C A T

The Newsletter of the Cumbria Amenity Trust Mining History Society

Rigg Head Slate Mine, Borrowdale. Photo by Tony Holland.

No. 97 November 2009

Cumbria Amenity Trust Mining History Society
Newsletter No 97, November 2009.

Contents:

News :

30th Anniversary Celebration

To celebrate CATMHS' 30th anniversary the AGM and dinner will be held during a residential weekend at Rydal Hall on 21st November. There are still a few places left, but in order to attend the AGM you don't have to go to the dinner, nor do you have to stay overnight if you only want to go to the dinner. Contact Mike Mitchell for information: 01539 821132.

The AGM will be held at 5.00pm on Saturday 21st and this will be followed by the dinner and a presentation on CAT people and achievements over the last 30 years. There will be a bar and plenty of time to socialize. On the Sunday there will be an easy walk on Loughrigg Terrace, and a more strenuous one to Elterwater Quarries and Little Langdale. If you want adventure, Tony Holland has arranged a comprehensive SRT trip in the Coniston Coppermines. Should none of these appeal, then you could visit Jane Foale's exhibition of mineral related art at the Theatre by the Lake and Ian Tyler's excellent museum in Keswick, take a boat ride on Windermere, a steam train on the Lakeside and Haverthwaite Railway, visit Lakeland Limited or shop for anoraks in Ambleside.

CATMHS 30th Anniversary Weekend Underground Option

During recent exploration of the Paddy End workings at Coniston, it became apparent that it was possible via a complex and convoluted route to enter Brow Stope on the shores of Levers Water and via sixteen SRT pitches, emerge later at the Hospital Level. This route has never, to my knowledge been done on one go. It is certainly not the fastest or most direct route, but instead offers the chance to experience and see the maximum possible of these workings in one single visit. The route is now fully rigged in readiness for our 30th Anniversary Weekend in November this year, should anyone be tempted to venture underground. There will be no gear to carry and most of the pitches are descents so it should not be excessively taxing but will require SRT competence and confidence in areas of loose ground. For any further information please contact me via e-mail – xanthonyhollandx@yahoo.co.uk otherwise, remember to bring along your SRT gear. It would be nice to have the company of some of the original explorers of these wonderful workings…. You know who are!

Tony Holland

Mike Davies-Shiel

Mike Davies-Shiel died, aged 80, on 15th July after a short illness. He moved to the Lakes in the late 1950's and was a pioneer in seeking out and recording the remains of Lakeland's Industrial Heritage. His knowledge of the county's industrial history was immense, especially that concerning water mills and iron processing. In 1998 his detailed OS maps, showing the hundreds of industrial sites which he had found and identified, were digitized by the LDNPA and put on the Geographical Information System. He published six books, and many papers for the Historical Metallurgical Society and the Cumberland and Westmorland Antiquarian and Archaeological Society. He was a fellow of the Royal Geographical Society, a founder member of the Cumbria Industrial History Society and a member of the Newland Furnace Trust. Although he was never a member of CATMHS, he will be missed.

Newland Furnace – Open!

Newland Furnaces' annual open day was planned for Saturday September 12th as part of the National Heritage Open Day Scheme when historic buildings are open free to the general public. Press releases and posters had been issued, display boards borrowed, photos laminated and artefacts assembled, but on the Thursday morning the builders were still aloft belatedly fixing the corrugated iron sheets to the structure. The new roof was designed to protect the furnace and the extension foundations from the ingress of water which for over a century had gradually caused the building to disintegrate. This was one of the biggest projects to be tackled in the twenty years of work to preserve this piece of industrial history in which CATMHS members and others have been involved.

The charging house was crammed with rubble, dirt, tools, machinery, excels raw materials and all the debris that major building work produces, and it was in this area that our exhibition was to be displayed. But by that evening all was clear, the floor had been vacuumed, the dust had settled and tables had been set up ready for the following days preparation. By Friday evening we were ready.

More than eighty people came to see the progress that has been made over the years, expressing interest, enthusiasm and admiration for all that has been achieved. Two volunteered to join our small group at the monthly work meets – hurray! Visitors included a family from Belgium, a young man from Madrid, and an Australian who wrote on our visitors' record "Real history". He had planned to join the cross bay walk but

swollen river water due to the recent heavy rainstorms had caused its cancellation, that same rain which had been part of our builders problems, but which, on Saturday, cleared to give us a perfect Open Day.

Joan Helme.

Silver Gill GPR Survey

An investigation by ground penetrating radar and magnetometer to search for evidence a cross-cut to the Silvergill vein, proposed in 1622 to revive the ailing Elizabethan mining venture was conducted during the week beginning 17th August. Organised by Warren Allison the suevey was carried out by a student from UCL under the supervision of CAT member Professor Phil Meredith. A number of CAT members assisted throughout the week. The weather was unhelpful and the equipment not easy to use on the sloping terrain but some results were obtained. The data still has to be processed but it is thought to show an anomaly which could be grounds for a physical investigation.

Kendal Fell Lime Kiln

The Greenside lime kiln, which dates back to the 1840's has been restored and opened to the public. The kiln is fairly unique in Cumbria in having two pots which are drawn through a communal arch. The restored kiln now includes improved public access, special seating and information about how it would have worked and its importance for Kendal It is the only one remaining of twelve kilns built to serve the Fellside stone quarries.

Archeaology in the Lake District 2009, Saturday 14th November.

This year's conference will again be held at the Theatre by the Lake, Keswick. The program includes: Archaeology in the Lake district National Park 2008-9, A new stone axe working site at Mart Crag, Martin Frobisher, the gold of Meta Imognita and Caldbeck Lead Ore, Upland and Lowland Nether Wasdale, Where did the Roman Garrisons get their animal supplies? and Caldbeck Chroma, art and mineralogy of the Caldbeck Fells by CAT member Jane Foale. There will be an exhibition of her work at the Theatre between 28th October and 15th November

CIHS articles

The Cumbria Industrial History society has scanned the articles in the first 25 editions of its Bulletin going back to the formation of the Society. The collection covers a wide variety of local industries and industrialists, and includes several mining and mining related articles. The collection is available on CD for £5.00 from the CIHS Bulletin Editor, Graham Brooks, Coomara, Carleton, Carlisle CA4 0BU.

Tilberthwaite Dig

Tilberthwaite Horse Crag Level

Preparatory work has now been completed prior to starting the main task of removing the collapse in the Tilberthwaite Horse Crag Level. All of the tail has now been removed down to the sole of the Level and has been accommodated in a sack filled pack wall on the left hand side of the level which now extends some 40 metres in length and 2 metres in height to the roof. The small chamber has been cleared, but this area is unstable with flakes or rock detaching themselves from the roof and walls from time to time despite barring off the obvious potential threats. This chamber will need securing with a protective frame and back filled. Doing this will provide additional storage for the collapse material. It is estimated that 10no. sets with a 1220mm (4') pitch will be required to lead up to the larger chamber which contains the main body of the collapse and another 10no. sets will be required to drive through the larger chamber.

The choice of materials are obviously timber or steel. Much discussion has taken place on this subject and while timber could be approximately a little more than half the cost of steel (not including lagging boards, recycled crash barriers and spiling tubes), there are obvious disadvantages, one of which is lifespan. Green larch, which has traditionally been used in mining, is now difficult to obtain and it seems that this can only be sourced in the form of boards now. Tanilized has an unknown life in this environment and we may only be looking at ten to fifteen years before the whole structure yields to the forces of nature once again.

John Brown.

Hudgillburn Mine Portal Restoration.

Starting at the beginning of April this year work to restore the portal began in earnest. This job was long overdue and the arching was in danger of falling to the floor. Initially it was thought that it was just the first couple of feet of arching that needed replacing, but then it became obvious that it would need to be taken back at least four feet and that the right hand wall was bulging inwards. The overburden was stripped off to reveal some very fragile arching stones which had become badly decayed. Soil was removed from behind the right hand wall to reveal some poor stone which had no depth to it. It was being forced in to the level with pressure from the material from behind.

Once the bulk of the clearing work had been done, it was time to go to the local quarry and select the right sort of stone. Easier said than done! The old former, dug out of the bed of nettles in the old mine shop, was then taken apart to be rebuilt to a smaller dimension. The first twenty feet or so of the level was probably constructed at a later date and is slightly narrower than the section of level further in bye. This inner section was repaired by CATMHS in 2003 and so the former which was built for then was too large for now. Note the new 'Phoenix Clear View Former' making for easier inspections.

Building up the right hand wall began and more depth was added to it this time and it is hoped that this will prevent any further movement. All the old ties from the gate frame had to be removed and these were replaced with Rawl Bolts once the wall was re-built.
The former was fitted and then work to sit the arching on top began. This is slow painstaking work trying to match up all the stones and these all had to have a good face sitting squarely on the former so that once removed, it would look neat from below.

The members involved in this project were Warren Allison, John Brown, Pete Blezard, Colin and Andrew Woollard. Three of whom are shown in the picture below. Thanks must go to Don and Sheila for the use of their draining rods to remove the blockage from the drain which removes water from the mine.

This job was completed just in time before the Hudgillburn mosquito woke up for the start of summer

John Brown

DEVELOPMENTS AT ELTERWATER QUARRY

Those who attended Alastair Cameron's and Peter Sandbach's meets at Elterwater (NL 080 and 081) may be interested in this view down into the lowest floor at the quarry (taken July 2009).

On the floor to the left of the Landrover a wire saw is undercutting the slate clog, to the left can be seen the sump and associated pipe work used to dewater the quarry, since there is now no natural drainage due to the depth of working. The redundant railway wagon two floors above the bottom sits in the remains of the closehead at the inner end of the adit from which Anton Thomas arranged the removal of the rails many years ago!

The viewpoint is the top of the incline shown in Postlethwaite's "Mines and Mining in the Lake English District" Plate 13. Sadly all that remains of the incline are the fragments of the top of the track and the remains of the winch

It proved impossible to see what had happened to the remains of the other internal incline, which descended into a closehead behind the new quarry office; the reason being that the whole area is being developed into the new "underground experience".

Having just met one of the accountants and the quarry manager who were gathering to discuss the funding of the "experience"("Well you can spend £100,000 or you can spend a £1,000,000 it's all about the total experience you give people!"); it was thought inadvisable to climb over the security fence and go off underground. However considerable work has been carried out on the surface, the "new" quarry office is being enlarged as a reception centre, car parking has been provided and a massive amount of tidying up carried out. Alen McFadzean wouldn't recognise the place; it really doesn't look at all like a Lakeland Quarry any longer.

PS. The old quarry office was a wooden shed at the end of the main building and in 1967 I was asking permission to go down into the quarry when the manager suddenly rose to his feet exclaiming "What are those buggers up to out there!" I looked round to see my father and uncle (a highly respectable solicitor) making off across the tips having dug up a silver birch tree (now fully mature in a Newcastle garden). I humbly agreed with the managers' strongly expressed opinions on the public's predilection for vandalism and general dishonesty!

John Aird.

This picture, sent in by Peter Sandbach, is a view looking down the flue of Newland Furnace. It appeared in a recent edition of the Barrow Evening Mail.

The unusual survivor of the industrial Revolution is John Helme. Not many people know how long he has survived, nor how long he has been imprisoned in the Furnace Stack!

NAMHO

As well as being the CAT 30th anniversary this year is also the 30th anniversary of NAMHO, and they too have produced a special edition Newsletter:

'This year it is not only thirty years since NAMHO was formed it is also the fiftieth anniversary of the establishment of one of our leading constituent organisations, the Peak District Mines Historical Society (PDMHS), and it is a real pleasure to publish this special issue of the newsletter to coincide with the annual conference in Matlock hosted by PDMHS. There is no getting away from the fact that this issue of the Newsletter has a distinct bias towards the south-west of England and that is due to the efforts of our new chairman, Kevin Baker. It is countered to some degree by significant contributions from Don Borthwick in the north, but we would like to see the balance redressed.'

NAMHO Chairman's Comments and Ramblings

I feel it is an honour to take on the chair of NAMHO this its 30th years from Steve Holding, thank you, and following on after such a long list of willing volunteers!

Originally the majority of NAMHO have come from the mid to north of England hence it's natural that the Chairman has come from one of those areas organisations. But over the last few years the post has moved south and now it's reached the far southwest – Cornwall & Carn Brea Mining Society. … I wonder if the first Chairman, Dave Carlisle would have thought the organisation would have continued and grown for 30 years, happy birthday Dave!

NAMHO through those years has witnessed many changes, founded in the late resurgence and boom time of the UKs Mining and Extractive Industries, history. We have witnessed the desperate times through the Coal closure regime and more closely to home the closure of the last Tin Mine (or was it?). The China Clay industry and its associated minerals extracted have also plummeted to a trickle of its former productions in Cornwall. … NAMHO currently has some 84 groups making up its membership. From its launch of 10 organisations more than half still survive and are active in supporting NAMHO. It has also seen the coming and going of about 50 other organisations throughout those 30 years. Therefore the overall numbers of people involved supporting /making/recording Mining History was vast. And it could be said that because the industries have all but gone the task we have today in catching the ruminants is critical.

The Annual Event for the last 11 years has been The NAMHO Conference this remains the main activity of the Organisation. However periodically "we" collaborate in a project of national significance currently there is a Project supported by English Heritage Historic Environment and driven by Peter Claughton called "Research framework for the archaeology of the extractive industries". The Membership has been invited to contribute and or participate in this exercise.

What of the future? Well I do know that, this year and in fact the next 2 years (2010 & 2011) The Annual Conferences have been earmarked by NAMHO Membership Organisations wishing to celebrate their significant Anniversaries with you ---come along, participate and see another area of the UK with local guides, speakers and friends to share in your interest.

Kevin Baker - Carn Brea Mining Society / King Edward Mine

A research framework for the archaeology of the extractive industries

Following the decision to proceed with the framework, a Project Design has been written and submitted to English Heritage with a bid for funding for the first two stages of the framework. An outline is available on the NAMHO website (www.namho.org). If you would like more details or you wish to help with this comprehensive study on the current state of mining and quarrying archaeology, please contact me on P.F.Claughton@exeter.ac.uk or at the address below.

Peter Claughton, Conservation Officer

Miner-Farmer Landscapes of the North Pennines

A joint project involving English Heritage and the North Pennines AONB to examine the mining / agricultural landscapes of Alston Moor and the adjoining South Tyne and Nent valleys over five years, this started in late 2008. An introductory report has just been published in the latest Newsletter of the English Heritage Research Department, Research News 11 (Spring 2009) – go to http://www.english-heritage.org.uk/server/show/nav.8336 and download a copy in pdf format.

The Trevithick Trust – probably NAMHO's oldest constituent organisation

In 1935 a group of men from the Cornish mining and engineering industries got together to prevent the 1835 beam winding engine at Levant from being scrapped. This group called itself the Cornish Engines Preservation Committee; by 1948 it had become a registered charity and the Committee became a Society, usually shortened to CEPS. In 1971 the CEPS combined with the fledgling Cornish Waterwheels Preservation Society and the Trevithick Society came into being.

Many of the Society's activities over the last few years have been associated with the bicentenaries of various of Richard Trevithick's inventions. For 2001 the Society built a full-scale working replica of the 1801 Camborne road locomotive, the Puffing Devil, the world's first successful self-propelled road vehicle. In 2003 the Society was involved in commemorating Trevithick's London taxi, in 2004 in the railway bicentenary celebrations at Penydarren and in 2008 we were invited to take part in the celebrations at Bridgnorth, Shropshire, where Trevithick's Catch-Me-Who-Can engine was built. This engine carried the world's first fare paying passengers on board a train.

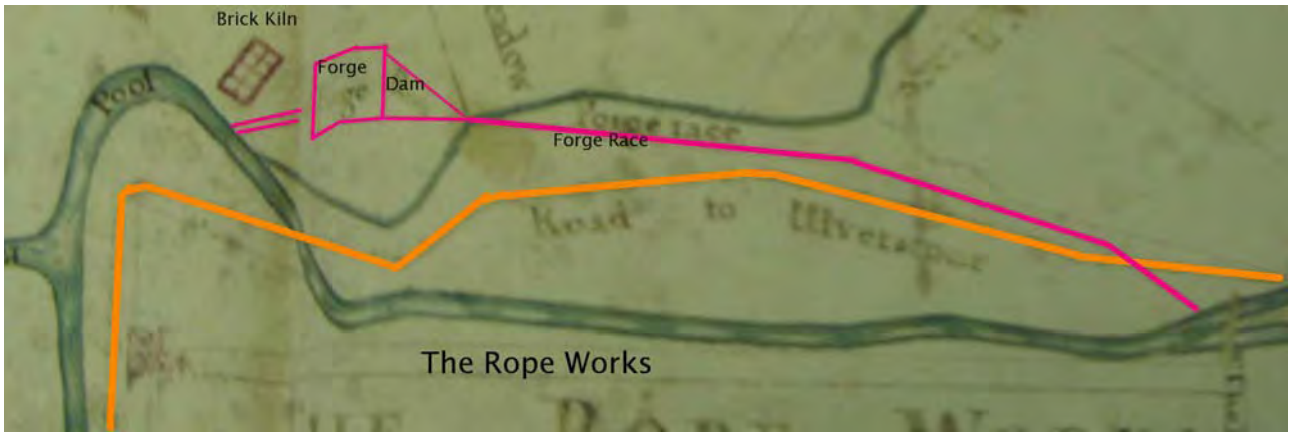
While suffering from the problems which, sadly, affect virtually all such organisations, particularly the lack of young members, the Trevithick Society still works vigorously in Cornwall and the rest of the UK to promote Cornish industrial heritage. We attend a number of events and publish books on various Cornish industrial topics. 2010 is our 75th birthday year and … there will be a celebration at Levant Mine in August to mark our official birthday.

The full Newsletter contains much that is of interest and can be found on the NAMHO website www.namho.org

Proposed Visit to Northamptonshire Records Office, May 26, 27th 2010.

Several years ago, I received a letter from Dr Jeremy Greenwood written in purple ink with turquoise headers. At the time Dr Greenwood was an authority on the New Forrest iron industry and ran a website called ironsowley (now vanished). The website contained a lot of information about the New Forest furnaces, ore shipped from Furness and the involvement of the Newland Co in one of the furnaces there. He said that there was a large number of documents relating to Furness in Northamptonshire Records Office (a figure of 500 boxes was mentioned) and nobody knows what is in them. He offered a list of documents in the single box that he had seen, and they contained some very relevant items, eg Harrison Ainslie lease of lease of Lindal Moor and Whitriggs, 1855 with large scale plan, lease of Lindal Cote to Alexander Brogden and Henry Kennedy, 1857, with plan...etc, etc

I was unable to visit Northampton until this year, and only found time to look at a single bundle. It contained leases from 1707. Richard Ford (of Newland) took several leases. In 1746 he took different leases in partnerships with James Naylor, William Shaw, James Postlethwaite, William Rawlinson and John Law. In 1747 he took a lease in partnership with James Postlethwaite. In some cases, his partner is the surface tenant. The bundle also contained the original lease of Newlad Furnace. The last document in the bundle was a surprise, an indenture dated 1760 with a plan of Ulverston rope walk, showing a forge and a brickworks on the site of the tannery.



Dr Greenwood was not quite accurate when he said that the Montagu of Boughton papers and the Brudenell papers were unclassified. There is an index, and for the Montagu papers it is about 6 bound volumes, about 1 Ft of shelfspace. For the Brudenel papers it consists of photocopies of hand written notes.

If it was an underground meet it would be graded exp. I have no idea of what, if anything might be found in NRO, and there is a possibility of finding nothing new. Most of the leases Jeremy Greenwood listed have duplicates in Barrow RO. In the preface to "the Early iron industry of Furness and District", Alfred Fell acknowledges the assistance the assistance of the Duke of Buccleuch. His account of the early leases is very similar, but not identical to my notes on bundle 3. Even the forge near the ropewalk is recorded on page 248.

There is no mud in the records office, in fact there are comfortable chairs and toilet facilities, so I hope that some CAT members will join me to see what we can find. A CARN and a camera would be useful. NRO has a generous policy on photography and does demand a licence payment. There is no need to stay in Northampton. The records office is situated south of the town, and lodgings might be found near Stoke Bruerne. The Northamptonshire Ironstone Railway is within walking distance from the records office.

References: A-Z Northampton

Peter Sandbach.

Rigg Head Slate Sunday 26th July 2009
Attendees : Clive Barrow, Roger Ramsden, Mike Mitchell, Tony Holland

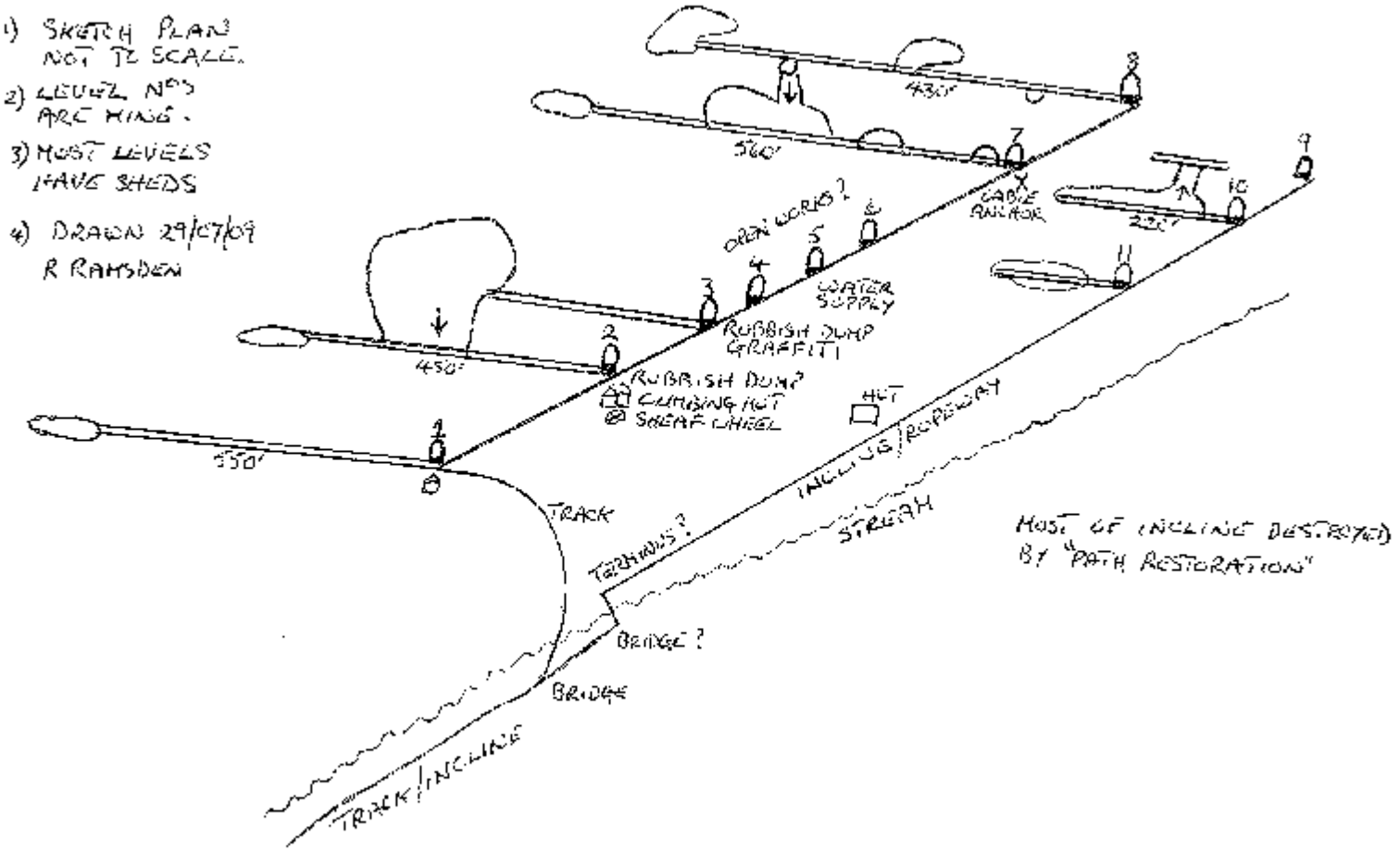
Mike Mitchell had been accorded the honour of leading this trip to Rigg Head Slate Quarries in Borrowdale, but an appointment with his tailor meant he would be indisposed and so I volunteered to do this meet on his behalf. In truth, I whispered to all who would listen that instead of being led by a pillar of the Society, the attendees were to be fobbed off with one of the plebs, thereby ensuring that no one would turn up and I could retire to an ale house and conjure up any trip report I cared to, detailing massive closeheads containing wondrous artefacts and an adventure comparable only to that of an Indiana Jones movie. I need not have worried though; the weather on the morning of the meet was really poor, pouring with rain. I arrived early at the meet point to find that Roger had risen even earlier than I had. We sat in my car looking out at the rain wondering if anyone else would turn out, as the minutes ticked by until 10am, when we decided we had better make a start. At this point I was most surprised to see Mike arrive with Clive (his appointment clearly postponed until later in the day). I felt sure that no one else would be arriving as the jungle drums had informed me that Ian Matheson had a yoga lesson, Angela was attending a Cumberland Sausage seminar, Mark Simpson was tutoring his yodelling class and Peter Fleming had an appointment with his hair dresser.

While Mike & Clive clad themselves in waterproofs, Roger and I set off up the path.
After a short distance though, it was obvious that we were heading in the direction of Honister so after a course correction and some guidance by Mike who pointed us in the right direction, we set of at a good pace in the direction of Rigg Head Slate Mine. The rain pouring down did little to alleviate the hot sweaty work as we toiled up the old miners path to the first and lowest of the spoil heaps. Here a Matty Spedding level led a short distance to a collapse. However a climb up into an open work above revealed a way into a reasonable sized closehead which we explored before heading back out into the pouring rain.

Looking behind, we saw Mike and Clive had made good progress and had almost caught us up. They joined us as we arrived at the next bank where the climbing hut is situated. Sadly, it is evident that its occupants have been using the nearby slate closehead as a refuse dump. On examination a myriad of discarded items and general garbage were discernable including a toilet and presumably its seat. There was even a kitchen sink in there (no… really!!). Declining to enter the working using that route, we opted to climb higher to an alternative entrance. A short distance in we encountered yet more refuse that included a cooker and a burco boiler. Leaving these 'artefacts' behind, we scaled a slate waste heap and then climbed

RIGG HEAD.

1) SKETCH PLAN NOT TO SCALE.
2) LEVEL NOS ARE KING.
3) MOST LEVELS HAVE SHEDS
4) DRAWN 29/07/09 R RAMSDEN



down into a nice closehead from which a particularly fine Matty Spedding level led back out to day. Following this, we eventually arrived at the inby side of the refuse heap where we were able to enjoy a view of garbage and rusting objects of a much older vintage, including a rusty steel framed bed!

Rumbling bellies were now insistent on nourishment, so we headed back to the upper entrance where, sheltering from the rain, lunch was enjoyed. We sat on pieces of plank along side a monstrously large water tank that serves as a water supply to the climbing hut and stared out at the rain. Walkers had evidently used this place as a latrine. So, a rather sombre affair, but we made the best of it. Whilst eating we saw some very fine graffiti engraved into the passage wall that read 'R C Wilson 1850' and nearby 'AS 66'.

After lunch, we continued climbing higher passing another Matty Spedding level that was collapsed after a very short distance. Higher still, Mike suggested that a way down into the closehead served by the blocked level might be found at the base of a loose, hazardously slippy waste heap. I was doubtful, but as Mike said he would duff me up if I didn't go and check it out, I agreed. He was indeed correct, as I thought I could see a way to climb down into the large dark void below. The rest joined me and I assured them that although it might be a 'bit of a thrutch' the way on was open. The chamber itself was only of diminutive proportions, completely at odds with the size of its waste heap outside. Nevertheless, I encouraged the others to join me so that they would not be deprived of the experience of sliding down the sharp, slippery loose slabs of slate whilst getting soaked by streams of water pouring down from above. Strangely, there were mutterings & chunterings whilst we made our way out once more into the pouring rain.

We climbed yet higher, pausing to look inside a level that housed a rather ingenious water collecting device that fed the storage tank lower down. Arriving at the next bank, it seemed that it could possibly be the site of a loading area for an aerial ropeway. Numerous ruinous buildings lined one side of the bank, while at the rear, was yet another Matty Spedding level. This also was badly run in after only a few feet.

At this point, the rain had stopped and after a team photo, Mike & Clive decided it was time to start their way back down to Rosthwaite. Roger & I continued higher and found an entrance that Mike had mentioned would be worth exploring. We crawled in and found ourselves in a small closehead with the level continuing on. We followed this for a couple of hundred meters, past a hole in the floor to the left, to a large, impressive closehead. After taking a break to take some photos, we descended the hole in the level floor, climbed down a large waste slate pile to arrive on another Matty Spedding level. This led to the collapsed level on the major bank outside. Inbye it led to yet another fine closehead. This level was railed, but the gauge was extraordinarily large, much larger than the level above.

We were now at the highest part of the site, but below us another line of workings was visible, descending back down the valley at a lower elevation. We climbed down and following the track down, explored various levels and closeheads, one of which contained the remains of an ancient clog.

Site interpretation at Rigghead is problematical. Certainly an incline is visible on the northern side of Tongue Gill and many ruinous structures are present on the whole site which is very extensive indeed. Our pontifications however, were less than conclusive and there also appears to be very little historical information available on this site. Certainly it seemed to us that the higher slate waste heaps had far more moss & lichen growing on them compared to the lower ones, possibly indicating they are older.

Overall, another excellent CATMHS meet, even if not very well attended.
Tony Holland.

Sandbeds Meet, 16th August

The intrepid few (2 north, 2 south) met at Calebreck for a 10: 00 start, myself trying not to forget my bait like I did the week before. Knowing the members present, the paper-work was dispensed with and we set off for Sandbeds mine climbing up to the top open stope. This was entered by a rubble slope down to a hole which drops you down to the 30 fathom level. It was pointed out at this time that Barytes mines are not the most stable so we carefully explored the level which has some fine ore hoppers and a ladder-way down. This was descended in its many sections and in varying states of decay down to the bottom 50 fathom level which is partially flooded and well collapsed. We gingerly retraced our steps ('Hobsens' choice) to the surface and made our way down the fell to have lunch outside the 60 fathom level door.

Having seen others attempt to open this Fort Knox I had brought up a complete workshop to achieve success. This done we dropped the short pitch into the thigh deep watered level (dangley deep on me) and then waded along to the top of the 90 foot shaft. This was rigged and a rather wet descent led down to the intermediate 75 fathom level which has some superb examples of

timbering, walled deads and man-ways. Then came a short drop down a shaft (down to the 90 fathom level, blocked), to a fine wooden wheeled wheel barrow (photo J. Aird). As this shaft is very wet, I elected to stay at the top to film the sodden 3 returning up the shaft, (my excuse). We retraced our steps back up to the 60 fathom level to have a look around, finding that the timbers across the other shaft have collapsed down the shaft since my last visit.

Out to day to spend a long time securing the door by which time the heavens decided to throw every thing at us on our way back. My thanks to the members who attended and to say Sandbeds has more to see if you can get the door open.

Attendees: John Aird Tony Holland Mark Waite
Meet Leader: Roger Ramsden

Surveys of Sites

Many CAT members will know of the survey of Coniston Old Man carried out by Coniston Local History Group during 2006-2007.

This consisted of a complete ground survey of the mountain and was made possible by a significant Lottery grant to cover equipment and consumables. In addition to the survey, an oral history archive was established consisting of digital recordings of the lives and times of those who had worked on the Old Man. Both these, combined together, gave an extremely complete picture of the mountain, its history and the close inter-relationship between it and the community of Coniston. Quite a few CAT members helped with the survey.

The survey was unique in that it was the first time Heritage Lottery funding had been used for this type of work. It was also unique in that, as far as we know, it was the first time such a thorough survey of this type had been carried out on a Lakeland mountain. Results of the survey are archived in Coniston and a brief summary is reproduced on www.coniston-old-man.net. Both survey and web site are constantly being updated. But, in the main, the work on the mountain is complete.

The equipment purchased included sets of Thales Magellan gps units which had been fitted with modified aerials to allow accurate surveying. Photographic, computer and digital recording equipment was also included. The small team who carried out the work decided that, now that they had all the equipment, it was a shame not to continue at other historic sites and they looked round for suitable locations.

One possible location was Castle Crag, Borrowdale. Historically this was an extremely interesting site. Slate had been worked for several centuries from at least 10 locations around the crag. There were also many other small old industrial sites scattered around, especially in the area of Low and High Hows Wood. The upper part of the Crag holds remains of an ancient fort with conflicting reports of dates. A bronze age village was also thought to have been sited on the slopes of Castle Crag on its south side.

Work started, helped by a number of keen people from Honister. As the land is owned by The National Trust, good data on historic sites had already been put together by Jamie Lund, the Trust's archaeologist. Jamie kindly provided us with this data. Mark Weir's helicopter was used to take aerial photographs and Peter Fleming carried out an extremely accurate literature survey of the hill fort. John Hodgson and Eleanor Kingston, National Park archaeologists, provided digital maps and Mark Simpson helped to index them to allow survey points to be inserted. Alan Leyland from Manesty in Borrowdale provided a lot of useful information on the slate workings below Lobstone Band which had been worked by his uncle. There is still more work to do surveying a number of slate workings and access tracks in the vicinity but that has had to be held over until the winter months when the bracken has gone down.

A CAT meet has been set for 14th March 2010 when, hopefully, the bracken won't have started growing. It is planned to survey the underground workings and surface quarry banks as well as the access tracks, some of which are now very faint. Anyone who is keen to learn more about this historic site can come along and lend a hand. Survey tapes will be very useful as will powerful lights to help working in the closeheads.

Alastair Cameron.

Photographing Archeological Sites – Geotagging and GPS

The purpose of this article is to show how digital images can be located using modern Navigation Grade GPS. Essential reading for anyone about to embark on using GPS is a document created by English Heritage called **Where on Earth are we**. This will inform you about what GPS is all about, ie the difference between navigation, mapping and survey grade GPS systems.

Requirements:-

In the field: A digital camera, and a modern GPS unit such as a **Garmin. 60cx**. On site you start the GPS track log and away you go. When you finish save the tracklog. NOTE: To help accuracy (which is 3m at best) stand for 10 seconds before taking a picture.

In the office: On your PC. Either **Easy** or **Expert GPS** software. You can also use Robogeo. Before you start make sure that the time on your camera is the same as GPS time. In the office download both images and tracklog to the same directory in your PC. Open up **Expert GPS**, set the coordinate system for **OSGB** (Ordnance Survey Great Britain) and import the tracklog and the images. The tracklog map and image icons will appear. Click on an icon for the image to appear. The software will allow you to add descriptions of the image object. Save your work as a GPX file (GPS exchange file)
Note: the grid reference is for your camera position.

Using Maps:

The above information needs to sit on a map base, this can be:
Google Earth – You need to create a KMZ file for importing in Google Earth. If you are using Easy GPS then you will need to import your saved GPX file and the images into **Photomapper** (free of the internet), which will then create a KMZ file that will open in Google Earth. (Live internet connection required) Expert GPS will export directly.

Scanned maps: Expert GPS only, you can scan your own map as a jpeg. and import it into Expert GPS. However, before it can be used you have to tell the program where the map is on the earth. This is called georeferencing and a minimum of 3 known coordinate points are used for this purpose. On Expert GPS this function is not brilliant as *only* 3 points can be used.

Digital Maps, available from the Ordnance Survey**,** these are in DXF format and will import directly into Expert GPS.

User created Maps – These can be created using mapping grade GPS (Thales Magellan MMCE). The information is saved as SHX files (Shape files are a generic GIS standard file type such as dxf is for CAD) These files can be imported directly into Expert GPS.

Using the above information in GIS systems such as **Mapinfo:**
In ExpertGPS convert all the photo list into waypoints. Then look at the waypoint list; the photo list will be there. i.e. the image number, description, co-ordinates. This waypoint list can then be exported as a **point shapefile**, which can then be imported into **Mapinfo**.
Unfortunately the hotlinks between list and image do not transfer over in this system as they do when a KMZ file is created for viewing in Google Earth. What you will get is a point on the Mapinfo screen (Check Projection) and the Information point will give you the image number and description, as in the photo list in Expert GPS.

Mark Simpson.

Piper's Cove Mine, Dumfries & Galloway, NGR NX 890546

Piper's Cove mine has an obscure history and there are few references in the mining history literature. Conversely, there is much local lore about the "cave" being a smuggler's store or being a secret 4-mile (6.4 km) passage to a chamber under the local church, where a thousand ghostly pipers are waiting to save Scotland at a time of dire peril. The secret passage was also supposed to go to Orchardton Tower, about six miles (10 km) in the wrong direction, some of its route being undersea! Other pieces of lore say it was a pre-Christian hermit's cave where a holy man and piper lived and that it was named after a piper who drowned in the "well" inside. It is safe to say that it caught the eye of the local romantics, who were apparently too scared to explore and measure the short adit.

Piper's Cove mine is located in the parish of Colvend, Dumfries and Galloway, between Sandyhills and Portling, close by the Needle's Eye, a natural arch in the sea cliffs. Its name and location at OS NX890546 are accurately reported in "The Mines of South Western Scotland" (Oldham, 2005). Mindat.org lists three mines along four miles of the Colvend Coast on the Solway Firth between Dumfries and Kirkcudbright, including Piper's Cove. There is also a Colvend Mine at NX868527 and a Marbruie Cove Mine at NX904555. However, none of these three mines are named "Needles Eye Mine" on Mindat's map, where 28 minerals are listed. These minerals include native Bismuth and a number of Uranium salts. To add to the mystery, Mindat gives no Grid Reference for "Needle's Eye Mine", only that it is in Dumfries & Galloway. However, Braithwaite (Min. Mag. 54, p129-131 [June 1990]) makes clear that the U-Cu-As-Bi-Co mineralisation studied was at three close-by locations, all around NX915562 at the "topmost edge of the cliff"; in two highly uraniferous fissure veins striking NW, which converge to unite at the top of the cliff" and in "veinlets in a rock wall just east of our main excavations". Jamet et al (1992) discusses the mechanism of accumulation of uranium minerals at Needle's Eye over as short a period as 5,000 years. They found about thirty pitchblende-bearing veins, showing the presence of "a significant source" of leachable primary uranium. Mindat also lists two Uranium minerals in Marbruie Cove mine which is in the same area. Various references to Piper's Cove Mine as Needle's Eye Mine are therefore incorrect.

There are in fact three natural arches in the sea cliff, one just a few hundred yards southwest from Piper's Cove and Needles Eye; the other some distance to the northeast, opposite Mersehead and along the shore from Marbruie Cove. This third arch, confusingly, is also called Needles Eye! This has the grid reference quoted by Braithwaite. Further complexity arises because of Colvend Mine, about three km SW

from Piper's Cove was also mining for copper. References confuse Piper's Cove (sometimes "Pipers Cave") and Colvend mines, the two Needle's Eyes and their close-by mines, or just give no identification as to which they refer. Mention of "John Paul Jones's cave" can be dismissed in relation to Piper's Cove.

Unambiguous records are scarce. The 1854 Kirkcudbrightshire O. S. shows Piper's Cove and Needle's Eye, but no mine, suggesting it was abandoned. "A Survey of Scottish Topography, Statistical, Biographical and Historical", edited by Francis H Groome and published about 1883 talks about a mine at Colvend and says "... a copper mine, said to have yielded a rich ore from a tolerably thick seam, was at one time worked". But which mine at Colvend? W R M'Diarmid, writing later, in 1895, is more specific: "A copper mine was opened on the rocky shore of Colvend in 1770, the ore being taken to a smelting furnace, but the work was stopped for lack of profit." However, I am reasonably certain that these two notes refer to Colvend Mine on which the Ordnance Survey reported in 1990 that "there is no local knowledge ... and it could not be located".

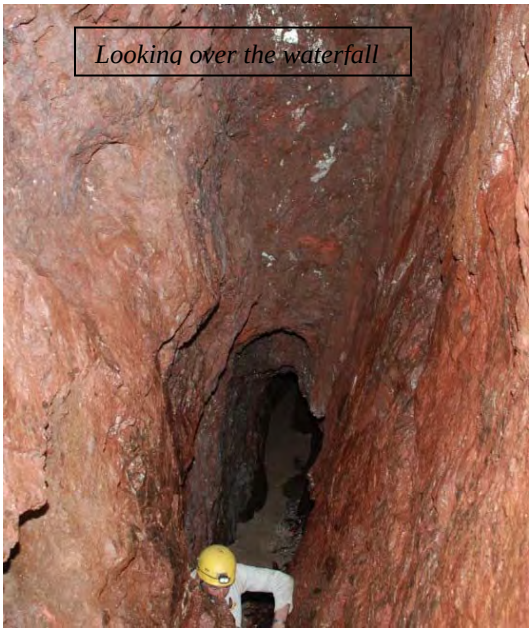
William Learmouth in 1920 was more encouraging: 'Chief of the caverns is the Piper's Cove, 120 yards in length, with a well in the middle 22 feet deep. Here too is the singular arch in the cliff known as the Needle's Eye.' Right mine, but no date of working! However Learmouth probably got his information from Samuel Lewis in 'A Topographical Dictionary of Scotland' (1846) which says 'There are numerous caverns on the shore, in one of which, about 120 yards in length, is a well 22 feet deep, into which a piper is supposed to have fallen while attempting to explore the interior of the cavern; and near it is a detached portion of rock, formed naturally into an arch forty feet in height, called the Needle's Eye. Piper's Cove must have ceased working some time before this and was already something of legend by the mid-1840's. Perhaps the nearby Colvend and Piper's Cove Mines were contemporaneous or sequential.

Pipers Cove mine entrance

I have visited the mine three times, firstly two years ago. I returned in May 2009 with Peter Hay and again, in July 2009. The cave is one of a series in the 65-130 metre high sea cliffs between Sandyhills and Portling. It is the only one which goes any significant distance into the rock and the only one which is in the form of a high open cleft. Outside, there are a few black, slatey rocks, possibly mudstone or the slate which is reported as locally found. Inside, mostly red sandstone, but with veins and inclusions, including slatey material. The apparently natural cave and its mined continuation are fairly straight and in a north-westerly direction. About 40 metres from the entrance is a tight constriction in the width of the passage, necessitating a brief flat-out crawl in the sand. At around 55 metres

from the mouth a mined passage starts above a waterfall, undercut by a continuation of the natural cave, tapering and descending rapidly into the sandy floor.

The waterfall can be easily passed by chimneying up the walls into the mined passage, about 2.5 metres above the natural floor. Almost immediately there is a series of small cavities in the wall to the right, apparently natural. This could indicate the adit to be an opened out natural passage. After 15 metres there is a flooded winze, roughly 2 metres square, just off to the right. As it is well above high tide, it contains fresh water. On the May visit, it was overflowing from a rapidly dripping source of water from above, while the rest of the passage to the forefield was almost dry. The overflow from the winze ran down the passage to supply the waterfall. After the waterfall, the water runs on the sand,


Looking over the waterfall


The Winze

gradually sinking to make the crawl dry. On the third visit, water was running from an initially 15 cm deep wet section of adit towards the forefield. The water started at a widening on the right and a very short side passage on the left, and almost reached the end of the adit, 20 metres further. Water from this ran into the winze, overflowing as before. There were no drips into the winze.

There is strong evidence of mining in the roof at the widening. The total length of the cave plus passage is about 115 metres - in good agreement with the 120 yards stated in the 1846 report. The winze (or "well"), was carefully plumbed to 4.85 metres (15' 11"), rather than 22 ft stated, but there has been silting in the 165 years between measurements. There is no sign of any shafts from the surface, although Oldham noted filled in shafts above. The cliffs are generally of Greywacke, a hard dark-coloured sandstone. The colour of the adit is a strong sandy red and grainy.

I found just one drill hole, very close to, and just below, the waterfall on the NE wall, about 2cm in diameter. Unexpectedly this appeared to be machine drilled. The adit above is fairly smooth and does not show any pick marks.

Discussion

The fissure in the cliff was probably originally infilled with copper ore. This fissure allowed the formation of a sea cave. It is possible that the original cave was smaller and was mined out, up to its current height. This would be similar to Colvend Mine, 2 km away. The walls inside the cleft are rough, unlike most sea-caves. The continuation of the vein was tried with an adit which found a further small volume of ore. This did not continue beyond and the adit was abandoned. The winze presumably expected to find ore in a continuation of the natural cave below the waterfall, but nothing was thought to be found. By driving the winze from the adit, it would have avoided flooding by the sea. No written or field evidence was found indicating that the adit was the only source of ore, or if it was a trial only after exhausting more accessible ore, or even a trial at a later time.

It is possible that the Colvend and the Pipers Cove Mines, both in Colvend Parish, were contemporary or contiguous, especially as both were apparently abandoned by 1846. Oldham gives a total output of copper concentrates from the whole area as only 242.5 long tons, while cautioning that the true figure is likely to have been considerably higher. There is a reference to local ore being shipped to Swansea for refining and this was certainly possible, whatever the date. A number of copper refineries were established in Swansea from 1717. The most obvious port of dispatch is Portling, a few hundred metres along the sands from Pipers Cove and about two km from Colvend. This would have only served the smallest of boats, but the shipments of ore were likely to be small.

It is difficult to explain why the access to the adit was left nearly blocked by the hanging wall, when there is certain evidence of mining just beyond. There are shells and washed up debris only a metre or so before the obstruction, so maybe the protection from storm waves was worth the inconvenience.

It is odd that the mined section was obviously well known by 1846, but the shot hole appears mechanically drilled, which would normally date it to about this time or later.

Conclusions

Pipers Cove Mine is small and has little significance in comparison with bigger mines, but is intriguing because of its obscure history. It is well worth visiting if walking the beautiful coastal path from Sandyhills to Kippford, as the beach between Sandyhills and Portling can be used as an alternative route in low tide.

Ken Geddes.

Caldbeck Chroma: an artist at work in the Caldbeck Fells.

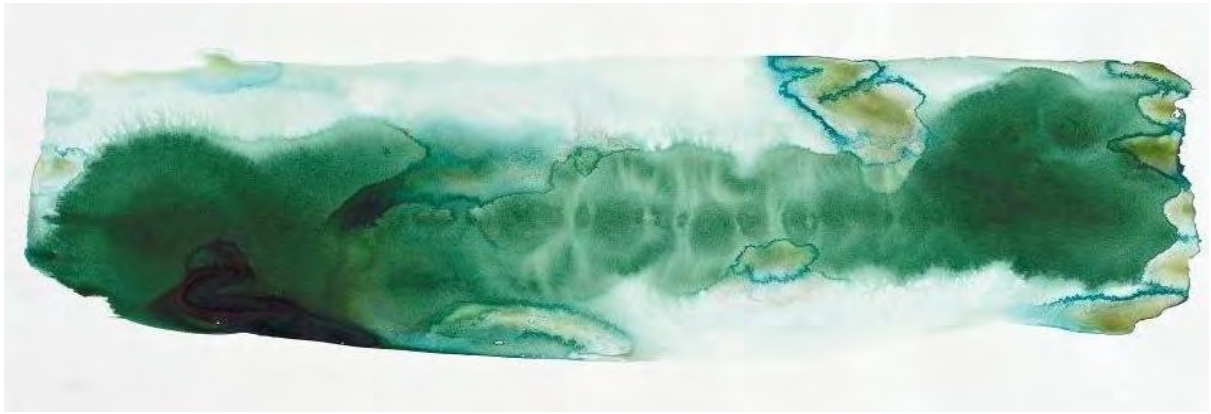
As a new member to CATMHS I thought I'd write a short piece about my preoccupation with minerals and old mines. My interest in geology goes back to childhood visits to the caverns of the Derbyshire Peak District and a chance A-Level in Geology. Ten years ago I decided to explore my interest in art and, after an encounter with Force Crag Mine, realised that these two facets of my life were connected. A series of coincidences led me to the Caldbeck Fells where a sign politely advised me of the need for a permit from the Lake District National Park Authority (LDNPA) if I wanted to take anything home. I jotted the address down in my sketchbook, a move which proved to be unexpectedly far-reaching.

Carminite/Deer Hills III, 2009. Watercolour on Paper 57cm x 57cm.

The image is a composite of small monoprints each based on carminite's crystalline structure.

The colours reflect those of a high quality example of the mineral as well as those found in the weathered rocks around Deer Hills. The same colours are also evident in the vegetation of this part of the Fells at certain times of the year.

Since then I've been able to develop my work through a Residency at Cliffe Castle Museum in Keighley, West Yorkshire, where they have an outstanding mineral collection. An ongoing involvement at Killhope Lead Mining Museum in the North Pennines allows me to work in another traditional mining area. Both these projects have involved working with schools, young people and museum visitors which I have found particularly rewarding. Throughout this time, however, it has been the Caldbeck Fells, their minerals and mining history which have kept drawing me back.



Malachite, Higher Roughton Gill 2006
53cm x 26cm Mixed Media on Paper
An image of a copper-based mineral constructed through the interaction of copper-based pigments with iron oxide and water.

Explaining the appeal of these minerals in words isn't easy. I love their colours and the way their complexity encompasses the processes by which they develop. The colours echo those in this gently undulating yet wild upland area and this and the sense of process are things which I try to reveal in my work.

Using the different physical and chemical qualities of traditional and contemporary pigments, I allow the materials to create their own image through their interaction in an analogous way to that in which minerals are formed, a balance between their innate composition and the context in which they find themselves.
There seems to be an association between geology and art, the way they both involve the manipulation of materials, the interplay of natural processes and how these can be revealed.

Copper Oxidation (pigments) 2008. 21cm x 21cm. Watercolour on polypropylene.
When I first walked up alongside Dale Beck towards Roughton Gill I was struck by the iron oxide colours running out of Iron Crag. It seemed like a giant paint box. The interaction of the iron on the copper minerals below is one of the most characteristic features of the mineralogy of this area. This image uses the interaction of a variety of copper and iron-based pigments. The smooth polypropylene (sometimes known as 'paperless paper') makes visible the subtlety of this process.

Throughout this period the LDNPA have been really helpful especially during the last year when I've been preparing for an exhibition at Keswick. Through contacts they have given me I've met mineralogists with a special interest in the area, joined the Russell Society, the MoLES and now CATMHS, and visited fascinating collections both locally and further afield. I've spent many hours out in all weathers on, and occasionally under, those lonely and usually windswept fells. Mike Leppington has been an invaluable companion on several trips and I spent a most fascinating evening in the Elizabethan mine workings in Silver Gill with Warren Allison. It is hoped that this will lead to a project with Penrith Museum in 2010. I have discovered a new interest, made new friends and explored my own way of interpreting it all. It has been a remarkably rich and exciting experience and I look forward to continuing my involvement with minerals and mining history for a very long time.

'Time's Cycle', an exhibition of Jane Foale's work from the Caldbeck Fells and North Pennines, is at Theatre by the Lake, Keswick from 28 October to 15 December 2009. Jane will be talking about her work at the LDNPA Archaeology Conference at the Theatre on 14 November 2009. www.janefoale.net

Barrow and Ulverston Rope Co

There is a plan of the Outcast ropewalk dated 1760 in Northamptonshire R O. The ropewalk and the brick kiln were incidental to the plan, which was drawn to show a forge. The lease of the forge was to William Matson of Tytup, Edward Wilson of Kendal, John Law of Ulverston and others. These gentlemen all had interests in mines near Marton, William Matson having taken the lease of ore under his own land in 1707. It was the first mining lease recorded by Fell. Alfred Fell states that the forge was not in use for long, and that seems to be all that is known about it.

William Noble had been making rope at Outcast before 1752, but he then brought in 4 partners and expanded the works. The partners were James Machell Esq (of the Backbarrow Co), J Backhouse, Gent (of the Newland Co), John Dodgson of Ulverston,

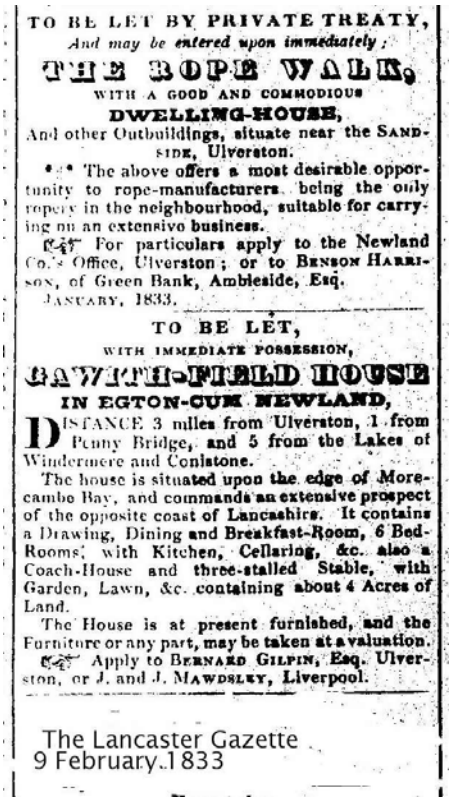
Outcast ropewalk in 1760. Printed permission of the Duke of Buccleuch.

Mariner, and James Fell, mariner. William Noble became the salaried manager of the ropewalk. The Industrial archaeology of South Ulverston states that the ropewalk was owned by John Webster in 1812, but he may have been a tenant. In 1833, the Newland Co was advertising for a new tenant, the advertisement states that it was the only ropery in the area.

Between May 12th 1864 and March 27th 1866, the rope walk was in the hands of the Barrow and Ulverston Rope Co, which consisted of Harrison Ainslie & Co in association with John Brewer. The stock book in Barrow records office records details of rope supplied between those dates, which mark the beginning and end of the company. The Ulverston end of the company made little, if any rope during this period. The Barrow

part was a store supplied with rope from Liverpool. The account begins with Harrison Ainslie's stock of rope being transferred to the new company. The 24 cwt of hemp rope and 42 cwt of white manilla was valued at £97. 12/

The products sold were:
hemp rope, 36/- to 44/- per cwt
was the main product.
white manila, 42/- to 52/- per cwt
tanned manilla, 42/- per cwt
signal halliard, 10d per lb
spun yarn, 38/- per cwt
ratline, 36/- per cwt
lead line, 10d - 1/- per lb
patent leadline, 10d per lb
marlin, 46/- per cwt
amberline, 38/- per cwt
lanyard, 46/- per cwt
hemp lanyard, 36/- per cwt
hemp warp, 38/- per cwt
halters
twine and whipping
cart ropes
plough cords, 2/- per pair
howsin, 5d per lb
throat seizing stuff, 5d per lb



TO BE LET BY PRIVATE TREATY,
And may be entered upon immediately;

THE ROPE WALK,

WITH A GOOD AND COMMODIOUS

DWELLING-HOUSE,

And other Outbuildings, situate near the SANDSIDE, Ulverston.

*** The above offers a most desirable opportunity to rope-manufacturers being the only ropery in the neighbourhood, suitable for carrying on an extensive business.

☞ For particulars apply to the Newland Co.'s Office, Ulverston; or to BENSON HARRISON, of Green Bank, Ambleside, Esq.

JANUARY, 1833.

TO BE LET,

WITH IMMEDIATE POSSESSION,

GAWITH-FIELD HOUSE

IN EGTON-CUM NEWLAND,

DISTANCE 3 miles from Ulverston, 1 from Penny Bridge, and 5 from the Lakes of Windermere and Coniston.

The house is situated upon the edge of Morecambe Bay, and commands an extensive prospect of the opposite coast of Lancashire. It contains a Drawing, Dining and Breakfast-Room, 6 Bed-Rooms, with Kitchen, Cellaring, &c. also a Coach-House and three-stalled Stable, with Garden, Lawn, &c. containing about 4 Acres of Land.

The House is at present furnished, and the Furniture or any part, may be taken at a valuation.

☞ Apply to BERNARD GILPIN, Esq. Ulverston, or J. and J. MAWDSLEY, Liverpool.

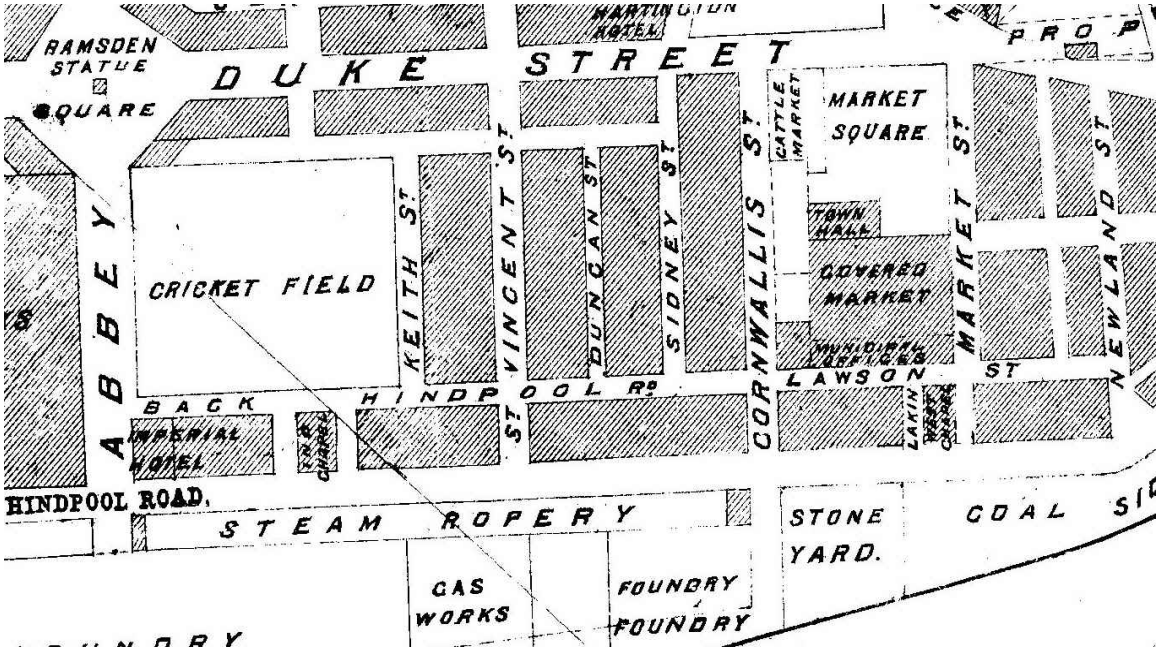
The Lancaster Gazette
9 February 1833

Of the 133 customers in the stock book, 104 were ships. The vessels were supplied with £10 to £30 worth of rope at their annual refit. Nearly all the locally owned ships bought their rope from the company, including 22 owned by James Fisher, 7 owned by E J Scholick and 9 belonging to Harrison Ainslie. One new ship was fitted out, William Ashburner ordered spent £91. 1/10d on rope for James & Agnes. That included 4 ½ inch warp weighing 4cwt and a 5cwt towline costing £12. 1/ 2d. His next ship, Alice Latham was launched on 7th September 1865, but only used £3. 8/7d worth of rope from the company. Other customers included Ulverston Gymnasium, James Mawson, bread baker (he later became a shipping agent and an owner of steamships), the Furness Railway Co and Mr William Gradwell.

The owners settled up at the end of the year and the payment was recorded in the book by John Brewer, Mr J Dodgson or Thomas Dodgson. Thomas Dodgson later became Harrison Ainslie's accountant and lived at Newland House. Harrison Ainslie's accounts were settled slightly differently: "Settled through H A & Co's books and paid to H W Mackereth. (signed) J Brewer". I am unable to say how the Market Place druggist was involved in the transaction.

One account was not settled. The Preston flat Bouny owed 1/7d for 4 ½ lb of spun yarn. There is a pencilled note "This vessel lost", which is odd, because the shipping register records that she was broken up in 1891. Sales declined and the price of rope fell. The hemp rope in stock was valued at 46/- per cwt in 1864 and 34/- per cwt in 1865. The last sale was recorded in May 1865 and the books balanced in March 1866.

In 1872, rope was made in Mr H Stuart's rope manufacury in Hindpool Road. Some rope was still made by hand, but much of the machinery was driven by a steam engine built in Barrow by Kennedy & Eastwood. They had the ground laid out for making wire rope, and stated that they were the only rope works in Barrow. In 1900, G T Lee & Co's new steam ropery made the same claim.



Barrow in 1872, from "Barrow in Furness, It's rise and progress"

References:
Indenture, 1860, Montagu archive, old box 3, bundle 3, item 39 at NRO.
Alfred Fell, The Early Iron Industry of Furness
The Industrial archaeology of South Ulverston, R McKeever & J Layfield
Stock book of the Barrow and Ulverston Rope Co, BDB2/21 at CRO, Barrow
Barrow in Furness, it's Rise and Progress, Francis Leach, 1872

Peter Sandbach.

North Island, Stratford near New Plymouth. New Zealand.
Richard and Eileen Hewer are spending a couple of years in New Zealand. Richard is spending spare time seeking out mining and industrial remains. Here is his latest report:

On September 28th we set off for the 'Forgotten World Highway', again, having to abort the venture last year and escaping from the northern section through a terrific blizzard. This time the trip was in glorious sunshine. Our second port of call was to a small village called Douglas, near Stratford. The village flourished through the programme of land clearing in the 1890's, boasting 25 farms, 40 homes and a village of shops. The cross roads was the centre of activity until the 1970's, now only a repair garage, abandoned buildings and the odd home remain. Two hundred yards from the cross roads is the preserved remains of the brickworks, the 33 m high chimney was demolished in 1981.

Alf Emeny, a brick maker from Wanganui was passing through the village around 1919 when he observed blue papa clay in the banking opposite the school. He formed a company with his brother and started brick production in 1920, burning their bricks in a "Scotch Clamp" kiln. Demand was so high, they then built a "Hoffman's Continuous Kiln" which sported a 20 m high chimney, the latter consuming 20,000 bricks! Twenty men were required to operate the kiln; the bricks were removed by road and the adjacent rail transport.

On one occasion one of the directors drilled a hole in the blue papa clay bank in order to blow down some clay. He made up a fuse, detonator and some gelignite and laid it to one side. He then continued for a few minutes clearing the area, he turned and found that a cow had approached and was chewing through the explosive, dribbling at the mouth. The director rapidly retreated to a safe distance waiting for the bang, or would it be a bumph! Nothing happened. The cow looked up and appeared to say in cow language "What's the matter? God, I've got an awful headache!"

In 1924 the brickworks diversified, making field drainage tiles, and was very successful in the venture. During the 1930's the Hoffman kiln was replaced by a 'Down Draught Kiln'. It required between two and six men to operate, producing at it's peak over 300,000 tiles a year. After the earthquake in Napier the local councils discouraged the use of bricks in building work and the demand for bricks slumped. The works were taken over in the late 1970's with the intention of producing flower pots and ceramics, but this came to nothing and the kiln was closed. It is only one of a handful that remain in New Zealand

The small kiln is still approachable up a private drive, though guarded by two electric fences. There is not a lot to see, both ends are flowering out; the charge holes and delivering access points are clearly visible, all other parts of the works have gone.
(Source -'State Highway 43 Heritage Trail, Stratford District, Taranaki. Notice Board)

The mine hunting season will start in about a month's time, a couple of places planned but it is a case of fitting them in the time we have left in New Zealand. Returning to England next summer.

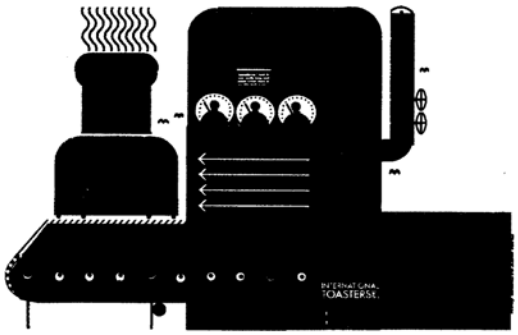
Richard E. Hewer.

A Toaster from raw materials

Some time ago the Committee were approached by a student who hoped to make an electric toaster from raw materials. He wanted our help to obtain some copper from the Coniston mines. We turned him down, but this report shows that he went ahead anyway. Maybe we should have been a bit more open minded?

The Undercover Economist

Look on this toaster, ye mighty, and despair!



THE ELECTRIC TOASTER SEEMS A HUMBLE THING. It was invented in 1893, not long after the light bulb and long before the microchip and the laser. This century-old technology is now a household staple, and reliable, efficient toasters are available for a few pounds. Nevertheless, Thomas Thwaites, a postgraduate design student at the Royal College of Arts in London, discovered just what an astonishing achievement the toaster is when he embarked on what he called "The Toaster Project". Quite simply, Thwaites wanted to build a toaster from scratch.

The difficulty of the task began to become clear. To obtain the iron ore, Thwaites had to travel to a former mine in Wales that now serves as a museum. His first attempt to smelt the iron using 15th-century technology failed dismally. His second attempt was something of a cheat, using a recently patented smelting method and a microwave oven – the microwave oven was a casualty of the process – to produce a coin-size lump of iron.

Further short cuts were to follow. Plastic comes from oil, but despite launching a charm offensive against BP, he never did make it out to an oil rig. His attempts to make plastic from potato starch were foiled by hungry snails. He settled for scavenging plastic from a local dump, melting it and moulding it into a toaster casing.

Copper he obtained via electrolysis from the polluted water of an old mine in Anglesey. Nickel was even harder; he cheated and bought some commemorative coins, melting them with an oxyacetylene torch. These compromises were inevitable. "I realised that if you started absolutely from scratch, you could easily spend your life making a toaster," he explained to me.

An ordinary toaster has more than 400 components and sub-components, made from nearly 100 different materials. Thwaites's home-made toaster is a simpler affair, using just iron, copper, plastic, nickel and mica, a ceramic. It looks more like a toaster-shaped birthday cake than a real toaster, its coating dripping and oozing like icing gone wrong. "It warms bread when I plug it into a battery," he says, brightly. "But I'm not sure what will happen if I plug it into the mains."

A student found out what a great achievement the toaster was when he tried to build one from scratch

What should we make of the Toaster Project? Free-market fans point out the wonderful way in which, for no effort and very little money, we can buy a toaster and enjoy the global efforts of an uncounted workforce, and the accumulated knowledge of the centuries that the toaster embodies. The more churlish among them have grumbled that Leonard Read made such a point in an elegant 1958 essay, "I, Pencil".

Anti-globalisation types fret about the vast and impersonal industrial forces that have been mobilised beyond our vision, leaving us ignorant of any harmful effects on the planet or the poor, and impotent to do anything about them.

Both sides have a point. The modern market economy is mind-bogglingly complex, producing billions of products, many vastly more complex than a toaster. The complexity of the society we have created for ourselves surrounds us so completely that, instead of being dizzied, we tend to take it for granted.

Yet as we celebrate our good fortune to be born at a time of such astonishing material wealth, the toaster should give us pause for thought. It is a symbol of the sophistication of our world, but also a symbol of the obstacles that lie in wait for those who want to change it. Whether attempting to deal with climate change, social deprivation, economic development or healthcare, improving faults in such a complex system is a task best approached with humility.

Tim Harford's new book, "Dear Undercover Economist" (Little, Brown), will be published on August 7.

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

Committee Meeting held on the Wednesday 13th July 2009 at the BMSC Hut at Coniston, starting at 5.00pm.

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	8	Publications
9	RA forms	10	Library
11	New projects	12	Publicity Officer
13	Coniston Coppermines & Quarries	14	GPS
15	Discuss a new Vice -President	16	Mines Forum meeting
17	Any other business	18	Date and venue next meeting

Present: M. Simpson (MS), J. Aird (JA), S. Barker (SB), I. Matheson (IM), D. Borthwick (DB), T. Holland (TH), M. Mitchell (MM), & A. Wilson (AW).

The meeting commenced at 5.00 pm. 8 committee members attended.

1 Apologies for absence – J. Brown (JB), DG Bridge (DGB), P. Fleming (PF) & M. Scott (MSc).

2 Minutes of the last meeting

The minutes of the committee meeting held on Monday 6th May had been previously circulated to members**. PROPOSED** by IM and **SECONDED** by JA 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 Item 8 JA had tried to contact PR Books. They are now ex-directory and also did not answer his emails.

3.2 Item 12 JA had repaired the damaged ridge tiles on the roof of Mandall's Office.

3.3 Item 7.2 SB. A date to be arranged to put up plaques at HGB.

4 Secretary's Report

Received since last meeting:

4.1 Letter from Charlotte Kimber LDNPA Surveyor regarding new access arrangements at Greenside Mine. The padlock was to be changed on 17 May and we have to apply for a key. See Mines Forum meeting minutes.

4.2 Several members attended the recent NAMHO conference in Matlock, this years conference was hosted by PDMHS to celebrate their 50th anniversary (it was also NAMHO's 30th). A special edition of the NAMHO newsletter had been produced, it will be available on their website. NAMHO had received £2000 from English Heritage to develop a research framework for the archaeology of the extractive industries. This will enable EH to develop guidance, particularly in development led scenarios. A steering group had been formed who have submitted the project design for the research project. The next council meeting will be held in Nenthead on 16th November.

5 Treasurer's Report

JA had circulated the balance sheet to committee members covering the period from 6th May to 13th July. Income was from: subscriptions, donations, interest and publications. Expenditure on: deposit for Rydal Hall, NL & travel expenses.

The Treasurer wished the committee to approve his expenses of £25.74, Approval **Proposed** MM, **Seconded** IM, all in favour. The current a/c stood at £3681.28 and the Scottish Widow a/c at £15365.31.

IM had visited the Newland Furnace project, work had started on the new roof. We confirmed their previously agreed bridging loan; it may need to be paid in mid August.

6 Membership Secretary & Newsletter Editor's Reports

IM reported that we have two recent new members: Tim Haldon from Garrigill and John Cameron from York. The next NL will be out at end of July. Our 30th anniversary celebration was discussed. Rydal Hall has been booked for a residential weekend. The programme was discussed, and details will be sent out. IM would produce a special 30th Anniversary Newsletter, he would need pictures and ideas. It would be distributed at the Rydal Hall weekend. About 30 members had booked to date.

7 Meets Report

Suggestions for the next meets list were made, SB would send the list to Jon Knowles. G. Standring (LDNPA) to be informed of our intention to visit Sandbeds Mine in August. MM would not be able to lead the Yew Crag / Rigg Head meet, TH would take his place.

8 RA Forms

MM would do the RA forms for the Sandbeds and and Rigg Head Meets

9 Publications

MM reported that the Tilberthwaite/Little Langdale leaflet will be going to the printers when PF returns from holiday; and the new Tilberthwaite Gill leaflet is proceeding. DB had asked Mike Gill to write a review of J6 for the NMRS newsletter.

10 Library

Another day had been spent checking the general contents of the library. I. Tyler's new book "Roughton Gill & The Mines of the Caldbeck Fells", has still had not been produced.

11 New Projects

11.1 Carrock Fell Mine – Awaiting permission from Natural England, then work could start. All other permissions had been granted.

11.2 Silver Gill **–** LDNPA have given their consent. All other required permissions are now in place. Phil Meredith (UCL) is to do a GPR survey of the site on 15th/22nd August. Help will be needed taking equipment up to the site.

11.3 Tilberthwaite

A) Mapping of surface features – to be done at a later date.

B) Horse Crag Level – JA had calculated that the length of the Horse Level was 3240 feet. Railed levels were driven with a slope of 1/2" per fathom ie 1 in 144. Thus total head of water behind blockage should not exceed 22.5 feet, which is equivalent to 11.25 psi. The actual pressure should be less than this figure. Because the blockage being worked on is someway in from the portal, it is clear from Roy Garner's report in NL 45 that there is a further blockage about 300 to 350 feet outbye along the level from the Waterfall shaft.

Method of clearing the fall in the level was discussed, a drainage pipe would be required. The need for caution was expressed due to the head of water behind the fall. JB to be asked to produce a Method of Work document to be approved by the committee.

11.4 Penny Rigg Mill was discussed at the Mines Forum Meeting. A meeting (17th July) has been arranged with the LDNPA to discuss the possibility of CAT doing consolidation work at the mill.

10.4 Sebastian Level – to be next year's project.

10.5 Force Crag – see Mines Forum Minutes.

10.6 Bardsea Stone – work was continuing.

12 Publicity Officer

MM is updating the CAT publicity leaflet.

13 Coniston Mines & Quarries

JA reported that work had been carried out at Leverswater Mine to improve drainage from the level. Now draining well. TH would like us to clean out the wheel pit at Red Dell, Coniston Copper mines, he will assess what needs to be done, price some scaffolding, then arrange a date.

14 GPS - MM to take the GPS, DB the laptop.

15 Mines Forum Meeting

Next meeting: 10.30am on 16th November at Honister Quarry. MARS project recording method to be discussed.

16 Discuss Appointing a new Vice President

Consideration to be given to a suitable person.

17 Any Other Business

17.1 JA Proposed we tried to register the store at Roan Head nr Barrow with the Land Registry. SB thought it belonged to somebody and would look back through the files for correspondence and send copies to JA.

17.2 The programme for our 30th Anniversary weekend. The AGM would be on Saturday 21st November at 5pm, followed by the annual dinner and entertainment. On the Sunday there would be a choice of events, surface walks and underground trips. AGM minutes to go out with October NL.

17.3 DB asked if we would be interested in trying to obtain copies of mine plans bought some time ago by the Americans who mine for minerals at Rogerley Quarry. It was agreed that DB should try.

18 Date and Venue of Next Meeting

This to be held on Monday 21st September 2009 at the BMSC Hut, Coniston at 6.00 pm.

There being no further business the meeting closed at 08.45 pm.
SB 20/07/09

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

CAT Newsletter No 97, November 2009.