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The Newsletter of the Cumbria Amenity Trust Mining History Society

Wooden Crane, Box Stone Mine, Wiltshire.

No. 96 August 2009

Cumbria Amenity Trust Mining History Society
Newsletter No 96, August 2009.

Contents:

30th Anniversary Celebration

This year is CATMHS' 30th anniversary. To celebrate, the AGM and dinner will be held during a residential weekend at Rydal Hall on 21st November. More than 30 people have already said they will come. CAT held its 21st birthday at Rydal Hall with a similar weekend, and everyone who attended agreed it was a great success. Rydal Hall was the seat of the le Fleming Family who owned land at Rydal and Coniston and held the mineral rights for the Coniston mines.

The AGM will be held at 5.00pm on Saturday 21st and this will be followed by the dinner and an evening entertainment. On the Sunday there will be a program of events to suit all tastes, from a mega 16 pitch underground trip at Coniston to easy walks and even a boat trip.

Of course you don't have to go to the dinner in order to attend the AGM, nor stay overnight if you only want to go to the dinner, but the great benefit of a residential weekend is that you don't have to travel home afterwards, but can to relax in comfortable surroundings and good company, drink as much or as little as you like and go to bed when you please.

The full cost for the residential weekend will be £55 per person, payable to the Treasurer, John Aird, by the end of August. For more information contact Mike Mitchell, who is co-ordinating the event. Telephone 01539 821132, email emnbee@hotmail.com.

Members at the 21st birthday celebration at Rydal Hall

Membership
We welcome three new members:
John Cameron, from Catton, near Thirsk
Tim Haldon, from Garrigill. Tim used to be manager of North Pennines Heritage Trust.
Jane Foale, from Leeds. Jane is an artist with an interest in mineralogy, particularly that of the Caldbeck Fells and the north Pennines. She is interested in finding out more about the origins of the Tyrolean miners in the Caldbeck Fells.

News

Projects
We have now received permission from Rydal Estates to re-open Sebastian Level subject to the usual conditions and consents. Peter Fleming says 'I will contact Eleanor Kingston with the news but would expect her to suggest the completion of the Carrock Mine and Silver Gill projects first before applying for consents for Sebastian from English Heritage and Natural England. It is up to her. I will suggest that we would like to begin the work in Spring/Summer of 2010.'

Revised dates for the Silvergill project.
As reported in CAT Newsletter 94 we have obtained permission to search for a missing adit at Silvergill, Caldbeck. The following is an extract from the request to the LDNPA for permission to investigate historical mining levels associated with sixteenth century operations at Silver Gill, Caldbeck, Cumbria:

The purpose of the historical investigation is to determine if a cross-cut to the Silvergill vein, proposed in 1622 to revive the ailing Elizabethan mining venture, was ever constructed. The investigation is focused upon two key areas likely to yield evidence of the adit. These are the flooded shaft located within the accessible parts of New Stolne and an area adjacent to a wall feature discovered in the gill some 15 fathoms lower down.

The first stage of the investigation will be a ground penetrating radar survey in association with the geology department of University College London. Professor Phil Meredith has arranged for the operation to form part of a student project He says 'We will drive up to the Caldbeck Fells on Sunday morning 16th August to meet up at Fellend with Warren Allison and anyone else who wants to come along. The idea is to assess the site and sort out exactly how we will do the measurements, but I doubt if we will start the actual measurements until the Monday. The student has to leave by Saturday 22nd at the latest so all the work will be done by the Friday'

Tilberthwaite Horse Level
We now have permission to re-open the collapse in the Horse Level at Tilberthwaite. This requires no consents so work can commence whenever we wish. All good news. Julian Lambton of Rydal Estates is to provide written confirmation and wishes to be kept informed on the developments.

Work started in July in preparation for the dig. A small dam was constructed in the slate closehead to provide a settling area to retain silt from any water that may be released. The adit is being cleared down to the sole to provide a suitable and safe working area. Discussions are on-going to determine the volume of water backed up in the adit, which is approximately 700 meters long in-bye of the collapse, and how best to deal with it.

Tilberthwaite Mill

Mark Simpson has raised concern about the condition of Penny Rigg Mill, Tilberthwaite. The site has had little attention recently and is at risk from general erosion and activities of motorbikes etc. It was built by John Barratt of the Coniston Coppermines around 1848 in order to process ore brought out along the 3,000 feet long Horse Level. A site meeting with the LDNPA took place on 17th July

Tilberthwaite Trail Leaflets

The revised Tilbetwaite Trail leaflet is nearly ready for publication, with a new map by Mike Mitchell. A Tilberthwaite Ghyll trail leaflet is in preparation by Mike and Ian Matheson. These leaflets are sold in local Tourist Information Centres and, as well as promoting our mission, earn CAT a significant amount of money.

CAT Archive

As CAT reaches it's 30th anniversary it is becoming more and more apparent just how much change and decay has taken place during the period, and how much has been lost of mining landscape and artefacts. Old pictures recording things that have deteriorated or which no longer exist become increasingly valuable. The Furness Survey carried out by Anton Thomas, Peter Sandbach, Paul Timewell, Dave Robson and John Helme set out to record the Furness Mining Landscape before it disappeared due to agriculture and development and is a priceless asset, as is the Coniston underground survey carried out by Mark Simpson, Dave Bridge and Angela Wilson. The CAT archive would like to add to the record by collecting appropriate photographs taken by members. Such pictures need to be in digital format but we can scan them if necessary. If you are able to contribute please contact the archivist, Don Borthwick.

CIHS Autumn Conference

Sunday 18th October, Abbey House Hotel, Barrow in Furness.
The theme is Barrow-in-Furness: Industrial History and Heritage.
Programme:

- The port (Captain John Green)
- Early Entrepreneurs (Bryn Trescatheric)
- The Steelworks (Bill Myers)
- The Changing Scene (Bernard Maguire)

More details and a booking form will be on the web site: www.cumbria-industries.org.uk

A new resource

A Cumbria County Council library ticket now gives access to the British Library collection of local newspapers from the 19th century and the Burney collection of 17th and 18th century newspapers. If you live outside of Cumbria, your library probably subscribes to the same service. Go to the library website, click on the link to the British library newspaper collection, enter your library ticket number, and you can search 300 years of history very quickly. One thing that soon becomes apparent is the extent of plagiarism. If an item is printed in one newspaper it appears in many others in exactly the same words, often without an acknowledgement. I think Mr C Dickens had reasons to be upset about this.

P Sandbach.

25" OS Maps

Some of you will have heard that the Ordnance Survey stopped selling the historic 25" (1:2500) county series maps with the originals being passed to record offices and rights given to private companies to reproduce them. I have been searching for a small retailer of these for a while and have tracked down "Meridian Maps at John E Wright" in Nottingham, who are selling them at £30 + VAT including postage. This is more expensive than they were from the OS but they do seem to provide a swift and helpful service. They are on the web or phone 0115 985 0077.

Jon Knowles

Newland Furnace Roof

A pre contract meeting was held at the furnace between Mick Taylor, of Blackett-Ord Consulting Engineers, John Nuttall, of Kendal Building Co and representatives of Newland Furnace Trust to finalise arrangements for the construction of the new roof for the furnace stack. Work was due to begin on June 1st, to be completed in ten weeks.

In fact the builder was unable to start on June 1st and the start and finish dates were put back by two weeks. Work did commence on June 14th and during the first four weeks the area surrounding the flue was excavated to a depth of about a meter in preparation for footings for a concrete foundation which will carry the weight of the roof structure. Although the material dug out was backfill put in by the Newland Furnace work team after they had rebuilt the flue with imitation fire bricks, a condition of the excavation was that it be supervised by an archaeologist from Oxford Archaeology North. The north and east parapet walls were in poor condition, and in order to support the perimeter of the roof they have to be taken down and carefully rebuilt. The builder took measurements and photographs of the original and the new work will be a faithful copy of the detail structures.

A second site meeting took place on 14th July, four weeks after the start, in order to appraise the work and agree the first payment, in the order of £10,000. Those present were John Nuttall, the builder, Mick Taylor for Blackett-Ord Consulting Engineers, and John Helme, Dave Smithson, Peter Sandbach and Ian Matheson for Newland Furnace Trust. A further meeting will take place on August 11th, when the work should be almost finished and it is expected that payment of most of the balance of the contract price of almost £44,000 will become due. The money is to be provided by English Heritage, but as the bill has to be paid and receipted before they provide the rest of the money, CATMHS has agreed a bridging loan to the Newland Furnace Trust. This is a continuation of the arrangement a few years ago when CATMHS provided temporary loans to the Newland Furnace Trust in order to ensure cash flow during repairs to the charging barn.

Survey of the Penny Rigg Copper Mill, Alastair Cameron

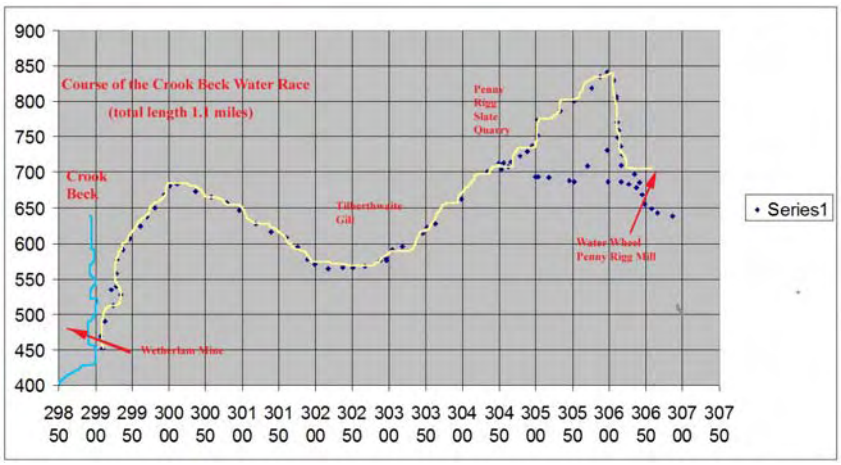
During Jan – Feb 2009 a survey was carried out of the site of the old Copper Mill situated at the entrance of the Horse Crag Level, Tilberthwaite.

The Mill was established between 1859 and 1861 and was powered by two water wheels operating the crushing and separating equipment. The plant was designed to process ore brought out of the Horse Crag Level. After processing, ore was carted to Coniston Station to be transported away by rail to the smelter. The Mill had a very short life, being abandoned in 1876. Later the site was used for slate working and the over-tipping of former copper spoil tips is a notable feature of the site. Fortunately the site has not suffered from slate working or 'landscaping. It is an extremely interesting example of a small industrial site, one of several scattered over the Lakeland fells.

The ground survey was carried out using the gps surveying equipment purchased for the 1996 survey of Coniston Old Man. The ground survey was backed up with data from Google Earth photographs, which eliminated the need to carry out ground surveys of the bases of the tips (an extremely hazardous operation). Mapping was carried out using Mapinfo software with a digitised copy of the 1:3000 2nd Edition Ordnance Survey map acting as the base map. Survey points were installed onto the base map using Excel based software which calculated the mean of replicate survey point readings.

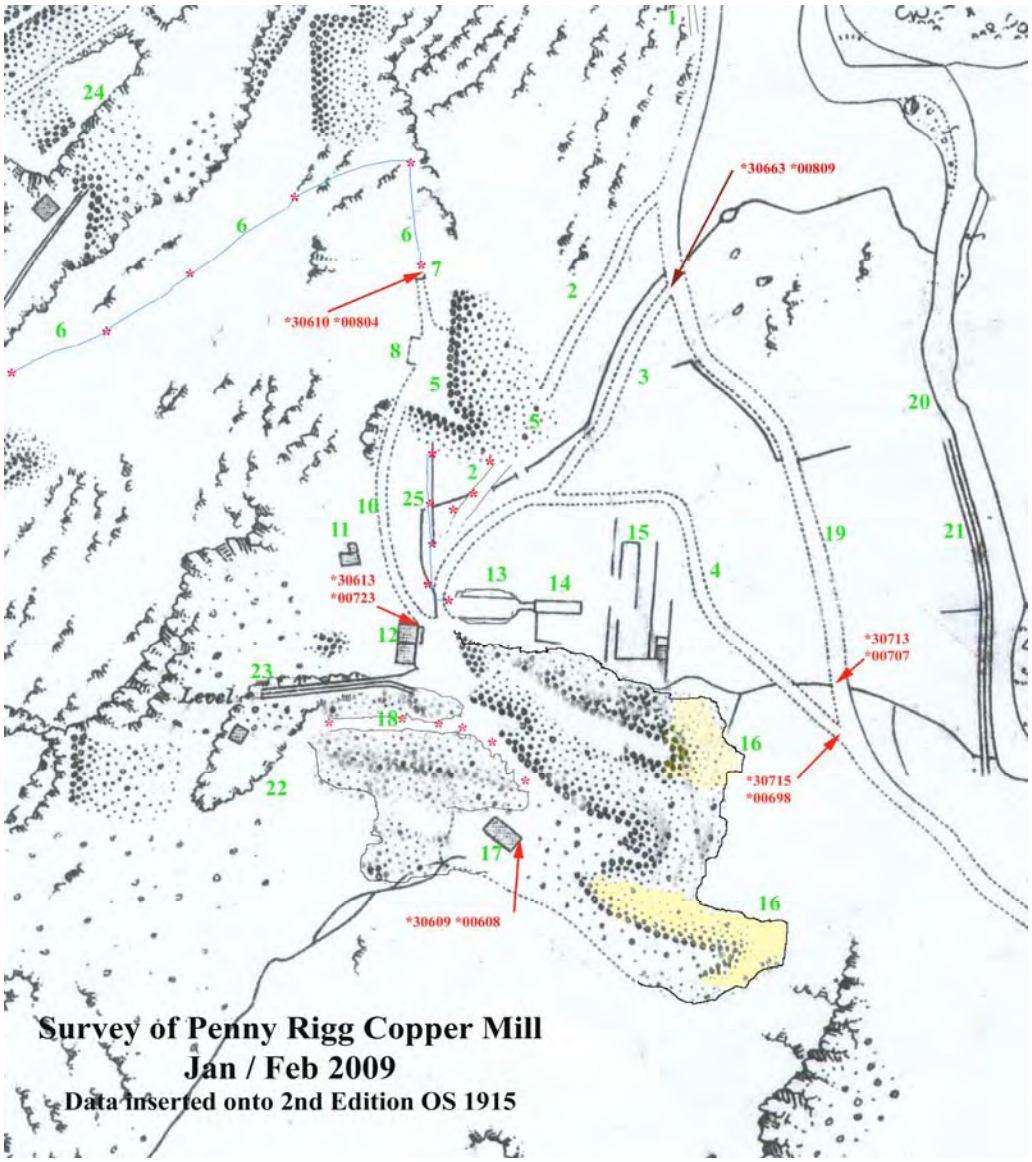
The ground survey was backed up by an extensive photographic record. Eventually it is hoped to link the two to create a 'seamless' record of the site.

One of the most interesting features of the site are the water leats which brought water to the pond-bay that fed the primary water wheel. One of these leats is over a mile long, collecting water from Crook Beck close to the base of the Wetherlam Mine.



Attached diagrams show the result of the site survey. The Google Earth photographs and the survey of the water leat are also included.

Penny Rigg Copper Mill survey, ADC.

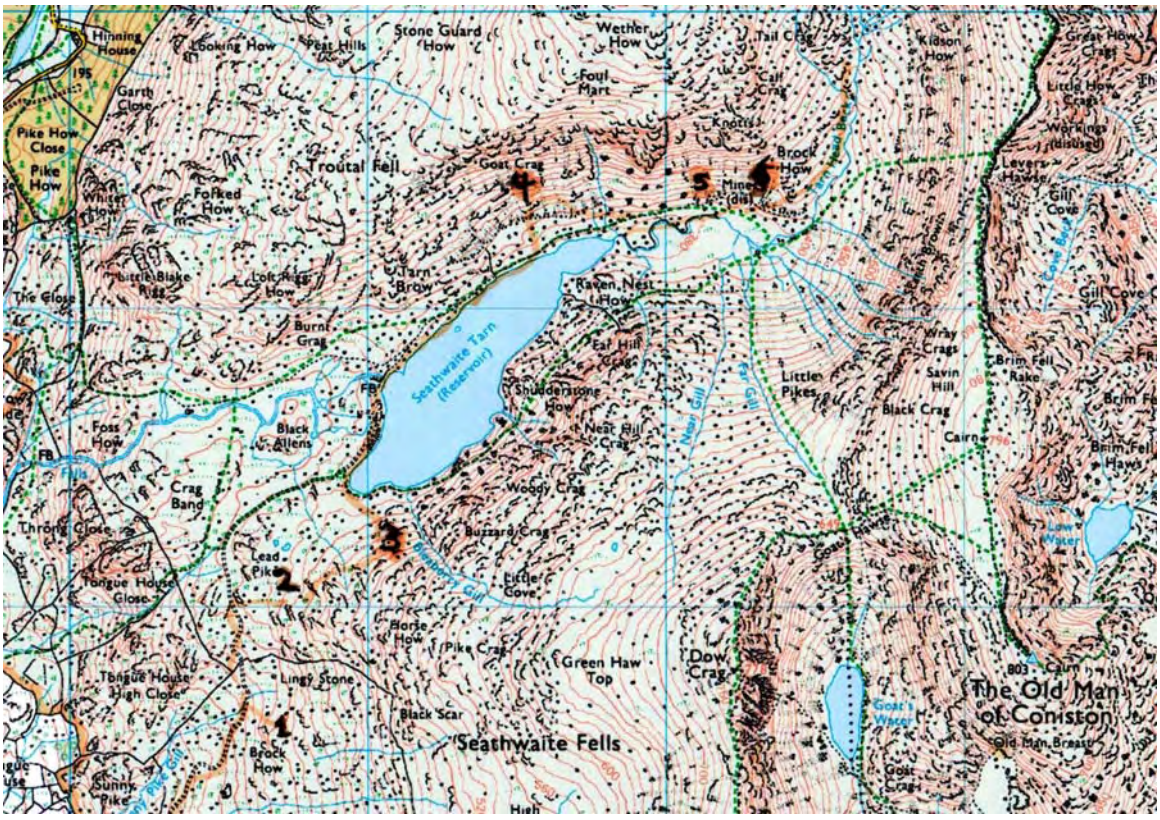


1 - Former track-way, traces only.
2 - Original access track to the copper-mill.
3 - 'New' access track to copper-mill (circa 1902)
4 - Access track from High Yewdale, now faint.
5 - Spoil from water tunnel excavation over-spilling original access track (2).
6 - Course of long water-race (1.1 mile) from Crook Beck.
7 - Water tunnel portal.
8 - Former shelter.
9 - --
10 - Access track to water tunnel.
11 - Powder magazine for slate workings.
12 - Smithy and office.
13 - Pond bay for primary wheel feed.
14 - Wheel pit – 35ft x 5.5ft x 14ft. (wheel 32ft diameter).
15 - Ore storage, handling and processing.
16 - Copper spoil tips over-tipped with slate spoil.
17 - Quarry bothy.
18 - Inclined access ramp leading to higher tip.
19 - Valley road
20 - Yewdale Beck.
21 - Former flood prevention banks
22 - Horse Crag Quarry.
23 - Horse Crag Level cutting..
24 - Penny Rigg Quarry
25 - Divert leat with part of boards still in place.

Penny Rigg Mill Surveys
It is worth noting that in 1997 Mark Simpson, Dave Bridge and John Davies carried out a theodolite and photographic survey of Penny Rigg mill. Mark produced a digital interactive presentation in which one can click on hotspots on the plan to open associated photographs and diagrams.

He has been working on this recently in order to update it and a copy will be sent to John Hodgson, LDNPA Archaeologist, together with a copy of Alastair Cameron's recent survey. Copies will also be placed in the CATMHS archive. Penny Rigg Mill is probably the best preserved 19th Century dressing floor in the Lake District and when John Hodgson visited the site with Mark, Mike Mitchell and Ian Matheson recently, he was impressed with what he saw and commented that it was well worth conserving.

Duddon Valley Archaeology group Visit, 9th May
A walk in the vicinity of Seathwaite Tarn, visiting various recently discovered sites of archaeological interest.



ML Alan Westall, Clive Barrow, Alastair Cameron and guest, Peter Fleming, Maureen Fleming, Tony Holland, Mike Mitchell.

Despite an abysmal weather forecast six CAT members and one young guest bravely assembled at the Newfield Inn car park to leave promptly at 10.00 am. Our first stop was at (1) SD243973 where a medieval longhouse with adjacent circular stone structures, low

enclosure walls and possible fresh water spring were viewed. In the absence of carbon dating, opinion was expressed that the site may be of Viking origin, ie 9th Century.

Returning to the tarn track the parties next objective (2) at SD 246981 was the location of a medium size ring cairn with a smaller satellite cairn, recently excavated by the Duddon Valley History Group and dated mid to late Bronze Age, 1600 – 1250 BC. The fact that the site could have been a viewing platform for the aligning of the moon and stars, longest and shortest days did not go unnoticed. Pie dish segments of the cairn were excavated in 2007/8 by the above group Archaeologists and various partners. (See attached map and description). North East of the above site, near Bleaberry Gill, at (3) SD250893, was a circular stone structure of roughly the same size and presumably the same dates.

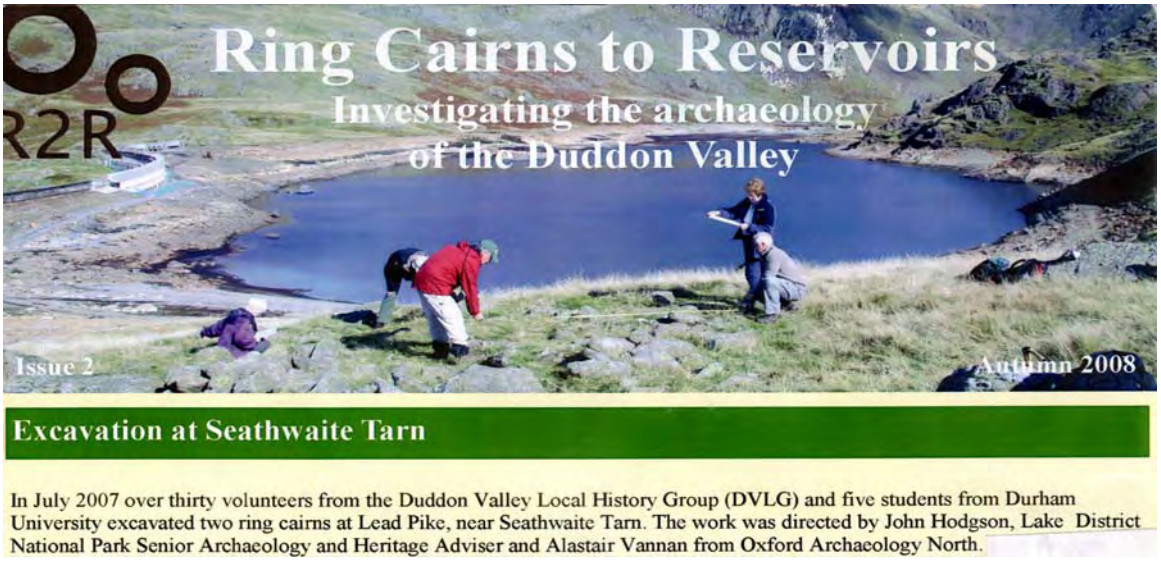
With weather conditions deteriorating lunch was gratefully taken using the shelter of a large boulder with small enclosure and low retaining wall. Tony Holland was heard to say that perhaps weather conditions were more stable underground.

Our route now took us past the recently repaired dam wall (special mesh from America to stop leakage through to concrete wall) past the now flying spray on the overflow and on to (4) fox trap and hunters hideaway on the side of the boulder field below Goat Crag. The roof of the igloo shaped trap some three meters in diameter had fallen in but was a good example of its type and was described by CAT member Peter Fleming in the 1998 Cumberland and Westmorland Antiquarian & Archaeological Transactions.

Squalls of heavy wind, rain and hailstones did not deter, although mutterings about health and safety were heard as Mike and Clive returned to the start point down the valley. The rest of us visited the group of four ring cairns and stone structures recently discovered at (5) SD 26354 49362 followed by a look at the three small copper workings at the head of the valley.

For once, as forecast, the weather did improve, until sunshine and blue sky revived spirits and helped dry sodden clothes prior to refreshment being taken at the Newfield Inn.

Alan Westall



CATMHS Visit To Boulby Potash Mine

Tuesday 2nd June was our long awaited visit to Boulby Potash Mine near Loftus over on the East Coast.

After signing in at the security gate we made our way to the admin building to meet our guide for the day Mr Neil Rowley, the former mine safety manager. We were given a very informative presentation covering the history of the company, the nature of the potash deposit, the extraction methods and a comparison with the sister company in Spain. We also saw the raw and final processed product samples. Of particular interest was the very enlightening method of demonstrating the efficacy of roof bolting using a telephone directory 'bolted' with rows of nuts & bolts!

After refreshments were consumed we drove across the site to another building where we kitted up in the underground gear provided by the Company, including all clothing, lamp & PPE safety gear and importantly, a bottle of water. We then headed through a series of airlock doors towards the lift shaft, the atmosphere completely changing from one of clean, quiet office / stores to more like an actual mine with steel staircases and doors together with the loud wind noise generated by the huge fan forcing air down into the mine workings 1100mtrs below us.

Cages on the rock shaft

We entered one of the two counterbalancing cages that ride up and down the shaft for a remarkably smooth 5min descent. Half way down we heard the clatter as the other lift cage passed us on its way up to the surface. Exiting at the shaft bottom is like stepping into another world. Roadways seem to run in all directions eerily lit with fluorescent lighting. Vehicles that spend their entire lives below ground (having been lowered down tethered below the lift cages!) are parked here & there. The wind blast and noise is tremendous and the heat is already becoming uncomfortable.

In a workshop area, a newly acquired continuous miner was being assembled, the enormous machine having been lowered down the shaft in pieces. We continued on around a corner to find our vehicle, one of many converted open back transit vans which serve as personnel carriers, and headed off down one the roadways for our 7 mile ride to the producing area, out beneath the North Sea. The workshop and stores areas we passed grew scarcer as we headed away from the shaft base area and the only light now was from our own vehicle and an occasional one passing in the other direction. The roadway were travelling down was driven in a salt bed lying below the potash deposit. The roadways are always driven in pairs, one for personnel & vehicular transport, the other for the conveyor belt carrying the product to the skip loading station at the shaft base. Air is led down one roadway and out of its twin, thus

ventilating the whole mine. Necessary connections between these roadways when they were being driven are subsequently sealed up with a very efficiently installed system of expanded polystyrene ‘bratice’ blocks.

After a few miles of travel, we stopped to visit the horizontal drilling station. This machine bores exploratory hollow holes up to 2km in length through the salt bed, occasionally being skilfully deflected upwards into the potash bed and the cores being retrieved for assessment by the mine geologists. Sadly, the pump which injects water down the drill tubes was not functioning and so the rig was lying idle. One of the drillers explained in great detail the mechanics of the operation.

Back into the vehicle, we travelled the remaining distance to the working area. When an area of good quality potash is located, a ramp is driven up from the roadway in the underlying salt bed. Twin headings are then driven and at any given time, one will have a continuous miner extending the heading and the other, a roof bolting rig. They will periodically swap places, the bolting rig working the area recently driven by the continuous miner. The pillars separating the extraction ‘rooms’ are continually spalling, eventually adopting the shape of an apple core, so fragile and friable is the material. The ceilings are falling and the floors rising as indicated by ‘traffic light’ roof bolts with green, amber & red bands to indicate the amount of movement. We saw huge quantities of timber support pillaring and very large steel beams that had bowed alarmingly. The working areas receive safety inspections every day.

We went into a heading containing an operating roof bolting rig, Two men were operating the machine which first drilled a hole in the ceiling before inserting the resin bolt with plate. The first one we saw went in perfectly, but the second would not spin all the way home up into the hole! After a few attempts, it was abandoned with laughing jeers of ‘jinx’ being shouted at us.

We walked over to the next heading which contained the huge continuous mining machine. This electrically operated behemoth is remotely controlled by its operator and its business end consists of a monstrous 4mtr wide rotating head of tungsten tips, 30 of which need replacing every shift. As the material is cut from the

headwall, ceiling & floor, it is propelled to the rear of the machine by rotating arms, and loaded onto the remarkable travelling conveyor belt system. Sadly, due to a water pressure problem, the machine was currently not operating.

After our tour of the producing area, we again boarded our transport vehicle and started our journey back. We stopped at one of the six 'safe haven' rooms where numerous systems are available to ensure the supply of clean air in case of fire.

Back at the shaft base, a large crowd of miners was waiting to enter the cages at the end of their shift, so with a little time to spare we passed through an airlock to view the skip loading arrangement. This was very impressive indeed. Twin skips, each with a capacity of 23 tonnes alternatively rise & lower, counterbalancing each other. It takes just two minutes for each load to reach the surface! As the skips were loaded (in about 7 seconds) with product we could see the thick steel cables stretching by about a metre before the skip shot up to the surface.

Finally we got our place in the lift cage and began our ascent to the surface. After the heat of the mine, the warm summer day outside actually felt quite cool as we made our way to the winding hall. This building houses two gigantic DC electric operated winding drums. Sadly the largest, the one working the produce shaft was not operating when arrived, having tripped a circuit breaker due to overloading of a skip. It did eventually run, though in slow 'manual mode'. Finally we then went out to the produce shaft tower to see the skips arriving and discharging their loads into hoppers.

Our trip to Boulby was an unforgettable and unique experience, a chance to see the underground operation of a working mine. I am most grateful to our guide, Mr Neil Rowley for being such an excellent, informative host. The scale and efficiency of the operation is truly awesome, but just as impressive was the willingness of the guys 'at the face' to talk to us in great detail about what they were doing and how things worked. I just hope they view it as merely a coincidence that on the occasion of our visit, the roof bolt failed, the winder tripped a circuit breaker, the continuous miner had no water pressure and the horizontal drilling rig's pump broke down…

Tony Holland

GRIMES GRAVES (Norfolk) MEET - 10 June 09.
Present: John Aird, Lesley Aird, John Ashby, Sheila Barker, Don Borthwick, Chris Cowdery, Anne Cubbon, Brian Cubbon(ML), Margaret Fleming, Peter Fleming, Ian Matheson, Meg Matheson, Pete Sandbach (and Dog).
Guide on Site: Peter Topping, Research Archaeologist at English Heritage and head of AS&I.

See CAT Newsletter 93, Nov 2008 as an introduction.

Not your average run of the mill CATMHS Meet I agree, but after certain preliminaries mainly to do with access arrangements for underground, complicated by the fact that ML had a senior moment on leaving home and forgot to bring any of the relevant paperwork(!), Peter Topping gave a very informative introduction to the site, followed by a surface tour of some of the 400 or so pits (all backfilled when originally worked out) which can still be located. Many others are thought to exist and have become covered by blown sand, the surface soil here being very light.

At the present time only four of the pits are of interest to us here:

Pit 1. Is the public access Pit, about 30ft deep, in which many artefacts were found when it was excavated. Six galleries radiate out from the shaft bottom, all now gated to prevent entry. For the convenience of visitors, the mine is electrically lit, resulting in a disfiguring growth of 'Lampenflora' which has to be cleaned off from time to time.

Pit 2. In the middle of the site, was excavated by Peake in 1914 and re-examined by the British Museum in the 1970's. The Floorstone here is at 39ft, the same as in Pit 1. On opening the shaft, a series of hearths were found, again as in Pit 1, indicating some ritualistic procedure during the closing and backfilling of the shaft. A group of incised marks interpreted as a sundial was found on the wall at the shaft bottom, together with what looked like a set of tally marks, as if the flint nodules were counted as they were raised to the surface. Pit 2 had 10 radiating galleries at the bottom, and as well as miners picks made from Red Deer antlers and associated pick marks, the marks made by a polished stone axe were found. Late Neolithic pottery and some animal remains were also found. A shot barrow run dating from the 1914 works is seen as a groove on the ground between Pit 2 and an adjacent shaft which contains the remains of a spoil heap from Pit 2. The fact that not all the spoil was returned to Pit 2 has resulted in some slumping due to weathering; no other pits show this feature and it renders Pit 2 easy to spot.

Peter pointed out other salient features nearby, where groups of pits could be seen in a trefoil formation within a shallow linear quarry, and mysterious flat areas that look as if they have never been disturbed - curious on a site where pits in general lie crowded close together. Grimshoe Mound was also seen - a very large spoil tip, thought in old times to be a burial mound (the Devil?), and sectioned by early archaeologists without finding anything. The mound is accompanied by an equally large pit.

Pit 15. Not far from Pit 1, this was excavated by Armstrong in 1939, and is 25ft deep. It was not backfilled and is concrete capped, but not accessible due to part of the shaft wall having collapsed making it too dangerous. Armstrong was convinced that Grimes Graves was a Paleolithic site, and in his dig found the famous small chalk carving of a 'goddess', but unfortunately this is of very doubtful authenticity.

Greenwell's Pit. The current archaeological dig followed, and here we ventured below ground (to get out of the persistent rain for a while). This Pit, which again is concrete capped like Pits 1 & 15, lies near the far Southern boundary of the site. This is the Pit where the first positive identification of a Flint Mine was made about 1868 by Canon Greenwell, who also found Red Deer antler picks and opined that the workings were Neolithic. Many artefacts were found as in the other Pits, but remarkably a Greenstone axe of Cornish origin, lying on the floor and neatly placed between two antler picks laid parallel with the tines pointing inwards, and with the skull of a Phalarope (a seabird) positioned neatly between them and also parallel. Obviously a deliberately arranged group of some ritual significance, the axe and skull having each travelled some distance. These objects, together with many others found at the site are now in the British Museum but unfortunately not currently on display.

At the foot of the shaft the Floorstone was at a depth of 40ft. Some tabular layers of Flint could be seen, Flint nodules of various sizes, some as large as several feet, and many hollows where our Neolithic Miners had removed the nodules and taken them away 4000 years ago. There were also antler picks still lying in situ where the miners left them: pick marks abounded on the walls, and at one spot even the marks left by a polished

stone axe. Though it was necessary to move about very carefully, the galleries are fairly spacious, and a stooping gait or an upright crawl suffices in most cases; some of the galleries being about 120ft to the far end, where it was interesting to see in many of them, the backfill from adjacent shafts running in from holes in the walls and roof.

Interestingly, it is now thought that the Miners worked without lights - the pits were open to the sky, and the chalk is very white and reflective, so with the interconnections to adjacent pits, there would have been enough light to work by for most of the year.

The emotive impact of seeing these 4000 year old workings with some of the 'equipment' still in place was quite marked. These are the oldest mines any of us will ever visit.

Which brings me to a sad end note, in that it seems we could well be the last party who will be allowed to see this Neolithic workplace. Health and Safety want the Mine closed forthwith, and it was only Peter Topping's intercession on our part on account of having booked the Meet months ago, that made them reluctantly agree to let us go ahead. This baffles the ML somewhat, as they're not exactly overwhelmed with requests. The pit was last opened for a visit like this some two years ago. The future of the Public access Pit may also be in doubt. This is all a pity, because the site is definitely a unique part of our English heritage.

As a relevant add-on, the following morning the ML had arranged a flint knapping demonstration by John Lord, a local man who used to be the Grimes Graves custodian, and who is a recognized authority on this ancient Craft. Starting with a fairly big nodule of Flint, over a foot long, he gradually formed it using hammer stones of Quartzite and Greenstone of various sizes and hammers fashioned from Red Deer antlers, into a very useful looking axe head about 9ins long - fairly large.

Starting with the larger hammers and later using the 'soft' hammers made from antlers, he judiciously decided where to apply sharp blows to flake the stone away and produce the required shape (Flint conchoidally fractures). The roughed out axe head would then pass to the grinders to be polished using the coarse

grained sandstone (Carr Stone) that is abundant in West Norfolk. The whole process took just over an hour, and a number of the knapped flakes were capable of being turned into other tools like scrapers and knives, though time did not allow. John assured us that the flaking process was just the same no matter what size of implement was being produced. With commentary from John to match his every move, this was a first rate and much appreciated demonstration.

To fill the rest of the second day, Anne & Brian Cubbon, Ian & Meg Matheson and Pete Sandbach (and Dog) had a look at Denver Windmill, a working corn mill, though not on the day, where the mechanism and techniques were very well explained, and the mill's old Blackstone Oil Engine was fired up for our benefit. On this site, over the years Wind, Steam, Oil and Electricity have all been used - in fact Wind and Electricity still are. Nearby, we then had a look at Denver Sluice where the land drainage from roughly a third of the total land area of England finds its way to the sea under the control of a complex and difficult to understand system of huge sluices and locks.

Many thanks to all members who turned up from such diverse places, and to Peter Topping and the Grimes Graves staff, John Lord for his demonstration, and to the staff at Denver Windmill. They all did us proud, and made our visit well worthwhile.

Brian Cubbon, photos Ian Matheson.

Wiltshire Stone Mines weekend / 4th / 5th July 2009
Some time ago the Meet Leader visited Bat Products, in Wells, and purchased a copy of all the stone mine surveys Jrat had in stock. Full of enthusiasm, he canvassed opinion and decided to organise a CATMHS meet to make use of these surveys.

The plan was to visit Box Stone Quarries on the Saturday, and make a good day trip, followed by one or more of Kingsdown Quarry (AKA Swan Mine) and Browns Folly the next day. Investigations the day before the meet showed that Browns Folly was inaccessible, so the Sunday trip would be a leisurely visit to Kingsdown. The ML and his wife stayed in the Quarrymans Arms in Box, which not only holds the key to Box Stone Quarries, but also has a splendid display of mining artefacts decorating the interior of the pub.

By way of introduction, the stone mines around Bath are quarrying the Oolitic Limestone. It is the same limestone which is quarried in an arc running from Portland in a North Easterly direction to the Humber, taking in the Cotswolds, the ironstone mines of the East Midlands, Collyweston slate etc. In the Bath area, the stone is a 'freestone' meaning that it can be cut in any direction. However it should be noted that construction with the stone should maintain the original bedding of the stone as found in the ground.
Bath stone has been used for thousands of years. Certainly the Romans used it for their Aquae Sulis at Bath. Quarrying of Bath Stone was a low-key affair until the entrepreneurs Ralph Allen & John Wood used it to develop the Georgian architecture that has made Bath a World Heritage Site. The advent of the Kennet & Avon Canal and then Brunels Great Western Railway reduced transportation costs, and put Bath Stone on the world market. In fact, the driving of Box Tunnel by Brunel revealed the true extent of the Oolitic stone beds and incentivised the development of additional quarrying activites.

Box Stone Mine.
Present Chris Cowdery (ML), Joanne Cowdery, John Aird, Lesley Aird, Jon Knowles, John Ashby, Mark Waite, Vince Rolph, Tony Holland, Roger Ramsden, Hatstand & Becky.

The present day Box Stone Mine is in fact the combination of many smaller workings which have all been connected as working progressed. The group met at the Quarrymans at 9am, and made their way to Jacks Entrance, which is at the South Western end of the mine. The ML had copied the three A3 survey sheets which make up the mine, and highlighted a suggested circular route. The intent was that when armed with a written route description and a highlighted route, the fiendish complexity of routefinding in the mine could be overcome.

The gate at Jack’s Entrance was opened, and the group entered the mine. A short walk via Owen Bishop Road, New Cut, Allan Nutts loop, Tucker Traverse, Via Equi and Bate's Traverse took us to the first underground Well. Shortly afterwards the group encountered a fine drawing of a black horse. The next stage took the group along Route 2, Frank Spalding Cut and Bridgegate Road to 'The Ring' via the first crane remnant. Whilst traversing The Ring, an old saw bench was encountered, which consisted of a large stone

slab with a saw cut in the top. The group felt that these were in fact to hold saws whilst sharpening them.

With The Ring completed, the ML enquired with the group to see how many realised that they were now covering old ground. This was a timely reminder of the complexities of navigation, because the ML became disorientated at the next marker, 'The Wall'. The route description noted that one was to pass over 'The Wall', however 'The Wall' reached the roof, so after passing through 'The Slot', the group took a short break whilst the ML and JK attempted to re-synchronise with the map and description.

The group then proceeded along RT Route, Outer Ring to the start of Beta Passage, followed by Coronation Cut and the Bat Route. The ML advised the group at this point that they were directly over the GWR, and was rewarded by the sound of a train running underneath. The presence of a nearby ventilation shaft caused heady excitement and reminded the ML that most mine explorers are also high ranking train spotters on the anorak scale.

A further traverse along B12 took the group to the first piece of tricky navigation. The three Box Stone Mine surveys each have a suggested circular route. The ML had stitched these together to make a grand circular, however there were some gaps to be bridged by survey alone without the written description. The group headed into Cathedral Route on this basis. Within 50 yards, the ML had completely failed to re-synchronise with the survey, and requested the group sit down for a 'refreshment stop' so he could work out where the hell they were. The ML wandered hither & thither, and did manage to syncrhonise with the map once again. Unfortunately the written words were not easy to relate to the layout at this point, however, after some faffing, the group did find passage B12 which was the way forward. At this point Mr. Ashby made various pronunciations about the obvious waymarkings, however he declined an offer to lead.....

Navigation at this point becomes much easier as the routes are predominantly along haulage routes rather than cutting across between them via stacked deads. B12 took the group to a well, another exciting GWR ventilation shaft and on to an area where sculptures have been made from old bricks. This area is near the connection to Burlington (AKA Corsham) which was the location the government would retreat to in the event of a nuclear strike. Time did not permit an investigation.

Next stop was the Delta Rectangle Shaft, which is a large bore concrete sectioned daylight shaft, and then onwards towards WO Passage.

A right turn on WO Passage took the group into Cliftworks Passage, which is the most Northern part of the mine and the most recently worked. It is this area of the mine which contains the majority of the wooden cranes for which Box is famous. The density of artefacts is also significantly higher than the rest of the mine.

The ML took the group through some fine stone arching in the style of the North Pennines (albeit in a larger tunnel) to the 'Iron Door' which is now little more than some

heavily trampled rusty corrugated iron. This marks the only route into this part of the mine. A route along some haulage routes and cutting across some deads took the group past various collections of artefacts to the 'Iron Hut' for a well earned lunch stop.

In light of the passage of time, as people finished their lunches, the ML suggested a visit to the end workings of this particular level to photograph the two wooden cranes. A traverse in a southerly direction took the group to another fine example of a crane, and then on to an area of the mine in which the ML had no idea how the group arrived there. However, the presence of a crane allowed re-syncronisation with the survey, and the journey proceeded with another fine crane, this time with stone block attached with tongs, and a superb railed winch-truck

The group returned to Cliftworks passage for a return to the Southern workings. A stop at a Well and a Tank filled with water allowed the more inquisitive members of the group to verify that Archimedes was right. The group them proceeded via the lofty Cathedral. This is unique in the mine in that the company working the chamber were unable to extract

stone via a level, so they had to winch product out through a hole in the roof. The grooves carved into the shaft by the haulage ropes can still be seen.

Back on Cathedral Route and quickly bypassing the scene of the earlier lossage of whereabouts, the group reached Wattling Street and Four Ways. Returning to 'The Wall' allowed the ML to realise that actually some joker had finished the wall off, thus causing the earlier confusion. The ML led the group as per the written description towards Lady Hamiltons II entrance. At the point where the route started to take on a 'smaller' character, and the description became vague, the ML asked the group to take another refreshment stop whilst he and JK checked that the exit was still open. A small amount of thrutching about in a decidely interesting boulder choke soon located daylight and an open entrance. Returning to the party, JK led the group out for a fine 'sporting finish' whilst the ML and MW returned to the original entrance to retrieve the key which had been put inside the gate for safekeeping.

The group then returned to the Quarrymans for a well deserved pint and meal. All in aid of studying the exhibits of course. Some members of the group continued to investigate the bonhomie of the villagers by gatecrashing the 'Pig & A Jig' on Box Common where entertainment was provided by a particularly poor band performing in the back of a curtainsider trailer.

Kingsdown Quarry.
Present: Chris Cowdery (ML), Joanne Cowdery, John Aird, John Ashby, Mark Waite, Jon Knowles, Roger Ramsden, Tony Holland.

The group met at The Swan at Kingsdown which is conveniently opposite the entrance to Kingsdown Quarry. Beating a path in a solid hedge line reveals the well hidden quarry entrance.

Kingsdown is significantly smaller and simpler than Box, thus the group could afford the time to investigate and pontificate the various artefacts encountered. The group passed along the Main Haulageway, admiring the fine cart tracks still in the floor. Discussion ensued regarding the nature of the wheeled vehicles, and the remarkably precise nature of the tracks. South East Passage revealed numerous hobnail boot prints and hoof prints.

A traverse of the South Passage and The Loop took the group to a fine example of the quarrymen tallying their output on the walls of the chambers. A curious drawing of a train was observed, it was felt that the artist must have made a better quarryman than artist.

A return to South Passage took the group to Crane Passage which contains various artefacts, a splendid stone drinking trough and some calcite deposits. A deft swerve by the ML up a side passage took the group to see the poorer of the two cranes. This crane had a slab from the roof squashing it into the floor. Closer inspection of the fallen slab revealed many fossils in the rock. A certain amount of banter took place regarding the number of fossils in the vicinity.

Returning to Crane Passage took the group to the crown jewels of Kingsdown, a complete and intact crane, in-situ. The photographers made a detailed study of the subject, even stooping to the odd piece of backlighting to balance the image. A leisurely stroll back along Crane Passage and the Main Haulageway took the group back to daylight, and a pub lunch in The Swan Inn.

Chris Cowdery.

The Windy Stope

Sunday 10th May found Roger & I once more on Top Level, this time with the objective of exploring the Windy Stope. We had previously placed some anchors so rigging was relatively quick & easy. Part way down, we swung northwards onto a bridge of deads spanning the stope and followed the stope floor northwards. Oddments of garbage lay around, thrown into the crater by passing walkers, no doubt. We could see daylight a long way up above us. We scrambled and climbed our way along the stope base which clearly takes a lot of water from time to time. We soon arrived in a large chamber where up above, maybe 30ft or so, we could see a set of protruding rails out of Middle Level. On the opposite side of the chamber an ore pass was found to be boarded over at a height of 15-20ft. Returning to the rails, an old CAT rope was attached enabling us to climb up into the level. The rope had been partly buried by a small fall making it too taught for SRT, but Rogers's knife soon sorted that problem out. In the level, we found a fine water bottle and one solitary clog print. A short side drive marked the position of some alarming cracks in the passage wall. One of these cracks reached the floor and takes all the water from the level.

We returned back to our rope to continue on down the Windy Stope through a narrow sandy gap known as 'The Egg Timer'. We arrived in a large chamber the volume of which was almost entirely occupied by a bungalow sized block that had fallen from the roof. Over this we climbed, to see coming in from above, a beautiful green cascade of Malachite coating the stope footwall from floor up to its source - the Green Ginnel. We continued on down the other side of the huge block, where we hoped to locate the passage down to a sub chamber that I had been unable to locate on a previous visit. Excitement mounted as the way down became apparent, but then our spirits were completely dashed when became clear that a rope was essential to make the descent. There was no way it could safely be free climbed. We resolved ourselves to a mid-week return visit to continue the exploration as we made our way back over the huge block, back to the rope. On arrival Roger measured the spare rope and we decided that it just might be long enough to enable us to abseil down to the sub chamber. Out came Roger's knife for the second time that day.

We traversed yet again over the huge block and rigged the rope down to the sub chamber. This appeared to have been formed by large boulders falling and jamming in the stope forming a cavity beneath the main chamber. Curiously, as mentioned elsewhere, there is no water present, it must be draining down to Grey Crag Level, somewhere down below. It was disappointing not to be able to progress any lower. On climbing back up the rise to the main chamber, we noticed a pronounced updraft of air.

Roger Ramsden, Tony Holland.

Plumpton, 24 June, evening meet.
Present,: A Bryson, P Fleming, D Robson, P Timewell, P Sandbach and dog.

If you go round the front of the Bay Horse and the neighbouring houses, you come to Ainslie Pier. There is not much left to see. No trace of the tracks of the pier cranes and the inlet is so silted that rabbits now live where the steamers berthed.

From Canal Foot to Plumpton Hall, there are a few items of interest. There is Plumpton lime kiln, now part of a rockery, mooring rings for schooners set into the limestone shore, the remains of Plumpton Pier, where the limestone was shipped to Fleetwood, and an iron rich spoil heap. A handout provided by the Geological Society shows that this spoil heap and the other mines we were to see were in the line of the Plumpton vein. The meet leader was slow to find the spoil heap and showed little sense of direction in the rest of the tour.

Leaving the shore, we passed the barn conversion and Plumpton Hall and crossed the stile leading to the first wood. There are three deep grooves through this wood, evidence that the vein had split into three sections at this point, and each was worked to the surface, probably not to any great depth.

Remains of engine bed at Mouzel No 6 pit in Butts Beck, demolished 2009.

The next wood contains a long, deep ravine, perhaps 30ft wide in places and full of water. The weather was warm, with a nice breeze, the daylight as long as it gets, but midsummer is not the time to visit Plumpton mine, you cannot see the hole for the trees. These are old workings. The Askham & Mouzel Co handed back the lease in 1881. The North Lonsdale Co took the lease in 1895, but after a few trials, they abandoned the mines and concentrated on the limestone quarries. Two spoil fingers from the open works reach into an old quarry, indicating that some of the quarries are as old as the mines.

Plumpton magazine. Photo P Sandbach

The wood also contains the ruin of a magazine and we went on to visit its replacement. The two magazines can be dated from the directors' minutes of the North Lonsdale Co (BDB 47 box 16). In May 1915 it was reported that the Plumpton explosives magazine was faulty and too far from it's work. A new one was proposed, and by September the brickwork was complete and the lining in progress.

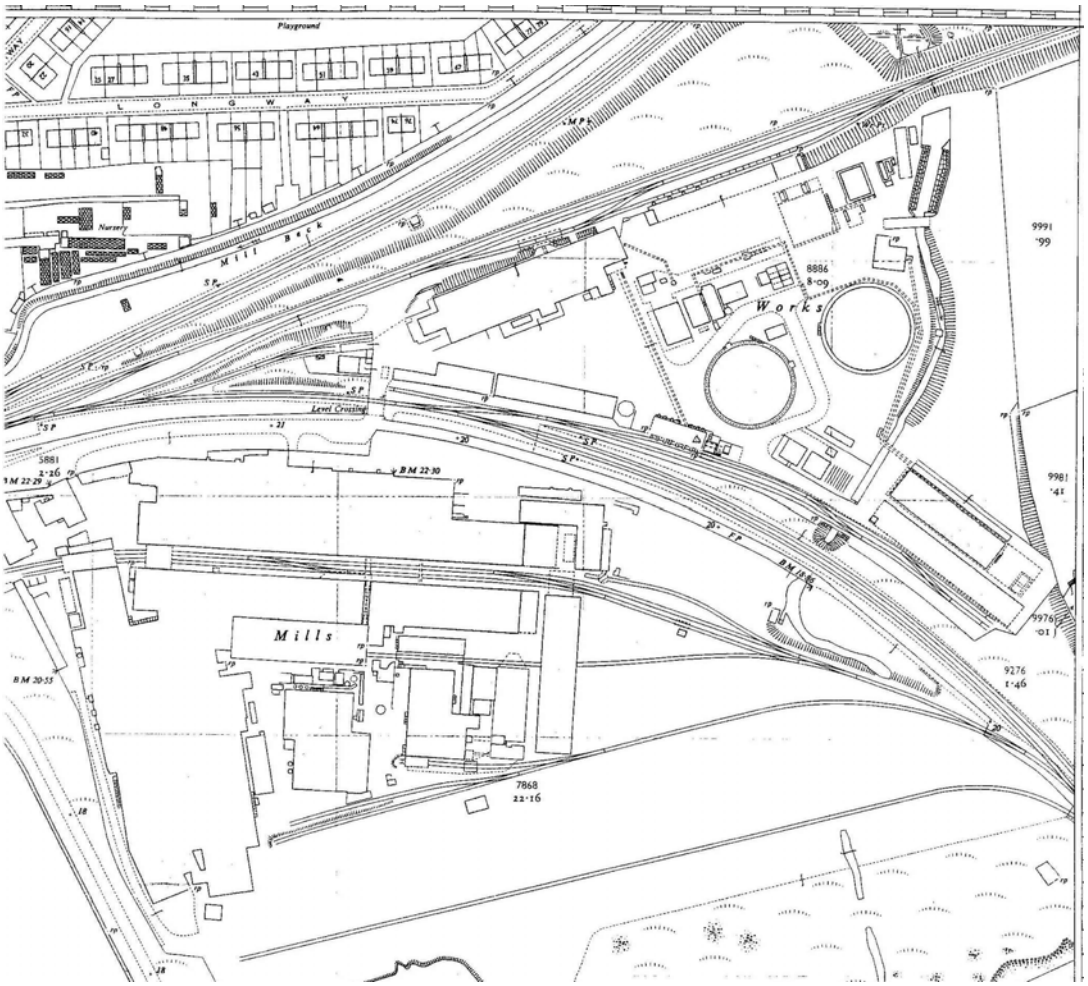
The quarries were filled with domestic rubbish in the 1960s. An area that was once a centre of industrial activity is now woodland and grazing. We returned by a path that ran past yet more in-filled limestone quarries, past the site of the bone mill (recently demolished by Glaxo) and considered things in the Bay Horse.

Peter Sandbach.

Stank Branch, 8th July

Present: P Fleming, D Robson, I Matheson, E King, D Benham, T Holland, A Bryson, P Sandbach and dog.

When this walk was planned, the official reason for dragging CAT members round the back side of Barrow was to view what remains of the Stank branch, then a broad incline, clearly visible from the last surviving bridge at Roose down to the junction with the main



1958 OS map showing the gasworks and Salthouse Mills. The Stank Branch runs to the top left corner.

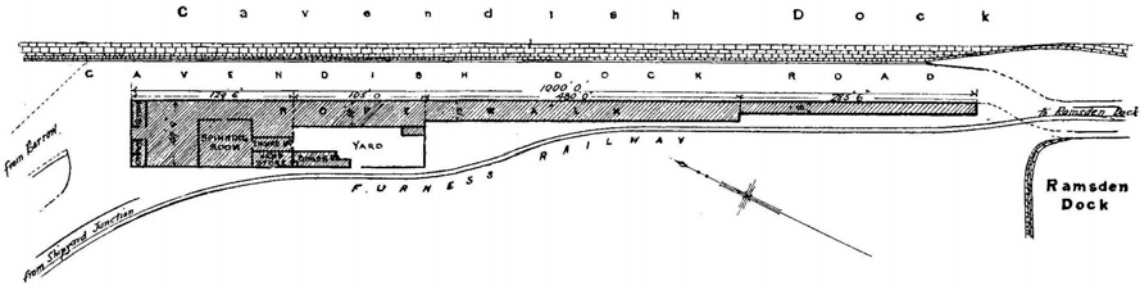
line at Salthouse Mills. The branch was opened in 1873, and operated by the Furness Railway until the first world war. On the day we found the track reduced to a narrow footpath. Most of it was fenced off, and the fence coated in grease on the inside for anyone trying to look over.

If you Google Carl Kellner, you get some very strange results. Freemasonry, Indian yogis, Rosticrucianism, sexual magic and alchemy among them. Can this be the man who held the patents for the Castner-Kellner process (the basis of ICI's Runcorn works) and the sulphite process? That seems to be the case. Before his discovery, paper was made from rags. In 1882 Carl Kellner patented a method of pressure cooking wood chips with calcium sulphite to dissolve out the lignin, leaving relatively pure cellulose fibres, suitable for paper making. Captain Edward Partington developed the process at Glossop before establishing the Barrow Chemical Wood Pulp Co in 1887. When the paper making machines were installed in 1892, it became part of the Kellner Partington paper

pulp Co, a multinational corporation which included the Borregaard mills in Sweden. The name was changed to the Barrow Paper Mills Ltd in 1919. When the mills closed in 1972, the works became Barrow Business Park. It was a good place to go if you needed a girder shotblasting, a fibreglass roof, a second hand car part or some sheet metal work, but when the speculators promised that the site could be turned into high class housing, the vandals and arsonists were allowed to move in. Even now, with the mills burnt out and partly demolished, there are people working on old cars late into the evening, and some examples of fancy Victorian brickwork to be seen. It is also used by television programmes attempting to show Barrow as an industrial wasteland.

We turned away from the railway and headed for Walney Channel, but on reaching the sea wall, I found that a group of mine explorers were afraid of mud. Had I used that excuse in the Horse Level, dig 3 reversed, it could have saved a lot of heartache and washing machine. So we stayed on firm ground, and looked at Headen Haw from the shore.

We continued along the sea wall to the green crane. 3 patrol boats built for Brunei are still laid up in Ramsden Dock. Opposite them in Cavendish Dock there are a few piles marking the site of the airship shed. The only airship built here was short-lived. Airship 1 was completed in 1911 and broke it's back on launching. Between the two docks, there is a row of buildings which started life as a rope works. Messrs G T Lee & Co's new steam ropery appears in a 1900 guide to Barrow, in which they say that they are the only rope makers in Furness and that rope making has been established in Barrow for over 40 years. That suggests that G T Lee & Co see themselves as successors to the Barrow & Ulverston Rope Co, a company owned by Harrison Ainslie.



The New Steam Ropery, from "A Guide to the Seaports on the Furness Railway", 1900

Cavendish dock is shallow; the entrance, when it existed, was narrow and as far as I know, no cargo was ever handled here. The dock has served as a timber pond and as a cooling pond for two generations of power stations. It is a good site for birdwatching, but the grebes and egrets were elsewhere. We returned by almost the same route, passing the sewerage works to get the full flavour of this part of Barrow.

An unofficial reason for the walk was to view the informal architecture in the allotments. Sheds and greenhouses should be made from imagination and things found on the beach. Many wonderful examples were observed.

References

Journal 3, Peter Holmes
The next CWAAS transactions will have detailed account of gunpowder shipped from Melfort and carted from Headen Haw to Poaka.
A guide to the seaports on the Furness Railway, 1900

The Case of the toppled Monolith

Prologue. Following the successful efforts of Mark Scott to gain permission from the various authorities to allow us re-erect a stone monument on the pier, Ian Matheson, together with Mike Mitchell and Mark Scott, went to Braddyl Pier at low tide on 30th June to try to locate the missing piece of plinth, and a piece of dressed stone was found on the seabed just beyond the end of the pier which seemed to be the right shape and size. The two photos show the features which make us almost certain that this is the missing part of the plinth. The

triangular piece is the top of the plinth. The notch in the bottom corresponds to the two ancient water grooves on the underside of the big piece, which run together into one behind the grass. The swelling centre right of the smaller piece corresponds with a depression in a similar location on the big piece. Roll the bottom right picture through 90 degrees and it should fit. In order to carry out a good job of conservation we should overcome whatever difficulties there may be to re-install it in the correct position. IM.

Act 1. Location: Bradyl Pier, Bardsea, Ulverston. Date: Friday the 3rd of July 2009 Cast: Peter Blezard, Mike Mitchell, Peter Fleming, Alan Westall, Mark Scott. The above cast duly arrived at 10.00 am to start the project.

Pete B. arrived with Turfors, winches, scaffolding poles, planks, slings and ropes etc. which any shipyard would have been proud to own. Mike M. brought crow bars, mixing board, spade, trowels, pick, lump hammers etc. and Mark S. brought sand, cement,

chippings and a car full of shrubbery! Pete F. arrived immaculately turned out in a new red "Dickie" boiler suit which rather put the rest of us to shame!

The day was warm and bright and spirits were high, after some discussion the main winch was set up at an oblique angle to the pier, a hydraulic jack placed under the stone, and a secondary winch to the rear in order to control the rate of movement. The original base was cleared of grass and weeds etc and a mix of concrete prepared and laid down. The stone was then steadily raised into position and settled onto the base. It then took some considerable time to get the bubble in the spirit level to co-operate with our efforts but eventually a mutual compromise was reached!

Now for the difficult bit! The vital piece of the plinth was now unearthed from between other rocks on the sea bed, and slings secured. The turfor was anchored to adjacent large (but freestanding) rocks, the cable then passed through a pulley secured on top of the pier and back to the stone. As the stone was rather like a 5 cwt piece of Wensleydale cheese it was somewhat difficult to handle and fell out of the slings on more than one occasion after uprooting the Turfor!

Eventually a new location was found for the Turfor, the block was re harnessed in a thick rope and raised to a point just below the level of the top of the pier. It was at this point that the new anchor decided that enough was enough and time to have a rest by relaxing its grip and moving several inches! When everyone returned from the various points of the compass, they found that the block was still in suspension so work could continue! It should be mentioned here that at this point the heavens opened to unleash copious quantities of H2O and the top of the pier (being limestone), became a suitable venue for "Dancing on Ice"; the writer who was working on top taking on the appearance of a extremely moist rodent!

Photo by Alan Westall

A new anchor was rapidly set up on the other side of the pier and a chain winch attached to the stone before it could reclaim its place on the sea bed, a further Turfor was set up from the end of the pier to pull from a different angle

and after some considerable effort the stone was persuaded to come over the edge onto the top of the pier where it was left for another day.

Act 2. Tuesday 7th July 2009. Cast: Mike Mitchell, Mark Simpson, Ian Matheson, Peter Fleming, Alan Westall.

The day again started well, the old currant bun trying to brighten our environment. The writer was anxious to find if the stone was still upright after the weekend, because there are some pushy people hereabout! However all was OK.

The gear was moved to the site and the "big Cheese" coaxed into position with the aid of brute force and crow bars. It was then raised little by little and built up on stones, (doesn't that sound easy)! A ratchet tie-down strap was used to hold it in position and a mix of concrete was then forced underneath and filled around all sides.

The rain returned and we retired for lunch. After which we took the strapping off and were relieved to find that the whole thing did not fall to pieces.

It was all good team work and a good job was done by all concerned. Mike Mitchell.

Reports into The Circumstances attending Explosions at Yarlside Mines and Askham Iron Furnace, in 1878 and 1882.

Brian Cubbon recently came across two reports to the Secretary of State for the Home Department on explosions relating to exudation of nitro-glycerine from dynamite. There are lessons to be learned here for mine explorers who may from time to time come across explosives abandoned in old mines. Brian will deposit the original reports in the Barrow Record Office, and copies in the CATMHS Archive. The following are abridged extracts from the two reports:

Yarlside. Report by HM Inspector of Explosives Major R A Ford:

Both of the accidents occurred in no 9 Pit, a new shaft being sunk by the Yarlside Mining Company. The shaft was about 131 yards deep and the men were working in limestone, intersected in parts with cracks containing a little iron ore. A large quantity of water flows into the shaft, estimated at about 240 gallons per hour, which is drawn to the surface in a bucket.

On 14th May two sinkers, Thomas Henry Pierce and William Nicholls and a machine man James Cornish, were at work in the shaft. Cornish was boring a hole with the machine, Pierce was sitting on a plank holding a hand drill which Nicholls was preparing to strike with a hammer in order to commence a new hole for the machine to work in. When Nicholls struck the drill held by Pierce a loud explosion ensued and the candles were put out. Pierce received injuries from which he died and Nicholls lost the sight of his right eye. James Cornish was struck in the face and leg but was not much injured.

… on 3rd July two sinkers in the shaft were Edward Hooper and Ralph Freedy, James Cornish, who was injured in the former accident was again at work as a machine man. Four holes had been completed and the fifth was nearly finished when there was a loud report from the hole. The rock was blown away from the hole as if the hole had been fired in the usual way. Cornish was very much injured in the feet and legs and struck in the face by pieces of stone, (It was found necessary to amputate both his legs) Freedy was injured in the face and eyes by pieces of stone and Hooper was killed on the spot by a stone which was driven with great force through his miners hat into his temple.

As to the cause of these accidents it is so far clear that they were both due to the explosion of dynamite. We have therefore to discover, if possible, how the explosive was, in the first case, on the surface, and in the second case in the interior of the rock. I think the explanation is the same in both cases.

Dynamite consists of 75% nitro-glycerine absorbed by 25% of a silicious earth known as keiselguhr. Liquid nitro-glycerine is a very sensitive explosive, and in consequence of accidents it was prohibited from being kept by the Nitro-glycerine Act of 1869. When it is absorbed by keiselguhr we have a substance of a very different and far safer character. But, since the nitro-glycerine is readily washed out by water and the solid, comparatively safe, explosive is therefore without difficulty re-converted into a liquid of so dangerous a character, it is clear that all contact of dynamite with water should be most rigidly guarded against.

To this property of dynamite both the accidents to which this report relates are, in my opinion, to be traced. It must be remembered that two or three cartridges forming the charge

were placed into a hole which was allowed to fill with water. No sooner did the dynamite come into contact with water than it began, as it were, to dissolve; some of the heavy liquid nitro-glycerine ran forthwith down any cracks through which the holes might have been bored and in a few minutes was far removed from the explosion of the rest, which then took place. There is little doubt that the explosive struck was nitro-glycerine which had gradually oozed through cracks.

The report is critical of the Nobel Company for sending forth into the world an explosive which has hidden dangers attendant upon its use without a full explanation of those dangers and how they might be avoided and for issuing a notice tha dynamite is 'unaffected by damp'.

Askham Iron Furnace. Report by Captain J P Cundill:
In the working of a blast furnace there accumulates by degrees at the bottom of the hearth a mingled mass of iron, slag, lime, firebrick, &c. The blast furnace may run for months or years without being 'blown out' and the accumulation at the bottom may vary in weight to a few hundredweight to several tons. When the furnace is blown out these masses are removed before the furnace is put into working order again. The technical name for these masses is 'bears'. On the slag bank at Askham is a large accumulation of portions of bears representing the collected deposits of many years.

About six weeks before the accident Mr Frederick Vale entered into a contract to break up the bears into smaller pieces. Mr Vale's method of procedure was to drill holes in the pieces of bear, charge them with explosive, and thus break up the piece by blasting. When a piece already showed a promising crack he dispensed with the use of explosive altogether to break it up and used a heavy tup hammer, which takes four men to work.

On the morning of the day on which the accident occurred Mr Vale had four men, Edwards, Price, Bennett and Corkell in his employ. After the men's dinner hour Bennett's attention was attracted by a piece which had a crack in it and he thought that he would have a try at it with the hammer. One blow was struck without any particular effect but on the fall of the hammer for the second blow an explosion took place. The block was smashed, Price appears to have been instantly killed, Edwards died in about half an hour, Bennett sustained such injuries that his eyes were injured and the lower part of his right leg had to be amputated and Corkell sustained numerous wounds.

There is no reasonable doubt as to the cause of the accident. The block evidently contained explosive either in the form of a charge, either wholly or partially unfired, or in the form of exuded nitro-glycerine from former charges, which lay in the cracks. The second blow of the hammer unfortunately produced the serious result above recorded.

I am of the opinion that the accident was in no way due to the use of explosives by Mr vale or his men. The explosive was in all probability either a portion of dynamite which had remained (in the bear) unfired, or, as I believe, more probably it was some nitro-glycerine which exuded from an old charge and had found its way inrto a crack, possibly at some distance from the original seat of the charge.

The full reports contain much detail and information which is not reproduced here, and are well worth reading in full.

Beware the preference shares

The offer made to the shareholders of Harrison Ainslie, as described here in "P.I.P", September 21 1912 is remarkably similar to the one made to Halifax shareholders in August 2008. It also resembles the appeal made by Henry Grieveson to the shareholders of the Ulverston Mining Company in 1882 (see Newsletter 75).

Investors loyal to the mining companies at this stage would have thrown good money after bad. It may be due to lack of data, but we don't know that Harrison Ainslie was brought down by fat cats.

Peter Sandbach

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As the last Harrison-Ainslie reconstruction scheme brought forward some months ago fell through, the directors have now formulated more drastic proposals. The existing capital will not only be written down from £200,000 to £50,000, but will also become deferred—£75,000 of 6 per cent. cumulative preference shares and £200,000 ordinary shares being created to rank in front of it. Of the preference capital, £67,500 will be issued, present shareholders having the prior right of subscribing, and those who take advantage of the offer will receive a 50 per cent. bonus in ordinary shares. But even if the shareholders do not subscribe for the preference capital, arrangements have been made for placing it. The ordinary shares will be issued to satisfy loan creditors and provide the aforesaid bonus. Subject to the proposals being carried through, arrangements have been made to extend the £20,000 First Mortgage Debentures, which are already overdue, for a further period of ten years, at 6, instead of 5, per cent. per annum interest. Although it is stated the position and prospects of the company have materially improved, it is not improbable the meeting next week will be a lively one. The plight of shareholders is unfortunate. They are between the devil and the deep sea.

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To Iron Merchants, Engineers, Wire Drawers, Steel Converters Machinists, Tool Makers, &c.

MR. W. KIRK, respectfully announces, that he is favoured with instructions from Messrs. Harrison, Ainslie, and Co. of Newland Furnace, Ulverstone (who are declining Manufacturing Charcoal Bar Iron and Billets), to SELL by AUCTION, early in February, 1853, about 150 TONS of their Best CHARCOAL BAR IRON, in lots, to suit purchasers.—Date and place of sale in future papers, and in the interim samples may be seen, on application at the Offices of the Auctioneer, 24, Princess-street, Manchester.

MANCHESTER TIMES
JAN 22 1853

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

Committee Meeting held on the Monday 16th March 2009 at the BMSC Hut at Coniston, starting at 6.30pm.

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 Library
10 New projects
11 Publicity Officer
12 Proposed Amendments to Constitution
13 Coniston Coppermines & Quarries
14 GPS
15 Mines Forum meeting
16 Any other business
17 Date and venue next meeting

Present: M. Simpson (MS), J. Aird (JA), S. Barker (SB), I. Matheson (IM), D. Borthwick (DB), D. Bridge (DGB), J. Brown (JB), P. Fleming (PF), T. Holland (TH), M. Mitchell (MM), M. Scott (MSc)**,** & A. Wilson (AW).

The meeting commenced at 6.30 pm.12 committee members attended.

1 Apologies for absence – All present.

2 Minutes of the last meeting

The minutes of the committee meeting held on Monday 14th January had been previously circulated to members**. PROPOSED** by PF and **SECONDED** by MM 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 3.2 Florence Mine artefacts – No contact had been made, SB would try again.
3.2 Item 3.6 DGB confirmed arrangements for the visit to Ghyll Scaur Quarry, Millom Park and The Hill at Millom, on the 1st April.
3.3 JA had sold copies of J6 to the libraries who are CAT members.
3.5 Item 7.2 MM reported on the Ex BT group visit. It had been enjoyed by all. They had given a donation to us of £200, which was greatly appreciated. SB to write and thank them.

4 Secretary's Report

Received since last meeting:

4.1 Keswick Mining Museum Open day was 8th March. IT sent an invitation for members to become a Friend of Keswick Mining Museum.
4.2 Letter from Newlands Furnace Trust regarding progress at the furnace and confirming they would still require a bridging loan from CAT, in the near future.

5 Treasurer's Report

JA had circulated the balance sheet to committee members covering the period from 14th January to 16th March. Income was from: subscriptions, donations and publications. Expenditure on: BCA PLI, NL and publications postage and expenses.

The Treasurer wished the committee to approve his expenses of £225.55. Approval **Proposed** TH, **Seconded** MM, all in favour. The current a/c stood at £2,393.61 and the Scottish Widow a/c at £15,000.

6 Membership Secretary & Newsletter Editor's Reports

IM reported that 81 members had renewed their membership to date. 6 had not renewed and we had 4 new members.

The next NL deadline would be mid April.

7 Meets Report

JA reported last weekends trips into workings at Helvellyn and Tilberthwaite had gone well. The RA forms had worked well. MM had done more work on the forms and offered to take over the co-ordination, distribution and collecting of the forms from SB, all agreed.

JB reported the work at Hudgillburn Mine (John Moore's Rise) had been completed and some lagging boards had been replaced. Work on portal arching would be done later in the year.

8 Publications

CATMHS book prices were discussed, some books were reduced, the prices are now:

	Retail	**Trade**	**Wholesale**
Lakeland Mining Heritage	25.00	17.00	12.50
Slate from Coniston	9.95	6.50	5.00
Slate from Honister	7.95	5.25	4.00
Journal 6	9.95	6.50	5.00
J5	5.00	3.30	
J4	3.00	2.00	

J3	5.00	3.30	
Coppermines CD	9.00	6.00	
Coppermines Leaflet	1.00	.60p	
Tilberthwaite Leaflet	.60p	.40p	
Old Man Leaflet	.60p	.40p	

P & P to be £1.50 on all books. Stocktaking of books to be done every January.
MM had produced a draft for our Tilberthwaite leaflet, permission was given to MM and IM to complete to task. It was suggested that we should also produced a Tilberthwaite Gill leaflet, all agreed. It was decided that a special addition of the CAT NL should be produced to celebrate CAT's 30th anniversary. Please send suggestions to IM (articles / old meets).

9 Library

Another day had been spent photographing mine plans with John Aird, Peter Sandbach and Sheila Barker. The previous session's photographs have been recorded in detail in an Excel spreadsheet. This allows sorting and searches and the possibility of easily producing an Access database.

10 New Projects

10.1 Carrock Fell Mine – JB had attended a meeting with E. Kingston (EK) LDNPA archaeologist and the Dalmain Estates agent to discuss the conservation work at the mine. We have agreed to fence-off 3 other areas. Work will probably be carried out in Autumn.

10.2 Silver Gill **–** LDNPA have given their consent. All other required permissions are being sort. Phil Meredith (UCL) is hoping to do a GPR survey on the site.

10.3 Tilberthwaite

A) Mapping of surface features/surveying meet to be held 29th April. Meet in Car park 10am.

B) Horse Crag Level - Still thought to be a viable project. PF is waiting to hear from Rydal Estates. A. D. Cameron has been asked about the mine plan. We need to be able to estimate the extent of the collapse.

10.4 Sebastian Level - this project will be carried out next year. More exploration to be done underground first.

10.5 Force Crag – JA had contacted Dirk Liss the Entec hydrogeologist informing them of our interest in the mine. Apparently they are at a very preliminary stage of the process. They are still collecting the pollution data and at the moment the NT has put on hold any work at Force Crag.

11 Publicity Officer

MS has asked several groups to review J6. SB had contact Karen Beer, who produced the CAT publicity leaflet, but it could not be traced. MM offered to copy/scan the original leaflet. MS had obtained permission for us to re-erect the boundary stone on Bardsea Pier. A meeting to be arranged to take the project forward.

12 Proposed amendments to the CATMHS Constitution

JA reported that the amendments proposed by the committee had been accepted by the Charity Commission. A special meeting would have to be called to pass the proposals, within the next 4 months.

13 Coniston Mines & Quarries

Work was still needed at Leverswater Mine as the drainage pipe is blocked and the level was flooding. A work meet would be arranged shortly (April/May) to deal with the problem. The radon detectors will be removed this coming weekend. Maureen Fleming had agreed to hold a key to Mandall's Store.

14 GPS

MS has the GPS equipment and DB has the laptop for use in the archive.

15 Mines Forum Meeting

PF, IM & SB attended the meeting on 16th March at JRM, Coniston (see NL for details). Next meeting 10.39 am on 6th July, at Threlkeld Quarry Mining Museum.

16 Any Other Business

16.1 DGB had received a report on the Spanish research trip into the Wad Mines.

16.2 ACP Thomas has a microfiche reader for CAT, MM will store it.

16.3 JA would answer Dr S. Moreton's letter regarding Hudgillburn Mine.

16.4 Mike Gill has transcribed 66 of John Barrett letters which refer to Grassington area.

16.5 PF and ADC are leading walks in the Coniston area for the Access to Archaeology programme.

17 Date and Venue of Next Meeting

This to be held on Wednesday 6th May 2009 at the BMSC Hut, Coniston at 6.30 pm.
There being no further business the meeting closed at 10.00 pm.

SB 19/03/09

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

Committee Meeting held on the Wednesday 6th May 2009 at the BMSC Hut at Coniston, starting at 6.00pm.

Agenda.

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15 Any other business
16 Date and venue next meeting

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

The meeting commenced at 6.00 pm.11 committee members attended.

1 Apologies for absence – None.

2 Minutes of the last meeting

The minutes of the committee meeting held on Monday 16th March had been previously circulated to members**. PROPOSED** by PF and **SECONDED** by MM 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 16.3 JA had written to Dr S Moreton but had not received a reply.
3.2 Item 8 IM had not received any suggestions regarding the special edition of the CAT NL.

4 Secretary's Report

Received since last meeting: Email from a local outdoor centre; requesting information on suitable sites to use for outdoor activities. It was decided we could not offer advice on Health & Safety grounds.

5 Treasurer's Report

JA had circulated the balance sheet to committee members covering the period from 16th March to 6th May. Income was from: subscriptions, donations and publications. Expenditure on: BCA PLI, NL, rates for Mandall's and expenses.

The Treasurer wished the committee to approve his expenses of £68.06, Approval **Proposed** IM, **Seconded** JB, all in favour. The current a/c stood at £2,868.57 and the Scottish Widow a/c at £15,000.

6 Membership Secretary & Newsletter Editor's Reports

IM reported that we have now 90 paid up memberships, including 7 new members this year to date. The next NL was ready to go out. Our 30th anniversary celebration was discussed. A residential weekend was proposed. Rydal Hall or Waterhead Hotel, Coniston were suggested. IM would send out a flyer with the NL to gauge interest.

7 Meets Report

MSc reported the recent meet to Caldbeck had been an interesting day. PF commented that we were now 6 months into the current meets programme, meets had been well attended and more careful planning of the meets list had paid off.

G Standring (LDNPA) to be informed of our intention to visit Sandbeds Mine in August. An item to be put on next agenda to ensure the RA forms are available for each meet.

JB reported that the re-arching of the portal at Hudgillburn Mine was progressing well, another day should complete the work.

8 Publications

MM reported that the Tilberthwaite leaflet and the new Tilberthwaite Gill leaflet were almost complete. The Coniston Copper mine leaflet was selling well. MSc was visiting the Barrow and Ulverston book shops to sell CAT publications and PF the South Lakeland shops. They were still having difficulty selling to a lot of shops who only buy from wholesalers. JA would contact PR Books in Mealbank, IM would deliver books to them, if required. LMH was now sold out.

9 Library

Another day had been spent checking the general contents of the library. DB would buy a copy of I. Tyler's new book "Roughton Gill & The Mines of the Caldbeck Fells", when it was available.

10 New Projects

10.1 Carrock Fell Mine – JB had been in contact with E. Kingston (EK), who was confident she would soon receive all the relevant permissions.

10.2 Silver Gill **–** LDNPA have given their consent. All other required permissions were still being sort. Phil Meredith (UCL) is to do a GPR survey of the site, starting on 22nd August.

10.3 Tilberthwaite

A) Mapping of surface features continued on 29th April meet.

B) Horse Crag Level - PF has gained permission from Rydal Estates. More documentary research and underground exploration was needed to assess feasibility of project. Penny Rigg Mill was discussed, it is in need of consolidation. Project to be discussed at the next Mines Forum Meeting.

10.4 Sebastian Level – Rydal Estates have given permission. Project to be discussed with EK at next Mines Forum meeting.

10.5 Force Crag – Nothing to report.

10.6 Bardsea Stone - MS had obtained permission for us to re-erect the boundary stone on Bardsea Pier. A meeting to be arranged in June to take the project forward. MSc to check the high tide dates.

11 Publicity Officer

MS has asked several groups to review J6. MM will work on updating the CAT publicity leaflet.

12 Coniston Mines & Quarries

Work had been carried out at Leverswater Mine to improve drainage from the level. TH reported there had been no apparent underground damage from the recent local earthquake.

Coniston Walking Festival – PF reported CAT are doing 2 walks on 26th/27th September, he would do one, needs a volunteer to do the other. To be discussed at next meeting. PF had given a talk to Duddon Valley local history group, to a packed hall and sold £70 of CAT books. TH and PF had guided the Cambridge University Caving group through Paddy End Mine; it had been a successful trip with a very experienced group. JA reported some damage to the roof at Mandall's, he had bought ridge tiles and would do the work. A meeting was suggested to assess conservation work required at Saddle Stone Slate Mine on Coniston Old Man, to be arranged and requirements to be discussed at next Mines Forum meeting.

13 GPS - DB and SB to take the GPS equipment and laptop.

14 Mines Forum Meeting

Next meeting: 10.30am on 6th July, at Threlkeld Quarry Mining Museum.

15 Any Other Business

15.1 JA suggested we appoint a new Vice President. To be added to the next agenda.

15.2 IM reported on a pre-contract meeting of the Newland Furnace Trust. They have been granted a 100% grant for work required by English Heritage. Work will start at beginning of June for 10 weeks.

16 Date and Venue of Next Meeting

This to be held on Monday 13th July 2009 at the BMSC Hut, Coniston at 6.00 pm.

There being no further business the meeting closed at 09.00 pm.
SB 19/05/09

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

CAT Newsletter No 96, August 2009.