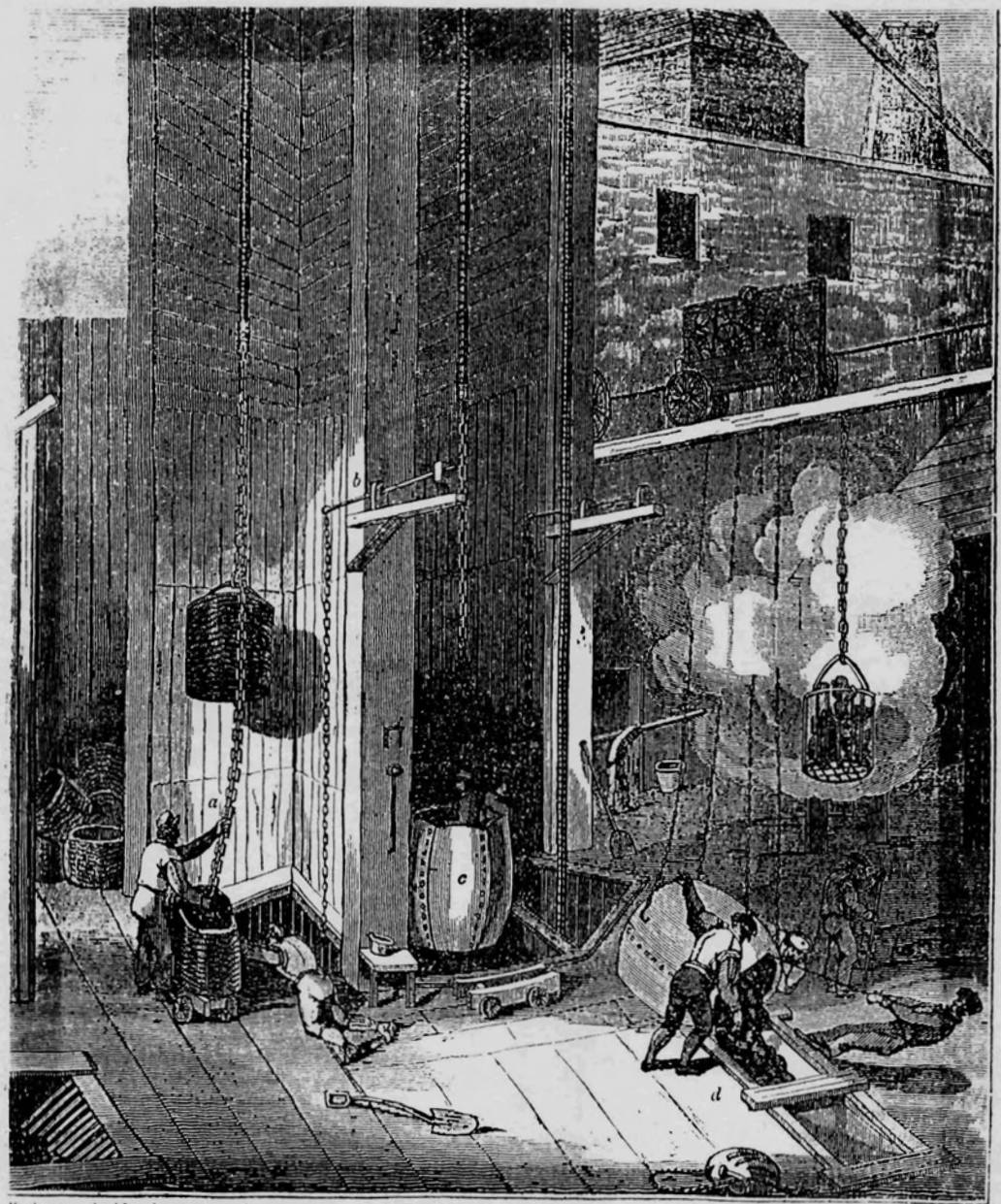
The Bouse Team

No 42

April 1995



Banksmen unhooking the corves which have come up; *b*, a hammer by which signals are made from the bottom of the shaft; *c*, two miners descending in an iron-tub; *d*, Banksmen and boy shooting a tub of coals through the screening-holes.

The Newsletter of the

Cumbria Amenity Trust Mining History Society

Front Cover supplied by D.Parsons and is
South Hetton Colliery in 1835.

Contents

Articles to come:-

Power from Water - Wheels and Turbines , by David Sewart.
Newsletter Contents - by M.W.T.S.

My Thanks to Dave Bridge for Proof Reading

Society Notes

One or two things since the Bulletin was issued. We have now applied to join the BCRA , so that we can obtain the facilitates that this organisation can offer, e.g, a BCRA arranged weekend of talks and visits took place at the Punch Bowl, Low Row, Swaledale over the weekend of 8th-9th April to which David Parsons has been to, and will report in the next newsletter. By the way David's addresses are IVY COTTAGE, The Green, Froggatt, Sheffield, S30 1ZA, and 3 Sharrow Cottages, Howtown. Must have been getting 'blind eye' when I put that in the last newsletter.

The next half-years meetslist is out and you should have yours with this publication. The attendance at the last meets meeting was a bit sparse and means that either folks are very satisfied with Jon's efforts or the effort of thinking about what CATMHS ought to be doing has again proved to much. So here the new list is. I hope you like it and support the Meet Leaders in their efforts. (An oft cry of IA Societies.)

The FMA have called a temporary halt to proceedings, seemingly it is something to do with a defunct Thomas camera, but considering the work that they have undertaken, a pause seems understandable. Speaking of Anton you will now see in the following pages a list of the CATMHS library, to which all members should make an effort to use, it is not up to date but there is a lot of it and there comes a time when the keenest Archivist says ' ----- ' it, a statement I can endorse after converting the card file into wp text. (The Furness Cardfile Index looks impressive) Using the library will be by individual negotiation with Anton. The Coniston Copper Mines video is underway, (started by original idea by Jeff Wilkinson, to the effect that such a thing would be an asset to the mining display at the proposed extended Ruskin Museum). Interested parties should contact either me or Ian Matheson. The preliminary sessions have yielded some useful lessons, the exercise will not be easy or quick. The script is to be carried out between Levers Water Mine, Brow Stope and Top Level, other routes may be undertaken if this is successful. (Musical score for the production Dave?).

This has brought out another thing, namely a video trip requires some form of 3D representation of the mines. For those of you who know the area, this in itself a challenge, Peter Fleming's plans provide a useful basis, but more work is required in this area.

WE DO HAVE SURVEYING EQUIPMENT. Yes, I know there are computer programmes, but they require accurate data to begin with, anyone have a spare theodolite ?

Lancaster University sent us a letter asking what survey work and to what standard CATMHS had or are carrying it out. Well, apart from what the FMA have been doing, very little excepting Greenhead Gyll. Any body feeling keen?.

Finally, someone brought up the vexed question of :- How do we attract new members, new younger members? Well any useful ideas, observations etc. will be welcomed. Dont be shy if you think that the existing set up leaves a lot to be desired then say so, all letters will be published if they are appertaining to Society affairs.

New members !! Welcome to:-

Mr Martin Carter	Loweswater Cumbria.
Mr Andrian Barrell	Yelverton Devon

Diary Dates.

30th April	Diamond Pit Furness Relic Survey meet Lindal Cross Roads GR SD 253762
6 - 8th May	Coniston Exhibition
10th May	Lowfield Mine. Evening Meet. Meet at Mine, Green Lane, Lindal GR SD 259761
21st May	Coniston Pumping. Meet at BMSC Cottage.

Joint Weekend with the Russell Society.

15th & 16th July 1995

A 2 day meet has been organised with this premier mineralogist society.

Sat 15th July. - Coniston Copper Mines. -- Meet Leader Brian Young.

The day will consist of a surface walk around the coppermines valley observing surface geology and mineralisation. This is a rare opportunity for C.A.T.M.H.S. members to listen and learn from the expert himself ! No experience in geology is necessary to enjoy and gain from this meet. (Which is a good job for 99.9% of us). So do come along - A x10 jewellers eye piece may prove useful.

Sun 16th July - Coniston Copper Mines -- Meet Leaders : Jeff Wilkinson & Dave Bridge.

It is planned to guide members of the Russel Society around Levers Water Mine and Hospital Level, If you have recently joined C.A.T.M.H.S., or have never yet entered the underground world of Coniston, this is the ideal meet for you. No SRT will be encountered and in relative terms both mines are reasonably accessible. Normal underground gear required plus a load bearing belt with cows tail .Also the entrances to both levels contain water to just over welly depth.

For further information :- Contact myself on 015394 41231 or Dave Bridge 01946 822484

Jeff Wilkinson

NAMHO. 95.

Conference.

July 14 - 17th 1995

Lilleshall National Sports Centre, Newport , Shropshire.

Hosted by the Shropshire Caving & Mining Club - Fee £15.00

Lectures (Saturday & Sunday) -

Coalbrookdale Coalfield - Ivor Brown
Preserving Mining Remains in South West Shropshire - Colin Richards et al
Development of the Wyre Forest Coalfield - David Poyner.
Mines in North Yorkshire - Dave Carlisle
Conservation in the Gwydr Forest - Rob Vernon.
Tales of a Metal Miner - George Hall.

Boscreege Mine, Cornwall - Kevin Baker
What Remains ; a personal view of coal mining.- Nigel Chapman.
Plus others!

Seminars (Saturday & Sunday)
The Association of Industrial Archeology IRIS Project.
Early Mining in the UK
Bats in Mines.
Mining Bibliographies.

Field Trips - Surface
Coalbrookdale Coalfield (Friday afternoon)
Lilleshall Limestone Mines (Friday evening)
Mines in S.W. Shropshire (Sun & Mon)
Huglith Mine (Sun)
Snailbeach Mine (Mon)

Field Trips - Underground
Clive Mine (Sat - Medium - Diff)
Llanymynech (Sat - Easy)
Huglith Mine (Sun - Easy & Diff)
Snailbeach Mine (Mon Easy & Diff)

For Further details of underground trips contact Steve Holding (01952 - 417483)

NCA / DCA Caver Workshop 4th-5th November 1995 . Open to all.

Topics Available are:- Ladder & Line/Rigging. SRT. SRT Advanced, First Aid & Cave Rescue, Cave Photography, Cave Instructor.

Cost :- £10.00 /per person /per day. Places limited. Booking must be in advance.

Further Information and booking form plus SAE to:-
Mr Nigel Atkins.
D.C.A. Training Officer
c/o Pennine National Caving.
Wharfdale House.
Midway. Derbyshire,
DE11 ODB
Tel 01283 216507 / 0831 449919.

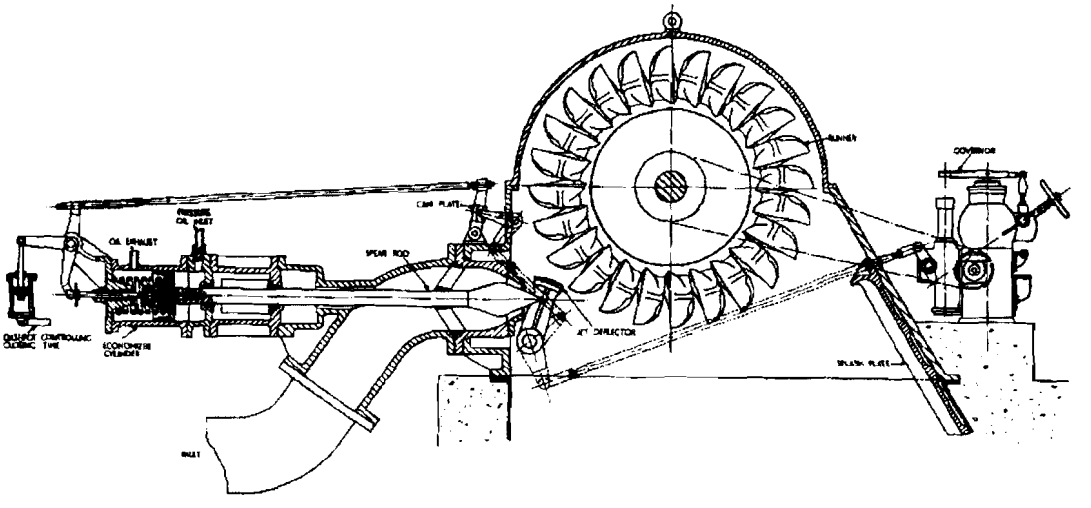


FIG. 315. SECTIONAL DRAWING OF A TYPICAL SINGLE-JET PELTON WHEEL
(Courtesy of Gilbert Gilkes and Gordon, Ltd.)

Meets Reports

Carrock Wolfram Mine 15th Jan 1995

Peter Fleming

Despite the lashing rain and a forecast of nothing better, 21 members, guests and one dog arrived on site.

We quickly made our way to the former mine portal which had been covered over on the instructions of Dalmain Estates (The landowner) when the mine was finally abandoned by the last operators in 1988.

Entry was soon gained, however, to the flooded adit. We first looked at the dam in the Harding Vein South which now seals off the extensive workings beneath Coomb Heights. This area of the mine was used as a resevoir for the sludge from the mill.

The Smith Vein workings were then entered. These extended for 300 metres with some recent stope workings overhead.

Before exploring the main area of the mine on the extensive Harding Vein North lunch was taken in a convenient, commodius chamber.

There is still much evidence of recent mining in the Harding Vein in the form of many ore hoppers, electrical switch gear and vent trunking.

Most members climbed the ladderways to the upper levels through very impressive stopes where sections of the vein up to 8ft wide had been left intact.

Arsenical pyrites was plentiful and Wolfram was also found. An alternative set of ladders was used to descend back to the main level.

The cross cut to Emerson's Vein was followed to a collapse beneath Brandy Gill, where some fine specimens of fungi were seen, water beyond this point was about 1 metre deep and no one was prepared to go any further. Members gradually made their way back to the surface and by 4pm the meet was concluded.

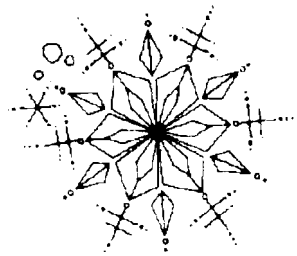
(I did hear that several members were so interested in the place that they got shut in and only discovered missing when the rest were about to drive off . Editor).

Hudgill 21st January

Adapted from Bulletin

Bad weather scuppered most of the plans for this weekend - Snow made driving over the pass to Alston an interesting experience. A gallant few did turn up, though even proceeding up the caravan site road was a digging job. Pumping out was carried out while the usual business of clearing out the cutting was done. The gallant Knowles was first in and pronounced the water f,f,f,freezing (i.e. not very warm). The rest of the time was spent sorting the timbering out and excavating some more clay. The middle of the afternoon, with the snow coming on, saw a very cold group of members utter the immortal words. To wit, lets go to the pub. i.e The Crown at Alston.

Driving back over Hartside was even more interesting, some people being more snow-wise than others.



Levers Water Mine to Top Level - 5th February 1995

Ian Matheson

About a dozen members met at the BMSC hut for this meet including two guests, Jim Stevenson and Mick Hodgkinson. Alan McFadzean put in a brief appearance en route for Hospital Level with some photographers from a local newspaper. Two others were present who were around during the great days of exploration but who might not be recognised by newer members, Chris Jones and Dennis Webb.

The through trip went remarkably smoothly for a CATMHS meet. There was sufficient rope for once, thanks to Jonesey who brought it, and most of the belays were in place and in good condition, complete with hangers. Messrs Jones and Mitchell set off on the normal route via Arete Chamber to rig MAG's Catwalk, and to put a handline from the restored ore tub down to Brow Stope, whilst the Meet Leader fixed ropes from the Funnel down through Levers Water Mine.

There has been a considerable accumulation of debris at the entrance to the mine. Lots of 'shillah' has peeled off the back wall of the Funnel and buried the bolts to which the bottom of the safety line used to be attached. Inside the water was, surprisingly, below welly depth, thanks to the drainage pipe which was still doing its job. (This thanks is due to Jeff Wilkinson who put in extension pipes. Editor). A rope was already in place down the first pitch, but it was not used as it is of unknown origin and has been hanging there for about three years. It was later untied from the bottom and pulled up to the top of the pitch in order to prevent indiscrimate use.

Both parties met at the bottom of Brow Stope as planned, and the majority continued through to Top level.. Mike Mitchell continued up through Levers Water Mine to complete the trip in reverse and strip out the ropes, and Dave Bridge went to help him.

Mark Simpson and his two guests contemplated going on down the Paddy End through trip but decided against it. (Something to do with not having the right lengths of rope to hand - editor). Peter Fleming, who had arrived late was discovered at the other end of MAG's Catwalk. A group of about ten young people from Ullswater Outward Bound was encountered, which caused some raised eyebrows. Apparently they were intent on crossing the Catwalk, but seemed minimally equipped for such and undertaking.

The CATMHS team completed the through trip by early afternoon, and spent some time looking at surface workings on the way down. Of particular interest was the vent? shaft above Flemings Level. Its proximity and relative position to the adjacent water leat gave rise to speculation that it might have been considered for use as a water blast shaft.

Members present :- Ian Matheson (Meet Leader), Mike Mitchell, Chris Jones, Peter Fleming, Dave Bridge, Dennis Webb, Clive Barrow, Jon Knowles, David Parsons, Angela Wilson, Mark Simpson. Jim Stevenson (Guest) Mick Hodgkinson, (Guest).

Ian Matheson.

I have to say that I was most impressed with the speed at which the above report came to me. On the Wednesday after the meet.!!. I wonder if it will ever happen again. (editor)

Hudgill

19th February

Quite a bit of progress was made at the project. Further timbering was installed at the fore-end and the entrance cutting was stabilised. There is still a lot of work to do before we can penetrate the blockage

From the Bulletin.

Manchester 4th & 5th March

Jon Knowles

On Saturday 4th March good crowd turned up at Wet Earth Colliery to be shown round by Mike Shardlow and helpers. Those present were, Nicola Bissett, Brian Marshall, Sheila Barker, Don Borthwick, Clan Matheson and the Author. A contingent from Furness were also in the area but since they had not read the newsletter they didn't have a map and consequently had an interesting tour of Manchester seeing many sites; Wet Earth not being one of them. Well done Anton.

Peter Hay wrote an interesting piece on Wet Earth in Newsletter 39 and it is not proposed to repeat the description here since our route and his were very similar. Fortunately our party was also waderless, unfortunately we had The Barker with us who suggested that we would like to go down the low wet muddy tunnel. After passing through a small coal seam we entered the wheel pit and saw the remains of the water turbine which had replaced the original water wheel. On leaving the wheel chamber it was discovered that the gate through the safety fencing was padlocked and much hilarity ensued as we climbed over this eight foot high obstruction.

Since the trip had taken less time than we thought we then headed across town to the Museum of Science and Industry. This is an interesting museum since it not only has the usual display of polished relics from our glorious past but also many "hands on" experiments which proved popular with the kids in the group - both young and old.

On Sunday the turn out was a little meagre being just the Meet Leader and Pete Sandbach. There was a surprise extra meet in the morning to a large Mine in East Lancashire which occupies an area of approximately one square mile and is set in a landscape where the remains of our industrial past are visible in all directions, whether it be quarries, inclines, mines, shafts or tramways. If this sounds interesting well you missed it !

In the afternoon we visited Astley Green Colliery Museum which proved to be the highlight of the weekend. After an introduction and slide show by Mike Shardlow we moved across to the Engine House to see the two largest horizontal steam engines I have ever seen. One is now restored and work is proceeding on the second. The intention being to have both operating at low speed in approximately 3 years time. Astley Green was one of the last collieries opened in Lancashire and was opened by the Pilkingtons of St. Helens who also owned Wet Earth.

In addition to the two large engines there are numerous smaller steam engines both in steam and awaiting restoration together with an interesting display, in the Old Office, about local Mining and particularly drift mines. This proved welcome shelter on a raw day with snow the previous night. All in all and enjoyable day and well worth visiting if you are in the area.

Jon Knowles

Knockmurton Mine 19th March

Angela Wilson & Sheila Barker.

Details to appear in next ' Bouse Team'

SRT Training - Blue Quarries Coniston 26th March

Well ! Jon was there, a good practice route was rigged, gear and help was available. Not many availed themselves of this opportunity even if the weather was cold and wet, the quarry was nice and sheltered. (Editor)

The Ruskin Museum , Coniston
Update March 1995

Surprisingly the plans for the museum extension were passed, without conditions by the planning board, at their first submission, on 2nd February 1995. This was probably due to their sympathetic design by the architect.

The extension exceeds the present boundary of the institute/museum property but we have an option to purchase a triangular piece of land from the adjoining field.

The new museum will approximately treble the present display area and have a reception, cloakroom and toilet facilities on the ground floor. A new first floor will accommodate a library/ studyroom, small workshop, office and a storage/ display area for the reserve collection - all of which are currently lacking. The surrounding area will be surfaced and landscaped to provide pedestrian access and ten parking spaces.

It is planned for the Ruskin and Collingwood material to remain in the existing part of the museum while the extension will house the historical trail of Coniston. From the Bronze age, mining, quarrying, farming, through to Donald Campbell and Arthur Ransome.

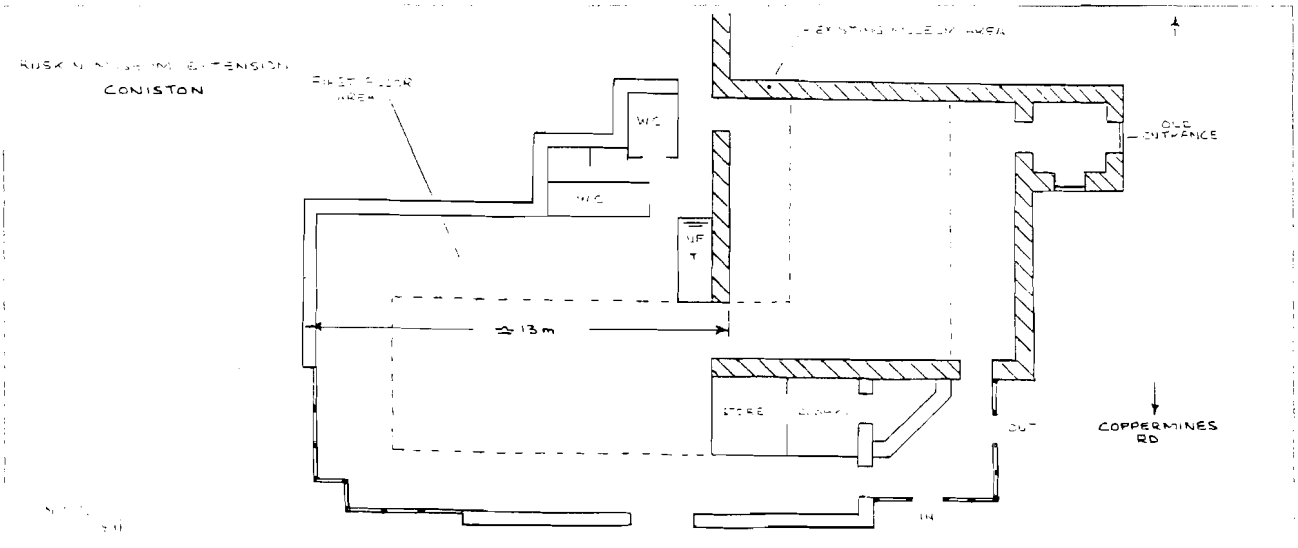
So if any of you out there have a room full of Coniston mining artifacts of documents, that really ought to be preserved and displayed for the benefit of local people and students in posterity, then we would love to hear from you!

The estimated cost of building the extension is £250,000, to get the museum up and running - internal refitting, fees, conservation work and marketing - could easily cost a similar amount so the museum committee are looking to raise something in the region of £600,000. Our Project Officer is very optimistic and believes that the majority of the fund will be raised from two sources i.e. the National Lottery and the European 5b Grant Aid. However, other sources of funding are required to show our committment and cover expenses accrued prior to and during building. We will be approaching many local companies and national charities who, will hopefully support the venture.

To increase local awareness the museum have arranged the following free displays in the Main Hall of the Coniston Institute (10am - 4pm) during Cumbria Museums Week.

Tues 9 May ------ Lake & Mountain Day
Wed 10 May ------ Local History Day
Thurs 11 May Traditional Textile Craft Day
Fri 12 May --- Art & Artists Day
Sat 13 May ----The People's Show
(Parishioners Collections)

Heather & Jeff Wilkinson
(Ruskin Museum Committe Members)



An Early Stone Quarry near Maastricht

Dave Bridge

In August of this year an International Symposium on Souterrains will be held at Maastricht. This is one of a series of symposia on man made underground structures and is being organised by a Belgian study group on Subterranean Limestones. The Maastricht area is well known for its building stone, notably the limestone Maastrichstien, and underground quarries are a common feature there. The industry is very ancient, and it so happens that a 17th century eye-witness account of one of the workings appears in Vol 5 No 7 of the Philosophical Transactions of the Royal Society. The article, dated June 1671, bears the title "A Description of a Stone Quarry near Maestrich; communicated by an Observing Person, conversant in that Country".

The quarry visited was on the brink of the river Mase [Maas] in a hill, with twenty-five fathoms of rock and earth overhead. The hill was several miles long and some one and a quarter miles broad. There was one entry toward the river for carts.

The quarry was found to undermine almost the whole of the hill and was said to present "a most surprising aspect when lit with torches".

The writer goes on to describe "thousands of Square Pillars in large level Walks, and those almost everywhere, above twenty and in some places many more foot high, and all wrought with so much neatness and regularity, that one would think it had been made rather with curious Workmanship for an underground Pallace, than that those Pillars and Galleries were made by Quarriers, that did it only for getting Stone to build over ground."

There was little waste rock about and the floor was clean, but rain getting in the airshafts created small pools of water. It was said that in times of war the quarry acted as a retreat for people, including horses, cattle and furniture, until the danger was over, and would take forty thousand people.

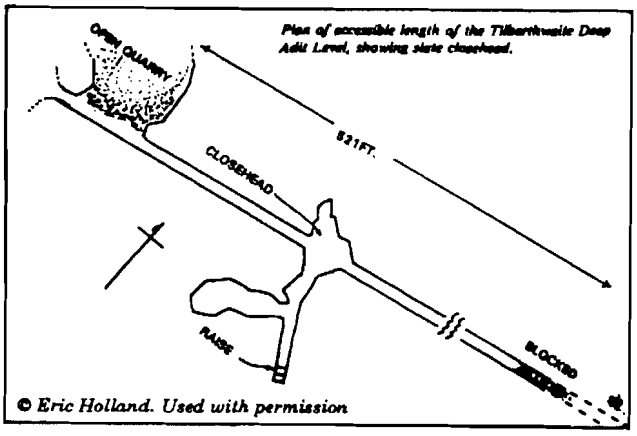
"And he that would attempt to seek them out in this vast Wilderness of Walks and Pillars, without an expert Guide, would not only be in hazard of loosing his Way, but of being knock'd on the head at the Corner of every Pillar, where people lurking in the dark with their Carabins and Fowling pieces, would have fair opportunity to shoot them by the light of their own Torches."

Horse Crag Level
Tilberthwaite

The Mines of Slater Bob

Dave Sewart (member of The Arthur Ransome Society)

It was during the inauguration that, in heavy rain, two drowned rats made the pilgrimage to Tilberthwaite only to find Slater Bob's mine gated and once more in use. Fortunately the miner, George Tarr, emerged as we stood there in surprise, and as soon we were talking. Although the continued use of the mine prevents TARS from casually exploring it, it is good that this mine, of all mines is the only one in England still being worked by a single miner (Wales also has one, possibly more).



© Eric Holland. Used with permission

Tilberthwaite (GR 3055.0070) was not Slater Bob's first mine by a long chalk. Prior to the Horse Crag Level at Tilbertwaite John Willie Shaw had worked for Oscar Gnosspelius on Brim Fell (GR 2784.9849), in fact the level is often called 'John Willie Shaw Level'. It is 336 feet long, of generous proportions, and completely safe to explore.

To find it, start from the waterworks at Paddy End in the copper valley and head for the Old Man. Soon Gnosspeliu's pipe-line, bringing compressed air from the Schram compressor at Bonsor, can be traced threading its way along the beck. This pipe was later extended to supply air to the slate quarries high above (later still, part of the pipe was used to bring water to the construction site of the water-works). Almost hidden in a tussock lies the "T" from which air was bled off to work Brim Fell. The story is told of quarrymen scrambling down to partly close this tap to increase their air supply, after which the elderly JWS would have to climb down a few hundred feet to open it again.

At the Pudding Stone turn right and follow the path towards Levers Water and the Back Strings. Keep looking left across Boulder Valley. A mass of rusty pipe-work lies below the Brim Fell level (do not be confused by 'Dixon' Level or others that are easily seen from the far side (they are on the same vein). Cross the valley and climb the far side. At the 'rock wall' turn left and scramble up the scree towards a gully. Vague foundations and clinker mark the site of JWS's forge and hut; here, last year, Dick Kelsall found a metal file lying on the fellside. Look up: immediately above, two rails hang dramatically into thin air. this is the level, but the cleft is not easily seen until standing adjacent to it on the small ledge, sharing the space with the chassis of the tub, still on its rails. The view form the mine entrance across Coniston Water to Holly Howe can have few rivals from any place of work (though all too often nothing is visible but cloud).

The dark cleft is safe to enter, though wearing a stout hat might be advisable, and a good torch is necessary as it twists to and fro in following the vein. There are no sumps or closeheads, but the rails and two pipes (water and air) are in place the whole way. Leaning against the left wall is the leg of the innovative, wet Simplex drill that Gnosspelius supplied (no 'widow making' dusty, dry drill for his employee). The level ends where they gave up because the ore had failed to improve as they went in.

This was probably the mine that AR was shown when he was planning the copper aspects of PP.

Knowing the position of the vein, it is possible to make it out from the Yewdale Road in Coniston - What did Captain Flint

say about investigating something he remembered seeing above High Topps? (although High Topps is probably 'Dry Cove Bottom' and other fells above Tilberthwaite, which region is at the other end of Horse Crag Level). Like Squashy, JWS made a series of trials on the vein above the Brim Fell level.

Golden Gulch as described in PM was possibly modelled on the Brim Fell level. The shallow, abandoned level which the prospectors found in PP has a hundred possible contenders (though rarely is a level dry).

After abandoning Brim Fell, Gnosspelius set up JWS on slate at Tilberthwaite. Here the truth and the story resemble each other more closely; this is the mine on which AR presumably based Slater Bob's Level. Horse Crag Level was not driven for slate, but to unwater the Tilberthwaite copper mines almost a mile away. The slate was found by accident, though not by JWS. The level was a success, and does indeed emerge on the 'High Topps' - 575 ft below the surface, accessible only by climbing the workings - no hurrying moles here. With the level in use, new mine buildings were erected at Penny Rigg (outside Horse Crag Level) - note the dark mineral rid amidst the slate on the spoil heaps.

The mine had all but ceases operations by 1875, but in 1930 George Tarr's father and others were employed to reopen the level (he was the one Eric Holland recorded in Coniston Copper as dropping a wrench in a sump on Borlase mine and hastily emptying it to get it back). But the mine never reopened as a mine, and the wooden trap-door at Tilberthwaite disappeared when the shaft 'nipped-in'. The level again caved in. Some attempts have been made to dig through the blockage, but the mine is flooded 50 or so feet above the level, so digging through is not for the faint-hearted. It also suits the current Slater Bob to have it blocked - heavy rain used to flood the slate closehead several inches deep as water poured from the mine.

JWS worked the mine until his retirement. The two-stroke compressor he used was infamous - there was no guarantee which way it would rotate once it started, and it was started by explosive.! Knowing the mine was to be abandoned, JWS 'robbed' it before he retired - removing all the easily accessible slate but not maintaining a working face. His successor is having to put in a lot of effort to re-establish working faces.

The methods George Tarr uses are more modern and environmentally friendly. Blasting, even with the slow-burning black powder (only made in Germany nowadays), shatters the rock creating waste. George drills two holes 4 or 5 feet long, close to the ground, so that they intersect at right angles deep in the rock. A diamond wire (a steel cable with diamond impregnated beads on it) is threaded through, and set in motion by a compressed air motor. The wire is lubricated with water, and kept under tension. Several hours later it cuts its way out. With a further hole at the top and a small charge, out should come a large unshattered lump. The pieces are reduced to manageable size and winched onto the trolley, pushed out to light and, using the new gantry outside, loaded onto a vehicle to be carried down the valley and cut. No rid is being put down the mountain side.

Not only is the work hard, with much to be done before there is any commercial reward, but regulations add further problems. The law makes few provisions for such small undertakings, and burdens them with requirements such as second entrances and radio-alarmed explosive stores (used by large quarries with large amounts of high explosive).

So far George is principally selling flooring tiles. To make slates for a roof, a large uniform piece of rock is required (each mine has it's own colour, and even different parts of the same mine produce different shades). So if you want a real AR patio or kitchen floor, or even a coaster (or how about some garden stone, weathered or unweathered, from Slate Bob's spoil heaps), contact Dave Sewart or Ted Alexander, and help keep Slater Bob's a living concern as AR knew it.

Drawings by permission of G.Jennings & E. Holland. Recommended reading :- Coniston Copper by E.G.Holland

Reminiscences of an Iron Ore Miner

Reminiscences of Mr Dick W. recorded by Mr James E. Walton.This is a condensed version of an interview held on D90 audio cassette, CAT library item No A26. Verbatim transcript also in Archive. Dick W. began his mining career at the Roanhead (Kennedy) Mines in 1925. Starting at Nigel Pit as a young lad metal picking in the waggons, he progresses through tops-mans duties to full under-groundsman working in the deep levels. He is transferred to Egremont at the start of the war where he suffers an underground accident. He touches briefly on Antycross and Woodbine pits, and comprehensive accounts of mining methods, terms of employment, and working conditions are included.This shortened account attempts to retain the flavour of the verbatim transcript and as such is transcribed largely as spoken (ie sic), no mockery or disrespect is implied. Words in (italics) are my own attempts at clarification.

J.W. What year you were born in?
D.W. 1912. Started at t'pits when I was thirteen. At Roanhead. J.W. You went to one of the schools at Dalton didn't you as a schoolboy?
D.W. Yes I did, Greenschool. Mr Lancaster was the headmaster, and Mr Brewer.
J.W Were you born in Dalton.
D.W Yes, aye. Buccleuch Street.
J.W. And you'd leave school then at thirteen was it?
D.W. Thirteen. If you got a job you could go you see. I got a job at Roanhead, one of the lads been there, and his old man was a miner and all, so I left school and got a job there as a metal picker. That's where you are mining starts. You know your pit top, your cage goes up, you run your bogie off your cage, then you run it along the pit top and tip your metal down this chute out of the bogie, and there us lads in the wagon at the bottom, and they're picking all the muck out of the metal you see, cleaning it.
J.W. What, as it comes down the chute?
D.W. They stand back till it all empties out you see. Well you've got what they call the landing. Then you've got a pit top built up so that your cage goes further up and goes on to the top, and you run your bogie off up there to whichever wagon you're taking it to depending on what grade of ore you've got. The railway wagons were underneath. You'd tip your bogie down this chute, and the metal goes down, and as soon as you've emptied it there's these three lads in the wagon and they're picking all the muck out.
J.W. They're actually in the wagon?
D.W. They're in the wagon, yes. Well when he comes with his bogie he shouts "tipple" you see, and you shout when you're right, so you just stand to one side and they tips it down, and then you pick all the muck, stone or clay, whatever's in the metal you see. Well that's where you start your career. Then you go from there on to the pit top.Well as I say, you know on the ground level there's gates into your shaft where the men get on the cages to go down the mine. But then you've got your pit top, it's another thirty five feet further up, well that's where your cage goes onto t' pit top, and the engine driver - the winding driver - he lifts it - he has a marking on his disc you know - and he drops it on what he calls snecks.
J.W. The trap doors close?
D.W Snecks, two snecks they look like, that cage comes on to that, well then you pull your bogie off you see, and there's a man this side, he's shoving t' empty on to send back again, see they're double sided. There's an empty going down and a full one coming up, see, all the time. That's what they call top handing. Now from top handing you go down the pit, you can't go down the pit till you're sixteen. You know the shaft foot?
J.W. No
D.W. Well it's about 600 or 700 feet was Nigel. Well you go down the bottom of there from the pit top, next job you do, and you shove the bogies on. Well in each department there's a bogier. They're

in companies you see, and each company might have three men up a rise, you're on the level at t' pit bottom you see, and you were shoving them on to the cage and ringing the bell for them to take it up. They'd bring an empty down, you pull the empty off, well then there's a bogier there to take it back, see, but if you were t' bogier you were in what they call a company. There was Six company, Seven company, "A" company, "B" company, all different companies that you used to see around the pit, it's like a beehive. But you always have rises, now when you go drilling to find ore, see, well when they find it they find the bed. Now they drill there, and they drill right down that bed of ore until they find the bottom of it.

Once the ore goes off the drills they know they've got the depth of what ore there is. Ore lays like a saucer, of course some is bigger than others, so when they get that depth they start sinking the shaft, but they don't sink it there, they've got to find a place that's solid rock. You've got to sink your shaft in solid rock.

J.W. Have you?

D.W. If you didn't why it would collapse wouldn't it.

J.W. Aye I suppose it would.

D.W. See, it's 900 feet down, it would collapse. See, it wouldn't hold it.

J.W. It must have been quite a job then, sinking a mine shaft?

D.W. Oh well, we did do them in their day, it used to take a long while, like. Oh it would take them perhaps eight or nine months to strike the ore. Now what you'd do was found your shaft through solid rock, well, you dug your depth of what your drill had gone down to the bottom of your ore, and you knew you were at the bottom of that ore at that depth see. So what you had to do was start boring out and driving roads through t' rock till you come to the ore. Now what you do first is either make t' roads at the bottom - its all solid rock is that when you're driving them - till you get what you think is the place that your ore is about. So you've got to bring that ore from the top. Say you've nine hundred foot down to the bottom of your shaft , well your ore might be anywhere forty five or fifty foot further up to t' top of it, so what you do is put what they call rises up, and you put two orras (horizontals?) in, and a ladder way up for t' men, and you work up there. Now you take your first layer of ore off you take it off anywhere from eight to nine foot props - what they call props. You've got to have all that wood because you're in iron ore you see, it's loose.

J.W. It's easy to get out is it, the ore, once you've got to it?

D.W. You've got to drill .....you've got to bull it. You've big iron bulls - about three foot - and they're shaped like a point, and you knock them in with a big double hand hammer. Your forebreast was eight foot by seven foot six up that way , that was your lump of metal (ie ore) that you had to work out. Well you didnt know how far it went back like until it ran out. Well when that ran out what you used to do was to pillar it, well you know you used to get trees, send them down, and they used to make a pillar, like a cross (cribbing?), so that it held that up while you broke out here to get some more ore.

Now all that height used to be nine foot.... that nine foot we've broke out at up this rise, you get me, we've gone up this rise and you've got to the top of the metal (ore) so when you get up there you've got to rob all that metal ore right round. As soon as you've done that you put your pillars in, you've got to have a pillar of wood in because your coming under again Jim see, and when you come underneath all you've got on top is the wood you've put in above you, and all your metal's round here again. That's got to be taken off, and you keep coming down the rise till you get to the bottom, then you seek again and you do similar till you get to the bottom of the metal.

J.W. So there's a lot of wood goes in then?

D.W. Oh yes aye. There was millions and millions of pounds of wood wasted, just left in.....it has to be.

J.W. It'll all rot away in time?

D.W. It all just presses itself down to like

compressed paper. You see, if you go back like, sometimes you get air shafts what are for air roads, you got to have air roads, so you circle (circulate) it, if you didn't.....Well you've got to sink another shaft down, they call it an air shaft you see, well that shaft brings in the air and it gives you air at the bottom in this bit, you'd have suffocated if that air doesn't come out see. You've got to have two shafts.... one for your air, and one for the men to go down to work and come up and that. That's how they work it. Then, soon as you've got all your metal robbed off that height all together, you've got to drop down again, and they're coming down in nine foots all the time, and of course when you gets to the bottom its all finished you see, they've got all the bed.

Now when we were at Nigel Pit we left full nine foot drifts of solid iron ore, because on account of the tide we were allowed to go no further.... tide breaking in..... the pit was there on the edge of t' Duddon. We left full drifts of metal - daren't go no further - we should have been drowned like rats if it had got in, you had a mark and you weren't allowed to go past it.

J.W. There was sixteen year old lads doing that were there, down underground?

D.W. Happen it used to be two or three year before you got into the company, you,re making money then. That's as high as you can go as a miner you know. There's no shot firers or anything like that down there, everybody did it. We went up Cumberland, now they have shot firers, but we used to do our own down at Roanhead, we'd bull our holes, charge them - you know - wi' sticks of gelignite.

Three foot was the least fuse you could have. You hadn't to have no less than that, of course it was handy for getting out of the road you see, but you used to bull these holes, and the bull was as I said shaped like comes to a point. When you charged it with your gelignite, you know you get your cap and clean it, and then shove it in to your gele like that, with your fuse on, nip it up, then you shove that in, then you stick and stem it all up with clay you see. Now when you get that done you charge them all up. Now with that drill as we called it, it was a bar really.... knocked it in with a hammer..... well when the hole was blasted it didn't make it fly, with it being a point you see it just used to "Buffff", just out like that, might be bits fly like, you know you'd get out of t'road for one of those bits would have killed you but actually it just "Bufff"ed it out and just tipped it over.

Used to have what you called your sollar, that's spiles, used to have on the floor you know, it used to drop onto that for shovelling it up you see, when it dropped down.

J.W. So when you were metal picking Dick, what sort of pay did you get for doing that?

D.W. I think I got about three bob, three and threepence a week. We only got fifteen bob for top handing. Thirty three and ninepence was our wage as miners.

J.W. What sort of hours did they work.... the metal pickers?

D.W We used to work according to the six till two, two till ten, and ten till six. Three shifts.

J.W. Did they work overnight?

D.W. Oh yes, three shifts.

J.W. Even the boys?

D.W. Aye they did in t' wagons, yeah. Three shifts. You all had your own shift like you know. Aye they worked, in them days they did.

J.W. Must have been a pretty unpleasant sort of job wasn't it?

D.W. Oh no it weren't so bad. There were three of you in t' wagon you know, and perhaps the bogie would be every half an hour before it came to your chute.You had bags of time to clean it and to sit down and have a talk or a smoke. Of course they'd be about four shoots, and four places for t' wagons to go in so they was all working at once. First job, they put me down into the washer, - a department away from the pit - well they'd take the stuff and it's like mucky stuff. But there's ore in it, so they used to take it to this washer and put it on the conveyor belt, and it used to go right through this washer. There used to be lads either side of this big belt, picking t' muck off, cleaning it. That was the worst job ever.

J.W. Cold?
D.W. Oh aye, you were standing there wi' water running down your neck. Of course water had to run on t' belt you see, and you were standing beside the belt. Yeah!, terrible job was that. Anyway I wasn't there long so I got sent back on t'pit top, doing the pit topping like, what they call caging. All you did was pull your full one off and put an emptyun on.
But once you got top handing you had to run them out. Before the war, there were no sales then, and they tipped a heap down there, there was thousands and thousands of tons of metal tipped down at Roanhead..... on the top..... we cleared all that out when t' war started. Filled it all up and sent it all away when t' war started so got shut of it ..... when the ore (price?) went up.
J.W. So they'd dug out ore and they couldn't sell it?
D.W. Couldn't sell it so they tipped it down you see.
J.W. Tipped it down the.....
D.W. No. Tipped it down on the big long field. They just tipped it down and a massive heap it was at finish. Thousands and thousands of tons of iron ore. Well when t'war started they got about oh sixteen men working in there with conveyors, filling it all up see for t' war.
J.W. They'd be no trade unions then when you started was there?
D.W Oh yeah, aye. Aye they were strict on it there. Once you went down the pit you had to join the union. If you didn't go down it was up to yourself. I think we paid threepence a week, something like that it was, threepence a week. During the war, when Nigel worked out, they transferred us up to Egremont.

Now that's different working altogether. It's iron ore, but it's solid, it's like a rock iron ore. You couldn't knock a drill in it you've got to bore it with machines, and they'd bore it upbanks you see, they shoot it down like t' quarry. You'd light your holes and you'd go out, well when you come backthere's a great hole and you can't see t' top, brought all the stuff down you see, all loose. That's how I got napped up there you know. I was in Whitehaven Hospital a long while.
J.W. What do you mean you got Napped?
D.W. T'whole spot come in on us. You were supposed to put to put your drills in so you were drilling away from where you were going to work under. Well they'd been and put them straight up. Well we started work you know, and we'd got one or two bogies out, see each shift used to blast before they went off, so the stuff was there for the men to come in to. Well we'd come in and filled for about an hour. I was lucky really because me and this lad Dick T.

There was two men filling but the third man used to take his turn running the bogies away, you know different working system now as altogether. Two of you would fill and you would take the bogie. Now he'd come back and he'd fill and the other one take the bogie. So me and my mate we'd filled this bogie, and this Dick T., he couldn't use it you know this way with his spade, shovelling like. I said "Come on Dick get this side, I'll do that I can work any hand", well he got killed! He got hit on t' head, split his head. Well he died in t' hospital, he only lived about a couple of hours after they got him to hospital. It got him right on t' middle of t' head.
J.W. You were lucky there then weren't you?
D.W. If I hadn't changed over I'd have gone, I'd have got it right there. Got hit you see.
J.W. No helmets in those days I don't suppose?
D.W. No. The lads dragged me out. What they call the rope lads. They heard it, they came and dragged me out. It all come in at finish.
J.W You were half buried then were you?
D.W. No it just knocked me you see, it hit me in t' back and knocked us. When I come to get up I couldn't get up, couldn't feel these (legs?) they was dead, andI didn't know about Dick but t' lads had got Dick before me..... Dick T. He'd come from Egremont Well they got him out, then they come and took me out. Then the hole just come in "Buffffff!". In fact I never found our coat, had thirty bob in my coat an' all. Never found it.

J.W. How did you go on as regards sick pay and all that sort of thing in those days?
D.W. Oh you got pay, oh aye yes, through your unions and that..... you got union money an' all. Got an allowance of your union when you were sick and that.
J.W. You're talking now about during the war are you?
D.W. That was during the war, when they transferred us to Cumberland yes.
J.W. But say down at Roanhead?
D.W. At Roanhead we used to get it just the same off the unions. If you went off sick you got so much of your union, and you paid t' Lloyd George as they called it then, sick benefits and that.
J.W. Did you used to get paid every week, down there at Roanhead?
D.W. Yes, aye.
J.W. I've heard stories about miners being paid in the pubs and this sort of thing.
D.W. No I'll tell you what you heard. It used to happen at the Britannia at Dalton. It was a regular spot for it. You see the leading man in a company - if you were in number three company or number four company or whatever it is, and you were the leading miner - he goes and he gets all the money. Now if you've got four men in this company he has to pay them out. So what they used to do was come home from work you see, all together, and they'd go in t'Brit' and share the wages out. But that didn't happen in our time, in our time you got paid through the office
J.W. I've heard of Mr K. he was a mine Captain wasn't he?
D.W. Yes. Tommy K. was the head man at Newton wasn't he.
J.W. That's right, he was.
D.W. A chap called Frank S. was our head man, he was in the office, he was t' office man, he was the head man for all t'pit work. I'll tell you who took it over after Frank S.. you may remember him, Charlie S.. well he took over after from Frank. Eric C.. he wasone of t' pit Foremen..... you had one for each shift you see, for down t' pit, and you used to have a boss on t' top. I think Eric was our boss. Another chap called Jack N.. another one.
J.W. Of course you'd have had to walk it to work in those days.
D.W. Aye, there and back, yeah. There was no buses thy knows. No, and you couldn't afford a bike.
J.W. So well, you started at about six O'clock, you'd have had to leave home about five then would you?
D.W. Oh before that. Well you've got to get changed haven't you to go down the pit, you can't come home in your red iron ore mine things. There's a big change house there you know and when you come out of the pit you used to go and take your dirty clothes off and get a bath - there was a big bath - big wooden tubs, you bathed. Oh no you couldn't come home like that..... so you had to go there and change your clothes before you went down t' pit. Used to have to leave home somewhere round about twenty minutes past four we used to get up as a rule.
J.W. There's not many who'd do that today is there.
D.W. Remember that big snow in 1940?
J.W. Yes.
D.W. We were walking up where Romney road is now, our Bill was behind me and I was talking away, and I said "aye we'll never make it..." I said we'll have to go back, and I turned round and he'd gone. We'd been walking on this wall, and he'd got off it, he'd gone down, above his head! Wharton's pop cart was there, it was buried. But someone had been at it, there was no pop left.
J.W. You must have been wet through sometimes when you got there.
D.W. Oh aye yes but what I mean, when you got there to this changehouse with big steam pipes running right through. Well you just put your clothes on them and they was dry again when you came out of the pit. Same as if you were working a hot spot down t' pit, when you come out you were wet through with sweat, and there was a chap in t'changehouse looking after all that like, putting clothes to dry and that. If you were in a hot-spot he used to know and after you got washed and changed he'd come and put your workclothes over these pipes until they'd dried, so they was alright for you going back next morning.

J.W. It sounds a bit more civilised than I'd imagined it.
D.W. Oh I was quite happy at the time. Mind it was funny, you never thought about the tons and tons and thousands of tons of stuff above your head.
J.W I don't think I could have done it Dick, I'm a bit claustrophobic.
D.W. You wouldn't think so Jim, but its funny when you get down there, it just goes, it's like you working in the main streets. Because the main roads is all lit up with electric light you know, just the main roads, and it were tallow candles after that, lump of clay with a tallow candle stuck in. Did you ever know tough guy Jack W.?
J.W. Yes.
D.W. Well he come to work there on our shift bogying, this was when war started. He had glasses on you know, and oh it was soaking wet, water used to splash up and you know. Anyhow I came down with my bogie, and was him that was in front of me and he stopped, and I said "What's to do!","Oh", he said "Bloody candles gone out!", of course you used to put your white stick or candle on front of your bogie see with clay, and I say "It hasn't," he says "It has, I can't see!". I told him that his glasses had all got muck up off water and all. You see he never thought about that, they was all red iron up were his glasses, his candle was still burning but he thought his candle had gone out. Aye, it used to be a laugh down there. Did you ever know Vic D. that got killed down there.
J.W. No I never knew him.
D.W. I was there when he got done. I was there when Johnny M. from Askam, he fell half way down t' shaft, killed himself landing at bottom, in t' sump. What he'd done is he'd got off the cage and done a job on one of the heights further up. Sometimes they got off at at a height you see, to work it, well somebody had been on that height for some purpose or other, and he's had the cage you see, and he's got off to do whatever he's going to do, he's done it you see, and he's just took it for granted that the ruddy cage was there but they've took it away so he's straight down and.....phooomph. Right down the shaft to t' bottom, and they found him dead in t' sump. That was neglect but they couldn't prove that they'd took it away. That sump was where all the water led, in the rock crevice, it was all drilled out, it had t' big pumps in there, pumping that water out all the time, see, that's where I used to work, in t' bottom.
J.W. They had a lot of trouble with the water in these mines did they?
D.W. Aye yes. Mind you we got some fine pumps. Of course as I say that was only in t' bottom, that's where your running all your bogies in and out of, solid rock spot like you know, the main road. See, that's where the water'd go to. Of course when you got up your rises they was dry up there, some of them used to be red hot places. Oooh red hot. You used to have to work a bit and then come out, that hot! See with the air shaft it's just up in a corner, but the air can't get to it (the rise) you see, to cool it off..... the allotments No 6 was one, oh it was terrible.
J.W. So once you got down the shaft you were down there for your full shift, no coming up for tea breaks or.....
D.W. No no. If you wanted to do your business you had to go and find some corner somewhere and get among t' wood, t' old wood. Aye, you never come out, not unless you were bad, that was the only thing you'd come out for.
J.W. They used to have a signalling system on the bell didn't they....
D.W. Oh aye yes, all different signals. If a man was coming out it was four and two you used to ring. If it was just a plain bogie you'd ring three, for them to lift it up, but if it's four and two they knew then that there's was a man on, you see, so if it comes up with your bogie it would come up fast, but if it came up with men on it comes medium slow. But they used to have people on different heights. You used to ring five and one for such height, and five and six for another height, you see that's so they'd know which to send the cage to.
J.W. It must have been a tricky job for the chap up the top to know exactly where to send the cage.

D.W. Oh he got used to it though. When you ring that bell five and two, he just knows it's there, number six, number seven, it comes to him just like that. That were a rough job though up top, they'd have been better off down t' pit them lads, they were out in all weathers, no covering on the top. You had to run all the bogies and fetch empties and all that. Soaking wet through you used to get, and you had to work eight hours like that, and you used to have to have your lunch on the pit top, you weren't allowed to go down nowhere, you just stopped on t' pit top and had your lunch.

J.W. How long did you have for your lunch?

D.W. Twenty minutes. That's all you had for lunch. And when you were changing over, as one cage of men was coming up there was another cage going down to take their spots, they don't waste no time. And they'd send the wood down, all the pit forks you see, big head trees and.... well they'd go down in the cage, see there was two big iron big tops lids), well they used to open up and they used to stand these big trees in the cage and put the chains on when they'd send the wood down.

That's when they'd wood the place up you see. Of course when you were up t' top as I say its all loose then, there's no rock, you know there might be clay or big stones, well you had to wood it, put your course of wood in see, two eight foot forks and a nine foot head tree, and you used to have to put spiles over the top to cover it so that if anything comes loose you were closed in. Then you used to drive another three foot, three foot six, and put another course of wood in, so you'd two props and a head tree over, then spile that, see, so nothing would come down and hit you on the head. Not unless something come and broke the headtrees. We used to have spots come in you know.

J.W. Did you?

D.W. We used to get warning, it used to start dribbling, it's funny because you couldn't see where it was coming from but you could hear it, this dribbling. You had to get out then, course you'd bet your life that was going to collapse. Yeah, it's funny, and I don't think anybody ever found out what it was, some said it was mice that was down there, but how did t' mice get down there? They said that the mice knew before the men did that the spot was going to come in, they said it was them shovelling causing this stuff to dribble. Mice above you see. Mind, they said they'd seen mice down there, but never a rat, but I never saw any when I was down. Course, they'd come down in the bogie, see, from t' pit top. A bogie could come down and they'd out and start breeding, simple as that it could be. Anyway, it's the only account they could give for it, if this spot was going to collapse or come in you could always hear this dribbling, like somebody's caving say grit or something you know.

J.W. And you've heard this yourself have you?

D.W. Oh yes, we had to get out when that happened, and you could bet your life that would come in, oh yes, it would collapse.

J.W. I should think you'd have to save as much equipment as you could.

D.W. No, you didn't bother about equipment.

J.W. It was a quick as that was it?

D.W. Oh aye yes used to get out first thing. I always said it was nature that give it like you know, but you'd bet your life if you heard that dribble. Called it sandydrack, for it was just like sand you know. Perhaps might be ten or quarter of an hour, perhaps half an hour sometimes, but it would come in. It didn't go collapse, just start going from the front and then just collapse all the way along, just break them great big head trees, and they used to be massive things them head trees, just use to crack them like matchwood.

J.W. A yard or so in diameter?

D.W. Oh they were big head trees, oh aye, massive some of them on t' main roads yeah, big forks aye they weren't just sticks. One head tree took two men to carry on t' top you know, to put them on t' cage to go down. You had to put a course of wood in every three foot, see, you had to do that. If you didn't and it all went wrong then you were to blame then, but that was what they

stipulated. You drove your iron ore three foot and then you put your course of wood in, each time you see.

J.W. Didn't the wood used to creak and groan?

D.W. No. That's t' only sign you got of a place coming in, and sometimes the spots would come in without giving it, you might just be lucky to get out. As I tell you that Vic D. was got with it you know. As I say you used to work your forebreast, it was eight foot you see, eight foot or seven foot six, something like that you see..... well you used to drill your top holes first see Jim, three across t' top, and three down here, well then you'd put your gelignite.....you used to have gelignite not dynamite, gelignite - gelies..... and you'd blast them.

Now when you'd got them blasted it left some on t' bottom. You see you'd got the top and your middle out, so you had to drill or bore these, bull them, to lift this foot up, well when you got that up you had to take your shovelling boards up. Well that's what happened to Vic. They took the bottom up, got it finished, well Vic was levelling and just moving up the shovelling boards ready to catch the next blast when the forebreast tipped over on to him. Oh, about fifteen ton of iron ore left on t' face came right over and buried him, he was kneeling down you see, putting his boards up. Dead as a doornail when he went out.

Aye you couldn't go down a mine and start work like, you had to be brought up to it. As I'd said we had men come down there in t' war, they fetched a lot of coal miners to do iron ore mining when t' war started. There was thirteen come in to Nigel, and before the week out we hadn't one left, they'd gone, wouldn't do it."We're not going to do this," they said, they were coal miners! "Pheew, St Nickers wouldn't do this", they all left in less than a weekt. They were drafted you know, and we had some Irishmen come, two of them lasted one day. They came out at night and said "That's the last time I'm going down that bloody place again" he said. He said "Old Nicks down there!". You know you had to be brought up to it you know.

J.W. I suppose when you left school there was really only the mines or farmwork to go to.

D.W. Or quarry, or Goldmire, you could go there, or Stainton quarry, Dicky Pinks ..... Newton mines that was, we used to call it Dicky Pinks..... Antycross was working. Antycross used to come out on to the railway, they runned the bogies out on t' railway from t' bottom of t' pit.

J.W. What, a tunnel coming out on to the railway?

D.W. Yes. Do you know where that big garage thing is now, you know, going up there towards Antycross, well it used to come out there and tipped their iron ore into a wagon, because Antycross pit's on t' top like wasn't it?

J.W. That's right yes.

D.W. Well instead of sending it out up there, they was running bogies out. Old Tommy C. and his brother in law worked there for a long while, bogying iron ore out of there at Antycross. And there was Dicky Pinks - the Newton mines - with the aerial flight from the quarry. It used to go right over to Dicky Pinks.

J.W. I can remember that. You can still see where it's been as well, some of the concrete foundations are still there.

D.W. Aye there is isn't there, yes. No t' iron ore mine isn't no different to anything else, it's just what you were used to. Never thought nothing about it when you went, never gave it a thought like. As I said that old ground, that was a bugger. If it just come in it would collapse just like that. Of course when you got down the main road you knew you were clear, because that was solid rock, that couldn't come in. But once you got out in t' main road and started branching off, well then there's tons of stuff above you.

J.W. It wouldn't have done for me I'm afraid.

D.W. We daresn't go no further. Of course - not being rude - they said once we struck that what they call pissing sand, within a matter of three hours the pit would be full of sand. Running sand, you couldn't stop it, it was stronger than water. That's why you

weren't allowed to go anywhere on t' shore. You see there's a big broken just this side of them houses down there, big brokened ground. Well that's where t' ore's come out of there, that's gone in you see, well that's where they come to. They daresn't go no further, it wasn't allowed. They said if you ever struck that then wouldn't nobody get out, it'd just fill the pit in no time. That fast, stronger than water they said it was, it would clear everything from in front of it.
J.W. It was just sand?

D.W. Oh aye! We left full drifts of iron ore....good iron ore..... daresn't go for it. And they reckon there's iron ore right from Roanhead right over to Millom because Hodbarrow iron ore mine was over t' other side of Millom you know.

End of Interview. Article transcribed and submitted by A.Thomas with kind permission of J.E.Walton.6618 words reduced from 8537

A NEW MINERAL DISCOVERY AT NENTHEAD

by Jeff Wilkinson

Brian Young, the well-respected president of the Russell Society and field geologist/mineralogist with the British Geological Survey, has discovered a new mineral in a mine at Nenthead.

Hydrous zinc carbonate sulphate [Zn3(CO3SO4)(OH)4] was found in the oxidised zone of Brownley Hill mine, Nenthead. It occurs as minute white rosettes with gypsum and is closely related to hydrozincite or hydrous zinc carbonate [Zn5(CO3)2(OH)6]. It has also been confirmed on a specimen from Smalleleugh mine.

The I.M.A. commission on new minerals and mineral names have approved the discovery and it has been given the name of its discoverer - "brianyoungite".

Due to the constant flow of ground water percolating through mineral-bearing rocks above old mine workings. and other more complex actions, post mine "supergene" minerals form and are deposited in the workings. In this case it would appear that the sulphate (SO4) is substituting for the carbonate (CO3) in hydrozincite to form the new mineral brianyoungite. B.Y. claims that up to 20 new minerals may be discovered each year!

At the Coniston Copper Mines I have heard the comment that some of the blue and green formations are now less striking than when they were first discovered. Various reasons have been given for this including the intrusion of mine explorers. However it is my opinion that it may be due to "pseudomorphism", ie the complex actions that take place underground causing minerals to be slowly changed or replaced. It is known that malachite [Cu2(CO3)(OH)2] often pseudomorphically replaces azurite [Cu3(CO3)2(OH)2] by hydration and it may be that the predominantly sulphate-rich deposits at Coniston are also slowly changing.

Reference:- Brianyoungite: a new mineral related to Hydrozincite, from the North of England Orefield - A. Livingstone and P.E. Champness (Mineralogical Magazine).

NEWS

A HA! The photographer's eyes and telephoto lens twinkled with relish. He saw ex-miners, in full pit gear, putting up new railings around a bungalow near Barnsley. Very nice railings. Splendid railings. The bungalow is the home of one Arthur Scargill. The railings were remarkably like those recently installed at the National Union of Mineworkers' head office in Barnsley. Bingo! The workers spotted the twinkle and chased it off, and took the car registration number to the police. This eventually led an early morning discussion between John Marshall the photographer, and two detectives. He explained that he offered the photographs to the Sun, but the story collapsed. The railings did not fall off the back of the miners' headquarters. They were commissioned by Mr Scargill at a cost of £500, from the same source, the blacksmiths at the Caphouse Mining Museum near Wakefield. The detectives accused Mr Marshall of "stalking" Mr Scargill, and said it was their job to protect public figures. Mr Marshall was astounded and hurt. It was never like this in the good old days. "The police are usually OK when it comes to Scargill stuff."

Guardian February 22 1995

Mines 'left to poison rivers'

HUNDREDS of miles of rivers and canals are threatened with pollution as a result of abandoned mine workings, according to a report yesterday by a coalition of 90 local authorities, the Coalfield Communities Campaign.
Much of the damage could be averted, but the Government has chosen to exempt mine owners from liability for the pollution they cause until the end of the century. In some places poisonous metal-laden water has turned trout streams into "red rivers" the colour of tomato soup, says the report. Poisoned Legacy.
Elsewhere public water supplies are threatened, and Durham Cathedral will be surrounded by an "orange collar of polluted water
The campaign's chairman, Hedley Salt from Barnsley, said hundreds of discharges from both metal and coal workings were entering rivers heavily impregnated with iron, sulphur, and heavy metals. "The recent pit closures with entire coalfields closed down, means old workings will fill with water which will gather pollutants and come to the surface wherever it can," Mr Salt said. "It would be no exaggeration to say we are sitting on an environmental timebomb."
The National Rivers Authority says there are 150 miles of waterways affected bv abandoned coal mines, and another 300 by abandoned metal mines in England and Wales, with a further 100 miles in Scotland.

Under the Environment Bill now before the House of Lords. mine owners will not be liable for the pollution they cause until 2000. All mines closed before then will be exempt. The Environment Secretary John Gummer, and Robert Atkins, the Environment Minister, both refused to attend the launch of the report.
In a preamble to the bill, the Environment Department made it clear that the reason for the exemption was to maximise the income from coal privatisation. Making mine owners responsible "would have adverse affects on the proceeds to the Government". It made £1 billion from the privatisation and expects to make another £500 million from the land assets of former British Coal. Coal communities are campaigning for some of it to be used to prevent the pollution, and want the bill amended to ensure this happens.

The Guardian Wednesday February 22 1995

Earby Mines Research Group

FIFTY years ago a group of potholers were branded as fanatics for their wild ideas about preserving the Dales lead mining history. Little did they know that by the late 1980s mining museums would be springing up all over the country and they were,in fact, at the forefront of industrial archaeology.

1995 marks a double celebration for the enthusiasts. Not only is it half a century ago since they first formed Earby Mines Research Group, but the project's showpiece, the Museum of Yorkshire Dales Lead Mining, was established almost 25 years ago.

The museum, in School Lane, Earby, now houses more than 800 mining relics from the Dales and other mining areas. kept for posterity so future generations can experience just what life was like as a lead miner. The metal was one of many mined in Britain long before the Romans invaded. But when they did arrive, things started to move much faster with lead mines dotted around the country. Peter Dawson was one of the handful whose pot holing hobby turned into a historical journey, along with Jim Walker and the late Michael Hartley. "I favour the personal belongings such as clay pipes that miners actually used," said Peter, of Stoney Bank Road. Earby, who runs the museum with Peter Hart of Carleton. "Even a pair of old boots or clogs -- something which was actually worn by them holds a lot of interest to me."

With the guns of World War Two still ringing in people's ears, a bunch of enthusiastic potholers came together to form the research group -- eager to stop the rapid decline of lead mining relics and capture the spirit of skills of yesteryear. Mr Dawson added: "In those days the mines were disappearing fast. They were getting vandalised and we thought something should be done quickly. "At the time we were the first mining group in the country because that sort of thing was virtually unheard of." Group members visited old mine workings in Grassington. Derbyshire, and even Cornwall during the early 1960s before undertaking some serious conservation work. "People thought we were bonkers, but we were looking towards the future and realised these structures would become important one day, said Mr Dawson. "In a way, we were like Brunel and looking far too forward for most people". By this time the group had collected a large amount of mining artifacts which were lying in people's homes. Rapidly running out of space, a permanent home needed to be found.

Luckily, in 1970 the former Grammar school was nearing the end of its lease to West Riding County Council. It was using it as a base for a clinic and library. Trustees of the building kindly offered its use as a museum and all the group's relics were collected together under one roof.

The collection includes a display of mine tubs, photographs,mine plans,tools, mining machinery, personal belongings and working models which give a fascinating insight into what life was like down the mines. "We started collecting from the early stages and put things in store for years and years." said Peter. "But we thought that the items we'd found should be on public view, more for educational purposes and that's how the museum idea originally came about"

Each item discovered by the group had to be carefully dried cleaned, preserved and then recorded. All relevant information was placed on a card index which can be viewed at the museum. The Earby Mines Research Group also spends a lot of time out in the field preserving mining sites with the help of Cross Hills Naturalists. Successful projects under- taken so far have included the peservation of smelt chimneys on Malham Moor, Grassington Moor and Gibb Hill, Cononley. and the engine house and chimney at Cononley mine. And part of an original water wheel and ore crushing mill was rescued from a mine at Kettlewell during the early 1970s. "Once we were established the museum people started to bring us things on permanent loan" said Peter. "Now it's the largest lead mining collection in the country with over 800 items on show."

The Museum of
Yorkshire Dales Lead Mining
reopens again on Sunday March 2. Opening times are: Sunday: 2pm to 6pm and Thursday 6pm to 9pm.
Craven Herald and Pioneer
Friday February 10, 1995

Dr Descender

Dear Doctor
I have always liked to have the latest in underground gear whether it be Bee Gee ascenders (good test of kit knowledge this one), two tone bullet proof oversuits, or four wheel drive transport. I have recently discovered an excellent high quality camouflage top which is proving excellent on difficult underground trips such as the walk through Carrock Fell Wolfram Mine. Is this the ultimate in underground gear ?

Anon, The Rope Store

No. Doc

Dear Doctor
I recently had a close call when a friend and I were trapped, due to unforeseen circumstances, inside the Carrock Fell Wolfram Mine. Fortunately two hardy souls came out to rescue us. What can be learnt from this !.

Anon, The Nick

A number of things need to be learnt since it is clear you are suffering from a number of problems. Firstly you seem to believe the hardy souls (excellent judge of character) came to rescue you ! - o'dear me, this is very sad but I regret to say that, if only you were left inside then the Emerson Vein would be ringing to your hammering even now !. Those hardy souls came to rescue your companion, they believing it unfair for her to be locked inside with you. On a matter of detail it should be pointed out that one hour after 2.30 p.m. is 3.30 p.m. not 3.45 p.m. !.

Doc

Dear Doctor
I recently cuddled up in bed with something hard, long and stimulating but promptly fell asleep. Please help !.

Anon, Millom

That's what I like to see somebody hard at it - writing a meet report.

Dear Doctor
I have recently purchased a state of the art communication system which I am sure would be of excellent use on rescues although lots of people laugh at it !

Anton, The Seventies Man

(In an American accent) "10-4 Good Buddy I see your currently running on down ol Greengate Street heading for the A595 on your way to Coniston Town, will you copy ?" "What rig you driving breaker ?" "That big old Nissan full of red earth" .....etc.

I think you need a break and I suggest you go to the Cinema and see the recently released "Convoy" movie.

Doc

Dear Doctor
On a recent meet I was working so hard that my wellington boots spontaneously combusted, it this unusual ?.

Anon, Hudgill

Not when you press them against the exhaust from the pump.

FOR SALE. On pair of wellington boots size 9, steel toe caps and mid-soles. Nearly new. Slight heat marking. Apply the Meets Secretary.

"Mining Before Powder"

Papers presented at the Georgius Agricola 500th Anniversary Conference held at Ambleside in March 1994.

A4 size. 152 pages 125 illustrations.

There are 26 articles including two by CATMHS members - Coniston Field Visit by Ian Matheson and The German Miners at Keswick and the Question of Bismuth by David Bridge. Other articles include :- Firesetting Technology, Excavating Mines, Early Mining, Mining Laws and Mining without Laws, Coalmills in Tyne and Wear and Early Surface Features of Mining.

A long awaited excellent publication. This without doubt will be one of the classic publications from PDMHS.

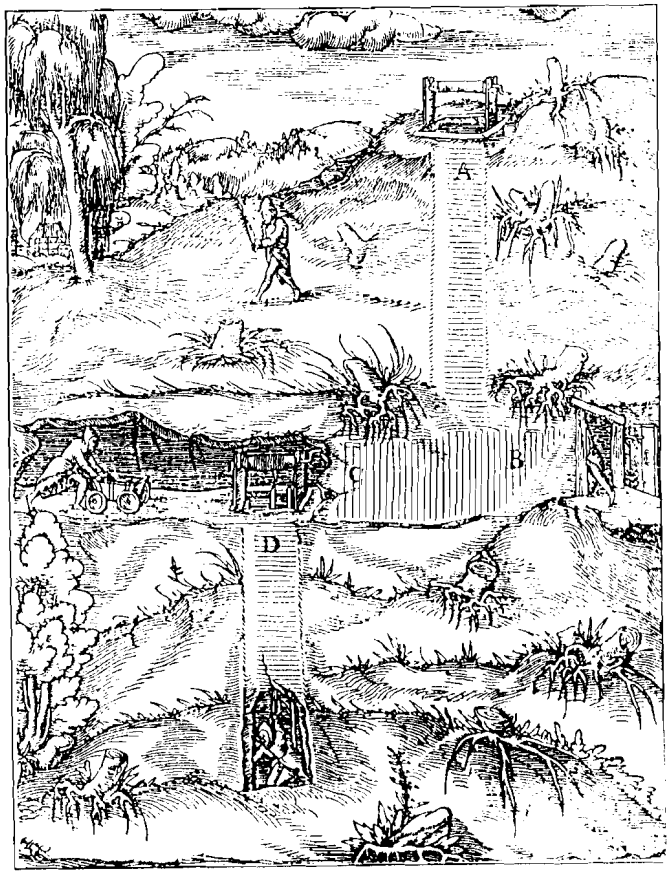
Price £8.00 plus P & P up to the end of May, after that £12.00 plus P & P.

David Parsons.

Peak District Mines Historical Society
Issued as Bulletin Volume 12, Number 3. Summer 1994
and as a Historical Metallurgy Society Special Publication

Mining Before Powder

Edited by **Trevor D. Ford and Lynn Willies**



Historical Metallurgy Society Ltd

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Associated Industry (AI). - Works not specifically concerning mines or mining but nevertheless of associated interest, eg smelting, railways etc.

Journals/Newsletters (JN). - Lists not only those of mining societies but also those of clubs and societies with associated interests.

Mine Plans (MP).

Maps (M).

Archives (A). - Club archives, Historical miscellania, contemporary mine Co brochures & prospectuses etc. This section will also deal with all those snippety bits like newspaper clippings, occasional copies of county archive material, accounts of interviews with people having recollections of the past, photographs etc.

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Anglesey Mining Plc	Offer for Subscription by Kleinwort Greiveson Sec Ltd	May 1988	A52
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Bayliss Cave ,Aus	Elevated CO2 Levels Article in Pacific Science Vol 44 No 3	1990	A49
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Alston District --	An Index of Mining References In Four Early Books relating to the Alston District Westgarth Forster, Thomas Sopwith, William Wallace. Compiled By D.Bridge		A12
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Alston Moor Manor . Mines & Tenancies MP67

Extends E-W from Stanhope to R.Tyne & N-S from Dow gang to Nagshead
Workings inc Scaleburn Moss, Smallcleugh, Rampgill, Carrs, Middlescleugh, Longcleugh, Caplecleugh, Black Ashgill, Browngill, Bentyfield.

Alston Moor Manor, Mines & Tenancies. MP69

Extends E-W from R.Nent to R.Tyne & N-S from Bayle Hill to Fletcheras.
Shows Nentforce level with Blagill Foot, Forshield & Lovelady Sheild Shafts. Workings inc Bayle Hill, Farnebury, Holyfield, Nattrass, Far Hill. Flow Edge , Dowpott. Craggs green ,Hudgill.

Mineplan.CRD (cont)

Alston Moor Manor, mines & Tenancies, MP68
Extends E-W from R.Nent to R. Tyne, & N-S from Hudgill Burn to Brigal Burn vein.
Shows nent Force level with Nentsberry & Wellgill shafts.
Workings inc Hudgill, Gallygill Syke, Grassfield, Greengill, Dowgang, Brigle Burn, Crag Green, Fletcheras, Cooper Dyke, Bentyfield Broomgill.

Alum Pot MP 130
Barrow Mine, Keswick - plan and section, levels 1-4 and plan of Uzzicar shaft MP 102
Barrow Mine shows levels 2 & 3, dated 1871 MP 74
Benty-Field Mine, - plan date 1839 - shows Horse levels, Greengill Hush & Whimsey shaft MP 50
Borrowdale Wad Mine - date 1819 - 2 shts - plan of main drift on Ridgway's stage + other plans MP 51
Borrowdale Wad Mine - date 1889 - Surface plan MP 119
Borrowdale Wad Mine - date 1891 - surface plan scale 1: 2500 shows levels and boundary stones MP 126
Borrowdale Wad Mine - 1770 - surface plan , 4ch : 1ft MP 123
Borrowdale Wad Mine - c1860 - surface plan 40yds : 1" MP 125
Brandlehow Lead Mine - c1850 - shows named stopes and rises. 20ft : 1", Inset of 1873 plan MP 101
Browngill Low Level, Garrigill. by Tyler & Blundell 1983, 96ft : 1" MP 112
Browngill Vein, Garrigill. 1878, Plan of levels , 4ch : 1" MP 120
Brownley Hill Mine c 1894. shows section of strata. 2ch : 1" , PDMHS plan No C.98 MP 92
Brownley Hill Veins. -------- plan - shows High Cross, Jug, Welgill Cross & N Middle Veins MP 64
Burlington Quarry, 2 shts. plan of workings, sht 1 c 1846 6":1ml, sht 2 c1912 , 25" : 1mile. MP 129
Burlington Quarry , 4shts. section of workings, sht 1, c1750, sht 2 c1850, sht 3 c 1904, sht 4 c1947MP 128
Burtree Pasture & Breckonsike Mines. 1827. plan.of Burtree Pasture,Cock Cleugh & B'sike veins MP 110
Caldbeck, Drygill Lead vein. 1894. plan. 30ft:1" by Cleator Iron Ore Co. MP 71
Caldbeck, Harestones Umber Vein 1894 plan 30ft:1" by Cleator Iron Ore Co MP 72
Caplecleugh & Middlecleugh Mines. plan. covers west of Black Asgill X vein to Sm'cleugh X vein MP 61
Carrock Fell Mine. c 1977, surface and underground plan, 1:500 shows all levels & plant MP 89
Carrock Fell Mine c 1977.amemded to 1980 surface & u/ground plan 1:500. sht 2 of 2 MP 88
Carrock Fell Mine " " " " " sht ! of 2 MP 87
Carrock Fell Mine c 1977 Fire Certificate Plan 1:500 MP 93
Carrock Fell Mine c 1977 Layout for extension to mill by Pensag Construction Ltd 8ft:1" MP 95
Carrock Fell Mine c 1979 Plan & Section shows Emmerson X cut & Brandy Gill 1:500 MP 94
Carrock Fell Mine c 1977 section on Harding Vein 1:500 MP 139
Carrock Fell Mine c 1981 Longtitudinal Section on Harding Vein 1:500 MP 132
Carrock Fell Mine 1943 Longt'l section of Harding & Emmerson Veins. 1:500 Sht 3 0f 3 MP 107
Carrock Fell Mine 1976 Topographical Survey shows from Mill to S.E. 1:500 Sht 2 of 3 MP 86
Carrock Fell Mine 1943 General Underground Plan, shows drives on Harding & Smith. !:500 MP 90
Coniston Copper Mines c 1867. Longt'l Section of Paddy End Vein 10fthm : 1" MP 116
Coniston Copper Mines c 1870 Surface & U/ground plan 60Ft : 1" MP 76
Coniston Copper Mines c 1870 " " " " similar to MP 76 MP 106
Coniston Copper Mines c 1907 Plan of levels at Paddy End 60ft : 1" MP 80
Coniston Copper Mines c 1877 Longt'l Section through Bonser Vein 10fthms : 1" MP 77
Coniston Copper Mines c 1877 Longt'l Section through Paddy End Vein 10 fthms : 1" MP 78
Cornwall record Office List Of Area Mining Plans MP1
Croesor Slate Mine . Plan of u/g workings 1": 40ft MP 131
Dowgang Lead Mine. Plan R, nent west to Middle Whimsey, and N to Nenthead Field North Vein
Inc Dowgang level, Bacon's level, Drawing shaft.Dobsons Shaft. 1" : 2Ch MP 66
Dufton Fell Mine, shows u/g and surface features. 1" : 2Ch MP 53
Egremont & Lamplugh Iron Mines. 1940. 3shts. 6" : !mile . Plan, Section, Geological Map. MP 136
Elliscales Estate, 1881. shows boreholes, adjoining land owners, compensation costs etc MP 15
" " " " " " " " " as MP 15 MP 14
" " " " " " " " MP 13
Elliscales Estate 1904. shows damaged Land Plan. showinf pit no's. tramways etc. MP 19

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Elliscales Iron Mine, 1873, U/G & Surface details of pits No's 6,7, Air pit & Saw pit.+ sections MP 11
Elliscales mines, 1911, No 1 Pit. 5 shts. Cover, Surface, 52yd, 59 yd & 64 yd workings MP 16
Elliscales Mines, 1905, 1907, No 10 Pit, 5shts, Cover, Surface, 33yd, 43yd, 58yd workings MP 18
Elliscales Mines 1885, No 2 Drift. pit. MP 27
Elliscales Mines 1886 No 2 Pit. Surface & U/g details MP 34
Elliscales Mines 1904 No 2 Pit. Surface details MP 39
Elliscales Mines Cover Sheet no date MP 38
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Greenside Lead Mine 1937 Surface plan + levels from High Force to 175 fthm . ! : 2500 MP 70
Greenside Lead Mine 1864 a/d to 1912. Section. shows Big Crush. name hoppers + rises 1Ch : 1" MP 82
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Lindal Moor Mines. no date. Plan of Marton/ Lindal Moor + Derby Royalties,Poaka Ironworks, Mines MP 45
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Blundell Collection -- Mine Plans List MP5
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List of plans in possession of W.Rigg, Elliscales Farm & P, Fleming. Harrel Lane. MP 46
Middlecleugh/Smallcleugh Mine. no date. 2shts. Section. Show Flats, main & cross veins. 200ft : 1"MP 111
Murton & Hilton Lead Mines. no date. 1:10560 O.S. Map of Area shows veins & Mines. MP 54
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Nentsberry Mine.no date. Plan of levels, showing full lenght of Horse level. 1:2500	MP 48
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Rodderhope Fell Mine. 1948. Show west,central,east flatts + levels on 4 horizons,+ rises , shafts	MP 57
Scaleburn Mine,Nenthead. 1860. shows levels on 4 horizons, Barney Craig,Old Water,levels.	MP 49
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Tyndrum Mine - Surface & U/G Plan	MP4
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Yewthwaite Mine. 1859. U/g + Surface. 1" : 60ft	MP 47

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