to provide gravity drainage, probably by drilling a horizontal hole from the surface adjacent to Zero Level portal to enter the level behind the blockage. CAT members pointed out that unless this was of a sufficient diameter there would likely be difficulty in keeping the in-bye end clear in the long term.

NB. Ian Matheson and Mike Mitchell made a second visit on November 23rd. Bad weather had delayed the start of drilling, but the rig was in place. It is understood that drilling has now been completed and the next stage will be carried out in the spring

Gaitgill Mine.

From Force Crag the party moved on to Gaitgill Mine, Threlkeld, where there are similar concerns regarding metal pollution in water discharging from the mine and also of flooding.

Gaitgill mine produced lead and zinc and was very productive from 1879 until 1928, when it closed. It is situated in and around a narrow cleft through which Gate Ghyll discharges.



A series of steep dams held back water to power the dressing machinery, long since removed. The dams are still in place however, and the kennels of the Blencathra Foxhounds stands on one of them.

The whole area is very constricted and, unlike at Force Crag, there is very little space on which to site treatment plant. There is also concern that in extreme conditions water might back up and threaten some of the buildings and habitations below. There is a need to understand situation before formulating plans. Apparently some 11 tons of zinc are discharged in the mine run off water every year.

Ian Matheson

Discharge from the main adit, Gate Ghyll mine.

A collection of Furness mine plans

In late August (2011) a book dealer from Burneside, Kendal contacted Sheila Barker to say he had a large quantity of Furness mine plans and would CAT be interested in making an offer for them as a complete collection. Sheila contacted myself and Peter Sandbach to follow up on this.

After making arrangements with the dealer, Steve Dalzell, we called on him and spent the afternoon of the 6th September going through the plans to assess them for valuation. All were originals dating from the eighteen-eighties Some were very large, and their condition varied, but they were mostly good with some faded. Mr Dalzell would not divulge to us where he had acquired them but he had already sold one plan of the Yarlside mines for £150.

On the way home Peter and I decided an offer of £500 for the forty or so plans would be as high as we should go. This was discussed at the CAT meeting on the 26th September and it was agreed to make this offer. In response Mr Dalzell said he could make quite a bit more but would like them to stay together, and provided we made no financial gain from the deal he would accept our offer.

After speaking with Don Borthwick it was apparent we would not have room to store them in our own archive at the Ruskin Museum and so I contacted the County Record Office in Barrow, who already have a substantial collection of local mine plans, to ask if they would be prepared to store them and perhaps make a grant towards our expenditure providing the collection was freely available for public access and not just our own members.

On 21st October I collected the mine plans from Dalzell Books and the Committee were invited to examine them at the BMSC Cottage, Coniston where they were catalogued on the 2nd November. The



County Archive Service Manager responded to me on the 7th December saying it would be more appropriate for the Service to buy the plans outright so that the Records Office would gain ownership whilst we would still have access to them and they would be happy to refund our £500.

On the 6th January Mark Simpson came to copy them digitally using a camera and a hand-held scanner. This took most of the day. I delivered the plans to the Record Office on the 11th January. So, all's well that ends well. We have ensured that an important collection of local mine plans remains in this area for research, and we got our money back.

Peter Fleming

A list of plans is available; email Peter Fleming or Ian Matheson

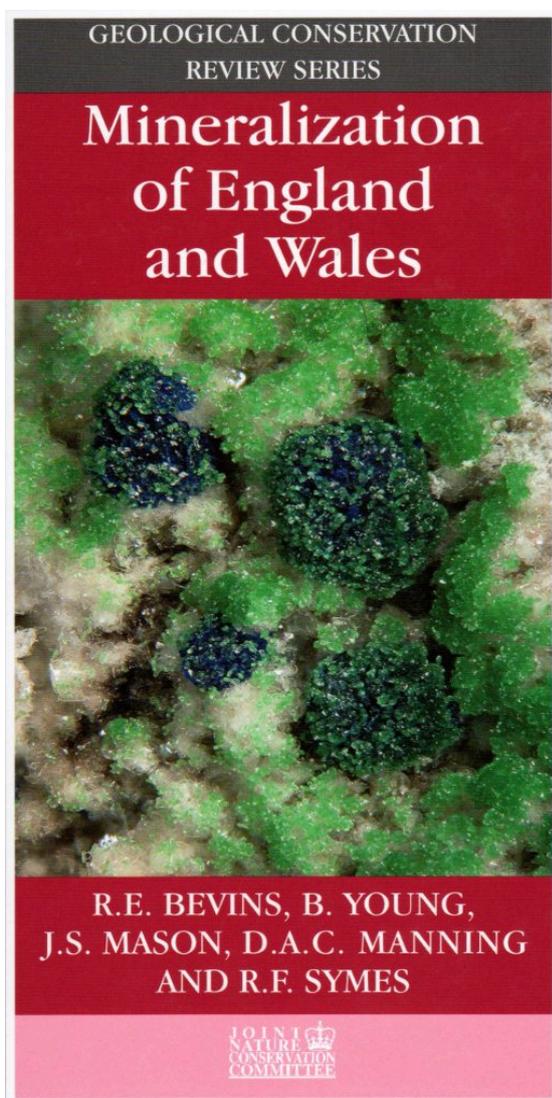
Mines Forum Meeting.

A meeting was due on Monday 23 January. John Hodgson emailed the following:

It has been suggested to me that there might not be very much for the agenda, so I have canvassed a few members of the forum and decided that it would be best to postpone our meeting until March. There are various pieces of work currently in progress which we will all be able report on and discuss at that later date. (It is to be hoped that conservation work at Penny Rigg Mill will be reviewed at that meeting. Ed.)

One of the projects which is currently underway is a survey and conservation management plan for Carrock Mine, funded with agri-environment scheme money. I have therefore booked a room at the Blencathra Centre for 10.00am Friday 16 March for our next Mining Forum meeting. We can follow this with a site visit to Carrock Mine and also possibly the Haltcliffe smelt mill, which has recently been cleared of gorse by our volunteers.

Book Review: ISBN 978-1-86107-566-6. Price £70, but look on Amazon.



This book is marred by a high price, low quality binding and the inexplicable failure to use any colour photographs. Additionally the black and white photographs are either not of the highest quality or have not responded well to the printing techniques used.

Having said all that; the ownership of the volume must be essential to anyone interested in minerals and the underground world. Turn to page 77 Figure 2.26 and you know that a return to Force Crag Number 1 level is essential just to check out that it really does look like that.

Turn back to page 45 and Figure 2.9 and you see Birk Fell Hawse on the shoulder of Wetherlam in a completely different light (I have crossed this ridge more times than I care to remember but will be back shortly).

Those going to Carrock on the forthcoming meet (19th February 2012) would profit from reading the section on the mine.

Both above and below ground enthusiasts are catered for and while Cumbria and the Lake District lead off the whole of England and Wales are comprehensively covered. Even the cynical and deeply sceptical Welsh wing of the Society will find good stuff, while the Cornish

and Devon contingents will, as always; maintain that their minerals are best. Re-mortgage and buy it; forget the age of austerity!

William Bickford.

Meets

Coniston Old Man Quarries, 23rd October

Unfortunately this meet was cancelled due to inclement weather. (Such a thing would never have happened in the good old days! Ed.)

Grasmere 11th December

John Aird (ML), John Ashby, Trevor Cooper, Joanne and Chris Cowdery, Peter Fleming, Kate and Jon Knowles, Ian Matheson, Barbara and Mike Mitchell, Mark Waite, Alan Westall.

The Grasmere Set has interested members for many years, Dave Bridge and Ian Matheson writing an article in Mine Explorer Journal 4 published in 1994. It appears that this may have been the first site in England that German miners exploited in the 16th Century, it must have quickly become apparent to them that there were much more profitable areas to exploit, for by 1573 no work was being done and only a caretaker was resident. Some thirteen years later we have a detailed inventory of what remained.

1586 Inventory:

Grasmere Mines Furniture

At these mines (which have stood many years unwrought on) is only a stamping house and a blacksmithy.

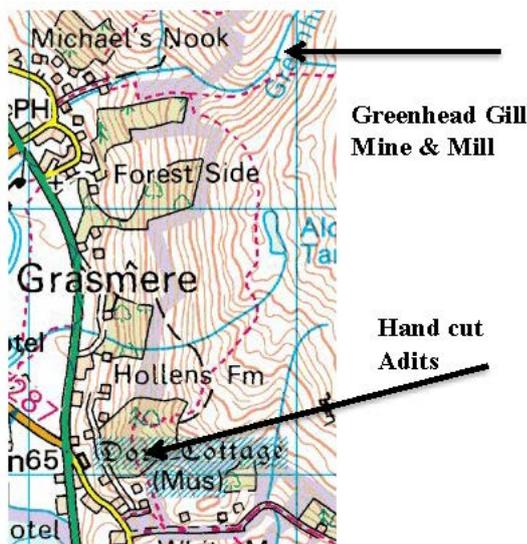
Stamping house

This house stands hard by the mines on a high fell or mountain built of stone and lime and very good timber slated over being 36 ft long and 31 ft broad within the walls and throughout floored with boards. To the same is one great wheel and axle tree serving for 12 stampers, but no stampers or ironwork there, for that the stampers and other iron work hath been long converted to other uses. Under the stampers be troughs serving to stamp the ores in.

The Blacksmithy

This smithy is distant **a quarter of a mile southwards from the mine at the far end of Grasmere where (at the first)** our miners had wrought for ores, the house made of stone and lime slated over being 33 ft long and 20 ft broad within the walls.

At the west end of the smithy even within the wall of the house is a shaft or mine heretofore wrought by our workmen and is (by estimation and memory of our head man) about 10 fathoms deep the same now standing full of water.

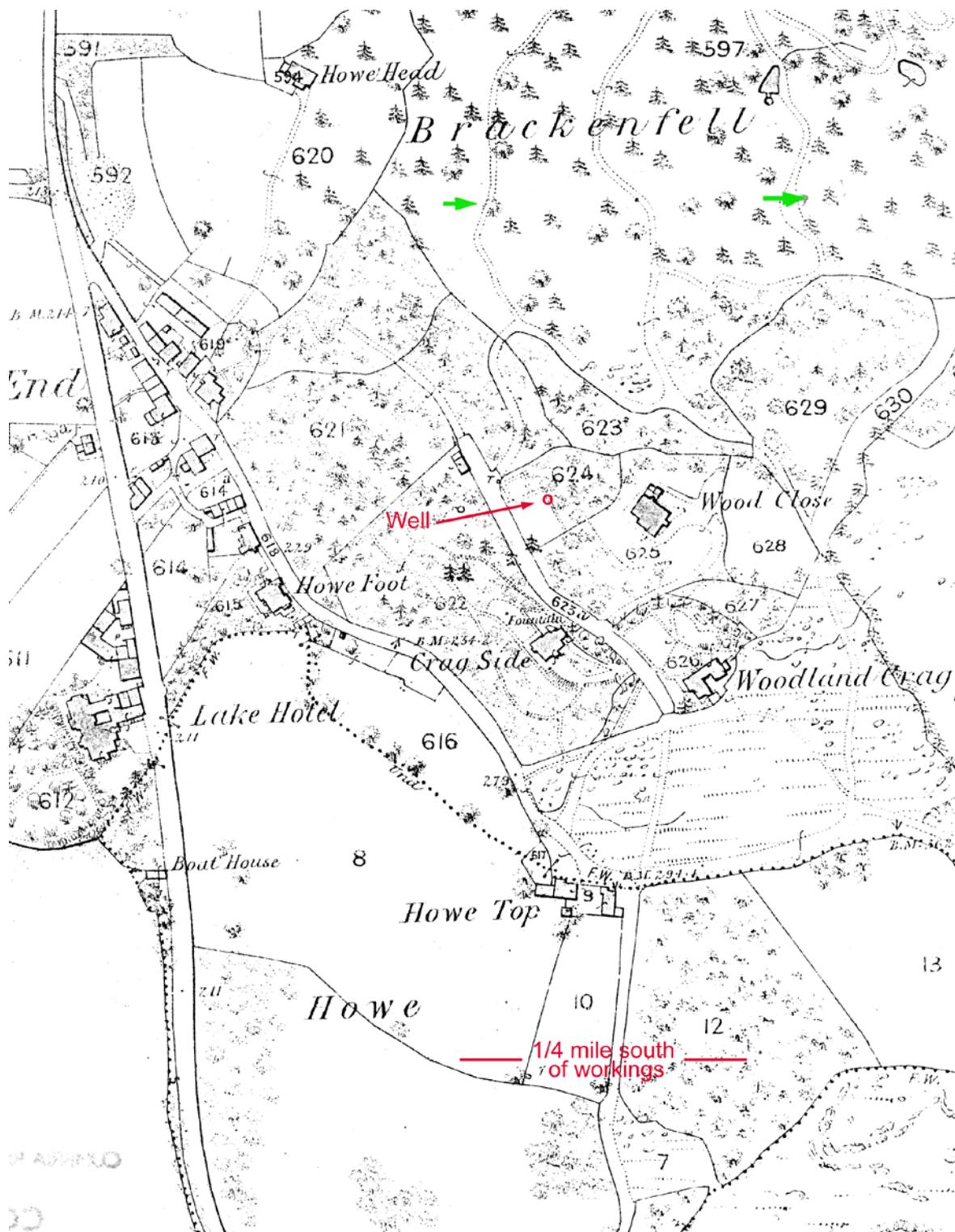


Location of Mining Remains in relation to Grasmere

For details of the two workings see the report in NL 102 February 2011. On this basis it is clear that the Stamping House must have been located at Greenhead Gill, even if the existing remains of buildings are insufficiently large. The site of the hand cut adits has no water supply of any size nor has sufficient material been extracted to justify such a large mill.

Assuming that the “Blacksmithy” is a quarter mile south of Greenhead Gill places it high on the open fellside close to Alcock Tarn (then much smaller than today absent the Victorian dam). This location is certainly not “at the far end of Grasmere”; there are no surface remains to be found in the vicinity and no logical reason for the site being so far vertically above the mine and mill site.

If the hand cut adits are taken to be “where (at the first) our miners wrought for ores” then a position a quarter of a mile southward is “at the far end of Grasmere” and at a much more accessible location and height. If this is the site then locating the exact position is complicated by this area having a considerable number of much more recent buildings some of which are liable to have been constructed from any existing remains. After considering the problem Dave Bridge examined the OS 25 inch (1860) map and found a well shown in a suitable location to be the “shaft or mine heretofore wrought by our workmen and is (by estimation and memory of our head man) about 10 fathoms deep the same now standing full of water.”



Hand cut Adits indicated by green arrows



Bearing this all in mind the party set out from Rydal Hall on an overcast and rainy morning; apart from the Mitchells, Ian Matheson and Trevor Cooper who were to meet us at Howe Top. Despite the conditions, high spirits carried over from the previous day's AGM and dinner prevailed and good time was made. The Meet Leader had made a quick reconnaissance of the site prior to the AGM so had a rough idea of where to commence the search.

One problem lies in the fact that the word "well" in the Lake District has multiple uses, most commonly indicating an underground tank gathering surface water which is then used as a domestic water supply. This was unlikely in this case since the location was below Wood Close which would have required the water to be pumped up to tanks in the roof whereas such a "well" would normally be uphill from the property allowing gravity to supply the water. For a spring to be recorded by the OS as a well seems unlikely which leaves a traditional well, a vertical shaft. Since there is a superfluity of surface water in the area no one would consider excavating a shaft as a water supply; taking us back to the shaft in the smithy.

Approaching along the lane shown to the west of Wood Close it was apparent that the area was wooded with substantial rhododendron cover and a wire deer fence prevented entry. Using the drive to the house gave access to the area although this was impeded by fallen trees. No sign of well or shaft were visible but there was a level area of ground of an adequate size to accommodate the smithy. Dave Bridge had already informed the ML that the well did not show on later OS maps which could be accounted for by the evidence that a septic tank had been constructed in the area along with other buildings.



Having exhausted all obvious possibilities the party walked some way further along the lane west of Wood Close to examine some old buildings that Trevor Cooper thought might be relevant to the mines and then routed back to White Moss, across the footbridge at the head of Rydal Water and on to Loughrigg Quarries. It was only a short stroll then to the Glen Rothay Badger Bar and lunch.

For references see NL 102

Photographs by Jon Knowles

Ayton Monument and Spa Wood Ironstone Mines

6th November 2011

Meet Leader : Chris Twigg

Present : John Ashby, Chris Cowdrey, John Dale, Brian Hunt, Jon Knowles, Roger Ramsden, Richard Veitch.

Photos - Jon Knowles (1-8) Chris Twigg (9-11)



entered the mine via the short fan drift to the rear.

After meeting up and exchanging pleasantries at Great Ayton railway station, the group made quick progress up the incline to the site of Ayton Monument mine (1908-1931) where we investigated the foundations of the winding drum and haulier with its 1921 date stone still to be found on the ground. We then proceeded to the remains of the 1919 Sirocco fanhouse and

First port of call underground was the large 1914 furnace, originally at the base of a shaft, which had provided the mine with ventilation before the installation of the Sirocco fan, artefacts such as a miners shoe and oil can are to be found in this area.



We then moved to No.2 drift, which contains utility pipes for compressed air, fresh water and



waste water. The fresh water pipe is actually travelling out-by, being served by a borehole to surface 3000ft in-by.

We did not explore No.2 drift as previous experience has shown a progressive decrease in the air quality and few artefacts, as all side passages are sealed due to this drift acting at the return airway.

Going out-by along No.2 drift we came to the smaller original ventilation furnace, from here it's possible to cross over into No.1 drift, the main haulage way, where numerous remains can be found of the haulage and signalling cables. Next the group pushed in-by to the 'Wheel Of Doom' which happily failed to live up to its name as air condition at the return-wheel for the main and tail haulage system were much more favourable than normal, allowing us to take photos and pick over some nearby remains of shoes, bottles and tins at our leisure.

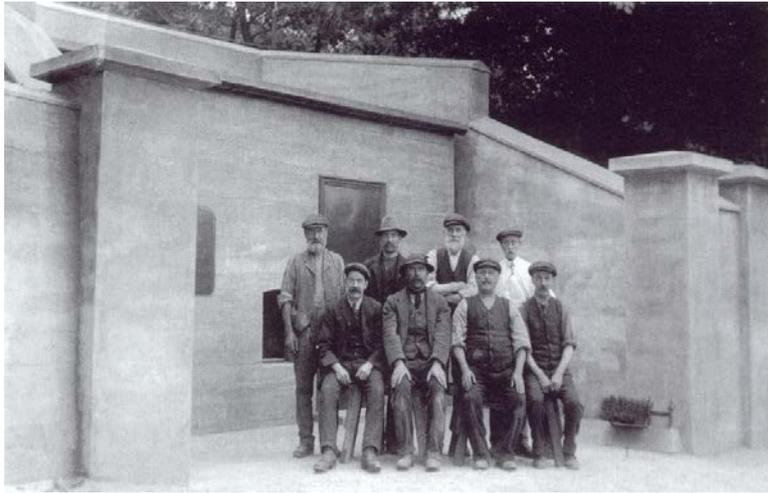


Next destination was over into No.3 drift, where there are remains of another haulage system with numerous cables and guides but no sign of rails. The haulage cable in No.3 drift pulled wagons from 3640 yards in-by to a siding 760 yards in-by where they were transferred onto the haulage cable we had previously seen in No.1 drift, which took them out of the mine and to the top of the incline.

Having explored all the areas that can be safely reached without breathing apparatus the group adjourned to the surface and back to cars for the short drive over to Spa Wood mine near Guisborough (1853-1933) This mine is on private property and permission had been arranged with the owner, the intended destination of Coate Moor is currently the subject of access negotiations with its owner (hopefully another CATMHS trip can return here in the future if that goes well)

Firstly a surface detour was made to the powder magazine a short distance away from the mine; the archive image below shows a comparison with the day it was completed.





We entered Spa Wood through the travelling drift. The air on this side of the mine can be extremely variable, but for the second time today the group was very fortunate with atmospheric conditions and air was observed to be travelling in-by rather than blowing out-by which is often the case. This allowed

exploration of the underground blacksmiths workshop where a small excavation earlier this year unearthed a large volume of broken drill parts that had been discarded outside the entrance.

The travelling drift was explored in-by until the air became poor, the workings immediately to its east yielded various artefacts such as ceramic batteries, powder tins and local glass bottles; all access to further easterly workings is blocked to guide the airflow through the mine.



The group then went west into the main haulage drift, its extra width has resulted in some substantial roof falls with progress in this area being made over the top of girders that once formed the roof. Air quality was starting to drop away as we proceeded in-by but previous experience of the circulation in the mine assured me we could easily reach the single open passage that gives access to the western side of the mine where the air quality quickly improved.

Going further in-by again we located and chatted about a small shaft that can be found here, theories have been put forward by a local expert that it's a trial into a lower ironstone seam, although with the vast quantities of workable ironstone left in the mine even when it was abandoned, I'm not entirely convinced and personally think it may have been for

drainage or water storage.

Heading back out-by we stopped to observe a giant blancmange of ochre that virtually reached the ceiling, Mr Cowdery was dispatched to see if he could climb over the top but he thought better of it when then the sludge reached knee height.



We then pushed into the earlier western side of the mine where the bord and pillar workings take on a much tighter maze-like



arrangement, I could sense the groups confidence in my leadership rapidly diminishing as we took turn after turn left and right until eventually someone did ask if I actually knew where I was going.

Vaguely was the honest answer because we failed to find an area of unusual iron stalagmites and stalactites that I knew existed somewhere, but numerous other artefacts were seen on the magical

mystery tour such as powder tins and numbered metal tags used by the miners to identify their tubs of ironstone when unloaded at the surface.

One last detour was made to view the ventilation furnaces where sadly a load of old diesel was poured down the shaft by a farmer at some point in the past, viewing them isn't particularly pleasurable due to the stink and standing in knee deep black sludge.



Finally we proceeded out-by through the only bit of water in the mine, which despite filling our wellies, did at least wash off the diesel, emerging through the remains of the Waddle fanhouse a

couple of hundred meters from where we had entered the mine.

Further Reading :-

Glimpses of Monument Mine Great Ayton 1908 – 1931 by Richard Pepper
Guisborough District Mines by Simon Chapman.



Boxing Day Meet. 26th December 2011.

Elterwater slate quarries, Lingmoor.

On a winters day in a deep and dark December 10 members, 5 guests and Ben the dog met at Elterwater car park. There was no snow to contend with this year, unlike the previous two years, but the forecast was for storm force winds, heavy rain and sleet. After a rapid risk assessment it was decided to follow the path to the main slate quarry at Elterwater, a large hole in the ground. Approximately twenty years ago CAT held an evening meet here exploring the tunnels and underground close heads, many of which were the resting place for dead cars. The majority of these tunnels and close heads are now part of the large hole in the ground. The huge spoil heaps, sheds and associated machinery are just as impressive, giving an industrial foreground to Crinkle Crag, Bowfell and the Langdale Pikes. I hope they don't discover slate at the head of the Langdale Valley.



After a brief debate about the ethics of open-cast quarrying in the Lake District, the group moved higher up the fells-side to the older, smaller workings. Much of this area has now been fenced off to prevent grazing deer and sheep from causing damage to newly planted native trees; mosses and lichens are now beginning to cover the spoil heaps. Rhododendrons and none native species have been removed, a stark contrast to the working quarry below. Lunch was taken in the shelter of Banks

Three wise men!

Quarry. A group of mountaineers who had abandoned the main party earlier and decided to venture into the aforementioned storm force winds on the ridge of Lingmoor returned to the main party at this point suffering from frost bite and unruly hair. Alan Westall suffered the indignity of exploding trousers at this point, perhaps too many sprouts for his Christmas dinner?



We then descended to Baysbrown Farm and followed Langdale Beck to the Wainwrights Inn, Chapel Stile. Here Don and Sheila decided to drive home to Alston before darkness descended; it was great to see them on the meet. The rest of the party relaxed in the warmth of the Inn for a while, some enjoying a full meal, others happy with a bag of crisps. The promised heavy rain greeted us on the short walk to Elterwater. A short but good day out hopefully enjoyed by all. There is a lot to see in this area, perhaps a summer meet?

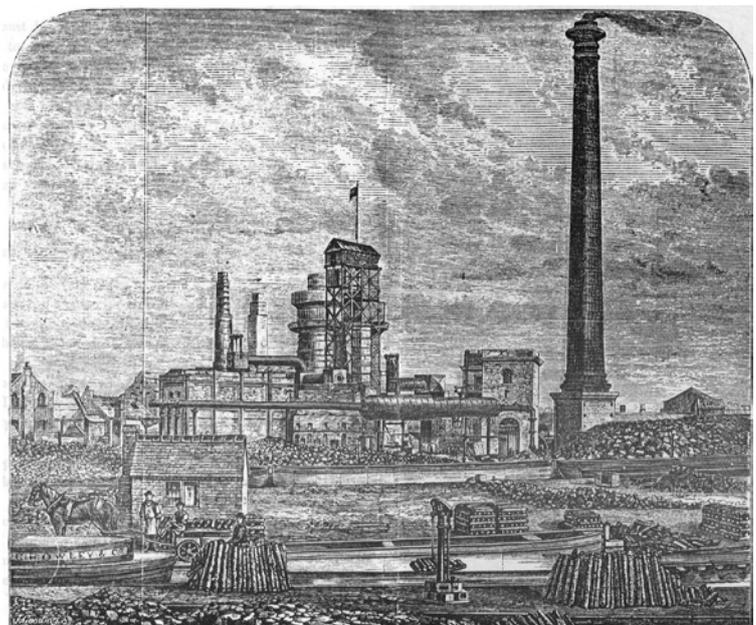


Members attending the meet. ML Mark Scott, Don Borthwick, Shelia Barker, Pete Blezard. Peter & Margaret Fleming, Mike & Barbara Mitchell, Mark Simpson, Alan Westall, 15 & 1 dog 5 guests
Mark Scott.



Puddling

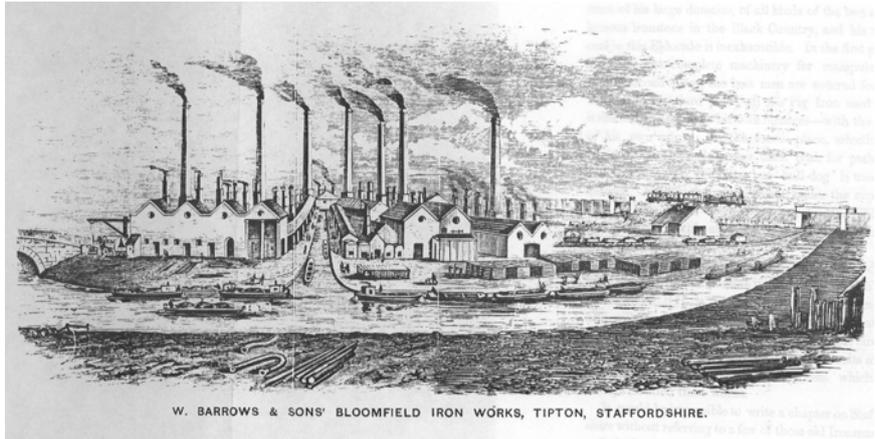
The product of a blast furnace is pig iron, which contains far too much carbon for most purposes. Bar iron or wrought iron was produced in finery and chafery furnaces such as those at Nibthwaite and Spark Bridge. Both processes involve heating pig iron to a nearly molten state in a charcoal fire and beating it with trip-hammers. After re-heating several times, much of the carbon and silicon was oxidised, while any remaining slag was shaped into a fibrous material which actually improved the strength of the metal in the manner of glass reinforced plastic. It had to be a charcoal fire because coal contains phosphorous and sulphur. Sulphur makes the



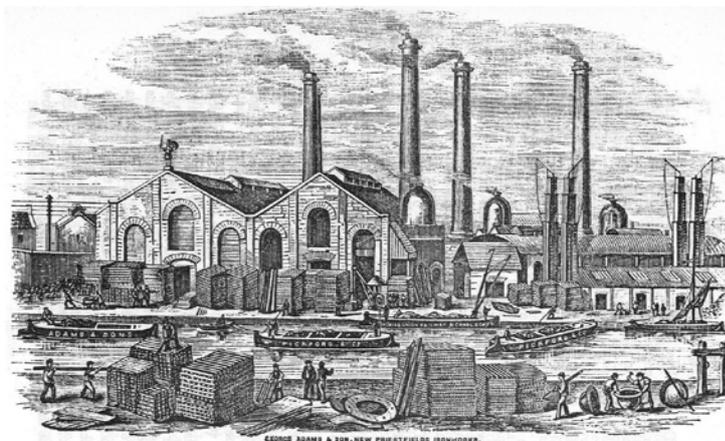
THE DARLSTON STEEL AND IRON COMPANY'S BLAST FURNACES AND IRON FOUNDRIES.

iron red short, that is brittle when hot, and therefore useless for forging. Phosphorous makes it cold short, i.e. brittle when cold. Much of the value of Furness and West Cumbrian haematite lay in the absence of these elements. Finery and chafery furnaces were replaced by the puddling process patented by Henry Cort in 1783.

I first heard the term in a mine report where JT Rigg says that the ore from this pit is set aside for puddling, and that is as it should be as it is desirable that puddling ore should go to puddling furnaces and blast ore to blast furnaces. It made no sense at the time and I failed to note the reference. William Gawith's notebooks provided a list of customers, many of whom specified puddling ore or ground puddling in quantities up to 1500 tons. Samuel Griffiths's Guide to the Iron Trade of Great Britain (1873) contains a 6 page description of the process that leaves the reader more confused than enlightened. In particular it fails to explain how a furnace for refining pig iron consumes iron ore. On two points it was clear. Firstly that there were a large number of puddling furnaces, 33 at Brown & Freer, Wolverhampton, 42 at Hingley & sons, Dudley, 100 at W Barrows & Son, Tipton, 17 at John Bagnall & Sons, West Bromwich, etc. etc. In fact, according to the Journal of the Iron and Steel Institute (1876) there were 7,264 puddling furnaces in Britain, of which 2,046 were in South Staffordshire. Secondly that "the puddler's work was very hard:" Both shingling and rolling test severely the muscular power and adroit manipulations of these iron-workers. Some think



the collier and the miner have a trying and a severe physical task in the bowels of the earth. That may be so; we are of the opinion, however, that the physical power and endurance exercised by the puddler to make a "heat" of good iron is greater, and taxes the muscle and strength of the operator to a much greater extent than the shingler, the roller, collier, or any other workman engaged in the coal and iron trades, particularly if the puddler is bent upon doing his work well, so as to produce a proper yield and good iron."



An article by Paul Belford describes the process clearly and in detail. The main advantage of the puddling process was that the fire was separate from the hearth where the iron was melted, heat being transferred by convection and by reflection from the roof of the furnace. The furnace was fuelled by coal. The ore was used to line the hearth and the fire was

controlled by a damper, allowing the puddler to create an oxidising or a reducing atmosphere. The charge was melted in an oxidising atmosphere and hammer scale added. This would oxidise silicon, manganese and phosphorous. Then more mill scale was added and the damper closed. With a reducing atmosphere, the iron would begin to "boil" as the remaining silicon and carbon were oxidised by the millscale and ore, which were reduced to iron.

That is the bare bones of a process described much more clearly by Paul Belford. He based his article on the notebooks of Benjamin Westwood, who was a manager at Noah Hingley & Sons, Dudley. The notebooks contain 44 recipes for blends involving 41 brands of pig. Iron from Barrow Haematite Steel was used in some of the better grades of wrought iron and one recipe for “special best best” used 30% Lorn brand charcoal haematite pig from Newland.

When Benjamin Westwood wrote his notebooks (they end in 1893), mild steel had been replacing wrought iron for 30 years and the puddling furnaces were closing, but Noah Hingley & sons survived well into the 20th century, forging anchors for the Titanic in 1911 and finally closing in 1966. Benjamin Westwood retired on a pension and died in 1942 at the age of 82. The full text of the article is at:

http://york.academia.edu/PaulBelford/Papers/294618/Extra_Special_Best_Best_Black_County_Iron_Puddling_and_Wrought_Iron_Manufacture_In_the_Nineteenth_Century
or search for extra special best best.

Illustrations: From Guide to the iron Trade of Great Britain, Samuel Griffiths, 1873 with thanks to Cumbria Records Office, Barrow.

Peter Sandbach.

I owe my soul to the company store

From the Journal of the Iron & Steel Industry No1 1897:

“The cheapness of iron in Alabama is ascribed to the abundance of suitable ore, to the cheapness of negro labour, which apparently is derived more from a vigorous application of the truck methods than from a low rate of wages, and also to abundant use of prison labour”

Truck system, Wikipedia

A truck system is an arrangement in which employees are paid in commodities or some currency substitute rather than with standard money. This limits employees' ability to choose how to spend their earnings—generally to the benefit of the employer. As an example, scrip might be usable only for the purchase of goods at a company-owned store, where prices are set artificially high. While this system had long existed in many parts of the world, it became widespread in the 18th and 19th centuries, as industrialisation left many poor, unskilled workers without other means to support themselves and their families

The word truck came into the English language within this context, from the French [troquer](#), meaning to "exchange" or "[barter](#)". A truck system differs from this kind of open barter or [payment in kind](#) system by creating or taking advantage of a closed economic system in which workers have little or no opportunity to choose other work arrangements, and can easily become so indebted to their employers that they are unable to leave the system legally. The popular song "[Sixteen Tons](#)" dramatizes this scenario, with the narrator telling [Saint Peter](#) (who would welcome him to Heaven upon his death) "I can't go; I owe my soul to the company store".

Origin of the saying "I'll have no truck with that" to mean "I will have nothing to do with that system".

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

Committee Meeting held on the 26th September 2011 at the BMSC Hut at Coniston.

Agenda.

- | | | | |
|----|--------------------------|----|--------------------------------------|
| 1 | Apologies for absence | 2 | Minutes of the last meeting |
| 3 | Matters arising | 4 | Secretary's Report |
| 5 | Treasurer's Report | 6 | Membership Sec. & Newsletter Reports |
| 7 | Meets Report | 8 | RA forms |
| 9 | John Barratt Cost Book | 10 | Publications |
| 11 | Library Report | 12 | New projects |
| 13 | Publicity Officer Report | 14 | Coniston Coppermines & Quarries |
| 15 | GPS | 16 | Mines Forum meeting |
| 17 | Any Other business | 18 | Date next meeting |

Present: J Aird (JA), W Allison (WA), Sheila Barker (SB), J Brown (JB), P. Fleming (PF), I. Matheson (IM), Mike Mitchell (MM), M. Scott (MSc), M. Simpson (MS) & A. Wilson (AW).

The meeting commenced at 6.10 pm. 10 committee members attended.

1 Apologies for absence: C. Woollard (CW).

2 Minutes of the last meeting

The minutes of the committee meeting held on Monday 6th June had been previously circulated to members. It was **PROPOSED** by WA and **SECONDED** by PF that the minutes be signed by the Chairman as a true and correct record of the proceedings. This was carried unanimously.

3 Matters arising

- 3.1 18.2 JA - would pursue the sale of the drill on a free E-bay day.
- 3.2 12.4 PF - the SMC for Sebastian Level had already been submitted.
- 3.2 17.1 PF had contacted M. Fleming – all documents were in the CAT archive. PF had sent the information to the Strontian Museum.

4 Secretary's Report

SB had nothing to report that was not covered by other items.

5 Treasurer's Report

JA had circulated his report to members for the period 7th June to 26th September 2011. Bookings for the AGM and Dinner were slowly coming in. JA would send out an email reminder as Rydal Hall would be expecting payment shortly. The Treasurer asked that his expenses of £122.16 be approved. MM **proposed** that this was accepted, **seconded** by WA. This was carried unanimously.

6 Membership Secretary & Newsletter Editor's Reports

- 6.1 IM did not have anything to report on membership.
- 6.2 IM had contacted members regarding receiving the NL digitally and had positive answers. It was decided to adopt this method. If back copies were sold to non-members, JA would delete the minutes.

7 Meets Report

- 7.1 The Meets Secretary had sent a list of meets for the period up to Summer 2012. WA asked for assistance for the joint meet (09/10/11) with CWAAS at Tilberthwaite. MS would gather info for the meeting. MSc would lead the Boxing Day meet, details to go in next NL.
- 7.2 PF thought we should hold meets at several classic Lakeland mine sites, as we had not visited them for several years. It was agreed we should put Force Crag, Greenside & Yew Crag on the next meets list.

8 RA Forms

JA would do a RA form for the meet on 6th November. At future committee meetings this item to be included with the Meets Report.

9 John Barratt Cost & Letter Books

WA would get a quote for the printing of a facsimile, bound copy of the cost books, for the CAT archive.

10 Publications

Journal 3 is now out of print. PF told members that the Old Man trail leaflets were almost sold out. MS is to look at updating.

11 Library

- 11.1 The Archivist's report. This was read, discussed and accepted. B. Cubbon had suggested we deposit material from the CAT archive in the Dock Museum, at Barrow in Furness. They were contacted and are interested in anything we have.
- 11.2 IM & Don Borthwick had met Jane Foale and Vicky Slowe, to discuss providing material for an exhibition at the Ruskin Museum. It was agreed that CATMHS could supply material and help with the exhibition next summer. PF would lead a walk if required.
- 11.3 Furness mine plans are being offered for sale. PF and P Sandbach have looked at them. It was agreed we should to make an offer. Action PF.

12 New Projects

- 12.1 JB reported that Carrock Fell Mine had been signed off. He is to send photographs and a final report to EH. WA reported that a site meeting had been held on the 9th September with the LDNPA, English Heritage and Mr R McCosh the owner of Dalmain Estates will inspect the work, followed by a trip underground. All parties agreed that the project had been extremely well done and English Heritage agreed to an appendix to the management agreement; that CATMHS could remove the debris from any of the collapsed hoppers. But if any were to be rebuilt then this would need scheduled monument consent.
- 12.2 WAJB reported on Silvergill – the dig took place on 19th September with NPA Ltd in attendance. No entrance was discovered and the site was returned to its original state. A report would be sent to the LDNPA. Options to be considered and permission for further investigation to be sort.
- 12.3 PF would contact J Hodgson regarding the application for Sebastian Level.

13 Publicity Officer Report

MSc reported that CATMHS exhibit in the Archaeological and Historical Weekend at the Beacon in Whitehaven in September was cancelled. We would again have an exhibit at the LDNPA Archaeology Conference in November, would require photo's of latest projects.

14 Coniston Mines & Quarries

- 14.1 A work meet would be arranged to clear Levers Water mine entrance as PF wished to take a local journalist into the mine. It was agreed that some alterations to the protective shelter may need to be done.
- 14.2 Tilberthwaite Horse Crag Level and Mill. Work to remove the rail will be carried out and returned to the Ash Fell store. The dig will probably continue on the next collapse during the winter months and to fit in with other projects. MM reported that the wheel pit was deteriorating rapidly and suggested we should do emergency consolidation of the walls. Even a temporary repair would protect the structure over the winter. PF would contact John Hodgson about this.

15 GPS

MS was thanked for has producing an excellent survey in a PDF format of the Old Man Quarries at Coniston. He also reported that the Duddon Valley Archaeology Group had decided to buy GPS equipment similar to CATMHS.

16 Mines Forum Meeting

The next meeting is at the NT Bow Barn on 21st October.

17 Any Other Business

- 17.1 The radon paper "Radon concentrations in abandoned mines, Cumbria, UK; safety implications for industrial archaeologists" was reviewed (presented in the library report). It was **Proposed** by WA "That the Committee believes that there are no safety implications for mine explorers and underground visitors. The very wide range of results obtained particularly the seasonal variation indicate that further research is needed. However in view of the results of radon surveys at Hudgillburn mine the Committee believe that specific research at this location should be undertaken prior to any resumption of long term underground works in the mine. This requirement should in no way inhibit single meets/visits to the site". **Seconded** by MS, all were in favour.
- 17.2 SB reported the Killhope Lead Mining Museum had purchased a silver cake basket made out of HGB silver. They were going to design a display with interpretation regarding silver and the mine, had asked SB for photo's etc.
- 17.3 WA reported that a work meet had removed scrub from the smelter site at Haltcliffe, Caldbeck.
- 17.4 WA **proposed** a motion for the AGM "that the number of committee meeting per year be reduced to four" **seconded** by JB, all were in favour.

18 Date and Venue of Next Meeting

To be held at the Rydal Hall, before the AGM on 10th December 2011.

There being no further business the meeting closed at 9.10 pm.

SB 29/09/2011

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

- Honorary President:** Lord Egremont
- Chairman** Warren Allison
17 Gilbert Road, Cummersdale, Carlisle, CA26BJ
Phone: 01228 523923
Email: chairman@catmhs.org.uk
- Secretary:** Colin Woollard,
1 Lanty Close, Brigham, Cockermouth, CA130UZ
Phone 01900 823686
Email: secretary@catmhs.org.uk
- Treasurer:** John Aird,
1 Hillcroft Crescent, Ealing, London, W5 2SG
Phone: 0208 997 5985
Email: treasurer@catmhs.org.uk
- Membership Secretary
& Newsletter Editor:** Ian Matheson,
1 Rothay Holme Cottages
Ambleside, Cumbria, LA22 0EE.
Phone: 015394 32957.
Email: membership@catmhs.org.uk
- Meets Secretary:** Jon Knowles
46 Dukewood Road
Clayton West, Huddersfield, HD8 9HF
Phone: 01484 860662; mobile 07920
231627 Email: meetssecretary@catmhs.org.uk
- Librarian / Archivist:** Don Borthwick
The Rise, Alston, Cumbria, CA9 3DB
Phone 01434 381903
Email: archivist@catmhs.org.uk
- Publicity Officer** Mark Scott
58 Tarn Flatt, Marton, Cumbria LA12 0NL
Phone: 07743 274115
Email: mark@classicfellwalks.co.uk
- Committee members:** John Aird, Warren Allison, Sheila Barker,
John Brown, Peter Fleming, Ian Matheson, Mike
Mitchell, Mark Scott, Mark Simpson, Angela
Wilson, Colin Woollard.
- CATMHS website:** www.catmhs.org.uk