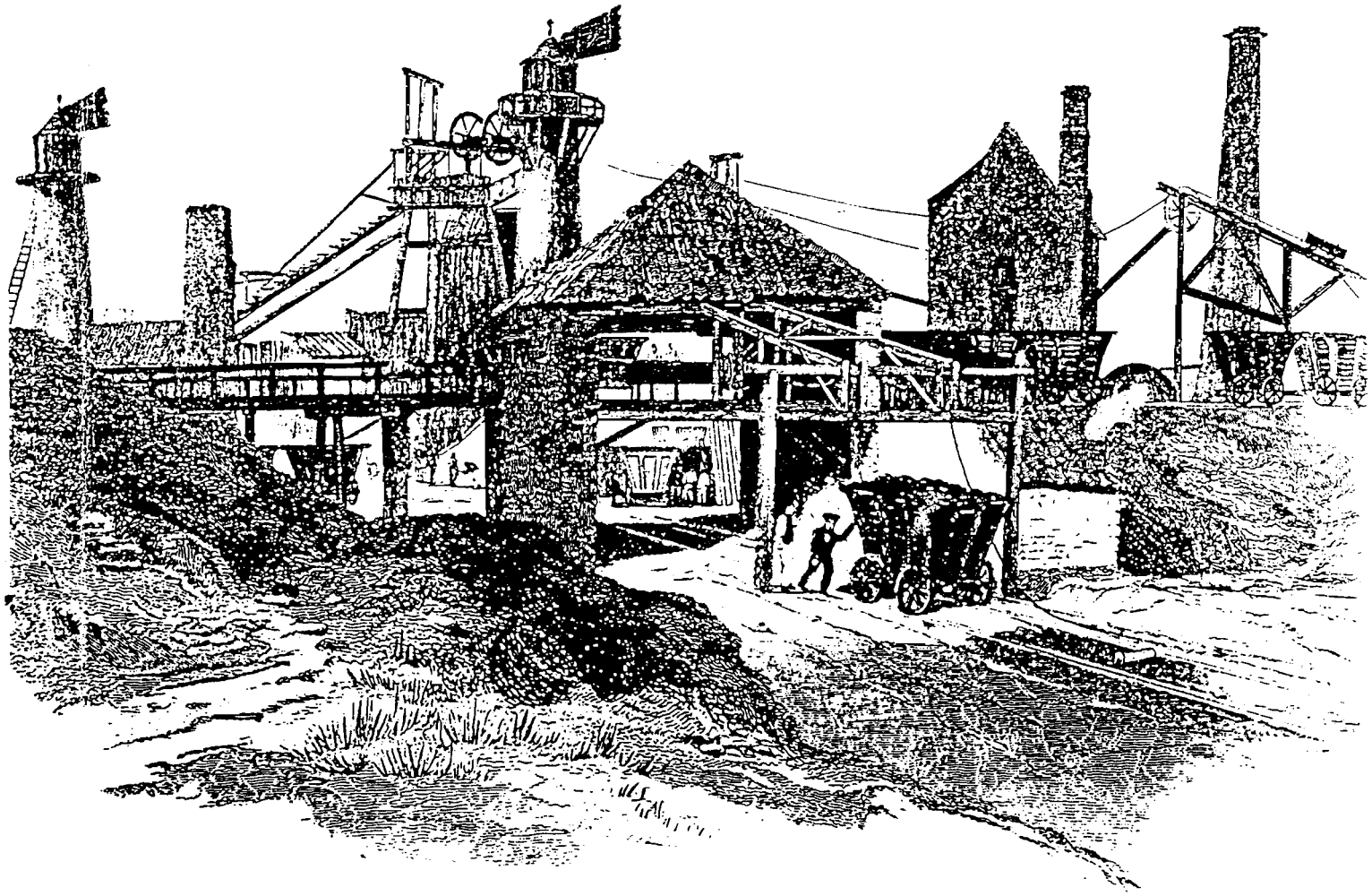
CUMBRIA AMENITY TRUST

JULY 88



THE CHURCH PIT WALLSEND

Mining History Society

NEWSLETTER NO 20

Cover picture Church Pit - Wallsend

This view of part of Wallsend colliery c1830 depicts many features of contemporary technology and working practice.

Foreground is a chaldron (local coal measurement) wagon being positioned on a wagonway, a gentle incline allowing this to be done by one man. A second wagonway (possibly from another colliery) is seen crossing the picture at an elevated level, the top of a haystack boiler can be seen picture right between the string of wagons.

Two upcast(exhaust) shafts may be identified by the windmill like 'fantails' of the 'smoke dispersers'. Next to the central upcast shaft is the 'shaft frame' supporting the pulleys for the winding of men and corves into and out of the pit. The close proximity of these two features suggests that this is 'G' pit where a single larger shaft was partitioned by wooden bratiscing? to serve two purposes upcast and downcast(fresh air).

Ropes can be seen traversing from the shaft to a Newcomen Engine house, a counterbalance weight on an incline may also be observed at the extreme right.

The High Main seam at Wallsend colliery was 6ft thick, easily worked and of exceptional quality as a house coal. The appelation 'Wallsend' ensured quick sale and premium price on the London market, even long after the High Main had been worked out. The name 'Wallsend' being used by other collieries sometimes distant from Tyneside and working other seams.

A deeper seam, the locally important 'Bensham Seam' was described by the famous viewer John Buddle 'prodigiously fiery'. The large quantities of methane (firedamp or carburetted hydrogen gas) given off were to claim many lives at Wallsend, two major incidents cost the loss of 52 lives in 1821 and 102 in 1835.

On the skyline centre picture a flare may be observed where gas from the workings was piped to surface and burned as at Whitehaven and Workington.

Picture reproduced by kind permission of Davis Books.

Don Borthwick has obtained a full size fine quality print of the cover picture. This would look great framed.
OFFERS for this print (which would go to club funds) should be made to the Editor.

Contents

MANY THANKS TO MARGARET FLEMING FOR PHOTOCOPYING

MANY THANKS TO PETE FLEMING FOR THE ENGRAVINGS

The Society would like to welcome two new members

JOHN WICKS

& CHERYTH WOOD JOHNSON

ERROR

APOLOGIES TO ALASTAIR CAMERON WHO WROTE THE LAST HONISTER QUARRIES REPORT AND NOT IAN METHERSON.

APOLOGIES TO ROY GARNER FORCE CRAG ARTICLE PART2 d. (thanks to Rod chiltern) SHOULD HAVE READ THANKS TO ROY GARNER.

RESULTS OF VOTE

By a vote of 22 - 2 FOR
We are now the Cumbria **Amenity** Trust Mining History Society OR CATMHS.

OR CAT Mining History Society

JOINT SOCIAL GATHERING between CATMHS and LMGT to take place hopefully in OCT/NOV details in next Newsletter.

ARTICLES NEEDED FOR JOURNAL No.3

To be published before the NAMHO Conference in July 89.
Please notify Chris Jones if you intend to contribute to the journal.
One free journal will be given to each contributor who's article/s are accepted- this is addditional to each member who receives a journal automatically.

Timetable for journal No.3 DEADLINE for articles FEBRUARY 1989
PRINTING - MAY 1989 PUBLICATION - JUNE/JULY 89

ANNUAL DINNER

FARMERS ARMS LOWICK - DECEMBER 10th 88

AGM 6.30 - DINNER 8.00

BOOKINGS TO DAVE BLUNDALL (0538)821750

THE COMMITTEE WOULD LIKE TO POINT OUT THAT ANYONE WHO HAS NOT PAID THEIR SUBS BY NOW, WILL HAVE THEIR NEWSLETTER CUT OFF AND BE EXCOMMUNICATED

NAMHO NEWS

1989 CONFERENCE 14-17th JULY at CHARLOTTE MASON COLLEGE,AMBLESIDE.

Conference secretary is Chris Lane of L.M.Q.T.
Our committee of organisers consists of Ian Matherson,Dave Blundell,Chris Jones Mike Mitchell.& Pete Fleming
We are joint organisers of this event which will require a great deal of assistance with field meets,lectures etc, will any member who wishes to help please approach the committee.

FIELD MEET 9-11 SEPTEMBER 88.

Hosted by Kent Underground Research Group,Subterranea Brittanica and Unit 2 Cave Research Group.
Provisional programme is:
Codstone Firestone Mines, Hangman Wood Deneholes (Chalk mine) and Archer Wood mine.
Interested, SAE to Adrian Pearce,162 Kingston Crescent,Lordswood,Chatham,
Tel. 0634 686 523. Kent, ME5 8YZ.

MINING HISTORY SEMINAR 12-13 NOVEMBER 88 at KEELE UNIVERSITY.

History of metalliferous mining and smelting. £32 FB
Details from Roger Burt (NAMHO)

HISTORICAL METALLURGY SOCIETY ANNUAL CONFERENCE 16-18 SEPTEMBER 88

This is based in the Forest of Dean and will include lectures and field visits.
Details from I. Standing,Rock House, Coleford, Glos GL16 8DH.

HISTORICAL METALLURGY SOCIETY

This is a charity founded in 1962 to promote research into the extraction and preparation of ores and other materials, smelting and working of metals, manufacture and use of metal objects. It is a truly international organisation with over 600 members in 34 countries. For a subscription of £11.00, members receive 4 newsletters and 2 journals per year, an annual weekend conference and a one-day AGM with lectures and site visits. The Secretary is R. Ward, 12,Dryden Mansions, Queens Club Gardens, London W14 9RG.

BRITISH ASSOCIATION OF FRIENDS OF MUSEUMS

This is a charity founded in 1972 to support museums of all kinds, especially through setting up Friends organisations. It has over 200 member societies and about 100 individuals making a total of about 120,000 individual Friends. Subscription ranges from £10.00 upwards dependant on the size and type of organisation. For this, members receive 3 broadsheets per year, a Yearbook, Bulletin and biennial conferences, seminars, etc. The Secretary is Mrs R. Marsh, 66,The Downs, Altrincham, Cheshire WA14 2QJ.

EXTENDED OPENING TIMES FOR COUNTY RECORD OFFICES

To try and improve opening times which will include Saturday, NAMHO have drafted a letter that members could send to their local councilors.

Dear Sir,

County Record Office

I am writing to you as my representative on ..... County Council to raise the matter of access to the County Record Office in ..... I don't know if you have ever had the opportunity to use the facilities but it contains archival material which is invaluable for historical research.

I am a mining historian and, as well as exploring and surveying old mines, I also carry out research into their history. I am a member of .... and our aim is to increase the public's awareness of the existence of mining remains in the area. Apart from the historical value of such research, it can have a practical value where sites of previous mining activity have been forgotten about and it is intended to develop the site for agricultural or building purposes. Apart from mining historians, a great many others use the facilities such as those with an interest in archaeology, local history, genealogy, etc.

At present, the County Record Office is only open from Monday to Friday and this causes great difficulty since material cannot be loaned and must be inspected in situ. Since most people are at work during the opening hours, this effectively means that the facilities are not available to them unless they take time off from work, something that many are not allowed or cannot afford to do. Later opening hours might help the situation but it is not a complete answer since those living some distance away cannot travel there in time to make a visit worthwhile. In addition, many people living outside the county may wish to visit because there is material of interest to them. We thus have a situation whereby the majority of people cannot use the valuable facilities therein.

In contrast to this, most reference or local studies libraries have late night opening and are open all day Saturday. In some parts of the country e.g. Suffolk, the council has provided resources to allow the County Record Office to offer the same facilities.

I would thus ask you to bring the matter up at the next Council Meeting and to ensure that resources are provided to allow the County Record Office to be open to the public on Saturday and possibly for one late night opening per week. It is only democratic that the facilities are available to everyone who wishes to use them. If finances are particularly tight, then the Saturday opening could be introduced for a 6 month trial period (suitably advertised in advance) so that you can gauge the usage before deciding on whether to make it a permanent feature. I would be grateful if you could keep me informed of developments in this matter.

Yours sincerely,

LONDON LEAD COMPANY RECORDS

Can now be found at the Northumberland R.O. Melton Park, Gosforth.

KILLHOPE

Park Level is in the process of being opened up to allow visitors underground.
The Blunton buddle waterwheel has been restored and is now re-sited.
The Killhope site is looking extremely interesting and is obviously attracting much attention. The way this site has been so professionally restored is a credit to all concerned.

UNDERGROUND RADIO

To pool resources a national group is being formed, called the BCRA Radio and Electronics Group.
Contact, Phil Ingham, 49 Highfield Road, Farnworth, BOLTON B14 0AM.

DING DONG '88

by McF

IN NEWSLETTER No.15 I REPORTED ON THE EXPLORATION OF THE DING DONG AND DERBY WORKINGS IN THE LINDAL MOOR IRON MINES. EXPLORATION CEASED WHEN THE WATER LEVEL ROSE IN OCTOBER 1986, EFFECTIVELY CUTTING OFF THE RAMIFICATIONS OF THE DERBY AND BUCCLEUCH ROYALTY WORKINGS BEYOND THE CONNECTING PASSAGE, THE FLOODED 67yd LEVEL. NOW, AFTER TWENTY MONTHS, THE WATER LEVEL HAS FALLEN AGAIN AND FULL SCALE EXPLORATORY TRIPS HAVE RESUMED AT THE RATE OF TWO A WEEK. ALREADY NEW DISCOVERIES HAVE CONFIRMED THE DING DONG SERIES TO BE THE LARGEST AND MOST IMPORTANT CUMBRIAN MINE SYSTEM SOUTH OF CONISTON.

On the third of June Bert Wheeler, Dennis Webb, and myself descended the B45 Pit - known more affectionately as Ding Dong - optimistic that the recent spell of splendid weather had allowed the water in the lower workings to drain away. On arrival at the 67yd Level, at the foot of a very sticky rope, I observed that our water fluctuation indicator (a pointed pit prop protruding from the blue, serene depths) did indeed suggest that we might just scrape through the three-hundred feet of snaking passages if we didn't mind getting a wetting. After a terse discussion on the advantages and disadvantages of swimming through dark tunnels with a mere ten inches of air space (we couldn't think of any advantages), we decided that Bert and I would give it a try while Dennis awaited our return at the foot of the Ding Dong workings.

Now, I'm not one to complain about conditions underground and those amongst you who have accompanied me on subterranean swimming trips will know that it takes more than a lick of water to put me off. But I must admit, the 67yd Level was rough that day. I managed to get through on tip-toe with the water lapping half way up my face and my right ear scraping along the greasy limestone roof. Bert, being that crucial inch less in stature, was obliged to swim the greater part of the way with his helmet clattering on the rocky ceiling every time he thrust his head up for air. The most desperate part was two-thirds of the way along the level at a place where the bedded limestone roof sweeps down to touch the water over a distance of about twelve feet. Here we were forced to resort to the "snorkel" technique, a practice which involves the caver filling what air space is available to him with a bloodshot eye and a pair of flared nostrils. Once safely ensconsed on the wooden platform above the end of the level we drained our gear before setting off up the fixed electron ladder to the top of the Derby Rise.

Having explained the royalty set up in Newsletter 15, the last thing I want to do is go through the entire thing again, though a brief explanation is required for the sake of clarity. The mineral ground between the villages of Lindal and Marton was apportioned into a number of royalties to be leased and worked by various adventurers. These royalties were Whitriggs, Poaka Lots, and Lindal Moor, all of which belonged to the Duke of Buccleuch; Muncaster, which belonged to the Muncaster and Pennington estate; and the Old Hills, Moor Field, and Cote Dykes Derby Royalties, all of which belonged to the manor of Bolton and Adgarley, which in turn belonged to the Earl of Derby. B45 Pit and its workings are situated in the Buccleuch royalty of Lindal Moor, as are all the B pits. But into the heart of this royalty thrusts a finger of land, exactly 150 feet wide, known as the Moor Field Derby Royalty.

The history of this narrow strip of green rigged pasture is colourful, detailed, and sufficiently controversial to form the basis of a novel along the lines of Poldark or The Mallen Streak. Into its past are woven tales of tragedy and death, episodes of land-grabbing and boundary moving, and illegal trespass by a neighbouring mining company resulting in the mass removal of 20,000 tons of hematite ore. Fraud, thievery, deception, they are all there; charges, penalties, fines, court room drama - you name it, the Moor Field Derby royalty has been there and seen it all. Nowadays, when you view the pleasant green slopes from the Marton road and watch the sheep and bullocks grazing peacefully on the

neat green riggs - evidence of the last ploughing over a hundred years ago - its hard to imagine the tumultuous past, and the distress and human emotion generated by a brief sixty years of mining activity.

So the Derby royalty is a finger of land penetrating the Buccleuch lands of Lindal Moor. Actually, it is an island isolated from the major Derby tracts to the west of Marton village for its eastern boundary, the knuckle of the finger, if you like, abbuts against the Muncaster royalty on the crown of the moor. During the 1840s and 50s the Derby royalty was encircled by the Harrison Ainslie and Co's pits, B22, B42, B43, B45, B46, B47, B50, and B51. In later years a rash of shallow tributers' pits and deep exploratory levels from the 30 Pit in Whitriggs Bottom probed along the boundaries, working the crushed ground and virgin deposits which had been missed by the first sinkings. The Derby royalty itself did not see any intense mining activity before 1865 when Joseph Rawlinson, an Ironmaster from Dalton-in-Furness, sank the Rawlinson Shaft, the spoil heap of which has proved so useful in the finishing of CAT's Ding Dong project. After a lull during the final decade of the 19th century, work resumed with enthusiasm when the Millom and Askam Hematite Iron Company inherited the royalty after a company merger.

In 1899 the Millom company sank two bore holes close to the north and south boundaries. These boreholes were followed by trial shafts the ensuing year. At the same time the Rawlinson Shaft was refitted and renamed the Derby No.1 Pit. The Derby Pits No.s 2 and 3, sinking on the boreholes, were progressing nicely when the miners in the foot of the No.2 shaft dropped into a series of worked out caverns, which, according their surveys and lease maps, should not have existed. The respective royalty agents were brought in, new surveys drawn up, accusations cast. Harrison Ainslie and Co's miners had beaten the Millom company to their own ore by, as it turned out, a good five years. The Lindal company was taken to court in London, charged with illegally removing 20,000 tons of hematite - along with a host of other offences - found guilty and ordered to pay back the full value of the ore.

So, back to the present with a splash and a grunt. There were Bert and I standing at the top of the Derby Rise, Bert bailing water from a wetsuit that was far too big for him and me inadequately clad in a tattered cotton furry suit and a pair of Fred Flintstone boxer shorts. What we lacked in suitable attire was compensated by our burning enthusiasm and a recently aquired knowledge of the trespass workings, gleaned from weeks of pondering over a set of original "encroachment surveys" drawn up for the court case in 1901, kindly lent to me by a local mine enthusiast. On our last visit to this system, in 1986, we had discovered a tight crawl leading into the roof of an unexplored chamber but had been unable to climb down for want of a short rope. Now we had a rope, a bolting kit, and a theory that this new chamber would lead us directly into a series of trespass workings. Bert remained at the top of the rope while I climbed down and rummaged about. Two worked out ginnels presented themselves, the first too deep to descend without more tackle, the second rising into a narrow crevice blocked with timber and rocks. A third option was a stooping passage which I had noticed earlier but left till the last. I entered it and immediately realised I was in something big, something that echoed and was filled with dark shapes beyond the pale beam of my lamp. Bert joined me and together we made our way into an impressive cavern, high roof rising in a series of spectacular avens, floor littered with boulders as big as mini-buses. We had found what we had been looking for, Trespass Corner, exact in every detail to the surveys we had studied. We sat astride the ridge of the largest rock and supped pop from a can Bert had thoughtfully put in his sack (hot tea next time, please) and for want of a better name christened our find Coke Can Chamber.

On the thirteenth of June I returned to the 67yd Level with Chris Jones and Dennis Webb, and was pleasantly surprised to find the water had dropped a foot since our previous visit. At chest deep the water was bearable though still too deep for little Dennis whom Chris and I slung between us. We arrived at the Derby rise like a pair of Saxon villeins bearing King Knut from the tide. Once in the new ground we examined Trespass Corner before trying to push the two ginnels I had looked at previously. I ascended the narrower of the two, removed the boulder blockage, and squirmed through into a narrower continuation of the

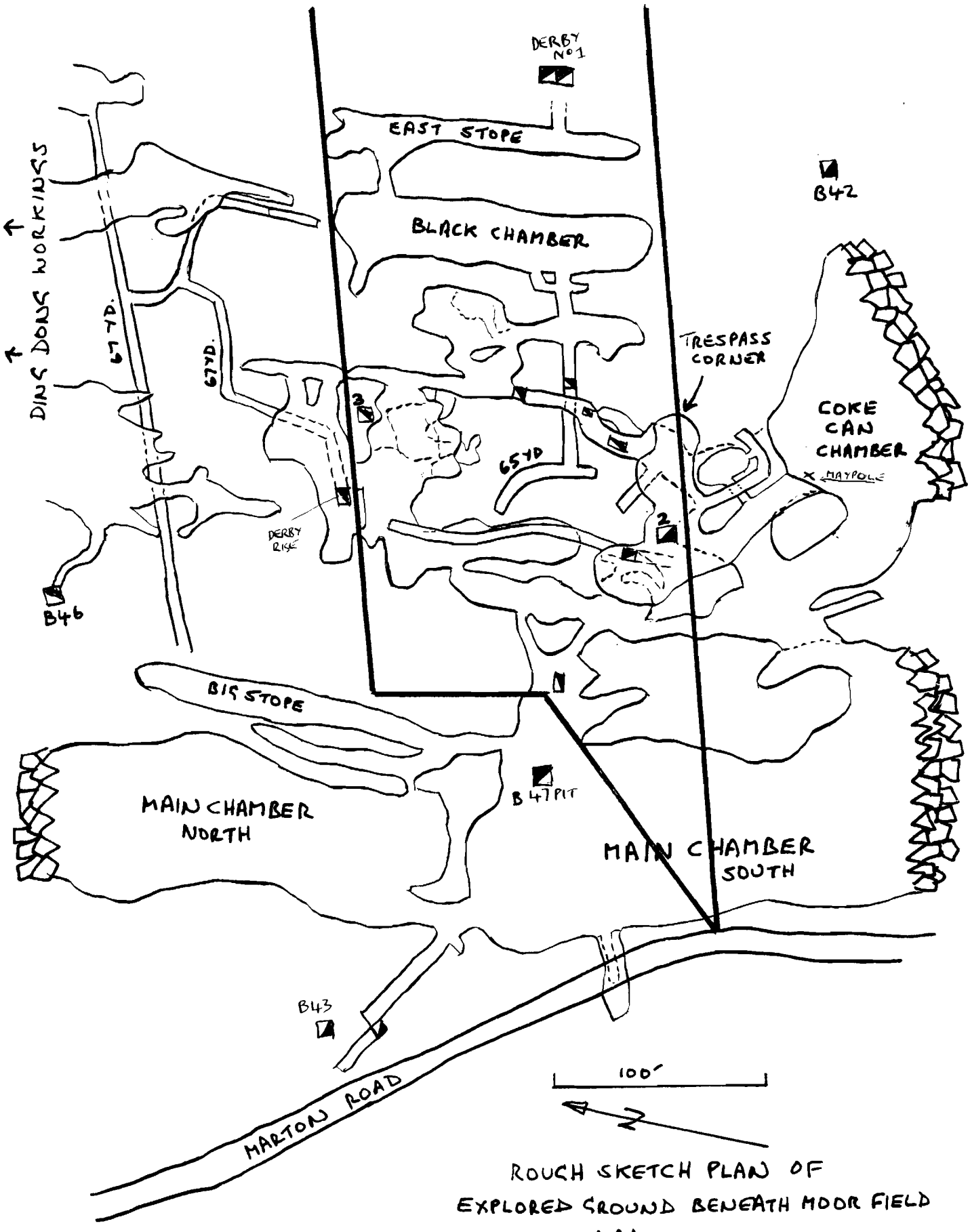
same working though in extremely dodgy ground. A swift recce revealed there to be no way onwards, but nice shiny samples of hematite in abundance. Chris descended the lower ginnel with the aid of a rope draped over a stemple and discovered a back door route, through some badly shattered terrain, to the Main Chamber, Mark Wickenden's 1983 discovery. No fantastic breakthroughs this evening; what was needed was a good strong team to scale the avens at Trespass Corner.

Five days later, on the morning of June the eighteenth, I landed at Ding Dong to await the arrival of Martin Maher, Colin Horne, Anne Danson, and Neil Pacey (fresh blood from the Red Rose). When they had finished their fags and eaten their breakfasts we abseiled down the ninety foot entrance shaft and made our way through the 45 Pit workings to the 67yd Level. Now at this juncture I must introduce the back-up team from the New Inn whose cooperation has proved to be invaluable; indeed, had it not been for the hitherto unsung assistance of CAT member Graham Atkinson and partners, the next phase of our exploration would, quite literally, not got off the ground. One Friday evening in April I happened to mention to Graham that I was after some scaffolding tubes to construct a maypole. A couple of days later, on returning from a weekend in Norwich, I opened my porch door to find the house barricaded by half a ton of iron pipe and sacks of heavy scaffolding clips. Speedy service indeed. The maypole sections were lowered down the 45 Pit shaft by Bert, Chris, Dennis, Lindsay Harrison, Russ Ellis, and myself on the twenty-eighth of April and over several weeks were transported in batches down to a ledge above the 67yd Level where they reclined in the darkness till we mustered a strong team to carry them through the water.

So the strong team set off like a line of ducks, each person lugging a five-foot length of steel pole and a connecting clip. Disaster struck when the last duck in the line got separated from the flock and dropped his tube in five feet of water. The duck in question (from Stainton, Kendal), having retrieved his tube, took a wrong turning and headed west down an ever deepening passage leading ultimately to the flooded 30 Pit. "Ah knew Ah were wrong 'cause Ah nearly bloody drowned," said the bedraggled member after Neil had saved him from a watery fate, "An' me bloody fags are buggered too...."

At Trespass Corner we assembled the maypole, clipped an electron ladder to the uppermost section, and thrust it up into the nearest and most accessible aven, dislodging all sorts of rubble into the bargain. Colin clambered up and the rest of us followed eagerly. The aven rose into an expansive stope, its floor littered with boulders and rising at a steep angle. Passing a side stope, in the base of which we found a small sheave wheel mounted on a timber beam, we arrived in a nest of workings - levels, rises, ginnels -which rather put me in mind of those complex galleries in the upper regions of the Borrowdale Wad Mines. Hematite ore, in the massive kidney form, was in evidence everywhere and in great abundance. One of our more interesting discoveries was a "whitechapel", a flat bogey with a raised handle bar, used for transporting kibbles of ore. Still on the rails and in pristine condition I photographed it for the McFadzean collection and left it to the darkness, untouched, undisturbed, there for future visitors to examine in its working environment.

We clambered up through these workings to the highest accessible point, a ginnel piled with waterwashed cobbles and pinnel from the boulderclay above the limestone. We reckoned at this point we were not far beneath the surface - though exactly how far I do not care to guess. We returned to a boulder-strewn chamber close to the whitechapel where Neil and Martin had come across two narrow shafts descending under the eastern wall. Neil abseiled down the cleanest of the two on a seventy foot rope and alighted in a spacious level. Anne and I joined him and we followed the level - which appears to have been an important drive - due north about ninety feet to a heading. Our southerly progress was barred by a wide hole in the floor close to where we had landed on our abseil. Subsequent research has revealed that the Derby miners were driving north and south from the West Drift of the No.1 Pit's 51yd Level in 1906. Could this have been that north and south drive? If so, then the West Drift is beyond the hole in the tunnel floor. And the West Drift will give access directly into the Derby No.1 Pit shaft! Stunned by the enormity and the complexity of the day's discoveries we left the maypole in position and returned to the Ding Dong workings along the gurgling canal of the 67yd Level, washing our bags of greasy mineral specimens as we went.



ROUGH SKETCH PLAN OF
EXPLORED GROUND BENEATH MOOR FIELD
MARTON,
NOT INCLUDING DING DONG PROPER.

The most recent trip of the season took place during the afternoon of Friday the 24th of June. These mid-week trips are one of the happier by-products of the present shipyard strike. Up the electron ladder in the Derby Rise rattled Neil, Chris, Dennis, and myself. Once in Trespass Corner I set about rigging a permanent ladder in the aven while the others dismantled the maypole and transported it to a narrow rise in a level about eighty feet away. Chris scaled the rise and found a level at the top which was blind after fifteen feet. Disgruntled, but not disheartened, we dropped the pole and turned our attention to a narrow ginnel below the level floor, which appeared to present a more promising prospect. Our level actually extended into the roof of the ginnel, or stope, and Neil reckoned he could traverse along its length if we rigged him a lifeline. A tube of scaffolding jammed across the level proved to be a secure enough belay so off went Neil, off into the unknown with a white rope trailing behind him.

Back came the cry that he had clambered down to a level and was safely off the rope. Rather than follow his precarious route along the ginnel ledges, we clipped an electron ladder to the belay and dropped down to join him. Surprise, surprise; we were in familiar ground immediately south of the Derby Rise. No great discovery but at least we were now able to tie things up with a degree of accuracy and form a coherent picture of the system.

Now we would have called it a day at that point had not Neil expressed an interest in examining the deeper workings of the Derby Royalty, the sticky chambers and flooded haulage road of the Derby 65yd Level (some records refer to this as the 68yd Level and I mistakenly called it the 81yd Level in Newsletter 15). With groans of resignation we slithered down the boulder slopes to these unappealing workings, fully expecting the haulage road to be flooded to the roof. When we arrived and discovered the water to be at its lowest ever level you could have knocked me down with a feather duster....well....perhaps a two pound hammer. Now, when I say the water was at its lowest ever level I am still talking nose deep! On only one previous occasion had this tunnel been probed (October 1986), and on that memorable evening Bert Wheeler and I discovered the Black Chamber and the East Stope, receiving a severe wetting for our pains. As it transpired we received a similar wetting on this latest venture; in fact, rather than drag his respiratory vents along the slimy roof young Pacey resorted to free diving the final six-foot duck into the Black Chamber (bloody show-off). Up a greasy climb into a high cross cut, and we were into the crimson grandeur of the East Stope, an impressive excavation even by Coniston standards. At this juncture my enthusiasm began to get the better of me for I had studied the old surveys and was aware that somewhere beneath the boulder piles of the floor was the easterly continuation of the 65yd Level, coursing through solid limestone straight into the guts of the Derby No.1 Pit engine shaft. We wriggled between the tangled rocks and pit props, frantically searching for the tunnel roof. Almost immediately Jonesy homed in on it as if guided by some divine force. There, beneath our feet, was the main drive, the haulage road, our Derby 65yd Level, and heading straight as an arrow towards the premier drawing and de-watering shaft of the royalty. And the inky black water was lapping an inch below the roof.

By the time you have read this report, the water level, hopefully, will have dropped further and we shall have pushed the tunnel to the engine shaft. What we shall find there is anybody's guess; personally I expect to see a big heap of rubble and little else. Yet it will be an important milestone, another gap filled on the survey.

The Ding Dong series of mine workings is now the largest accessible mine system in the Furness Peninsula. It is as big (possibly bigger) as the remainder of the accessible Lindal mines put together - and that includes Daylight Hole, Pylon Pot, Whitriggs Horse Level, Whitriggs Crossgates Pit, and Pickshaft Cave. From the 45 Pit workings we have access to the 46 Pit's 33yd Level and rise workings, the 47 Pit shaft and workings, Derby No.1 and 2 Pit workings, 43 Pit workings, 42 Pit workings, and probably 22 Pit workings. The scope for further exploration is enormous....so if the weather remains dry you will be hearing from me again.

Alen McFadzean, 29th of June 1988.

Stemples Slag Heap

Well, what a boring few months, nothing much seems to have been happening, very little new exploration, no secret excursions, in fact nothing to amuse us at all, except...

Sweden

CAT has recently been contacted by a chap from Sweden, the copper mining area of Falun no less. Seems he got our address from 'The Mine Explorer'. How do they get their hands on the copies?

Portugal

Chris Jones is off to the Iberian Copper Belt this summer to check out the area around Huelva province in southern Spain (home of the Rio Tinto Mines) and some lesser known Portuguese mines. He hopes to organise an expedition there some time in the future if there are enough leads.

Holland

Eric has finally decided to move from Stainton Hall and will be relocating to more palatial surroundings near Milnthorpe. Mr and Mrs Stemple and the Stemplettes are looking forward to their invitation to the house-warming.

Marton

In McFadzean's desperation to continue the exploration of Ding-Dong's nether regions (see elsewhere in this publication) he has been forced to dredge the highways and byways of Furness for likely victims to accompany him. Watch out, you could be next...

THE FURNESS FRONT

By A. C-P-Thomas.

Yes, the Furness Offensive is under way and the concept of what began as the Furness Mine Adventurers (now a wholly owned subsiduary of C.A.T. Enterprises Inc.) is now begining to pay off. It's been a long haul to establish a significant material stock and consistant labour base here, and only now do we feel we have anything worthy to report. Here then in chronological order are the events which were contributary to what we have established so far,...a sort of local meet report if you like, of the last 12 months.

Last Summer,

Clerks level... Survey of Clerks level from portal to blockage. Anticipated projection of Level's course enabled us to find....

Clerks Level 2. Capped shaft onto level beyond blockage allows us to plot another 1200 feet of known ground onto the map. Total known length now approx 3000 ft. Progress terminated by infilled shaft. Decision taken to remove blockage between Clerks 1&2 to allow subsequent work on infilled shaft and progress beyond.

October '87

Clerks Consols. Project begun to remove blockage from surface, ie dig 20 ft shaft onto level and secure collapsed section. A large shaft was needed to account for any survey/plotting errors, and by December we were in need of large quantities of timber to secure the shaft walls. To finance this we had a wip round under the auspices of a spoof mining Co prospectus (hence the F.M.A.), the funds from which allowed us to dig deeper yet and in safety.

January '88 ....Wet weather and 4 ft of standing water in Clerks Bottom forces us off the project temporarily. Prospecting for the next project we begin to muck out Whitriggs horse level. A time to take stock on Clerks, we felt that bursting a gut 4 times a week is to no avail if all it is doing is making up for everyone else who have never even come to see the job. We decide to forclose operations here, 3 months of digging - 100 tons of infill are replaced and all materials stripped out to go to future projects. Completing infill in March, all efforts are now turned to Whitriggs.

Spring Offensive

Whitriggs. Whitriggs Horse Level, originally rediscovered by Mr R. Bland by means of a level dug through unsupported overburden, has been consistently prone to self closure. The most recent collapse was last summer which has denied effective access ever since and it was our intention to redig the access way and secure it with timber sets to guarantee access at least for the lifespan of the materials used. Whilst work was in progress ar even more serious collapse occured which probably would have proved terminal if we hadn't already have invested the effort and materials we had.

April '88

Henning Valley Cave. .Taking an evening off from Whitriggs, and spurred on by the account of alleged mine spoil in the inner reaches of the cave in Underground in Furness, we went to have a look and see what we could make of it. Using a specialist Furness technique for scaling tight rifts called "widging up with ones helmet off, with one's head plastered in grot and fixed in a right hand lock,whilst standing on Paul's head" I managed to see what I perceived to be three shot hole marks in the chamber above. Unforturately the slot or window that this was seen through was so tight as to be totally impossible, and we went away musing over various rock removal techniques that may assist our progress.

(contd.....)

(The Furness Front ...Contd)

Lime Blasting.. Having an apparent recollection of reading of the use of lime blasting in mines, this being confirmed by someone elses apparent recollection, we thought that one method for getting us up into the workings at the end of H.V. Cave would be this. A means of removing specific amounts of rock in what may be a delicate area, certainly of potential future use and what's more, of archeological interest as an experiment... to see if it worked or not.

Anyone who's seen the reaction between CaO and water, particularly the expansion rate of the lime during this reaction, may well be expected to share the optimism we had for this technique. We drilled a 150 x 16mm dia hole in a substantial rock and set in on the bench for blasting trials. We then prepared a quantity of burnt lime using several blow torches and in the pre blasting trial we nearly blew my litter bin apart. Things were looking good. We then packed the hole with lime and WOWWWeeee,.....nothing happened. We tried it with whole lime, ground lime, injecting water under pressure, drip feed still.... nothing happened. My hunch is that free standing, when the water can get all around the reaction works O.K., but confined, with limited water available from one direction only, the first stage of reaction only occurs, that being where the surface molecules react and gassify to produce micro bubbles which are not sufficiently buoyant to float clear, yet act as an effective insulant to the rest of the water. So much for apparent recollections.

May '88
Henning Valley. Cave

Taking another evening off from Whitriggs, we made another visit to the far reaches of H.V. cave. This time we had Andrew Sibbald with us who, whilst doing sterling service as log haulier, was not sufficiently acclimatised to the local red grot to force his way through the final wallow in crimson crawl. So while Andrew shivered in Sludge Chamber, off went Paul and I to work the rift. After the usual spell of rock mechanics with sledge hammer and chisel, Paul had the brill idea of giving the central rift portion a look. Here you understand is a rift, at each end is an open but tight aven, the scene of the previous visits scaling operations, and in between is what appears to be an even tighter section which is full of chocked up mine rubble. Anyway Paul gave this rubble a prod and after a gutsy rumble, and having watched our exit below being buried by spoil, we were able to see that the rift actually bellied out a little. An hour or so of this, just like emtying a sticky ore hopper really, and we were able to access the workings above.

You'd have thought wouldn't you, that after all the discomforts of Crimson Crawl, the diligent lime blasting experiments, etc, etc, that the Gods could have been a little kinder, you know, an underground waterwheel or two, bogeys, a hydraulic engine or something but no.... up the rift we went like moles on heat, mine level , great! 20 ft along turn corner, there on the floor a tin can, artefact, ACE! Along we go, watching the first footprints for 60 years or so unravel behind us and BANG!, slap into a blockage not 70 feet in all from the rift entrance.

Still, it's not so bad. This blockage, by the pebbles extant in the infill, is most certainly an infilled shaft. We've gained a foothold in a heretofore unsussed area of the lindal moor workings, and we fully expect in the years to come to bypass this obstacle and reap the kudos of having rediscovered the next 70 ft or so beyond that.

June '88
Whitriggs ..... At last Whitriggs is secured. Theres still some work to be done but access is open and safe. During our operations here, and to fulfill our obligations to the landowner (stockproof, childproof etc) we have gated and locked the portal with a combination lock. This, as one recent self exiled member will tell you, is the responsible and proper thing to do. Now access is open and the number worth knowing, the combination is 2453. This way each member, and other responsible

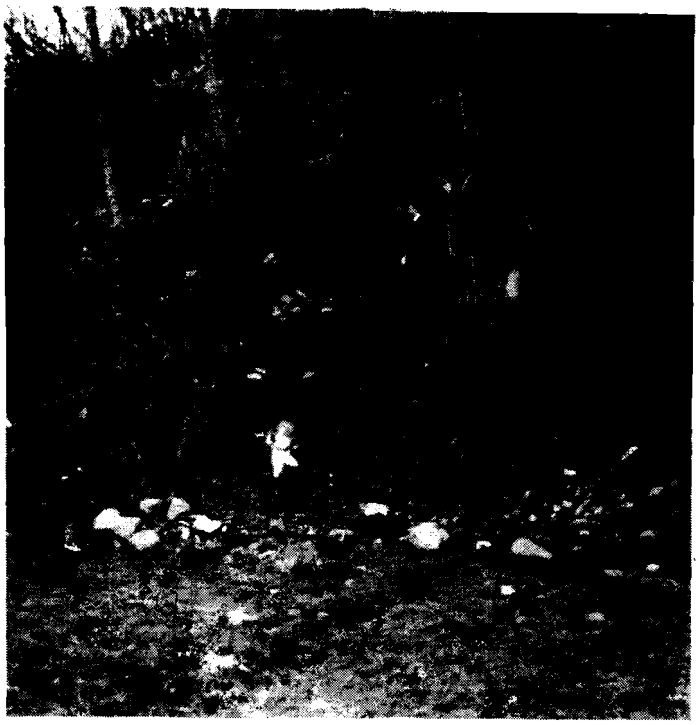
(contd....)

(The Furness Front ...contd)

persons, can have access to the mine without the hassle of going to pick up, or return, the key. Please, when using the lock, try not to gunge it up with Haematite sludge...take your gloves off or wipe your hands first. As the lock is opperable from inside and out, maybe it would be best if we locked the kiddies out whilst we're underground there too.

After we've done the finishing touches to the entrance level, we intend to modify the 2nd widge or squeeze at the base of the shaft run in approx 200 M inside. Whilst we do not wish to be the final arbitrators of what happens in Whitriggs, and at risk perhaps of being accused of elliminating a "sporting feature", we do feel that the enlargement of this section would have distinct advantages in terms of access and supply to future inside digs, and also be of benefit to some of our more senior and/or less supple members.

Hope to see some of you there perhaps on the wednesday evening meet July 20th.



Photos; Views of Whitriggs Gulch. Above, surface shot of portal, note our distinguished patron...the Wilbur Smith of Furness... in the foreground. Right, view looking out along level showing timbering.

June '88 also

Bolton Heads ....Just for a change of scenery, we negotiated permission for a prospecting dig on what appears to be a small mine or large trial at Bolton Heads Nr Little Urswick. Bolton Heads is notable I suppose for its profusion of apparently very T'owd scrin like veins. These scrins or rakes trend roughly NW - SE and we believe that this level,

(contd.....)

The Furness Front ...contd)

when we find it, will cross cut these veins at a shallow depth. So far we have unearthed some charred timber against an iron ore outcrop (evidence of fire setting perhaps?) and what appears to be a rail dog spike. We'll keep you informed.

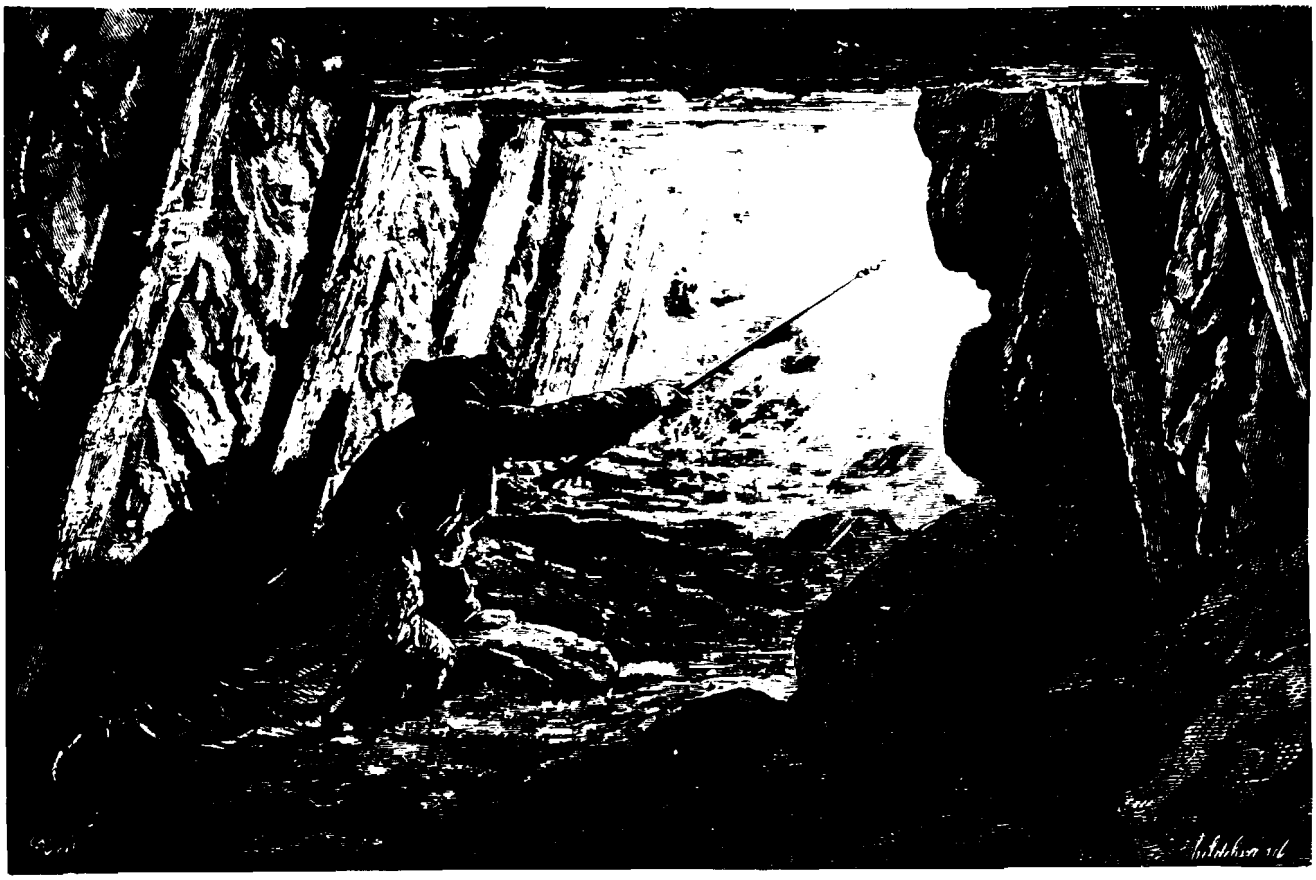
Full and comprehensive reports of local activities may be published in the future depending on whether I can convince someone (are you getting this P.T.) to take over the duties of local recorder. Thankyou C.J. for reporting snippets in past newsletters, and thankyou everyone who chipped in and helped us set up with the means to purchase materials for these projects. Mention must also be made of non members Kevin Roper and Harry the Shovel, Harry who dug ten to our one for a few nights at the start of the Clerks project, and Kevin who not only helped us considerably at Clerks but has been contributive to Whitriggs also.

We're still hyperactive in Furness and we could still use plenty more consistant and committed members. Anyone who thinks they may enjoy shovelling some sludge, or maybe just interested in a looksee first, please give either myself, Paul Timewell or John Helme a ring.

La Fin.

The Furness Adventurers next project, I'm reliably informed is the threatened entrance to Crossgates Mine. Perhaps then they'll get on to the big one...B30 pit.

Sam Stemple



The Penitent,or Fireman,igniting the Fire damp

In the early days of mining it was known that firedamp affected the flame of a candle, forming a bluish spire above the flame. A competent fireman was expected to understand how to 'try the candle'.

by Anne D

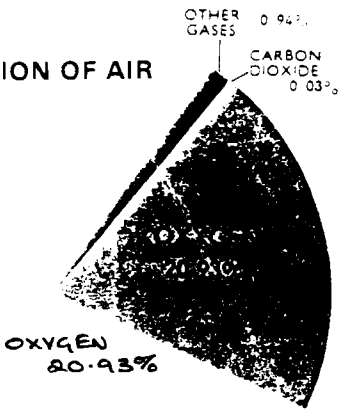
MINE GASES

Gaining access to old mine workings can be a very strenous business, as I am sure you are all aware. The initial research that takes hours, weeks even of painstaking searching in archives followed by the backbreaking digging and supporting of tons of overburden.
Then the ecstatic feeling on gaining entry after weeks of hard work.

But how many people think about the possibility of there being toxic gases in these subterranean tunnels?

It seems useful at this point to include some indication as to what % gases our air contains or should contain.

THE COMPOSITION OF AIR



The amount of toxic gas depends on the level of ventilation, if a mine is well ventilated there may be no serious gas problem.

On re-opening especially after sometime, the air in a mine must be allowed to ventilate.

Ventilation is increased if there is water issuing from a level. The water draws air along with it and speeds up the ventilation process.

Air movement can also be felt if a shaft, stope etc, provides the up draft (natural convection) On re-opening a lower level if the outside air temperature is lower, air is drawn into the mine and drafts up through the open stope and vice versa.

Atmospheric pressure is a controlling factor governing the release of strata bound gas e.g methane. Coal mines are warned by the Met office of drops in atmospheric pressure. Miners also take note of barometer readings. As the air pressure drops gas emission increases.

The type of ore previously mined and local geology are also **indicators** of likely gases. The oxidation of sulphides can produce Hydrogen Sulphide and Sulphur Dioxide

In areas of granite and shale radon gas may be present.

Oxidation and decay of organic material such as timber and coal produce H_2S and Methane (CH_4). Oxidation removes oxygen from the air leaving a higher proportion of Nitrogen (N_2) and Carbon Dioxide (CO_2). How many people have stood on rotting submerged timber which releases gas bubbles and the characteristic rotten egg smell?

Mine waste, tailings etc stored underground can also create a hazard, areas of Carrock Fell mine, Mungrisedale is a good example of this.

Areas of poor ventilation such as blind headings, narrow low tunnels, raises etc are places that could contain gas and should be treated with caution.
CO_2 and H_2S being heavier than air tend to linger at lower levels.

Pockets of gas may produce unusually high readings when using gas detection equipment. This was found recently when we encountered a small area deficient in oxygen which cleared with adequate ventilation.
A phenomenon similar to this is called layering. Methane tends to rise to the roof of workings and float there, as oil on water. Methane and air mix provided the air is turbulent. If the air remains still layering occurs. CH_4 forms a layer a couple of centimeters thick on the roof and spreads at that level over great distances, when ignited this acts like a fuse.

The N.W Water Authority and British Coal have produced guidelines for workers which apply equally to metalliferous mines.

The main gases which may be encountered underground are:

HYDROGEN SULPHIDE (H_2S)
CARBON DIOXIDE (CO_2) due to oxygen depletion
CARBON MONOXIDE (CO)
METHANE (CH_4)
SULPHUR DIOXIDE (SO_2)
NITROGEN (N_2) due to oxygen depletion

The level of toxicity is expressed as the Threshold Limit Value (T.L.V) which is the danger level for toxic gases or the level at which a particular gas starts to do you harm. This is expressed in parts per million (ppm)

HYDROGEN SULPHIDE. T.L.V 10ppm Fatal at 1000ppm. Heavier than air. Suffocating and toxic. Rotten egg smell can be detected at $\frac{1}{10}$ ppm.
High concentration of H_2S leads to impairment of the sense of smell. Earliest effects are irritation in the nose and throat and inflammation of the eyes.

CARBON DIOXIDE. Combined with nitrogen **becomes** BLACKDAMP. T.L.V 2000ppm. Heavier than air. Colourless, odourless, suffocating with a slightly acrid taste.
Non inflammable.
Poor air circulation leads to oxygen depletion and replacement with CO_2.
To avoid the build up of CO_2 when miners are working in confined areas forced ventilation is necessary.
If air containing a high % of CO_2 is breathed the rate of breathing increases, headache develops and suffocation occurs.
Other symptoms are a confused mental state and impairment of thought processes (hard to detect this one on a CAT meet - speak for yourself I hear you all cry)
Atmosphere contains approx 21% oxygen
Workers are advised to stop work at 19% oxygen
Breathing apparatus is needed at 16% ..
Unconsciousness occurs at 14% ..

CARBON MONOXIDE (CO) also called WHITEDAMP. T.L.V 50ppm. Colourless,odourless, slightly lighter than air. Toxic. Flammable - will burn at high temp forming CO_2 Effects muscular movement. Not common in old mines produced from incomplete combustion of carbon e.g exhaust fumes. Forms carboxyhaemoglobin in the blood stream characteristic blueness of lips occurs.

METHANE (CH_4) also known as FIREDAMP or MARSH GAS.
Lighter than air,colourless,odourless. Suffocating and combustible.
Combined with the right % of oxygen/air it becomes highly explosive.
5% by volume (b.v) methane in air gives the Lower Explosive Limit (L.E.L) which is the level at which a spark can ignite the atmosphere.
British Coal advise that at a 2% mixture of methane work should stop.
15% b.v CH_4 in air gives the Upper Explosive Limit (U.E.L) the atmosphere is saturated and will not explode.

SULPHUR DIOXIDE (SO_2) T.L.V 5 ppm. Acid Gas - this constricts breathing.
Colourless with a strong pungent odour. Non inflammable.

NITROGEN (N_2) Mixtures of CO_2 and N_2 are known as BLACKDAMP
The largest constituent of the air we breath,has no colour,taste or odour.
Inactive,a flame put in nitrogen will be extinguished. A person breathing air in which the oxygen has been replaced by nitrogen will suffocate.

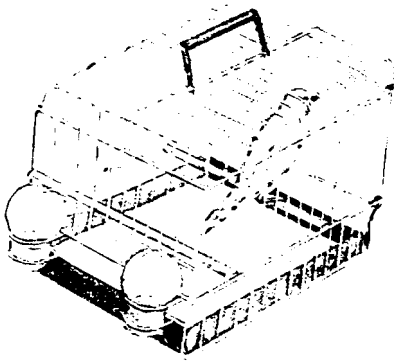
An incident at Cwmystwyth where a caver was dragged semi-conscious from a mine level was thought to be due to oxygen depletion. Oxygen had been removed from the atmosphere through decay/oxidation of iron and timber leaving mainly N_2 and CO_2 This person recovered quickly when removed from the constricted level that he had crawled into.

OXIDES OF NITROGEN. These gases are produced during blasting operations. Sufficient time must elapse approx ½hr before re-entering workings after blasting.
These gases are highly toxic and have an irritating smell.
Ammonium nitrate when heated produces nitrous oxide (N_2O) which is used as an anaesthetic.

DETECTION OF GASES UNDERGROUND

An article on gas detection would not be complete without.....
CANARIES and LINNETS provided one of the earliest forms of gas detection.
Linnets were kept at Haig Pit up to 12 months before it closed. When taken underground,oxygen cylinders were carried to revive the little birds should they succumb to some toxic gas.
Miners themselves also develop an instinct for knowing when gas is around.

Once a standard method of gas detection in coal mines and still used in some mines today is the flame safety lamp. This was developed as a safe means of providing lighting underground. Early attemps at underground lighting without flame had included phosphorescent fish skins,mirrors reflecting light from the top of shafts and the Spedding flint mill.



Canaries are particularly sensitive to the presence of carbon monoxide.

Humphry Davy developed the first reliable flame gas lamp in 1815.
Davy found that due to what he termed the cooling effects,flames would not pass through certain wire gauzes,thus preventing methane igniting. The original Davy lamp consisted of an oil lamp with the flame completely enclosed with a single layer of wire gauze. Later developments of this included the Marsaut and Mueseler lamps see fig 1. The former having 2 gauzes to give extra protection against igniting flammable gas outside the lamp,the latter having an internal chimney to separate fresh air from spent air.

By 1883 Sir William Garforth had developed a lamp which enabled miners to collect samples of air and test for gas by injecting air into the lamp. By this means samples could be collected from the roof and other places where access was difficult. See fig 2.

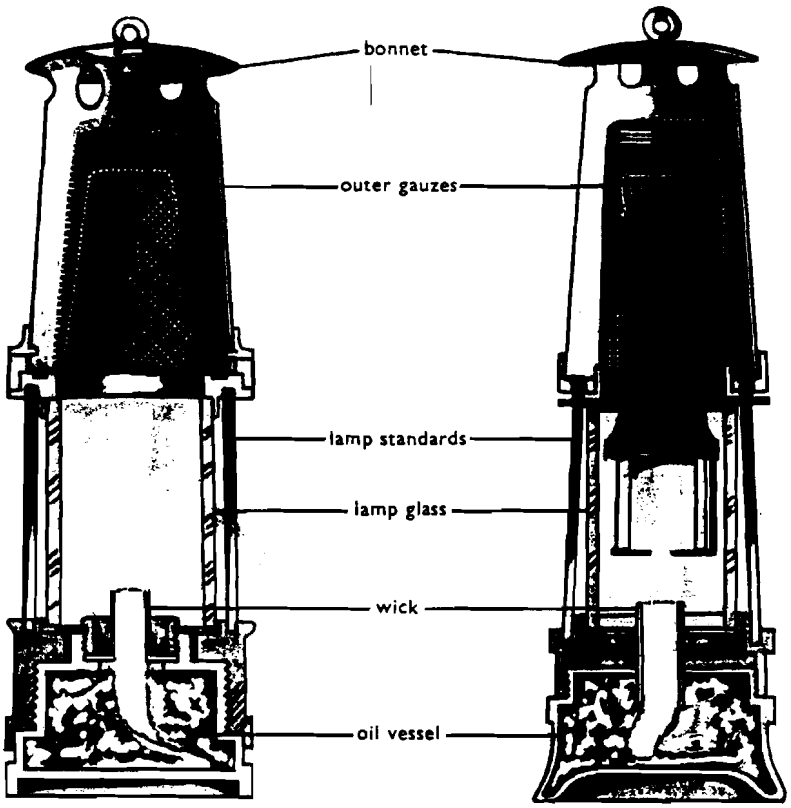
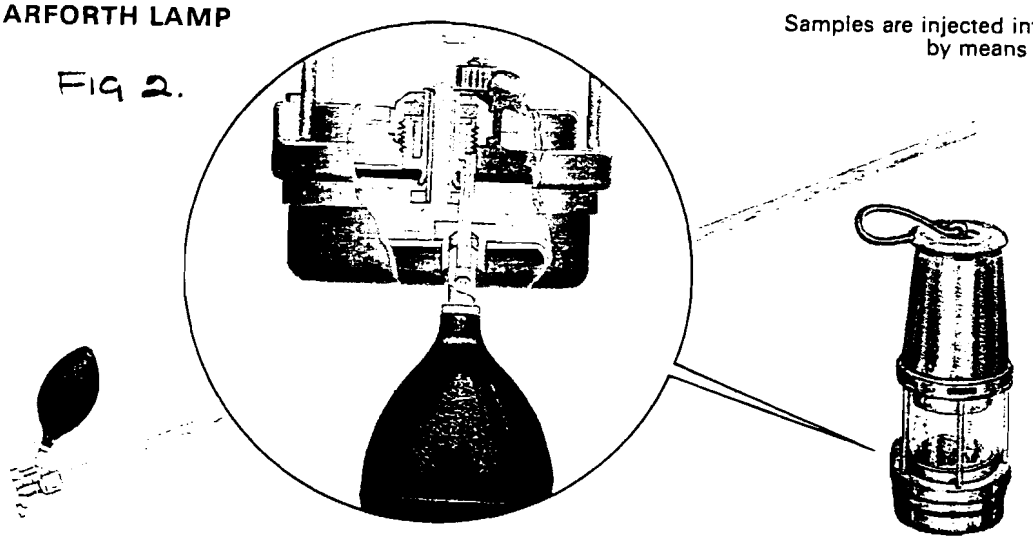


Fig. 1.

MARSAUT LAMP MUESELER LAMP

GARFORTH LAMP

Fig 2.



Samples are injected into the Garforth lamp by means of an aspirator bulb.

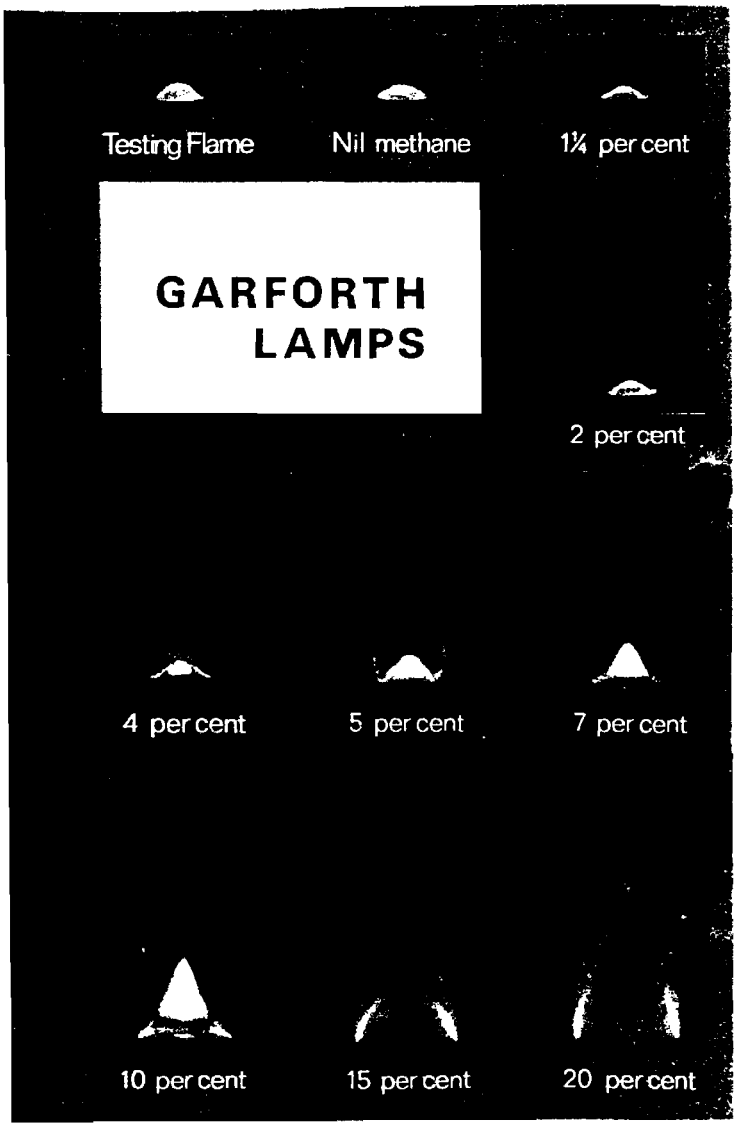


Fig. 3.

SETTING TESTING FLAME

To set a flame for testing, carefully lower the wick until it is not more than 3 mm high and shows only a speck of yellow light. The glare from a larger flame will prevent the gas cap from being observed. When properly set, the lamp will show a small blue flame with a speck of yellow light in the middle. At the top of this, a faint line of paler blue known as the fuel cap may be seen. Practice is needed to recognize it. If firedamp is present, a larger blue area of flame is formed above the testing flame, its size and shape depending on the percentage of firedamp present.

Fig 3. shows the range of flames produced by methane in the Garforth lamp. When CO_2 is present the flame decreases.

Methanometers, Ringrose Alarms and Automatic firedamp detectors provide other means of gas detection.

Nowadays most coal mines are automatically monitored for methane and other gases.

DREIGER TUBES. Hermetically sealed glass tubes approx 4-5" long containing crystals which absorb gas, these change colour as gas/air is drawn through the tube. A calibrated scale on the tube measures the amount of gas in ppm. Various gases can be tested for. These provide an inexpensive means of testing for mine gas, but do not continously monitor which can be an important feature.

PERSONAL MONITORS. These are about the size of a packet of cigarettes. Give continous monitoring and show oxygen levels using a digital read out and audible warning signal. Monitors for various gases are available.

One of the latest developments in gas detection is the Neotronics device that measures levels of oxygen as a % and can monitor continously fo CO_2 CO H_2S and explosive gases such as methane. An audible alarm and digital read out warn when oxygen concentration is down to 19.3% and also when other gases are approaching danger levels. This gives time to evacuate an area before the danger level is reached. This instrument is approx 9"x6"x3" and weighs approx 1 kilo. When testing for gas it can be slung around the neck.

Gas in general is not a major problem and I am not meaning to be alarmist or overcautious, but mine explorers should be aware of the dangers of toxic gases underground. This article is meant as a general guide to the gases that might be encountered underground and how they can be detected.

An article on Radon Gas and its detection will appear in the next newsletter.

Acknowledgements to Dave Blundell, Ronny Calvin and Mike Mitchell for advice with this article.

While on the subject of gaseous emissions can anyone tell me where the following description comes from and to what ancient practise it refers?

'A stomach which demands constant feeding steadily, regularly and endlessly. It is subject to changes in behaviour through lack of nourishment, to indigestion and embarassing eruptions, through too rich or voluminous a diet, and in such cases prompt remedies are to be applied!

RADON TESTING

This will take place on the week-end of 24th-25th SEPTEMBER.
Anyone interested and would like to help carry gear please contact Dave Blundell (0539) 821750. Mr J.Jones of the Russel society will be conducting the tests,which will include Carrock mine,Force Crag and Coniston mines.

CONISTON COPPERMINES

Mr Phillip Johnstons application for permission to sell refreshments from his base in the Coppermines valley has been refused. One of the grounds for refusal was that it would incfease commercialisation of the valley.
The site is up for sale at an asking price of £85,000 serious enquiries only.

Posers Corner

Anyone visiting the chairman's new house will be amazed when they ring the bell to be answered by a small box on the wall, the door then swinging open magically. Apparently this is a development model for Glencoyndale.

CANNES FILM FESTIVAL MAY88

A film called the Navigator may be on general release in this country later this year. This film was made in New Zealand and tells the story of a young boy living in a 14th century Cumbrian mining community. After escaping the Black Death a group of villagers arrive on the motorway of a modern 20th century city(why did they bother). A rather unusual film by all accounts,look out for it.

CAVING MEET - EASEGILL CAVERNS 3-4th SEPTEMBER

This meet is additional to the societies normal programme of field meets.

Meet Leader Dennis Webb.

Lancaster hole to County pot.Meet at BULL POT FARM GR 663815

Two days have been booked for this trip.The permit allows 16 CAT members (8 per day) a chance over the weekend to explore one of the finest cave systems in the British Isles.

EASEGILL CAVERNS

The longest cave system in the British Isles with around 48 kms of passage. At least 5 different entrances in the Easegill valley lead to streamway caves which all unite in the master cave,many levels of upper passages add to the complexity of this area. Some of these passages are very well decorated.

There is a sumped section downstream of Eureka junction so the route west is via large high level tunnels,these have many branches and routes down to the fine large streamway below with its many cascades and pools. Above the sump is the Lancaster Hole, Cow pot complex of passages,with two entrances from the moors above, both with 35m pitches.

Our meet will be a through trip from Lancaster Hole to County Pot. Lancaster Hole is a 35m shaft which from the bottom mainly large passages lead to a fixed iron ladder at Fall pot,and then high level caverns with fixed aids at Stake pot to easy mud slope traverses and further large caverns to Oxbow corner. A short crawl leads through the Minarets and into the vastness of Cornes cavern and Snail cavern.Scrambling leads to a fixed ladder down into Stop pot and the main Easegill streamway. From here a visit will be made to Easter Grotto with its fine stalagtites and stalagmites.

Our exit from Stop pot is by way of the main stream,which we follow down to an inlet passage at Eureka Junction and short streamway to a 8m climb up into short crawl and climb back into different streamway. This is follwed up small cascades and climb to another 8m pitch up into short passage and daylight at County Pot in the Easegill valley.

NOTE If the weather is very unsettled a trip in and out of Lancaster hole will be made,bring full S.R.T kit. As this trip is limited to eight members per day will anyone interested please contact myself(Dennis Webb)or phone Chris Jones on Barrow 63892.

TRAINING MEET

There is no scheduled training meet for this second half of '88, but any one wanting training will be catered for by a non sheduled meet which we can arrange for provisionally around the end of August. All members wanting training (we're talking stage one here, ie beginners only) if you'll give me a buzz, and when I know how many to cater for we'll fix a mutually acceptable date and take it from there.

As a reminder please note that stage one and stage two meets are more efficient if they are kept distinctly seperate. At stage one gear will be provided for those wishing to try their hand at S.R.T.. Stage two is meant as a follow on session for which members will be deemed to have committed themselves and invested in S.R.T. and thus will be expected to be resplendant with a complete set of STRICTLY their own gear. Stage two covers the set up of personal gear and this cannot be performed in borrowed gear. If for some reason you are unable or unninclined to obtain your own gear then fine, no problem, the stage two can wait, I'll still be here when you have accrued the means, or the interest, to do it right.

Anyone in want of either level of training please give me (Anton) a ring on 0229 35951.

After many years of extensive research.

"Imperial Chemical Industries Ltd. has announced the discovery of a new fire fighting agent to add to their existing range. Known as WATER (Wonderful And Total Extinguishing Resource), it augments existing agents such as dry powder and BCF which have been in use from time immemorial. It is particularly suitable for dealing with fires in buildings, timber yards, and warehouses. Although required in large quantities, it is fairly cheap to produce.

"It is intended that quantities of about one million gallons should be stored in urban areas and near other installations of high risk. WATER will be stored in open ponds or reservoirs and conveyed to the scene of the fire by hoses and portable pumps.

"ICI's new proposals are already encountering strong opposition from safety and environmental groups. Professor Connie Barrinner has pointed out that if anyone immersed his head in a bucket of WATER it would prove fatal in as soon as three minutes. Each of ICI's proposed reservoirs will contain enough WATER to fill half a million two gallon buckets. Each bucketful could be used 100 times so there is enough WATER in one reservoir to kill the entire population of the United Kingdom. Furthermore, it was not biodegradable.

"A local authority spokeman said that he would strongly oppose planning permission for construction of a WATER reservoir in this area unless the most stringent of precautions were followed. Open ponds were certainly not acceptable. What would prevent people falling into them? What would prevent the contents leaking out? At the very least the WATER would need to be contained in a steel pressure vessel surrounded by a leak-proof concrete wall.

"A spokesman from the Fire Brigades said he did not see the need for a new agent. Dry powder and BCF could cope with most fires. The new agent would bring with it risks, particularly to firemen. It had been reported that WATER was a constituent of beer, and so the firemen would be intoxicated by the fumes, which would be dangerous.

"The Friends of the World said that they had a sample of WATER and found it caused clothes to shrink. If it did this to cotton, what would it do to men?

"The Home Secretary has promised a full investigation into this potentially lethal material."

ROD CHILTERN

CAT Merchandising.

This is your chance to own a fabulous CAT Sweatshirt. They are now available with the CAT logo down one side (see the front of the meets list) and the words'CAT Mining History'on the breast.

They are available in these colours with the print in white; navy, black, red or green. The sweatshirts themselves are of a very high quality. The cost, a very reasonable £8.75. If you want one please fill in the form below and send it to Chris Jones, 3, Bell Hill, Marton, Lindal in Furness, Ulverston, Cumbria, LA12 ONF. Please make your cheque out to Cumbria Amenity Trust.

Also available are 100% Lambswool sweaters (Jaeger) at£17.00 with a simple'CAT-Mining History'embroidered on the breast. Cheapskates may order a British Made Acrylic sweater for £10.00
Colours are black,Green, Navy, Maroon, Red, Grey, Royal or Brown,
Sizes 24" - 48".

Please send.....sweatshirt/s, size S/M/L in.....
.....
..... colour/s

My address is .....
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I enclose a cheque for.....

Please send me.....sweater/s, size....." in .....
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My address is above and I enclose a cheque for .....

All profits from this will go to the CAT publications fund.

PUBLICATION OFFER PUBLICATION OFFER PUBLICATION OFFER PUBLICATION OFFER PUBLICATIO

This is your chance to catch up on some articles that you may have missed in recent and not so recent newsletters. They are available at the stated price from Chris Jones, 3 Bell Hill, Martin, Lindal, Ulverston, Cumbria.

Coniston Copper Mines - A Short History.....£1.10
Helvellyn Mine - A report on Exploration.....30
Early Iron Industry of Furness.....70
The Funnel (Coniston Copper Mines).....30
Greenside Mine.....35
Inclined Tramways.....20
Force Crag Mine, 1984.....15
Coniston Copper Mines, A progress report, 1985.....25
Electric traction at Greenside (same as journal 2).....25
The Alma Greenside RE-visited.....25
Explosive Issue (Mining explosives).....25
Aspects of George Borrow's Wild Wales.....50
Capping the issue (Detonators).....35
Coniston in 1849.....10
Petzl Stop Descenders - A user guide.....30
Expedition Diary - Eire 1986.....30
Heading blast in a slate quarry.....25
Belays and belay loading.....35
Summertime in Ding-Dong (Furness Iron Mine).....40
Gutterby Mine Project.....25
Coniston Copper Mine - Top Level.....25
Clarghyll colliery, near Alston - Dec. 1986.....25
Ropes & Rope care.....50

These are a list of all the longer articles which have appeared from Newsletter 1
Please add 15p post and packing to your order.

BOOK NEWS

TWO CENTURIES OF INDUSTRIAL WELFARE by A.RAISTRICK

Reprint by Davis books,Newcastle.Available OCT/NOV 88 Cost £15
The story of the London Lead Company in the north,the reprint will include more photographs.

NENTHEAD MINES. Bulletin of Peak District Mines Historical Society
Vo. 9 N01

Reprint available from D.Phillips,Whitehall House,Nenthead Cost £4 + 50p pp

THE YORKSHIRE & LANCASHIRE LEAD MINES by M.GILL 1988

No.33 in a series of monographs by N.M.R.S.
Lead mining around S. Craven & Rossendale. 68pp cost £7

CHILDREN OF THE PITS by R.DEVLIN 1988

A5 Booklet describes employment of children in the coalmines with vivid accounts of everyday life. 62pp
Available from Whitehaven Museum.

PERCYS METALLURGY OF LEAD 1870.

Reprint by the Historical Metallurgy Society. 567pp cost£29.95
Available from Peak District Mining Museum,Matlock Bath, Derby DE4 3PS.

MINES OF THE LAKE DISTRICT FELLS. by JOHN ADAMS 1988 ISBN: 0 85206 931 6

Accounts of mining in the Lake District with plans etc.

Dalesman Publishing,soft back 150pp cost £8.95

FULL REVIEW IN NEXT NEWSLETTER

Book Review.

Coniston Copper - A History by Eric G. Holland

Published by Cicerone Press, Milnthorpe, Cumbria ISBN ? Price £15.00.

At last after half a lifetimes effort, it's here, Eric's history of the copper mines, which he has studied for so long. The book is a hardcover, A5 format with 312 pages and 104 photographs and line drawings. The book runs through the history of the mines in chronological order from their discovery by the Society of Mines Royal in 1599, through the working by German miners all the way through to a brief outline of the present activities on the site (with no comment, I see).

A great deal of interesting documentary evidence has been gleaned for the early chapters of the book which also contain a few anecdotes of social history which I feel is one of the books strong points. You always feel that this is a book about real people instead of a dry and dusty regurgitation of facts. For instance we learn that 17th century Coniston miners worshipped at Hawkshead and not Coniston.

Perhaps naturally the majority of the book is taken up with the workings of the 19th century mine and there is a wealth of detail concerning this period, all of this fact being interspersed with Eric's own thoughts and theories about various features and techniques both above and below ground. The book is also concerned with the entire Coniston area including Tilberthwaite and Greenburn and there are extensive details and theories on these and many other small mines and trials.

The photographs and line drawings are all excellent and there are several of the latter by Jill Aldersley which are especially evocative. Many of the photographs I had not seen before, although I was surprised to see the one of the old engine shaft wheel (Journal No. 2) left out.

If you are a student of the Coniston mining story then this book should definitely be on your shelves although if you wanted to follow up any interesting leads this might prove difficult as there is no list of sources other than those described as being "central to the theme of the text"

Briefly - excellent reading.

CDJ

Book Review

THE ABANDONED MINES OF WEST CARBERY by D. COWMAN and T.A REILLY 1988 vi +177pp

Available from Geological Survey of Ireland,Beggars Bush,Haddington Road,DUBLIN4
Cost IR£ 7.00 + £2.10 p&p

The authors have produced a well researched and interesting study about the financial and human aspects of the West Carbery mining field. They have used a large number and variety of sources and include forty pages of annotated references.

Although the book concentrates on the sucesses,failures and scandals of the various companies working in the area it is spiced throughout with anecdotes of human interest such as how Cornishman William Thomas came to be in West Cork and what a young Londoner did when he was there.

Books covering historical aspects of Irish mining are rare,but interest is growing. This book will stimulate that interest.
Congratulations to the authors, the illustrator and to the Geological Survey of Ireland for this worthwhile publication.

ALASTAIR LINGS 31/5/88

News from Industry

REPUBLIC OF IRELAND

Connary Minerals PLC (formed by Eglinton Exploration) have been granted a license by the Department of Energy to work the tailings at the old Avoca mine for gold and silver.
Planning approval for the Vat-leach operation has not yet been given.

WALES

Anglesey Mining has received planning consent for its Parys Mountain project. The initial development will consist of sinking a 450m deep 4.3m diameter shaft for underground bulk sampling of the copper,lead and zinc ores. There are sufficient reserves for a 14 year mine life at 360,000 t/y

SCOTLAND

AT the Glensanda superquarry near Fort William the 1800 m long adit and the 300 m rise to surface have been completed.
Production is expected to start towards the end of the year.

Fynegold (Ennex International) expect to receive planning permission this month to carry out an underground assessment of the gold deposit at Cononish,Tyndrum. This development will involve tunnelling and raising along the gold bearing vein.

ALASTAIR LINGS.

" CONISTON COPPER MINES "

DESCENT OF SOUTH VEIN 20th DECEMBER 1987

Dave Bridge, Angela Wilson, Ian Matheson.

The objective was to descend the stope on South Vein from Middle Level to Deep Level, a drop of some 390 feet. This had not been done as a continuous descent, although Mike Mitchell and Martin Maher have been down to the bottom Puddingstone Level, and Dave and Angela had recently descended the stope from Middle Level as far as the Grey Crag Level horizon.

An early start was planned, and it was arranged to meet at the BMSC Club Hut at 07.45. However, Ian overslept and didn't arrive until 08.15! We abseiled from Simons Nick down to Middle Level, pulling the ropes down behind us. Dave descended the South Vein stope from its junction with the crosscut on Middle Level, which involved a 150 foot pitch, then a rebelay followed by another 50 feet to land on a short section of false floor with loose ground at both ends. Ian put a bolt in here to safeguard things in case the floor collapsed. It took three bolts to make the hole in the hard rock! Dave set about trying to rehang the ropes so that they did not touch the unstable ground in order to continue the descent , whilst Angela and Ian explored the continuation in South Vein of the Puddingstone Level, which Dave had entered on the previous visit, and which extends for about 60 yards to a forehead. It lies in the stope for the first few yards, but then continues with a solid rock ceiling. There was a small blue pool,No artifacts were found and tramlines were either not laid or have since been removed, and the vein seems to have been abandoned here as being barren.

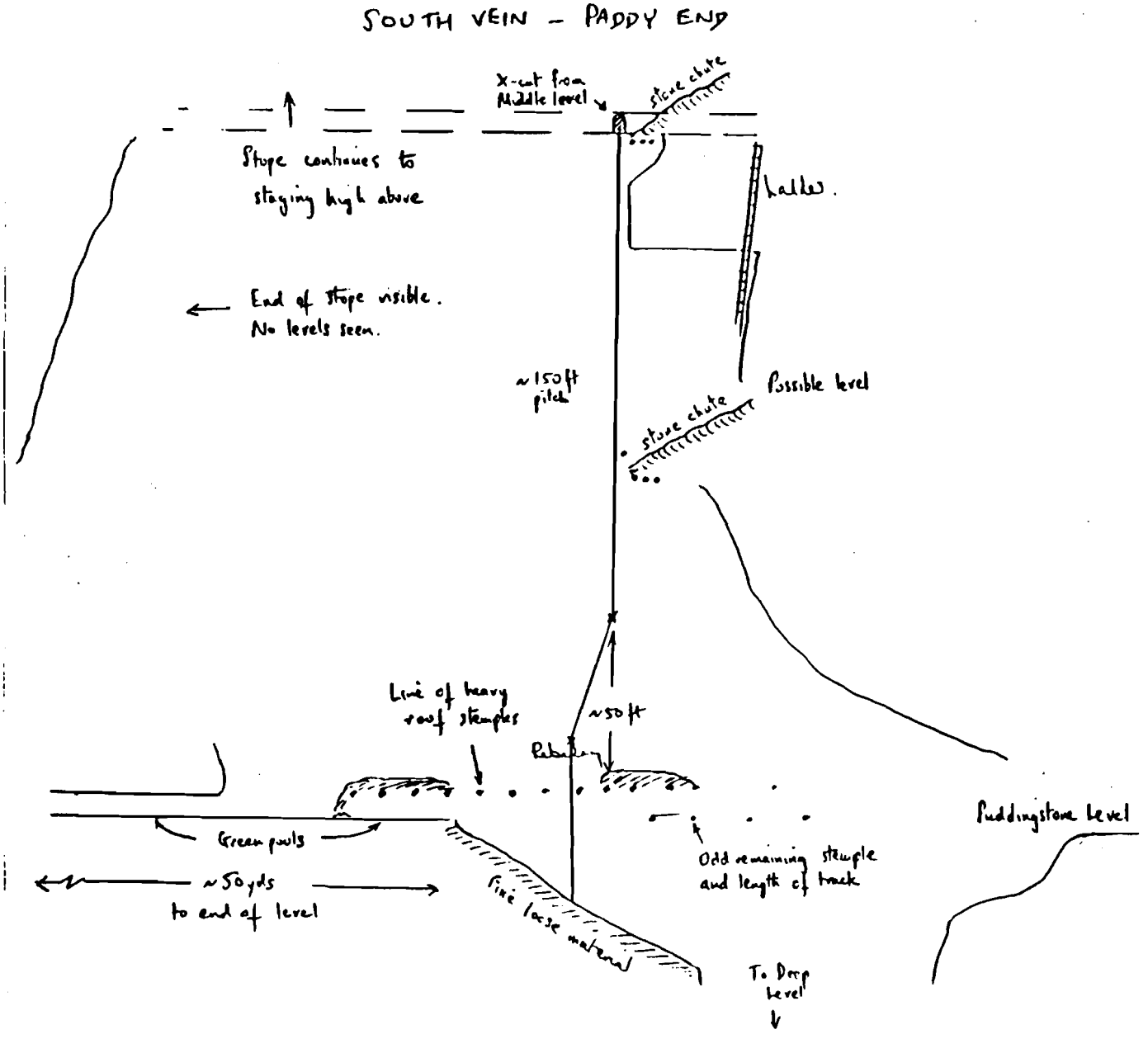
In order to reach the level just described it was nescessary to traverse a gap in the floor by prussicking up a short way, penduling across to a rebelay, and abseiling down again. The rebelay bolt was sited in solid chalcopyrite. This gap was descended to a steeply sloping floor of fine loose material forty feet below which had probably been used as an ore chute. The slope was followed to its conclusion some 50 feet further down and directly beneath the hanging death on the end of the floor above. At this point was a short masonary wall, which may perhaps be a section of false floor, below which the stope fell away into the depths. Not liking the situation we returned to the floor above.

Whilst this had been going on Dave had been trying to traverse to the right and rebelay in order to continue down towards Deep Level.It was not easy to arrange a hang avoiding the loose ground, and in order to do so it was nescessary to pendule several yards. The shape of the stope was such that the rope dragged over the rough surfaces above, so this was both difficult to achieve and involved a risk of damage to the rope. It had been done by Mike Mitchell and others about two years previously, when they made a through trip from Middle Level to Puddingstone Level, so on this occasion it was felt that the risks did not justify the end, and the attempt was therefore abandoned.

On the climb out up the sticky ropes the opportunity was taken to examine the stope. The full extent may be seen in both directions, and both ends slope downwards to the north. Little of interest can be seen

in this direction, but the south end rises to a nich under an overhang. Above this a steep rubble slope rises to where there could just possibly be a level. When this was described later to Peter Fleming he speculated that if so it might lead to the top of the great chain which hangs in the stope near to the junction of Hospital and Grey Crag Levels. Above this rubbleslope are some sections of a wooden ladder, which rises close to the headwall and seems to penetrate the rock ceiling which forms the floor of Middle Level. This area merits further exploration.

We descended the last pitch of the Paddy End Through Trip to Grey Crag Level, and went round to Puddingstone Level to view the stope from there. It is posssible to descend on a handline to a place about 20 feet below and forward of the point where the tramline has collapsed, and from there we could see the fragment of false floor which we had just left, and view the rubble slope beneath it from end on. Both sides seem to funnel in to the final descent, about 180 feet to Deep Level. We shall return.



CONISTON COPPERMINES 17TH JANUARY 88

Brow Stope, Middle Level, and Top Level Connection.

ML Peter Fleming and Ian Matheson.
Clive Barrow, Dave Bridge, Gordon Gilchrist, Guy Jones, Tony Keates, Chris Moor, Paul Timewell, Dennis Webb, Angela Wilson.

A connection between Brow Stope and the Top Level Extension had been made beneath the restored ore tub just before Christmas. On this visit it was hoped to dig through the Four Way Junction at the foot of Jack Roll Shaft. Peter Fleming took a group of five via the Lake Stope ladderway and Orange Box Corner to the eastern side of the junction, whilst Ian Matheson lead the rest of the party via MAG's Catwalk to visit the Brow Stope Connection and then to the western side of the junction by way of the Shattered Stope. The supposed ladderway in the floor of Brow Stope seemed to have subsided a little since the last visit, when we were discouraged by some large and immovable boulders.

Once at the Four Way Junction each party could clearly hear the other working on the opposite side. Voices could be distinguished, and on one occasion Dennis Webb and Gordon Gilchrist could see each others lights from opposite sides. However, although several tons of material were shifted there was a continuous run of material from above, and no real progress was made.

Whilst this was going on Ian Matheson and Guy Jones returned to Brow Stope, and were able to hear rock movement and voices beneath, though these were very muffled. Thus the three way connection has been established beyond all doubt. The sounds of work, and thus the junction seemed to to be a yard or two to the Levers Water side of the hanging chain in Brow Stope, where there used to be a ladder protruding from a depression in the bottom of the stope. A large pile of debris which has come from the surface some 200 feet above is probably the source of the run of material into the dig. Some stone was removed from the depression beneath the chain, and its level lowered by about two feet. It was possible to see a further three feet down the side of the hanging wall. Before leaving Ian made a careful but rough estimate of the hight of the depression using himself as a measuring stick, and the blind end of Middle Level which lies beneath the last pitch of Brow Stope as a datum point. He estimated that the bottom of the depression lies some 6 feet above the roof of the level below. However, as this is not directly above the junction, there could well be a lot more material to remove to make a connection at this point.

Both parties finished work about 5.00 pm, having made no solid progress, but nevertheless encouraged by what had been done. Another session by a fresh team is likely to succeed. On the way out Guy revisited Brow Stope, but reported no change. However it would not be surprising in view of the ammount of material extracted from below if some subsidence were to take place before the next visit, and if that were to happen it would provide more clues as to how best to proceed. Ian Matheson found a clay pipe in the false heading just to the east of the restored ore tub, and this was removed for safekeeping.

CUMBRIA AMENITY TRUST 31st January 1988.

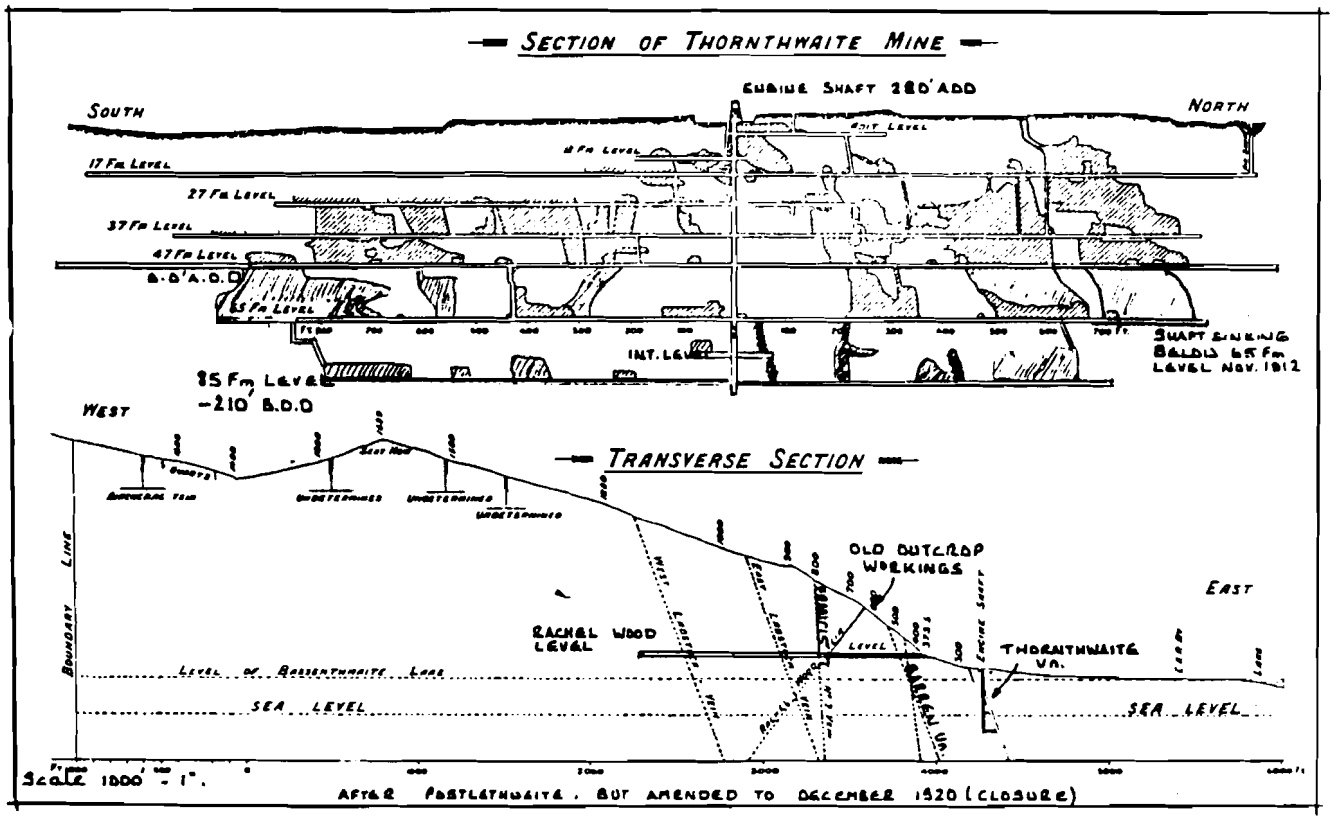
THORNTHWAITE MINES

Geology

In the Thornthwaite Set, in an area about 1½ miles long, by half a mile wide, there are at least four veins, known from West to East as, Ladstock West, Ladstock East, Rachel Wood, and the principal vein, Thornthwaite. They all trend in a general NNW/SSE direction, through the Skiddaw Slate series, which comprise of dark sandstones and shales. The Thornthwaite Vein consists mainly of smashed rock, similar to the country, with little quartz. The economic minerals are galena, and blende, in the proportion of 1:2. The vein widths vary considerably, frequently 20 - 30 feet across, but up to 50 feet in places. It is reported that the silver content averaged about 10 ozs. of silver per ton of pig lead, which increased slightly with depth.

Mining

The engine shaft on the Thornthwaite Vein is situated immediately adjacent to the old A66, in the garage premises, 200 yds. South of the fourth milestone from Keswick. The shaft collar is 280 feet Above Ordnance Datum, and has levels from it on the vein at 12, 17, 27, 37, 47, 65, and 85 fathoms from surface, making a total depth of 490 ft. (see section). The vein has been worked for approximately 900 ft. North of the shaft, to an air shaft marking the Northern limit of the mine. To the South of the shaft, the vein has been explored for over 1300 ft. Most of the ground above the 65 fm level has been stoped out prior to 1912. At the time of closure (December 1920) the orebody had not been bottomed.

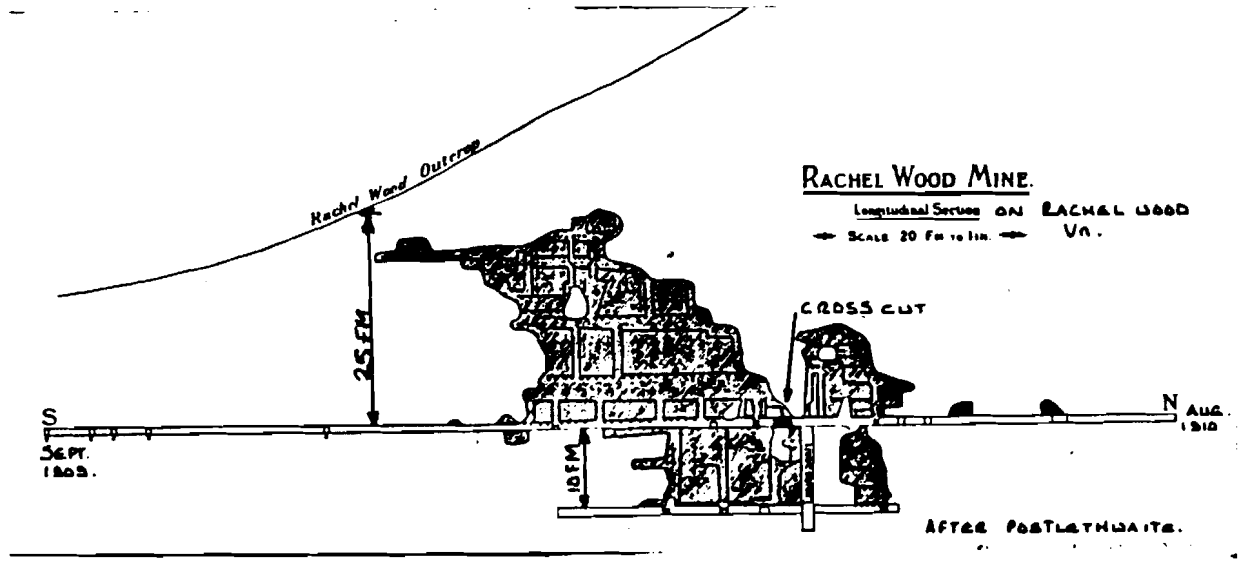


Rachel Wood vein has been worked at outcrop, high up in the wood. These workings are very old, and fairly small. The vein hades to the West. The majority of the ore produced by this vein was via the Rachel Wood Level, a cross cut driven

in 1875, West into Seat How from an elevation of 366 ft. AOD, for a distance of 540 yds. The level cut the Rachel Wood vein (and Francis Vein) at a distance of 180 (& 200) yards respectively, from the portal. The veins were worked over a length of 90 yards, to a maximum of 25 fms above the level, and by means of a sump, to a depth of 10 fms below. The continuation of the cross cut to the West failed to prove ore in bulk, although cutting the probable position of both the East and West Ladstock Veins. At the time of closure of the mine, development was suspended (See transverse section).

The old Beckstone Mine, abandoned about 1860, lies half a mile North of Thornthwaite. A little galena was got here from a vein which may be a Northerly continuation of the Rachel Wood Vein. The mine was worked by levels and bell pits across the Eastern face of Barf, and around Beckstones Gill.

The Ladstock Veins (East and West) have been worked on a small scale at the Ladstock Mine, on the South side of Comb Beck. This mine began in pre-gunpowder days. At the beck, the veins are about 100 yds. apart, and appear to be between 2 and 4 ft. wide. The mine was worked by levels and open stopes for galena, and is still partly accessible.



History

In 1848, Thornthwaite Mine was already 27 fms deep, when the Keswick Mining Co. re-opened the mine and sunk the shaft a further 10 fms, to the 37 fm level. The dumps at Beckstones Mine were re-worked, but operations only lasted for 6 year. In 1873, Mr. William Francis re-opened Ladstock Mine, and formed "The Keswick United Silver Lead Mines Co. Ltd." Thornthwaite Mine was re-opened and in 1875 the driving of the Rachel Wood Level commenced, but was abandoned before reaching the vein. In 1881 the leases passed to Mr. J. B. Lobb under the name of "The Cumberland Lead Mine Co." The shaft was deepened to the 47 fm level, and the dressing floors re-equipped. After the death of Mr. Lobb (around 1893), Messrs. F. W. Crewdson and Anthony Wilson took over the lease under the title of "Thornthwaite Mines Ltd." The engine shaft was sunk to the 65 fm level and again, in November 1912, sunk to the 85 fm level. In 1901 the Rachel Wood Level was continued Westwards to cut thevein. In 1920 (December) the mine was temporarily closed due to a slump in metal prices, but was fated never to re-open, the Abandonment Plans being filed by John A. Hill, Surveyor to the Weardale Lead Co. of Co. Durham, on 14th June 1924. In its latter days, between 1894 and 1913, the mine employed an average of 70 persons.

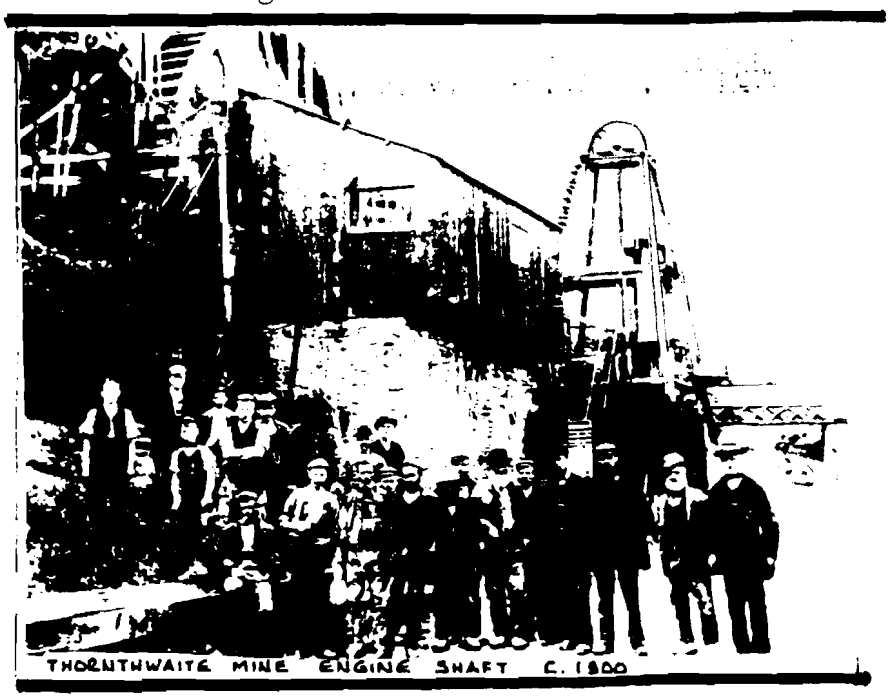
Output

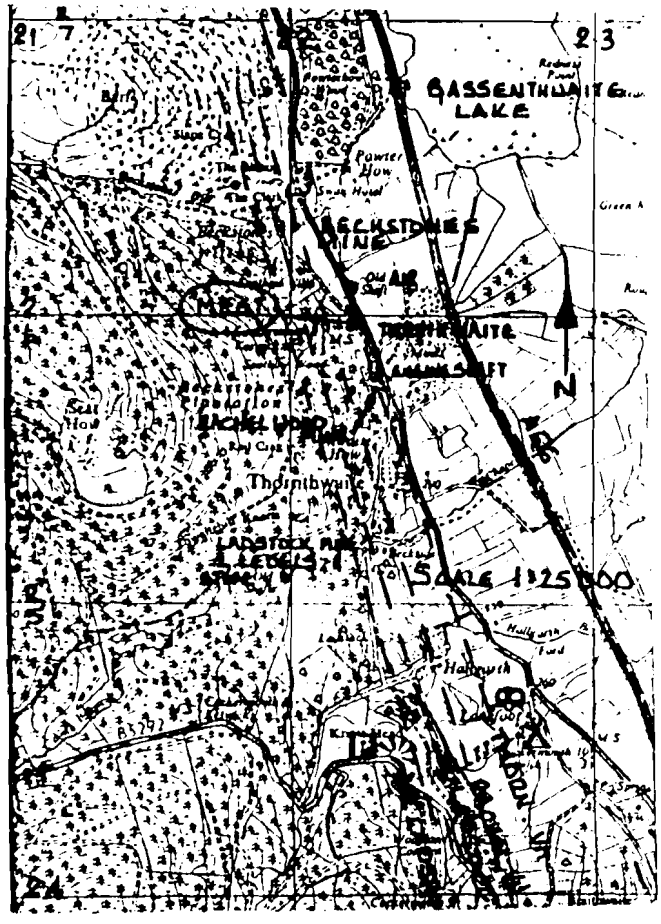
From 1870 to the end of 1918 the total ouputs were ;-

Blende, 15682 tons, averaging £5 15s.5d. per ton with up to 50% Zinc.
Galena, 10987 tons, averaging £10 3s.0d. usually dressed up to 81%.

For the period 1870-1918, galena formed 41.2% of the total output. The maximum yearly production of galena was in 1911 when 890 tons were produced, and for blende the best year was 1905, when production was 1099 tons.

In its latter days (1919) the ore dressing was as follows :- The ore was raised at the shaft to about 16 ft above the surface and tipped onto an incline for rough picking, before passing to to Blake-Marsden Stone Breakers and two sets of Davisons & Greens Luhrig Jigs. The rejects from the Jigs pass to a ball mill and are then treated as slimes on Wilfey tables. The effluent from the dressing floors passed to Bassenthwaite Lake via a pair of slime settling lagoons covering 2 acres between the mine and the railway (the present line of the A66). The concentrates produced were carted 1½ miles to Braithwaite Station on the former Cockermouth, Penrith and Keswick Railway.


THORNTHWAITE MINE ENGINE SHAFT C.1900



Power for winding in the shaft was provided by a 30 HP Robey steam engine, whilst the dressing plant was driven by a 45 HP Pelton Wheel with a 45 HP suction gas plant as standby for use in dry weather. An additional Pelton wheel of 8 HP was used to drive the slimes plant. Pumping of the mine was carried out by the usual plunger pump arrangement driven by a waterwheel (on the left of the lean-to building on the photo above). The mine was supplied with water from a 1 million gallon capacity reservoir on Comb Beck, above Ladstock Mine and below the Whinlatter Road.

References

1. Mines & Mining in the English Lake District, John Postlethwaite, 1913 (Michael Moon 1975)

2. Memoirs of the Geological Survey, Special Reports on the Mineral Resources of Great Britain, Vol.XXII The Lead & Zinc Ores of the Lake District, by T. Eastwood, ARCS (HMSO 1921)

3. The Future of Non-ferrous Mining in Gt. Britain and Ireland - Symposium, Institute of Mining and Metallurgy, 1959.

4. Mining in the Lakes Counties, W.T. Shaw, Dalesman, 1972

5. Northern Cavern & Mine Research Society. Memoirs, Vol. 2, No.3, Sept. 1973. "The Mines of Windy Hill, Woodend & Barf", J.D.J. Wildridge.

6. The Cumberland Mineral Statistics, 1845 - 1913 R. Burt, P. Waite, R. Burnley. University of Exeter, 1982.

D. J. BLUNDELL,
8th January 1988.

SUMMARY OF MEET WHICH TOOK PLACE ON 31st January 88

18 participants - members/non-members.

Main party entered Rachel Wood level, the climb up into the stopes was not tackled.
A small party went of to explore Ladstock west vein.
After lunch the party viewed the old pre gunpowder workings which are approx 50yds long. Further exploration $\frac{2}{3}$ of the way along this level gave access into a sub-level, below this a 20' pitch gave access to another sub-level with a 30' pitch which was not descended (bolts placed).

" CARROCK MINE " MEET REPORT

6th March 1988

As usual this venue was well attended. A total of nineteen people came, which included four guests. A list is attached.

Two new routes had been rigged; Route A descended from the "Gill X-cut" down the manway below the Air Shaft Rise, this route passes through the No.1 Level and down to the Harding Level 200 ft. below.

Route B - 140'. This Route descends through the open stopes on the "Harding Vein", dropping into the No.1 Level, which is run-in North and South (ADIT) after only a short distance. The descent continues down a second pitch by the side of the now derelict manway to the "Harding Level".

Route C - 140'. Starting on the "Smith Vein" Top Level X-cut - descending via a ringed manway dropping 80 ft. to a sub level via the stopes then dropping 60 ft. down to the "Smith Level"/"Wilson".

Most people did the abseil trips whilst others explored the two manways on the "Harding Level" visiting the winch site and upper areas. A full tour was made of the "Harding-Emmerson Wilson-Smith.

No exploration could be carried out on the "Coombe Height" due to a large amount of snow in the open stopes.

It is intended in the near future to explore the first "Air Shaft" on the Harding - and to make a descent on "Coombe Height" sub level in preparation for a further meet.

IAN TYLER
Meet Leader.

MEET REPORT

WELSH MEET, EASTER 1988

By A.C-P-Thomas.

Members present; D. Blundell, A. Sibbald, P. Blezard, A. Danson, P & M Fleming, A. Lings, A & S C-P-Thomas, S. Sparkes.

Fri. 1/4/88. Setting out late a.m. for Glasdir (Cu, Pb, Au) leaving Alistair pitching his tent in the rain (having driven off the ferry at Liverpool that morning) to follow. A descent was made of the huge quarry like out crop and underground, Andrew made a further descent of the shaft from the upper chamber which apparantly led down to a water filled chamber across from which the addit level could be seen, access to which could not be effected without some means of boatage.

On emerging from Glasdir we met up with Alistair and after lunch drove round to look at the mill site. I think we were all rather surprised to see that the 9 terrace mill, usually obscured by overgrowth and christmas trees, had been cleared. We didn't manage to establish who was doing this work, but whoever it is is doing a good job in exposing this impressive edifice.

From Glasdir we moved on to Ceunant Hyl, an aesthetic little mine (Cu, Au,) worked between three levels over a vertical range of approx 150 ft. The main lower level leads in from an attractive waterfall and from this horizon progress could be made up the stope to a sub level a few feet below addit No 2. From No 2 a short stope climb gave access to level No 3.

On the way back to the cars, Alistair with wet suit forced a short wet trial which opened on to the roadside.

Sat. 2/4/88. Another wet day and an apparent unanimous decision to get underground and dry at Bryneglwys slate mine Abergynolwyn. Unfortunately the meet leader for the day was seduced away en route, unbeknown to us at the rendezvous, by the lure of hot soups and things at the Alternative Technology Centre, and those of us in the field spent a long time thrashing about trying to find a portal on the heavily beforested slopes. Eventually we did find the portal to level 10C, and two of us made a ladder/handline descent to level 15C. Rails are still extant in level 15C upon which sat a rubbish waggon. Also to be seen here was a slab boggey and three impressive slab winches, one as a kit of parts.

Photos; Bryneglwys, left, level 10C, above, bogey and winches level 15C.

(contd.....)

(Welsh Meet ....contd)

Sun. 3/4/88. Whilst most of the team went to look at Manganese workings Nr Bontddu, and later to some gold panning at the head of Cwm Alluf Aithfull, Andrew, Sheila and I went to look at the little mine waterwheel that we missed out on last Easter. This little mine features a superb little wheel, the drive from which was taken along the level by means of shafting and universal joints (all still in situ) to a small crank at sump head (see photos). The crank presumably once drove a small pump in the sump bottom.

Another site visited was the iron mine above the Cross Foxes inn Nr Dolgellau (SH 760 163),the principal interest of which is its antiquity. In 1709 a Quaker chap set up an iron furnace at Dolserau Nr Dolgellau, the whole project being justified by the local iron deposit. Due to local religious discrimination however the project failed.....apparently it took the bloke two years to collate enough charcoal for one blast ! .... but presumably the mines worked on regardless. On site I'm not sure if we found any testament to the T'owd mans' workings, unless of course the modified trenchlike open casts once bore witness to this, but of more recent origin are the surface tramways (rails still in situ), inclines, buildings and underground shafts. The shafts were not descended but from the chambers off the upper cutting appear to be about 100 ft deep. In the forest below we part unearthed a side tipping bogey.

Photos; Little Cu mine with waterwheel on Nant Gefail-y-miners at SH 768 394 Nr Trawsfynydd. Top shows remains of overshot wheel with shaft drive to level on left. Lower photo shows drive shaft at sump head. Note crank extreme left and also eccentric balance weight on shaft just in front of Andrew.

Mon. 4/4/88. Not being present I am not fully able to say what transpired, but a team descended the engine shaft at Vigra and went stope swimming. Apparently Andrew found a curious implement (and left it there for others to see), the sketch and description of which I look forward to reading about when the report is published.

La Fin.

VIGRA - Gold mine SH 663192

A memorable trip.
A number of entrances are to be found in the woods in this area, a large area of spoil and derelict buildings are the most obvious things to look for.
We entered via the engine shaft which took us to the first level 70' below. (SRT)
The engine shaft is flooded below this point. We proceeded to work our way along the very wet and collapsed stopes, moving across false floors, and where these had collapsed we swam to the next pile of collapsed timber. After going as far as we could, we retraced our steps back to the engine shaft, to one side of which it is possible to climb out and exit via an entrance above the engine shaft.

'Mud bath' row at Royal gold mine

21.4.88

By Brenda Parry

RESIDENTS of the Snowdonia village of Bontddu have called on Mr Walker, Secretary of State for Wales, to intervene in the development of the Clogau gold-mine as a tourist centre.

The villagers claim that woodland in the National Park has been turned into what looks like "a tank training ground" to provide a car park for 200 cars.

The mine provided gold for the Prince and Princess of Wales' wedding ring.

Villagers claim that the National Park committee has either closed its eyes, or has not been informed of what has been going on since outline planning permission was granted to the developer, Mr Will Roberts in January.

The woodland has been destroyed, they say, and they want him prosecuted.

But a meeting of the Snowdonia National Park Committee last week indicated it would not be possible to prosecute.

A spokeswoman for Mr Roberts said: "As far as we know the company has done nothing to contravene any planning laws."

Mr Alan Jones, the National Park's Chief Officer, said the authority was very unhappy about the way the developer had gone ahead without proper planning permission.

But given that the woodlands could not be replaced the task now was to see that the completed development was compatible with its National Park setting.

JACK ROLL WINDLASS SIMILAR TO THOSE FOUND IN CONISTON COPPER MINES

" CONISTON COPPER MINES "

EXCAVATION AT SIMONS NICK

On the edge of Simons Nick, just above Levers Water, is a circular depression about two and a half feet across, and, close by, some fragments of ancient timber, two iron studs and an iron stip protrude from the grass. Directly below, on the floor of the Nick, lies a fragment of masonary wall which might be a shaft head. A dig here on Boxing Day 1986 revealed a jack roll windlass. That dig has not been completed, for later that day, an examination of the other side of the Nick lead to the discovery of the ladderway leading to Dead Dog Passage, and subsequently to the Top Level Extension and its many connections and ramifications.

Last Wednesday evening (June 22nd) a small group of CAT members met to examine the remains buried in the grass. They were Peter Fleming and Mark Scott, who had been the first to notice them, Sheila Barker, Angela Wilson, Ian Matheson, and later Alan Westall. It was a bright, but cool and windy evening. The turf was removed from the depression to reveal an iron ring set in stones, and further excavation showed that the hole beneath was lined with timber. Was this part of a barrel? It did indeed seem to be so, for about eighteen inches down the end came in view, a single very well preserved piece of wood some thirty inches in diameter, with an iron boss which had been bolted in the centre. It looked like plywood, but this seems unlikely in view of its probable age. The interior of the 'barrel' was full of small stones and fragments of wood, but at the bottom quite a few pieces of Peacock Ore (Erubescite) were found. The remains are clearly that of the bottom end of a barrel with an iron rod mounted in its centre. One can only speculate as to its use. A water tank? More likely a hand operated jig for washing or separating ore.

Removal of the turf from the nearby remains exposed a layer of moderate sized rocks. They formed a layer one rock deep, and seem to have been placed there. Beneath was a timber and iron platform like structure about six feet wide, and of a similar length which reached to the lip of the open stope. It had been built of rough timbers, but had heavy sawn cross and side members. Each side member carried a large square headed bolt, which protruded above the grass. About seven flat strips of iron of varying width and thickness ran towards the edge, their disposition symmetrical, but their purpose obscure. The whole structure seems to form a platform to mount some equipment with which to carry out work in the open stope. It may have carried the Jack Roll Windlass which we found below, but it seems more complex than that. There was not time for a complete excavation, so there may be more to reveal at a future date.

Both excavations were photographed and then filled in again in order to preserve the remains. How old are they? Well, lying as they do on the surface of Simons Nick they may have been in use before Top Level was driven to provide an easier means of removing materials from the stopes in the mid nineteenth Century. The surface workings around Simons Nick are Elizabethan; in 1616 they were about four fathoms deep, and according to Sir Daniel Fleming the miners were experiencing difficulty with the make of water. Could these remains date from then? It's possible, but I personally do not think so, for they were built on top

of the spoil which overlays the ground at the side of the Nick. The 1986 Boxing Day discoveries included no less than four Jack Roll Windlasses, which seemed to have been used by latter day miners in a final attempt to make a living during the last months or years of the failing mine. Perhaps they date from then, but again I dont think so, for their location doesn't tie in. My guess is that they date from the late eighteenth or early nineteenth centuries, in the period between the activities of the Company of Mines Royal and those of John Taylor and John Barrat, when the mines were less productive, and were only worked at intervals.

Ian Matheson.

Boring Operations

Great Ayton – Rly. Station.
Mine Museum – Skinning Grove. – Loftus.

Anton. White Sill

Boulby Alum Quarry

THE OLD MINING INDUSTRIES OF THE CLEVELAND DISTRICT OF THE NORTH RIDING OF YORKSHIRE.

Don Borthwick has been in touch with the Cleveland Industrial Archaeology Society, and they have agreed to show us around some of their mining remains during the weekend of September 17/18. Cleveland is on the North East coast approximately opposite Furness, and the two areas have much in common. Both have extensive and various mining and industrial remains, and both Middlesbrough and Barrow developed from very small rural settlements in the early 19th Century as a result of the exploitation of iron ore, haematite in the case of Furness, and ironstone in Cleveland. Both towns were designed as new towns on a grid pattern, and both areas developed steelworks, which have now closed.

Of the abandoned ironstone mines, one situated near Great Ayton offers the safest roof conditions of the several mines into which access can be made. The seam thickness is only five feet compared with the more usual seven feet plus of the Cleveland Main Seam Mines. It was ventilated by a furnace until 1919, when an electric fan was installed, so the furnace is still to be seen, though the fire bars are missing.
By far the most interesting mine in the area is near Goathland, which has been worked in the Cleveland Dyke for road making stone. The dyke occurs as a near vertical vein with a width of from 20 to 40 feet, and extraction was by a system of benching in faces 20 to 30 feet high, and with similar places above. Boulby Alum Quarry is interesting, and being in the sea cliffs at an elevation of 500 feet, on a good day the view is terrific. The Tom Leonard Museum is worth visiting

In the Cleveland mines, and particularly the ironstone variety, black damp is common, caused by the rock absorbing oxygen from an atmosphere now static since the fans stooped, and there is a history of inflammable gas in the Main Seam mines caused by mineral oil seeping from the jet shales some distance above the ironstone. It is usual for the leader to carry a flame safety lamp to check oxygen levels and for inflammable gas. For this reason such mines are strictly NO SMOKING, and naked flame lamps such as carbide cannot be tolerated.

Historically the Cleveland ironstone has been worked from wayback, and several of the abbeys had a thriving iron industry on their extensive lands, so that bloomery slags can be found throughout the local National Park, and one relativel good bell pit mining site from pre 1600 can still be easily recognised. Along the coast some interesting remains can be seen at low tide, where ironstone was quarried on the scars and shipped off in small sailing vessels. An evenings talk with photographic slides might be arranged to explain the variety of extractive industries and surface remains of Cleveland.

It will be appreciated that a visit like this involves a considerable ammount of time and preparation by the Cleveland Industrial Archaeology Society, and we need a good turnout in order to repay their efforts. It would be helpful if you would contact Don Borthwick as soon as possible to let him know if you hope to attend. (phone 091 482 2873) We hope to arrange a return visit for CIAS members perhaps next year.

I.M.

HONISTER SLATE QUARRIES CAT NEWSLETTER NO 19.

Peter Holmes has sent in a very interesting letter concerning the Honister Quarries.

The article on Honister Quarries in CAT Newsletter No.19 was very welcome, particularly the sketch plan. I have a few points to add which may be of interest to members.

I understand that the lower of the two veins, containg the older workings, was called the 'Honister Vein' while the upper and more recently worked one was called the 'Kimberley Vein'. I know slate is not a vein mineral but from an engineering point of view it is convenient to refer to a slate bed as a vein.

Postlethwaite in his 'Mines and Mining' refers to an inclined tramway system being installed in about 1878, and the context implies that this is the long series of inclines which stretched almost to the top of the crag, along the outcrop vein. A separate tramway served Dubs quarry. The Honister Crag tramway formed three sections; starting from the top they were called Nag Back incline, Ash Gill incline and Bull Gill incline. The level tramway connecting the incline bottom to the road was worked by horses, and was called the 'Monkey Shelf'. This was well below the much later 'Link Level'.

The tramway did not pass across Bull Gill on a bridge, as the plan suggests; it was recessed in to the rock face and supported on a stone wall which has fallen away. The incline rope was guided round the curve by a series of vertical posts. A photo of this spot appeared in 'Cumberland', a geography textbook published by Cambridge University Press in 1910. It is on page 90 of the very thin section dealing with industries; as a matter of interest page 86 has a photo of Wellington Colliery.

The aerial ropeway at Honister was installed by White & Co of Widnes in or about 1927. It replaced the lower half of Bull Gill incline and the Monkey Shelf tramway, but I have the impression that the rest of the external inclines were left in position after the ropeway and 'Old Incline' (underground) had been installed.

Does anyone know the names of the various working levels? They must have been named in some way. In 1978 I noted that the position indicator on the New Incline was marked, working upwards - 'F' '2A' 'W' and 'P', the point corresponding to the top level being blank on the dial. At that time the winding house bore the name 'Blencowe Station' in black paint! The

date on the New Incline motor was 1944 but I suppose this isn't necessarily the year the incline was constructed.

Another rail incline, on the surface, was the Kimberley Incline which connected the top level workings on Kimberley Vein with the road at the head of the pass. This tramway is on the site of the present zig-zag road to the top level, the incline doesn't seem to have served much purpose and I wonder if it was replaced by the underground 'New Incline'. The whole history of this transport system is quite confusing, and it is difficult to decide the exact sequence of events surrounding the surface inclines, the underground inclines, the ropeway and the 'Link Level'.

I was once told that up behind the winding house of the New Incline ('Blencowe Station') there was a level which gave access through to emerge in the hanging wall of the lower vein. Is this a myth? Possibly it refers to the short level containing a sheave wheel, which as suggested may have been used for a counterbalance on the New Incline before it was motorised.

Some years ago I heard that a history of Honister Quarries had been written by Mr.R.Brownrigg, the former manager. It was never published but a typewritten copy was in existence somewhere. I wonder if anyone has ever seen this.

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LETTER TO THE EDITOR

BUZZ OFF

Madam,

Being by nature an argumentative type I cannot let the opportunity pass without commenting on the nonsensical trash propounded by Mr Anton & Mrs Sheila Chenylle-Proctor-Thomas in their letter "Game or Endeavour", published in a previous Newsletter. To suggest that hazards are "purposely left unamended to cater for those who insist on a certain level of danger"is naive and a trifle arrogant.
I will admit that in my thirteen years experience of caving and mine exploration I have witnessed the occasional dangerous manoeuvre on a bad pitch or shaky ground and have myself indulged in the odd calculated risk but never,on any occasion,has this been done to stimulate the senses in the manner Mr & Mrs C-P-T so impertinently suggest. Mines are dangerous places and in order to explore them thoroughly in the pursuit of knowledge and for the furtherance of research,conditions dictate that risks have to be taken.

I am not sure to what exactly the authors are alluding when they mention the "buzz factor". It seems that this "buzz factor", subscribed to by "a minority", is experienced when abseiling on ropes purposely strewn over rocky projections; so presumably the "buzz"is stimulated by the uncertainty of the rope being able to perform its function of allowing the abseiler to alight safely on the ground.
This sounds vaguely sexual (non-professional opinion)and smacks of the frustrated male hanging by a neck-tie in the wardrobe syndrome,by all accounts a common form of sexual relief and a relatively common cause of accidental death. Rope protectors have been an integral part of club equipment since the early 1980s and due care and attention has always been implemented when rigging and descending pitches.
I therefore suggest that Mr & Mrs C-P-T stop knocking the proficient mine explorers in the society and turn their attention to the followers of their own doctrine who are systematically polluting our ancient mine workings with their rashes of superfluous shiny bolts,hangers and tapes,and destroying the aesthetics of the very environment we are out to preserve. It is obvious that Mr & Mrs C-P-T are more interested in creating safe surroundings in which to spend a sporting Sunday afternoon rather than interpreting the frail industrial remains which lie in our deep and dangerous caverns.

As an alternative to taking risks and getting a cheap "buzz" the authors suggest it might prove "archaeologically instructive to research,develop,and implement"the means by which the miners themselves assured their own safety.
A swift glance at the fatality statistics conveys the immediate impression that the old men were not the most safety conscious of workmen. Descending shafts on improvised ladders,rusty chains or wedged stemples is not my cup of tea,buzz or no buzz,and as for testing for fire-damp with a flaming brand and a wet sack over my head.....no thank you.

Perhaps,should the opportunity occur,they could explain one small point which has been puzzling me since I first read this letter. What is the definition of the word"untechnique"? I have been through my collection of dictionaries,though have had no success in locating it.

Alen McFadzean
7 Silver Street
Marton
Ulverston
Cumbria.

ED. I would like to add that this letter has been edited so as to 'tone down' some of the comments made.

IAN TYLER SPORTS

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