



# The Newsletter

## No.51

### October 1997

# **SINKING!**



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# Cumbria Amenity Trust

## Mining History Society



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**EDITORIAL**

The momentous news it is 20 years since CAT was formed, so next year when we are 21 years old and have had time to think something up, there will be a special newsletter accompanied with colour photographs (presumably containing people with hair !) and a history written by Peter Fleming. If any members have contributions for this special newsletter please send them to me.

Many thanks to all those who have contributed to this newsletter especially . Special thanks to Dave Stewart and Ian Nicholson who have who responded to the request to assist in transferring hand written or typed articles onto disc and to Mark Simpson for the shear volume of material.

Please note that we are moving house in late October so if you can't get hold of me at that time you know why. Jon Knowles

**RADON**

Many thanks to Ken Geddes for further information on this subject.

In an article in Chemistry in Britain (January 1997) by Philips, Denman and Barker a number of facts are highlighted.

Various surveys have established a clear link between exposure to Radon and lung cancer.

In addition the basic mechanism of the problem is explained as follows :-

"Radon is a colourless, odourless and tasteless gas found in group 0 of the periodic table. It has a density of  $9.25 \text{ g dm}^{-3}$ , a boiling point of  $-71 \text{ C}$ . The most abundant isotope, Radon 222, contributes about 50% of an individuals annual Radon dose and is produced by the decay of Radon 226, which is part of the Uranium 238 series. Another isotope , radon 220 (also known as Thoron) contributes a further 4 %, and forms via the thorium decay series.

Radon 222 decays with a half life of 3.82 days into Polonium 218, which in turn decays to Lead 214, Bismuth 214 and Polonium 214. These radionuclides are collectively called radon daughters or Radon progeny and, because they are solids, once formed they become attached to aerosol particles in the air and can be breathed into the lungs, where they settle. The isotopes Radon 222, Polonium 218 and Polonium 214 all emit alpha particles as they decay. Like other ionising radiation, alpha particles can damage biological molecules, increasing the likelihood of cancers, genetic defects and accelerated ageing, even at low doses. Alpha particles are high linear transfer (LET) radiation and as such their energy is lost over a very short range. Thus when an alpha particle passes through a cell it causes considerable damage. For those reasons, it is the radon daughters that deliver most of the radiation dose, but it is simplest to measure the Radon gas levels in a room usually quoted in  $\text{Bq m}^{-3}$  ( $1\text{Bq} = \text{one decay per second}$ ). Average indoor Radon levels are about  $20 \text{ Bq m}^{-3}$ , while the action level for homes is  $200 \text{ Bq m}^{-3}$ "

The article touches on the problems to be found underground with

"Very high Radon levels have been found in limestone caves in the UK. In 47, caves mean Radon levels range from 454 to  $8868 \text{ Bq m}^{-3}$ . In one system in the Peak District, a level of

155000 Bq m<sup>-3</sup> was recorded, this is 775 times the action level in homes. The potential dose from a single four hour trip here would exceed the national average annual dose of 1.25 mSv from Radon. The occasional trip to a cave should be OK, but those working in them have a real problem and improved ventilation may need to be installed in some caves. As for dedicated potholers, the best advice is to stick to caves with Radon levels, and only explore caves with more elevated levels a couple of times a year"

This is all good advice but how do we know what the Radon level is ?

Further correspondence in the same magazine discusses the article and whilst some believe that the risk (to the general public) is not as severe as the article portrays the general belief is that this is a problem. What does seem clear is that smoking aggravates the problem.

#### HUDGILLBURN

The A-team were back at the face on the 7th September and we are at long last again making progress in digging away the fall. The next official meet is on the 7th November.

#### 18th & 19th OCTOBER WITH PDMHS

Don't forget that this is a joint trip with PDMHS and we need to put on a better show than last time. I fully remember myself and Mark Simpson taking something like 40 members of PDMHS through Force Crag and we were the only CAT members present. On the 18th Dave Bridge will be taking the group through the Wad Mine whilst on Sunday John Brown will take the party on the Greenside through trip.

#### SINNERS LIST

This months contenders are :-

Tilberthwaite -	Alastair Cameron
Old Man -	Alastair Cameron
Grand Furness Tour -	Paul Timewell
Scotland -	Ian Matheson
Nenthead -	Sheila Barker ?

#### DOCTOR DESCENDER

Dear Doctor

I am having a little trouble with my steering I feel that I am strangely attracted to other vehicle's and despite my best efforts and those of the other vehicles owners I don't seem able to steer clear, will this effect my insurance.

#### SISIS

*Although we don't usually answer questions on insurance due to the interesting nature of your question we passed this on to our broker, Welltime & Robo, who made the following comment.*

*Having seen a recent example of this problem at first hand we feel that your no claims discount may be affected if you persist in having collisions with shiny Landrovers. Fortunately we now have witnesses to the last incident who state "laugh ? I nearly cried" and another who described it as "Noddy and Big Ears loose control".*

#### EASTER MEET

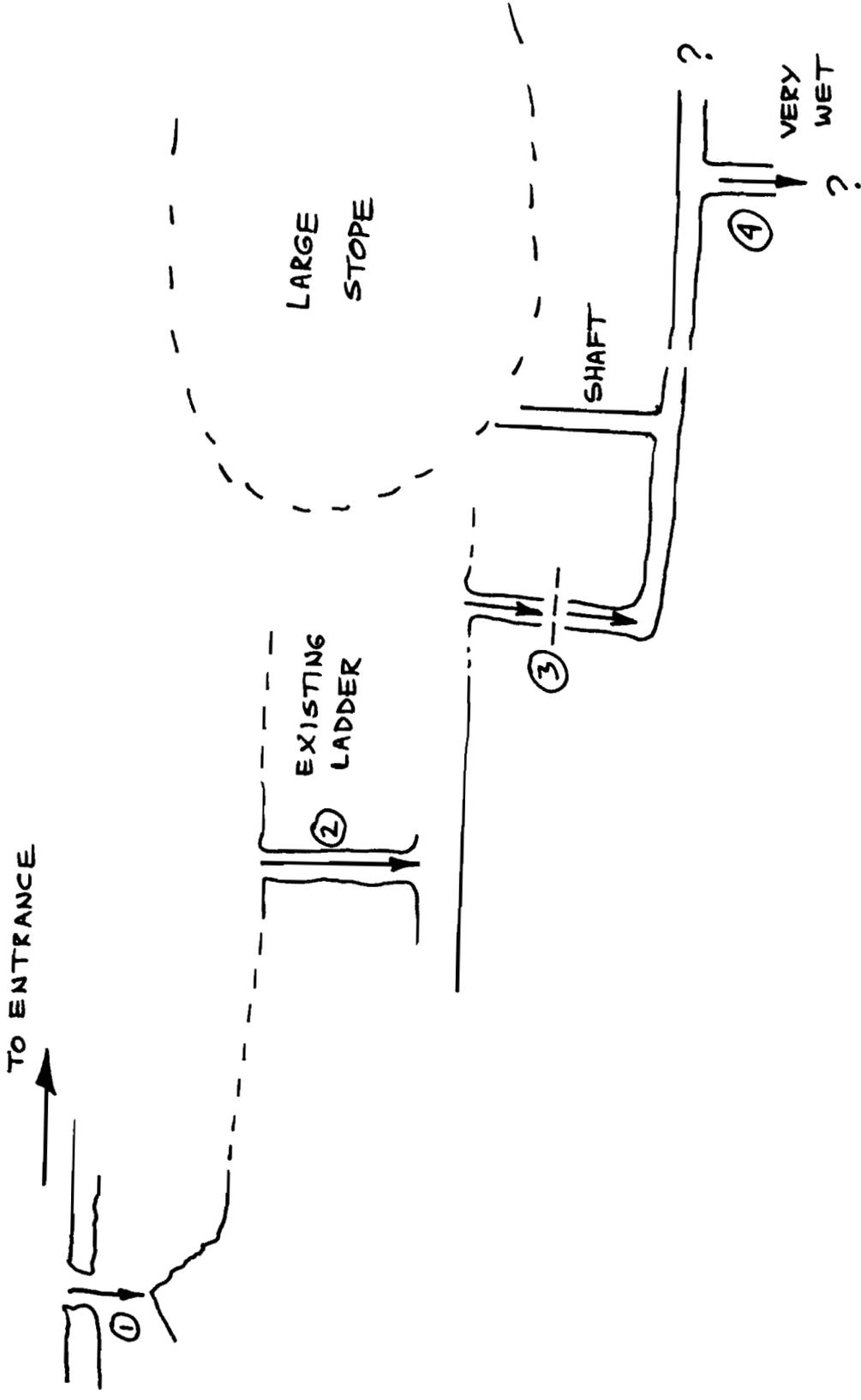
This was the usual three day affair based in North Wales. Attendees this year included Tristan Goldsack, Peter Fleming, Ken Geddes, Mark Simpson and the editor.

Aberllyn Mine needs little introduction to regular readers, our previous trips having been written up in earlier newsletters. What follows is details of the "new ground" and details of what still needs to be done.

The deceptive descent No.3 (see sketch) is in two stages, firstly following the remains of a ladder to a small rock platform before descending again, accompanied by water, through an old ladderway, to reach the level below. The level contains a shaft going up which appears to connect with the large stop on the level above. Moving outbye 2' deep water and ochre is encountered, I was soon alone. The water is dammed by some fallen material and passing beyond this, for what seemed like a couple of hundred yards, a winze/raise is encountered down which a good quantity of water descends. This looked like it could be descended by those prepared to get a little wet. I am certain that this must connect with the No.6 level where the water from the mine drains out. Any volunteers ?

Since writing the above I have been informed by Peter Hay that the F#\*&\$£g Forestry Commission have reopened all the Aberllyn adits, including some which were previously run in and gated them all with no provision being made for access other than by using a hacksaw- volunteers please.

ABERLlyn PINE



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NOT TO SCALE  
MUCH DETAIL OMITTED FOR CLARITY

© Skowals 17-7-97

Sunday started off somewhat surprisingly with a rave. This is not a usual amenity at the Dinorwig Slate Quarry but, as has been the case at other quarries, these do seem to occur until the authorities clamp down. So we were met by students in brightly coloured sweaters and dogs - why do all hippies have the same sort of dog ?

We started at the bus turning area and followed the footpath part way down towards the zigzag steps until we came to the Anglesey barracks. As was the case at most large quarries in North Wales the quarrymen travelled from far and wide and often resided in barracks during the week only returning to their families at the weekend.

From the barracks we moved to look at the remarkably complete remains of a compressor house which provided air to the quarries. This building is roofed and not only contains a Belliss & Morcom two stage vertical compressor complete with air receiver but also a large Ingersoll Rand horizontal machine.

Moving up through the quarry we eventually came to Australia, all of the galleries being named after places, current events at the time they were first worked and the like. Australia is still, almost thirty years after closure, remarkably complete with a mill containing numerous saw tables, a power house complete with compressor and a locomotive shed.

From Australia we descended to the footpath which passes through the quarry and descended into some of the twll (pits) from which some of the slate was won. After a number of dubious ladders the bottle of some of the members, including the editor, ran out but Peter Fleming made it to the bottom.

Sunday saw Knowles, Geddes and Goldsack flogging up the slopes of Snowdon to the Britannia Copper Mine. Fortunately nature was kind and although cool there was plenty of sunshine. Following Mark's advice we started at the top of the mine and worked our way down.

No.5 Level - This was entered by descending the open stope which lies just below the PYG track up Snowdon. Outbye deep water is soon encountered but inbye a small stope is entered. A number of artefacts are extant including a kibble, the remains of a windlass and an ore wagon. The stope descends,

presumably to the No.4 level and at this point some now very rusted iron railings would have once provided protection for those walking along the narrow ledge along the side of the stope. From this point there is clear evidence of people having abseiled down to floor 4. Explorers please note that some of the floor is false and although it looks O.K. there is a some visible movement when people walk on it.

No.4 Level - It was thought that this could be entered from surface but it has run in just inside the entrance.

No.3 Level - This was entered after much digging, mainly by Tristan, to remove scree and loose rock. The level is long but with little evidence of mineralisation apart from the head of a stope just inside the entrance. Interestingly part way along the level there are the remains of an air door and wooden air trunking. It was known that the No.2 level was blocked so a descent was made from No.3. Although the descent was not particularly difficult it was made interesting by the large number of stemples in the stope so that a number of deviations were required.

No.2 Level - This was very wet. with water both falling from above and underfoot. As nobody had accompanied me only a brief exploration was made but the remains of a large square ore timber ore pass were seen. It would be possible to descend from this level to the No. 1.

No.1 Level - the timberwork where the level crosses a large ore pass had deteriorated since my last visit and it was not thought prudent to cross despite much verbal encouragement to those who had not seen the other side.

New No.1 Level - This was explored and a heavily copper stained ore hopper was seen.

Whilst descending the miners track to Pen-y-gwyrd we were politely advised by the warden, whilst we washed our muddy gear in the stream, that permission is required to explore the Britannia Mine. Unfortunately I have now forgotten from whom permission should be obtained !

Further Reading.

Mines of the Gwydyr Forest Part 4 - Aberllyn Mine by Bennett & Vernon.

Bulletin of the PDMHS Volume 9 Number 5 page 313 "Britannia Mine".

#### FFESTINIOG NEWS

In mid-August the Ffestiniog Slate group was bought out by McAlpines for a sum believed to be in excess of £20 million. This means that the Oakeley, Pen-yr-orsedd, Craig Ddu, Croes y Ddwy Afon, Croesor and Rhosydd properties are now owned by the company that also owns Penrhyn. Whatever the implications of this are I believe that it is unlikely that a large company such as McAlpines would ever work underground so this may safeguard Rhosydd and mean that Croesors secrets lay underwater for ever. Time will tell.

#### CALDBECK/ROUGHTEN GILL MEET REPORT

By meeting time only 4 of us were present so it was a very select band consisting of 2 Moles, 2 Cats and 2 dogs which set off on a perfect summer morning for a superb day amongst the mine workings of the Caldbeck fells. Where there was little to see on the surface, Ian Tyler's accounts of the digs and exploration he has been involved with more than made up.

We went first up to Short Grain and Long Grain Gills then over the shoulder of Birks Moss to drop down into Roughton Gill via the Shallow level, Harestones Umber and China Clay mine, Mexico level and Lainton's shaft then round to the 60 fathom level for lunch. The 90 fathom level and processing area was being used for a permitted Motor Cycle scramble meet. What an appalling use for this important heritage site, especially when Moles have been denied permission to do recording and conservation work on environmental grounds.

No attempt was made to go underground as there was too much to see on the surface in the time available. After lunch and inspection of the coffin level uncovered by one of Ian's operations, we scrambled up Roughton Gill to see the upper and older workings and to prospect for minerals.

On then over the fellside and a birds eye view of the workings in Silver Gill, then down into Swinburn Gill to inspect Red Gill and Brae Fell workings. Time now running out we headed back to Fellside along the mine road, our pockets loaded with mineral samples. During the day we found good, if small, samples of

pyromorphite in its various colours, linarite - now getting very rare on the surface, pselenite and the beautiful fern-like iron deposit found in the area.

Many thanks to Ian Tyler for his time and trouble, and Adrian, his fellow Mole, for his company. Those who missed this trip, missed a really good day out - shame. How about Sandbeds / Driggeth area for next year? Please book the same weather - and much more support.

Tim Oulton and Celia Hancock.

#### READERS LETTERS

Dear Dr Descender

I was saddened to see the sudden deterioration in the mental state of our esteemed newsletter editor. Firstly he advertises his latest communication as "boring" on the front cover of the publication. Everybody knows that this eagerly awaited and much sought (sic) after piece of literature is a positive mine of drama, pathos, humour and frailty. It is not a bit (sic!) boring !

Worse still is our editors claim that he " . . . has taken many excellent pictures but his camera has no lense. I am not as skilful a photographer as he is, but I cannot understand how he keeps his film dry. Does he keep it in his plastic box while taking pictures ?

Yours in hope of a miracle cure.

Talkative of Clitheroe  
c/o The Old Folks Home  
Much Wading  
Lancs.

#### HOPEWELL COLLIERY MUSEUM

A communication has been received from John Hine (shorts & a motorbike) that the Hopewell Colliery Museum has opened. This is an opportunity to visit a true Forest of Dean Freemine. The mine is open 7 days a week from 10 a.m. to 4 p.m. and the address is :-

Speech House Road  
Near Cannop

01594 310706

## A SURVEY DAY AT CONISTON JULY 1997

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Another two weeks had gone by and it was time to carry out some more work at Coniston for the Survey. So on Sunday evening phoned up John Davies, and Dave Bridge to ascertain the possibilities for next Thursday. Only John could make it and so I made plans to survey some unknown areas above the 'Belman Hole horizon', the rises over the MAGS catwalk area (Stope 4) being one of them.

The day was fine and reached Coppermines Cottage at about 10.00 having picked John up on the way, and by about 11.30 ish we were up at Levers water. By now I switch off mentally on the walk up, but I still find it tedious to do and contemplate the time wasted in the process.

The first job of the day once we had arrived at the scene of operations was to look up the rise shown on plan. Honours of the first ascent (Rise A) go to John who free climbs about 3m and put a bolt in, and thus suitably protected proceeds to drill the hole for the next bolt some 750mm higher or as far as he can reach. (750mm may not seem much but you try using a Bosch drill one handed). This is the method of progression up to the timbers at the top of the rise, extreme caution here as the state of this stuff is investigated. No immediate signs of collapse so another bolt and up far enough to evaluate what is over the timbers, in this case not much. measurements are taken and then John abseils down to floor level.

The next rise (Rise B) is just before MAGS itself is a much more interesting affair, the interest being the stiff fill at about 8m that will have to be dealt with before further progress can be made up. I set off up the stope heading for some stemples that are just under but to one side of this fill. The timber appears sound and I put a sling around it for protection whilst a bolt is put in. With John belaying me via the bolt from the ground. The stiff fill is attacked with my trusty prodger. A first not much happens, but the lumps that do descend make impressive noises, but at last the main bulk of material is within reach and suddenly it all decides to go. Funny that in times like this how things happen in slow motion. I can distinctly remember a small stemple under this stuff. moving and then thinking, then it was all on its way down. John said later that it looked impressive.

After checking that all was well and when my legs had stopped shaking I put another bolt in, cleared away any remaining rock and abseiled back down, leaving the glory of pushing up onwards to John. It was quite an impressive heap on the floor, made all the more so, when the numbers of people that had gone underneath something held up by only force of habit, was thought about.

I had my lunch whilst John went up and pushed on, after he checked that everything else had a good mechanical reason for staying where it was, did not find the rest of the ascent to difficult. Time went by, I forget how long and after the sounds of more bolts going in, I heard that all was well for me to ascend.

It was worth the effort, the top of the rise going into what must be the bottom of another stope, and it was draughting through the timbers. There were several artefacts, a shovel with some curious iron oxide formations on it and apparently the remains of a Jack Roll. in the roof timbers. (I did not see this)

After taking all useful linear measurements we descended back to floor level, leaving the rope in situ for anyone else who wish to look, and to enable Dave Bridge to go up and take hade and inclination measurements (This was done with Peter Fleming several weeks later, the rope being removed at this time.)

The time was by now about 4,30 and although I had planned to do some measuring in stope 2, it was felt that enough excitement had been obtained in one day and we made our way out.

At the time of writing the rises in stope 2 are still to be surveyed and also the drops down to Top Level. The results are plotted as you can see on the adjacent plan.

The above is fairly typical of the character of our explorative survey work is now taking on, most of the easily accessible stuff in this area of the mine has been surveyed and heights measure by Dave and his strange balloons. There are several areas that require the expertise of f keen souls that will enable the survey to achieve a high standard of accuracy.

There is still much to do.

Mark Simpson.

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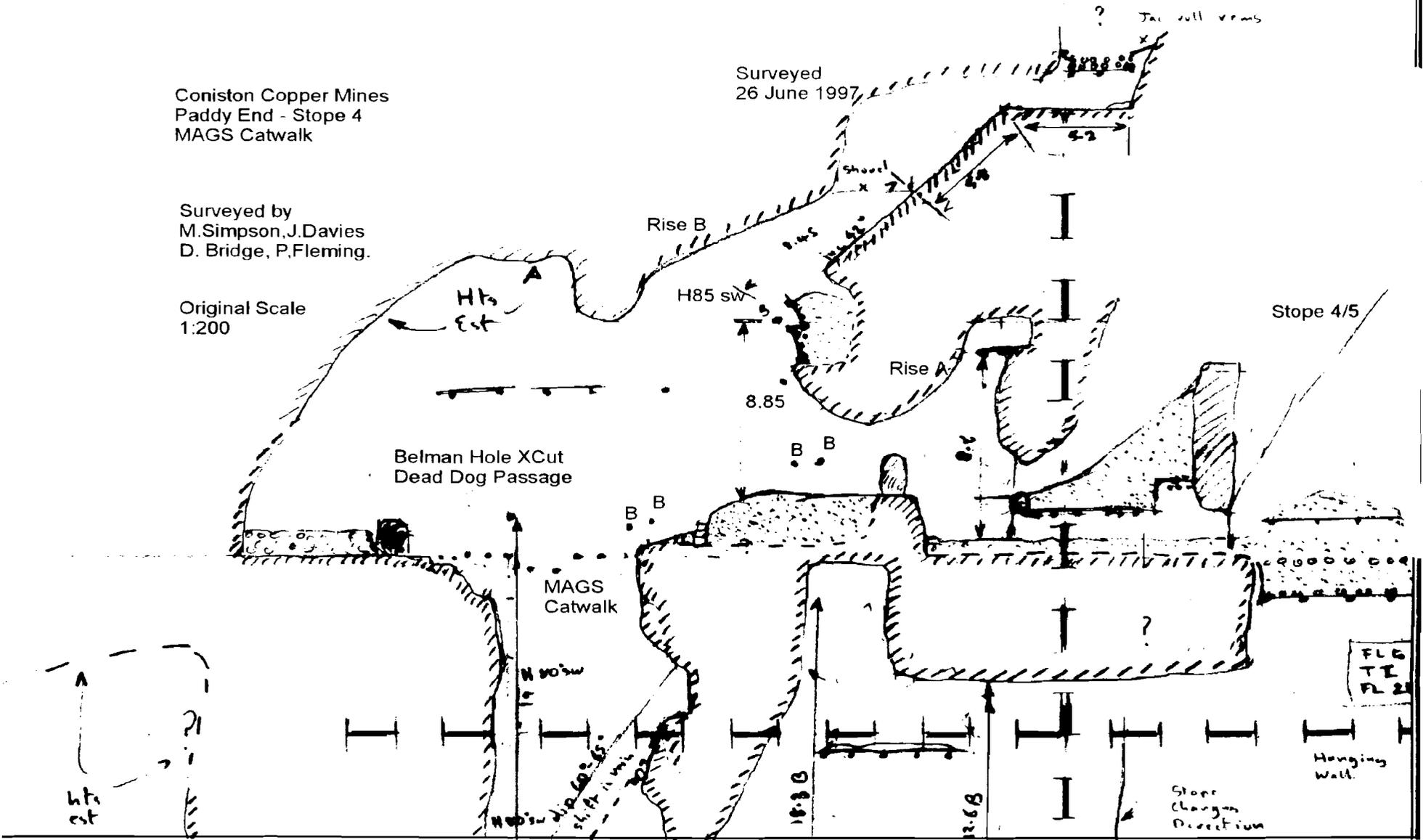
# Sketch Section

Coniston Copper Mines  
Paddy End - Stope 4  
MAGS Catwalk

Surveyed by  
M. Simpson, J. Davies  
D. Bridge, P. Fleming.

Original Scale  
1:200

Surveyed  
26 June 1997



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## The Coniston Survey - From 2D to 3D ? Mark Simpson -- September 1997

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During the summer as the amount of information about the Paddy End part of the mines has reached a usable stage, some thoughts on how to show the survey graphically are now required.

Some people have seen various plans and sections, and have required a bit of time to relate their knowledge to the mines thus depicted. How much more difficult then to those folks who know them not at all! Thus the need for some sort of 3D representation.

This is where things start to get a bit hairy - as I have tried to mentally visualise what the end product could look like, the problem being the fact that the horizons and stopes are quite close together, and showing them easily is proving difficult. This is not made any easier due to the fact that I have not seen this sort of representation done for other mines, although I am aware that there are systems around whereby the survey devices can record levels, stope profiles, global positions and directly input data into computers and up comes your graphical display.

Enough of wishful thinking I have to work with more humble equipment and software.

The starting point is that all plans and sections have to sit in a virtual 3D cube that is as big as the survey area. and they all have to relate to one another and to the planes of the cube.

The first thing is to put various plan horizons above one another, having worked out some common reference points, usually the pitches between levels. The next thing is to decide on what I call your plane of viewing of your long sections, Coniston is straight forward in this in that the main trend of the veins is NE/SW. The result of this is that sections which are perpendicular to the level horizons give a real view and not what is probably more usual actual measured view. The effects of hade have to be worked out and you will have to take on board mentally that what is seen on plan will appear strange, especially when stopes are at radically different angles to your viewing plane. However it has to work this way if all your sections are to overlay correctly.

The next thing was to produce cross sections at right angle to the 'viewing plane. using one

of the above sections as a reference datum. Some sections have been produced and some interesting reading they are. The biggest problem is that there are still many bits of the mine even after all this time that have not been surveyed and sizeable areas have ? against them.

Another problem is the relating of underground to surface features.

This is a problem which I thought would be facilitated by the RCHME survey of Coniston. I have seen the plans and they were worth the wait. but!

They are I think orientated to grid north, and there is no indication of magnetic North which I think was 3 degrees W of North in 1995 when the survey was carried out. (The mine plans are related to Magnetic North). Minor detail !! The next is that no datum points are shown and it is only now when we can see what surface features are marked that a surface survey will have to be made to relate the our survey datum points to these features on the RCHME Plan. This also includes relative heights.

Only then can sections can be carried up to surface with any degree of confidence.

The above has all been done by drawing out the information on tracing paper and using overlays. No computers involved. (except for working out co-ordinates)..

But as with so much else, the more info you have, the more you wish you have, and I expect it will be next spring that we will confidently say that we have done as much as we can in this area.

Back to the future and 3D - and maybe Virtual Reality.

Right, we have plans, sections in both planes therefore we should be able to create a 3D model. from here there appear to be two routes, and I am trying to give reasoned info here, first you digitise the drawings and then import into either, a CAD package and from there work them up their as wire line drawings or into a 3D modelling package such as Truespace and eventually create rendered pictures of a worms eye fly through using VRML (Virtual Reality Mark-up Language). Here we enter the realm of creating virtual world, all of which I know little - any offers of enlightenment?? As regarding CAD, I know nothing about that either but I am

going back to college to learn with the aim of finding out and then later about 3D CAD.

What I have done so far is to scan all my plans as Bitmapped files and the intention is to convert them to Vector Image Files, This is done by using raster to Vector conversion (TurboCAD Pro) or by using Corel Trace. (Computing power is at a premium here which may explain why it is only recently this sort of business has become affordable). The idea then is to import the images into say Truespace (by Caligari). The little I have done so far has given some interesting results, but I have not gone any further since the software I used was a demo version, the real thing costing some £500. Whether it increase one's understanding if the images were rendered is a moot point. However if there is any one out there that can take this story on, I would be please to here from you.

#### Survey Data and Spreadsheets.

I now insert all my survey data into a MS works spreadsheet and have found it makes life a lot easier. Once you have set up the formulae for the columns etc., then all you have to do is type in the raw data, and all the calculations are done automatically - wonderful. It gets better, although I have not tried it, but with DDE (Dynamic Data Exchange) the results of the Spreadsheet can appear in your CAD package, your survey lines appearing as a wire line survey. The down side is that as far as I know the software needed is Excel and AutoCad, not cheap stuff, if there is other software that will do this let me know.

#### Scanners - Some thoughts.

I have a last passed on my 400dpi hand scanner and have been looking at A4 Flatbeds - There are many and quite a few under £200 inc. VAT.

Beware!!! -- Optical Resolution matters, and is not often quoted, very often the thought of a vast resolution 4800 dpi and upwards (Adobe users will have to convert from lpi). seems wonderful but is achieved only by software enhancement, but it can only do so much even with a good pentium and Adobe Photoshop v4. Always remember that the results of any data processing is only as good as the starting data. and if you are thinking of blowing up plans and photos go for a starting resolution of at least 600 x 1200 optical res. There are now special slide/photo scanners

available at about £500 with an optical res of 2700 dpi. If you are reducing, matters are not quite as critical.

The 300 x 600 dpi scanners appear to be OK for copying, small scale enlargement and OCR

It should go without saying that more res means more processing and more memory and if you start using colour, well, be prepared to spend money.

I had the above info put in its context when I was shown what could be achieved by a good camcorder using Super VHS with an optical res of 400 lpi, on vertical stand with powerful lenses. The video output was taken to a good TV. Lets just say on its max. res the fibres of the specimen paper could be easily seen. The video could just as easily be put on a computer monitor via a video card (which are now relatively cheap). Pentiums, and a lot of Ram seem to be required for successful screen capture. The magnification is done mainly by the optical elements.

The way of working out the magnification appears to be this:-

Camcorder lens 10x Zoom, Screen 21ins diagonal (average width 410mm). Using and 140x lens on the camcorder (the strongest), telephoto set to max., the object coverage area is 3mm dia, so if image size is divided by object size, i.e 410/3, the overall magnification will be 136x.

The above gives and indication of the possibilities which seem to be very interesting., especially if you then link the above with a good computer and software.

I am now back to square one and trying to think what I really want a scanner for!!!. Perhaps I shall not bother as what I really would like as usual I cannot afford. Mind you if scanners go the same way as laser printers i.e 600 dpi being same price as 300 dpi a couple of years ago, I may not have to wait to long.

Mark Simpson. September 1997

#### JOURNAL & PUBLICATION NEWS

Please note that the latest date for contributions to Journal No.5 is the 1st June 1998. We particularly need original research and exploration articles.

Journal No.4 is now to retail at £3.00 or £2.00 for trade sales.

Additionally there has been some confusion recently regarding the procedure for raising invoices from book sales. Any member selling CAT books must after each sale send an invoice to the buyer and a copy invoice to the secretary. The buyer to send cheques to the secretary who will then pass them on to the treasurer. Money generated from cash sales to be sent direct to the treasurer.

We have ordered 500 of the new Tilberthwaite and Coniston Old Man leaflets, and are reprinting Greenside. All leaflets are now 60p each retail (price not marked).

#### AGM & DINNER NEWS

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Shock horror there is a change of format this year, but don't worry we are not having a rave or scantily clad dancing girls (shame) but merely dispensing with the formal after dinner speaker and replacing it with short talks from a few members on this year's events. In addition the dinner will be replaced by a buffet, one of my colleagues stated "you can probably get as much grub and pay less if your quick !" Is this the first sign of New CAT !

#### EXPLORATION

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Over the weekend of 17th & 18th January there will be an exploration meet in southern Gwynedd.

Saturday will involve the descent of various open stopes and shafts at the Vigra Gold Mine above Bontddu. I have yet to meet anybody who knows much about what is at the bottom of these. Meet on the road near Vigra Bridge NGR669191 (Outdoor Leisure Map 18) at 10.00 am. Grade EXP.

Saturday night will be spent in a suitable hostelry in Dolgellau.

Sunday will be spent in Abercorris Sale Mine. All I can say is that there is a very big hole which must go somewhere, I aim to find out. Meet in the lay-by on the A487 between the craft centre in Corris and Upper Corris (Corris Uchaf) NGR 749085 (Outdoor Leisure Map 23) at 10.00 am. Grade EXP.

Jon Knowles

#### WELSH MEET 20TH & 21ST SEPTEMBER

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After a lot of heartache which only convinced me of how well CAT is run with regard to other Mining Clubs Peter Hay, Tristan Goldsack and Paul Timewell (token Cumbrian resident) met at Minera Mine Visitor Centre for a look round. The local council are to be congratulated for what they have achieved on this site. There is a small visitor centre together with a fully restored engine house, unfortunately without an engine, but the pump rods do move by electricity together with the balance bob. The dressing floors are complete with hotching tubs and a nice water wheel driven buddle.

After a brief search for adits we headed to Rhydymwyn and the Olwyn Goch shaft where we met our hosts the Grosvenor Caving Club and Mark Simpson. After sorting out the insurance paperwork we assembled at the short tunnel which gives access to the shaft. The shaft is 496 feet from collar to the sump beneath it and give direct access to the Milwr Tunnel.

For those who want to know more about the tunnel the book by Chris Ebbs is recommended so a brief history here will suffice. The Milwr tunnel was driven the ten miles between Bagillt, at sea level on the Dee estuary, and Cadole, near Mold, between 1897 and 1957. In the process it drained 50 veins and created a labyrinth of over 60 miles of tunnels. Without doubt it must be the last large metal mining operation to be undertaken in Wales. The tunnel currently discharges between 23 to 36 million gallons per day depending upon the weather. During the second world war large parts of the workings were used extensively for the storage of munitions and in the 1940's large quantities of high quality limestone were mined.

The shaft is 12 feet square with a ladderway occupying one side. We descended half way down the shaft before moving off to complete our descent through the limestone workings. For a trip which had been originally described as "hands in pockets walking" there was a surprisingly large number of electron ladder pitches and descents requiring safety lines. The limestone had been worked in massive chambers with the rock falling down through funnels to the Milwr tunnel hundreds of feet below.

Once we had reached the horizon of the tunnel we saw vast amounts of abandoned equipment, which if I had not been so keen to photograph I would have realised that the film was not winding on ! The remains included rakes of wagons, locomotives and ammunition stores.

Passing the Olwyn Goch shaft we made good time over the two miles down the tunnel and up the Rhosemor tunnel to Powells lode. Basically this part of the tunnel is square with a railway on a pile of rock on one side and drainage channel on the other. In places where the ground is poor the tunnel has much steelwork with concrete slabs above. This makes walking more difficult since you are balancing on cross beams above the water. Arriving at the natural Powells lode cavern we were very impressed by the sheer size of 130 x 220 feet. the cavern contains a lake which is over 200 feet deep. The lake was used for tipping waste rock for over 6 years without affecting water levels.

Returning to Olwyn Goch we headed south and saw some of the lead veins which the tunnel drained. large amounts of galena were very much in evidence together with a massive natural vertical chamber.

Returning once more to Olwyn Goch we had a look around the workshops and charging station before heading up the 40 ladders to day. The ladders are generally in good condition except for one near the bottom which was damaged when the haulage cables were cut and allowed to fall down.

This brought to an end a thoroughly enjoyable trip and we extend our thanks to the Grosvenor Caving Club. Would explorers please note that the access is locked at all times and visits can only be made with the Grosvenor Club.

One interesting facet of the trip was the vast amount of exploration work which remains to be done in this system. Numerous queries were answered with "thats not yet been explored" and made me for one realise how limited Cumbria's potential for new exploration now is.

On Sunday Paul Timewell was replaced by Tim Oulton and we headed for Glyndyfrdwy and the Moelfferna Slate Mine. This mine occupies a pleasant location at the head of a valley down which ran the Deeside Tramway which was built to take the mines production

and that of the Deeside Slab Quarry down to the Deeside Mill and on to the railway at Glyndyfrdwy.

Working at the mine probably started before 1872 but it was not until The Moel Fferna & Deeside Slate & Slab Quarries Co. Ltd was in 1876 and the tramway built that significant working would have been undertaken. The quarry developed over the years producing, cheaply, a poor quality slate that although better than that produced by its neighbour Penarth was inferior to that produced in the main slate producing areas. Working ceased in 1960.

The mine was developed over seven floors with one being the lowest and seven being the highest. The spacing between the floors is just over forty feet. Due to the small angle the slate makes with the horizontal the chambers tend to be very long but are not as high as those at Ffestiniog.

We entered the mine down the ventilation shaft to floor 5 before proceeding to the large marshalling yard and along floor 5 to see the impressive but poorly designed timber "crib" roofing support. After lunch we photographed the floor 6 - 7 incline which is complete with drum house and brake gear before descending to floor 3 where a good view of the timber bridge on floor 4 can be obtained. This bridge is one of the very few that now survive in the whole of the North Wales Slate Industry and it is still safe to walk over.

Climbing back up to floor 4 we crossed the bridge and returned to floor 5 where we saw the remains of some strap rail (an early type of rail where an iron strap is used on a timber beam rather than a solid iron rail) before returning to day.

Jon Knowles

#### MORE ARTICLES

These would have been included if you "the member" had written them . . . .

**CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY**

Committee Meeting held on the Monday 21st July 1997 at the BMSC Hut, Coniston.

**Agenda.**

- |    |  |    |                               |
|----|--|----|-------------------------------|
| 1  | Apologies for absence                    | 2  | Minutes of the last meeting   |
| 3  | Matters arising                          | 4  | Secretary's Report            |
| 5  | Treasurer's Report                       | 6  | Membership Secretary's Report |
| 7  | Meets Secretary's Report                 | 8  | Furness Projects              |
| 9  | Hudgillburn Mine                         | 10 | Newlands Furnace              |
| 11 | Coniston Coppermines Site                | 12 | Publications                  |
| 13 | Video Film Project                       | 14 | AGM & Dinner                  |
| 15 | Date and venue of next committee meeting | 16 | Any other business            |

**Present** D. Bridge(DB), P. Timewell(PT), S. Barker(SB), P. Fleming(PF),  
I. Matheson(IM) and M. Simpson(MS).  
6 Members in total.

The meeting commenced at 7.30 p.m.

- 1 Apologies for absence  
J. Davies, M. Mitchell, M. Scott and A. Wilson.

**2 Minutes of the last meeting**

The minutes of the committee meeting held on Monday 19th May 1997 had been previously circulated to members. It was PROPOSED by DB and SECONDED by PF that the minutes be signed by the chairman as a true and correct record of the proceedings. This was carried unanimously.

**3 Matters arising**

- 3.1 Item 5.5 S.B had given the cheque and letter to W. Allison, no reply to date.  
3.2 Item 3.2 This meeting was to be held on 22nd May at the Kings Head Thirlmere. Several topics of mutual interest were discussed. Any member interested in topics discussed, contact the secretary for a copy of the minutes.  
3.3 Item 14.5 The secretary had received a reply thanking us for our concern and assuring the society that materials from other buildings would not be used to repair the sheepfolds.  
3.4 Item 4.2 The Haig Pit Restoration Group had hit a funding snag. EH now insist the whole building requires re-pointing, this will more than double one of the costings. Discussions are to take place, hopefully to resolve the problem.

**4 Secretary's Report**

The Secretary had received:

- 4.1 Copies of NAMHO's new Handbook price (£4.00), copies can be obtained from SB, please include 50p for P&P.  
4.2 Letter from the Newsletter Editor reporting that the new printers appear satisfactory and their prices are the same as the previous firm (after a bit of haggling). The NL went out on the 10th of July (cost £83.16). IM sent stamped and addressed envelopes to JK, who sent them out. The new printers offer the facility of colour laser copying, a page of 4 colour photographs would cost about £65. He had received a letter from the NT regarding the ongoing safety work at the Atkinson Coppice Quarries, Little Langdale. When the work is complete and the Mines Inspectorate are

satisfied that the Health and Safety concerns will have been addressed, there will be a meeting called of all user groups.

- 4.3 The production of a special addition of the NL to celebrate CAT's 20th birthday was discussed. It was decided to re-publish some of the early meet reports in the October NL. SB to search the CAT library for suitable material. Next year for the society's 21st birthday a special edition will be produced, probably will include a history accompanied by colour photographs.

## 5 Treasurer's Report

The treasurer presented a balance sheet covering the period since the last committee meeting. He made the following comments:

- 5.1 He had received £101.84 from the Tax man (covenant refund). He would be sending out covenant re-newel forms shortly.
- 5.2 Greenside Project referred to CATMHS's half share (£860) of the total expense for work carried out at the mine, as agreed with MOLES.
- 5.3 Thriddle Arch would cost £80 for wood required to make a former.
- 5.4 There appears to be some confusion on who sends out invoices for book sales. It was decided that any member who sells CAT books shall:
- A) Give the buyer an invoice.
  - B) Send a copy of the invoice to the secretary.
  - C) The buyer sends the cheque to the secretary, who passes them on to the treasurer.
  - D) If it is a cash sale, no need to send a copy invoice to SB, just send the money to the treasurer direct.

## 6 Membership Secretary's Report

IM reported he had received several inquiries but no new members since the last meeting. The sending out of the last NL had gone very smoothly.

## 7 Meets Secretary's Report

J. Davies sent his apologies as he was unable to attend the meeting. P Blezard would be unable to lead his meet at the end of August. The meet will still be held at Nenthead.

## 8 Furness Projects

- 8.1 Woodbine Pit, Newton. The FMA have now finished the work at Woodbine Pit, they only have to remove the ladders. Congratulations are due to the Furness Team on the completion of this project that has saved the last mine chimney in Furness.
- 8.2 Furness survey. Surveying work has been interrupted at Ethel and Peggy Pits (Roan Head) due to repair work required at the Store.

## 9 Hudgillburn Mine

Ten members turned up at HGB on the last official meet (6th July), a lot of good work was done, the portal arching was completed and digging at the fall restarted. There has been a bit of a lull since, hopefully we will get going again when everybody has had their holidays.

## 10 Newlands Furnace

The rebuilding of the wall above the wooden beam is going ahead well. On the most recent meet the scaffolding was rearranged to enable work to be done on the bulging stonework higher up the furnace wall. This work will not be assisted by advise from EH, as the promised report does not appear to be forthcoming.

The fight with the trees and ivy continues and two Acro-props were returned with thanks.

#### 11 Coniston Coppermines site

The saga of North West Water's intention to seal the wooden plug under Levers water continues. PF in a letter to their Reservoir Safety Manager suggested it would be very unwise and unnecessary to sink a new shaft, when a good shaft already existed. He also stated that the nature of the ground beneath the tarn indicated the use explosives would be unwise. On the 19th June two BGS geologists went into Paddy End Mine with the CAT survey team. Following this visit in a letter to DB, Steve Dumbleton (BGS Keyworth) stated that NWW's intentions had filtered through to their higher levels and he expected the Assistant Director to contact NWW and the LDNPA direct.

There had been four more survey meets at P E Mine, underground and surface since the last meeting.

PF had contacted Colin Lofthouse (RCHME Newcastle) regarding their Coniston survey, he assured Pete we would be receiving a copy shortly and asked for comments.

The John Ruskin Museum Mrs Slowe had replied to the secretary's letter regarding the proposed CATMHS's contribution to the exhibition. She confirmed that they definitely still wanted CATMHS's co-operation. Hopefully the designers would be appointed shortly and would be contacting us. Building work is due to start in October, the contents of the museum are to go into storage whilst the extension is built.

The inspector (Mr M.J. Joyce) found in favour of P. Johnston in his appeal against the LDNPA's enforcement notice telling him to return his dwelling at the Powder Magazine, Coniston Coppermines to its former state.

#### 12 Publications

Books retained for sale by members were as follows:

Slate from Coniston	392 copies
Journal No 4	554 copies
Slate from Honister	5 copies (to be re-printed)
Beneath the Lakeland Fells	6 copies

Plus more copies of all books (in the pipeline). It was decided to reduce the price of Journal No 4 to £3.00 retail. A new deadline of the 1st June 1998 was set, for articles for Journal No 5 to be sent in.

A. Cameron has produced a new trail leaflet on Tilberthwaite Slate. The Greenside Leaflet required re-printing. It was decided to print 500 of each, all leaflets now to be 60p each retail.

#### 13 Video film project

Not a lot of headway as J. Roskell is still away.

#### 14 AGM and Annual Dinner

To be held on Saturday 13th December. The format of the evening was discussed and it was decided to try a more informal approach, with a buffet and members' slide's of the years' events.

#### 15 Date and venue of next Committee Meeting

This was arranged for 7.30 p.m. on Monday 22nd September 1997 at the BMSC Hut at Coniston.

**16 Any other business**

None.

There being no further business the Chairman closed the meeting at 10-00 p.m.

SB 8/08/97

Chairman

**CATMHS Financial Statement July 1997**

Balance May 1997		3667.97
<b>Income</b>		
Subs 2@ £10	20.00	
Tax Refund (covenants)	101.84	
Materials for Thriddle Arch (LDNPA)	80.00	
Literature sales		
Journal 4	46.20	
SFC	117.92	
Leaflets	2.15	
Honister Slate	9.00	
Bank interest	0.49	
	<b>Total</b>	
	<u>377.60</u>	<u>377.60</u>
		<u>4045.57</u>
<b>Expenses</b>		
Printing HSP Milner	100.00	
Meeting room rent	3.00	
Equipment:		
Greenside project costs	860.00	
Rawl bolts Bridge	15.25	
Rawl Bolts Simpson	41.97	
Rail & metal HGB	58.75	
Films Furness survey	15.42	
Paint & slings FMA	18.07	
Membership Sec expense	46.62	
	<b>TOTAL</b>	
	<u>1159.08</u>	<u>-1159.08</u>
Balance		<u>2886.45</u>
<b>Balance held as:</b>		
Building Society	2503.29	
Bank	383.16	
	<b>TOTAL</b>	
	<u>2886.45</u>	

**CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY****HONORARY PRESIDENT** Lord Egremont**VICE PRESIDENT** Major Hext**Officers for 1997****CHAIRMAN** Dave Bridge, 28 Abbey Vale, St. Bees, Cumbria  
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Eckington, Nr Pershore, Worcestershire,  
WR10 3AX, 01386 750494**Committee Members**Peter Fleming  
Ian Matheson  
Angela WilsonMark Simpson  
Dave Bridge  
Sheila BarkerPaul Timewell  
Mike Mitchell  
John Davies**Honorary Members**

John Marshall

Mike Mitchell

Peter Fleming



# **LABOURERS** *Wanted,*

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Stainton;**

**Twenty Men who have been accus-  
tomed to work in**

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**And at other Work appertaining  
thereto.**

**N. B. For particulars apply to MESSRS. W. TOWN & Co. Ulverston.**

[J. Soulbey, Printer, Market-place, Ulverston.]