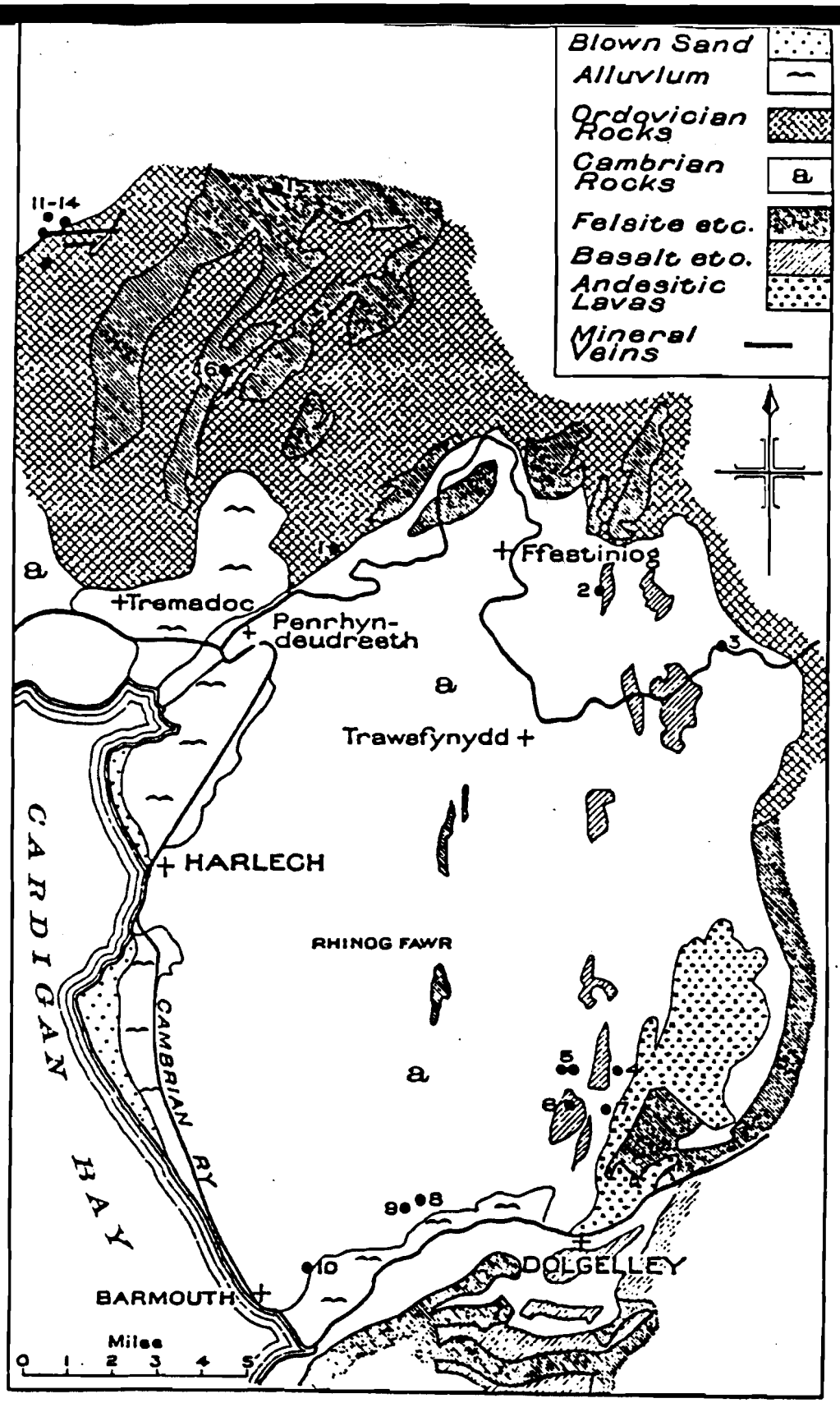
CUMBRIA AMENITY TRUST

NEWSLETTER NO. 19

MARCH 1988



MAP SHOWING SITES OF THE COPPER MINES IN MERIONETHSHIRE AND CARNARVONSHIRE

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CUMBRIA AMENITY TRUST, COMMITTEE MEMBERS 1987 - 1988.

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—o—

WELSH GOLD.

Easter is almost upon us. I hope you have all decided to give up the trip to the South of France and will come along to sunny Dolgellau. The annual chocolate biscuit eating and weightlifting competition will again be taking place at this venue. Instruction in the art of gold panning will also be given.
Dave informs me the campsite has been booked and there are hot showers,definately an up market camp site.
This meet will also look at Welsh slate and copper mines around Dolgellau.

May Bank holiday 30th April - 2nd May TYNDRUM MEET. Still alot to do here.
Meet leaders Ewan Cameron & Mike Mitchell.

19th - 20th June DERBYSHIRE weekend. T'owd mens mines Knotlow & Hillocks.
Meet leader Anton C-P Thomas.

Just a taste of coming meets,further details of which are contained within this newsletter.

At a recent committee meeting it was felt that we needed to make the society more public.

As a mining history research society based in the Lake District we must make more people aware of our existence. To do this we need to promote our 'public-image'. Hopefully this would stimulate more interest in northern mines and related subjects and initiate projects to do with preservation of remaining mine sites.

A permanent exhibition to show some of the societies activities and how it goes about researching projects to do with mining history,may help to resolve this situation.

In the past,exhibitions and slide presentations have always been well received.

The changes to the society name could help to improve public understanding of our aims and objectives.

L.M.C.T's project at the Threlkeld granite quarry appears to be going ahead, this will provide a much needed museum of Lake District mining & quarrying and possibly a show mine.

Members views and suggestions regarding public perception of our society and how this can be improved would be appreciated.
Suggestions can be made on the ballot form and returned to Dave Blundell or a committee member.

Finally the staff at the editorial office would like to thank all contributors,without whose help and cooperation this newsletter would not have been possible.

Many thanks to Margaret Fleming for photocopying. EDITOR.

Material for next newsletter please send to me, Anne Danson, Ashfell Farm, Ravenstonedale, Kirkby Stephen, Cumbria CA17 4NL. Tel 058 73 - 212.

Complaints should be directed to Dr Samuel Steeple.

The society would like to welcome 3 NEW MEMBERS who are:
DAVID BOWERS from Milnthorpe and LINDA & MARTYN RILEY from Wigton.

Cover from. Vol XXX Copper Ores of the Midlands,Wales the Lake District & the Isle of Man. H.Dewey & T.Eastwood - 1925.

Shows the Dolgellau Gold Belt.

WELSH MEET EASTER '88

This years now traditional Welsh meet, contrary to what the meets list says, will be based at Dolgellau ... sort of North mid Wales. The main theme will be slate, gold and copper, sites including Bryneglwys (Abergynolwyn), Vigra, Glasdir etc and also a special little copper mine, Ceunant Hyll, for our most easterly British member.

Grades of venues will vary from E to S but anyone not into S.R.T. is advised to come along for there is plenty of pedestrian underground and most of the vertical stuff can be done on ladders, which will be available if required.

Camping and rendezvous Thursday night/Friday morning at Dolgamedd campsite, Bont Newydd near Dolgellau (on the A494T from Dolgellau to Bala) at N.G.R. SH 772 202. See you there.

Anyone needing more info contact me (Anton), Dave Blundell or Chris Jones, and yes Mr Jones (G) you will need to bring money, caplamp, wellies etc, etc.

TYNDRUM MEET - MAY BANK HOLIDAY 30th April - 2nd May

Meet Leaders EWAN CAMERON & MIKE MITCHELL.

Ewan would like to see as many members as possible on this meet.
These lead & zinc mines are vast and need alot more exploration.
There is also a good campsite at Tyndrum plus the Green Welly shop for those H.S.F types.

For further information contact :- Mike Mitchell (tel. 0539 021569)
Ian Mathieson (tel. Ambleside 32957)

Derbyshire Weekend 19/20th June '88

Knotlow & Hillocks are real T'owd men's mines, perhaps sporting some of the best examples of hand pick work currently available for study in the U.K. Both mines require a reasonable level of competence in S.R.T. and whilst there are no false floors, unstable ground etc, the S.R.Techniquery involved may justify D - D+. Bring a wet suit for Saturday... Knotlow mine.

Accomodation will be at the Orpheus caving club hut at Parsley Hay, near Hartington (£1.50 per night, showers etc) which sleeps 8 - 10. In case more than this number turn up, could some members please bring a small tent to accomodate club hut overspill.

Rendezvous Friday night/Saturday morning (early) at club hut (N.G.R. SK 146 627). Anyone arriving unforseeably late Sat. morning may catch up with us (10.30 am onwards) at Knotlow mine, Monyash (N.G.R. SK 143 673). See you there.

Anyone needing more info give me (Anton) a ring on 0229 35951.

Black Country Museum.

Dave Blundell and myself recently attended a NAMHO council meeting at the Black Country Museum, Dudley and naturally we had a little bit of time to look around the site. At first glance the site, which shelters under the castle hill and zoo, appears to be a small scale Beamish but I think its probably better than that. It too has a small street with early 20th century shops, pub etc which is built on a canal side complete with narrow boats and boat yards etc. It too has a working steam engine, a recently built replica sitting in its peculiar brick built, truncated engine house and it too has a tramway to take the public around. It some how felt a much friendlier place where all the staff seemed much more willing to talk and pass the time of day. Its possible to take a 40 min boat ride into the huge waterway network under the castle (disused lime-stone workings). We spent some time wandering round when we came upon a hive of activity at the coal mine. Now this is a project which makes the Ding-Dong effort look like very small beer. A small bunch of 6-8 enthusiasts have actually sunk there own shaft some 30' into the coal measures beneath. Admittedly there was a shaft there before but this had been completely backfilled. This small group have built a working mine from scratch with generators, a full scale home made head frame and wind er, home made cage, in fact they've just about made everything and what they couldn't make they've cadged. Dave and I were shown around by the justifiably proud mine manager who outlined the huge problems experienced with the site and the ingenious ways in which every problem has been over come. Remember that this is a full working replica of a small private modern pit and conforms to all the stringent coal mining laws. The mana-ger told of all the problems they had had with the Mines Inspectorate and how this had been overcome. We were shown the huge generator which they had picked up for nothing, this powered the entire site and all underground electri cal gear including lights and ventilation.
Following this we were escorted down the shaft manway to the shaft bottom where we were shown how the problems of clay thrusting up through the floor were overcome by a thick concrete raft. The main drive enters some old mans workings and these are at present being widened and raised to accomodate modern mine legislation regarding passage size. Eventually the team hope to put in an incline drive to day for the general public to walk in. Until then they labour on in secret. Both Dave and I were 'gobsmacked' by how much effort had been put in by such a small team with no financial assistance by the museum except to give them a site within

the museum grounds. There is much to interest the passing tourist as the numbers peering over the fence surrounding the mine showed. The coal underground seemed to be pretty poor quality stuff but there was plenty of it. On surface they have built a 'Heath Robinson' grading plant to handle any they bring out. This has been made from 5 gallon drums welded together with holes cut in the sides for the screens. But it works.

As we left Racecourse No. 2 Pit, Brook Shaft we were filled with admiration for the lads who had made it from nothing and were now down there working the 8'6" seam. This is no plastic mine, neatly cleaned and sanitised for the paying plebs to gawp at. This is the real thing. If you're down in the area go and pay it a visit, you can't miss it, it's the nasty dirty mine over in the corner,all black-faced, roaring and puffingsmoke. This is what the Black Country is all about.

CDJ

THE FURNESS ADVENTURERS.

In an attempt to reverse the general current trend of decay,apathy and saddening loss of underground mine sites in Furness,we have developed a little enterprise.....the Furness Adventurers. This enterprise,is intended to provide capital to purchase materials for the securing and further developement of local underground research sites..

All too often a potential dig or a securing project ends up as a non starter merely because the materials required are beyond the financial means of the few individuals contemplating it.The group would provide a materials stockpile and instant back up for any project as and when it arises.

The Furness Adventurers is not a competitor or challenger to C.A.T., indeed its purpose is to assist in the furtherance of C.A.T.'s stated aims and objectives and unless the society do not wish it C.A.T will be credited with all the projects thus accomplished.

The Furness Adventurers is intended to be an informal sort of set up, the control of its activities and its capital being loosely vested in those who use it,and as such a proper formal constitution and subscriber accountability would be out of context.

i) It will have a local emphasis (ie Furness)
ii) If the whole thing folds for any reason, all materials, cash in hand will go to C.A.T.
iii) All stock pile materials in store at Little Urswick will be available to assist in any mine rescue emergency.

Just for fun (which is what the whole set up is about really) all subscribers will be issued with a share certificate. Dividends will be paid in units of fathoms or feet of accessible underground availed by F.A activities.

Low Down on Furness. We are busy clearing out & enlarging the access to Wittriggs horse level.Projects high on the "hit list" are; (i) Opening out shaft B30,(ii)New exploration of Wittriggs (iii) Survey of all open mines in Henning Valley to establish linking potential and highlight further digs.

Details from Anton C-P Thomas Tel. 022935951.

STEMPLES SLAG HEAP.

In this regular column Sam Stemple will be reporting to you all the news that is news (and some that isn't). No-one will be safe from his 'fly on the wall' journalism. In order to launch his super soaraway column we have introduced this unique competition.
If you think you know the identity of Sam Stemple and you have your copy of the CAT newsletter with you just go up to him and say

"You are Sam Stemple, here is a pint of beer for you to drink, here is my CAT newsletter, I claim my prize."

If you say this correctly you will be awarded a major prize as well as running the risk of having Sam write about you in a future newsletter.

Now on with the news...

NAMHO '89

As most of you will be aware CAT are co-hosting the 1989 NAMHO conference along with LMQT and plans are well advanced. The conference will be based on Ambleside's Charlotte Mason college and unlike recent conferences and in response to NAMHO's wishes the emphasis will be on practical demonstrations and visits. CAT have quite a lot of responsibilities and manpower will be needed, watch the newsletter for further details.

WHAT IS STYX? Keep watching this space in the future for more details.

Fertile Ground

As a culmination of five years medical training Phil Merrin has put all this knowledge to good use and finally done something right. Sam Stemple and the rest of CAT extend their congratulations to Phil and Cheryl on the impending extension to their family. He is now talking of taking up a post drop-testing Whillans Sit-harnesses.

Boredtodeath Revisited

Just when you thought it was safe to come out...Joint members of CAT and LMQT will no doubt have been amazed to read in the last LMQT newsletter the biography of LMQT supremo, Chris Lane. This tells the many faceted life story of Chris in glowing terms but later on contains a vilification of CAT and its part in the lakeland mining scene. I thought the days of slagging each other off were at an end and a new era of co-operation had arrived. It would seem to me in view of the two societies co-hosting next years NAMHO conference that this kind of thing is less than helpful. Sam Stemple has made a new years resolution not to stoop to this kind of activity and will say no more except for this...it turns out that the author of this piece is none other than his wife. I think I'd be a bit upset if, when Mrs Stemple produced my biography, it didn't sound positively nepotistic.

Caldbeck Capers

Stemple's Spies on the Caldbeck fells relate tales of levels being opened and access to a certain engine shaft being blocked by yet another collapse. Will it be dug out? Watch this space.

Coniston

I note with some interest, not to mention a wry smile, that the completion date on Mr Johnston's hotel project (see newsletter 17) of Easter 1988 has been painted out on the notice board, no new date takes its place. Work on the building is still progressing however, although the place seems a bit small for the hotel and conference centre promised in Mr Johnston's promotional literature. It hardly seems bigger than the powder house development... Sam Stemple promises to be one of the first guests and will furnish this periodical with his observations.

Still on the subject of Coniston a recent poorly attended CAT meet proved that a descent to the Deep Level extension beyond the New Engine Shaft is not yet giving up its secrets. Despite the manufacture by Chris Jones of a particularly garish yellow grappling iron he was not able to access the level due in the main to its not being there! The daring young(?) man on the flying pendule discovered that the whole thing has collapsed BUT there may be a way over the top of the huge boulder slope that lies there. I understand that Chris's grappling iron is available for hire.

NAMHO Hall of Fame or Rogues Gallery?

Three members of the NAMHO council are to represent the organisation on the NCA, the governing body of caving. They are Chris Lane (LMQT), Training sub-committee, Rob Vernon (Welsh Mines), Access & Conservation and Chris Jones (CAT & Crawler), Equipment.

Certifiable?

It was floated at the recent NAMHO meeting that a Mine Leaders Instructors Certificate is in the offing on a par with the Cave Instructors Certificate already running. This has been prompted in part by the Health & Safety Executive who were none to amused at the Smallcleugh fatality. They wish to cut down on the cowboy element using mines and being unaware of the environment. See Borrowdale Wadd Mines. No syllabus has yet been decided and this will be under active discussion by the NCA training sub-committee (see above). Sam Stemple will keep you posted on this.

S.R.T Training Sessins JULY 8-10th .
Organised by NAMHO and hosted by CAT.
This session is not intended to be an introductory coarse but is designed for those people with some experience of SRT
SAT VENUE. Ben Lyons wall, Dent
SUN VENUE. Coniston Copper Mines.
Based at Coniston Copper Mines Hut.
For details Tel. Dave Blundell (0539)821750

DATA PROTECTION

It is proposed to transfer the membership records of CAT onto a computer data file. Under the terms of the Data Protection Act 1987 we require to know if any member does not want his details kept in this fashion. We do not propose to keep any details other than name, address, tel. no., etc. Contact L. Harrison for details.

Down Under

No doubt fired up by the recent bicentennial celebrations in the southern Hemisphere, Dave 'Cobber' Bridges, in a stirring attempt to emulate our antipodean cousins, has tried driving his car upside down along the road. Unfortunately his 'hand-built by robots' car was not up to this test and was crushed flat. Dave escaped uninjured save for severe facial bruising from the corks around his hat. Now Dave has bought a Volkswagen and is contemplating dropping it down a mineshaft...Vorsprung durch technik?

Rosehill mines, N. Yorkshire.

Another big preservation project is soon due to start on the 6 mile horseshoe of iron workings at Rosedale on the North Yorkshire Moors some 25 miles from Scarborough. There is quite a bit there The project is starting with an attempt to renovate the Rosedale East Mines chimney, money having been found from English Heritage and the National Park authority. There will eventually be a museum on the site to 'interpret' (an 'in' word in museum parlance) the site where once 5,000 miners toiled. A local story is that, in winter, men emerging from the high moorland mines had to be cut from their clothes which had frozen to them. The industry finally collapsed during the 1926 general strike and has never recovered. The output from the mines was, after primary treatment, transported by a complex railway system to the iron industry in Darlington and the North East.

This of course again begs the question, if the N. Yorks National Park can see some future in working on this site which was not particularly important to the national economy, although locally it was a major industry, when is the Lake District Special Planning Board going to embrace a similar scheme in Lakeland?

S.R.T. Workshop.

A recent S.R.T. course was held for the Shropshire Mines Group at the Dent training facility followed by a trip into Coniston Copper Mines. 10 members took part, the CAT element being provided by Anton Thomas assisted by Chris Jones and Phil Merrin. The day was enlightened by one of the Salopians who, while abseiling, got into difficulties and needed help from Anton, who accomplished this daring mid-rope rescue unaided.

Sweet F.A.

Anton and his subterrranean nocturnal adventurers have been hard at work in Furness excavating the entrance to the Whitriggs Horse level. Although this was opened some years ago by Ray Bland, the way in was always a horrid little rat hole but the F.A. (Furness Adventurers) have put in a excellent and well made level and will soon start work on the collapses inside and one or two interesting leads. Chris Jones is said to be happy as the F.A. approach his house from underneath and is already laying in a stock of wine ready for the deepest wine cellar in Furness.

Enjoy your trip?

Angela Wilson, in a recent daring descent had a small accident which has been put down to equipment failure. This unfortunately, has left Angela with two sprained ankles and a short lay-off from subterranean activities. The equipment concerned was a pair of shoes and the mine shaft...the steps to a public loo.

FORCE CRAG PART 2

MILLING AT FORCE CRAG MINE KESWICK PB.

After overcoming the mining problems at Force Crag Mine we turned our attention to milling the ore efficiently. The previous operator had difficulty in achieving a saleable concentrate from the existing mill.Our remedial works took place as follows:

1. Improving the run of mine ore i.e. Stoping the richest ground.

2. Improving the Ball mill feed by removing the country rock using jigs. (In 1986 we installed a four compartment Davidson Jig together with a double deck screen for sizing the feed.)

3. Setting the Rake Classifier to give the maximum floatable size particles for delivery to the flotation cells.

4. Improving slurry pumping from the Ball mill to give trouble free, steady screen delivery.

5. We designed a reagent regime which would give us a 98%+ recovery of mixed Sulphides from the Zinc rougher cell. We are currently working on the reagents to give us a clean Barite product suitable for the filler market.

6. Improving dry storage for the concentrate.

To achieve these objectives we overcame a number of engineering problems, the most important listed below:

a. Continual forced greasing of Jaw Crusher (thanks to Rod Chiltern)

b. Relining fine ore bin and installing screw feeder (thanks to Dave Blundell)

c. Installing of internal conveyors screw feeder and a surge bin to feed the Ball mill.

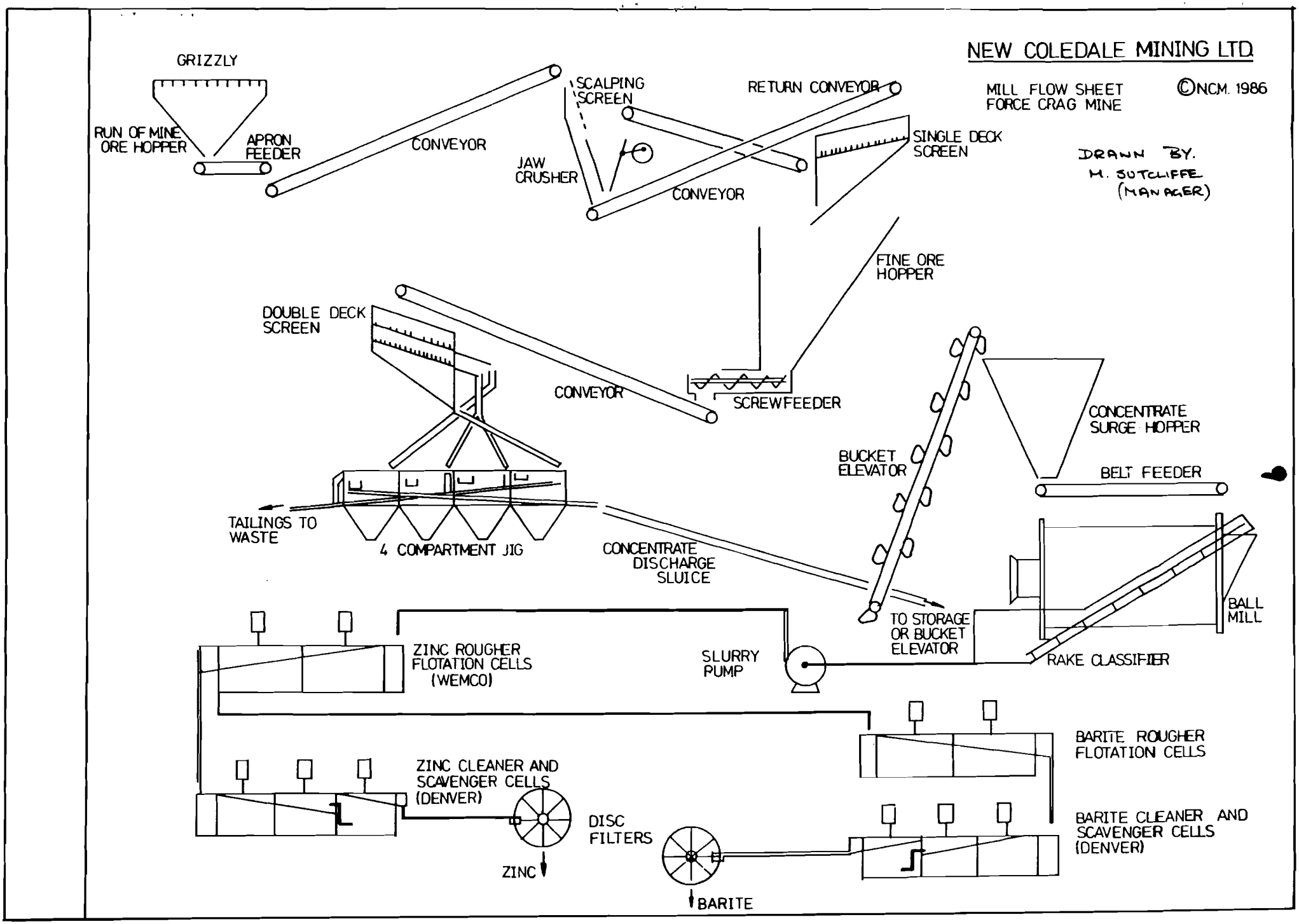
d. Overhauling the Classifier (thanks to Rod Chiltern).

e. Construction and installation of accurate reagent feeders for metering reagents to the flotation cells.

f. Overhauling the variable speed controllers for the barite vacuum drier.

We are currently running the mill up to handling an economic through put, to give us a mininmum 20 tons concentrate per week.

AGAIN WE APPRECIATE ALL THE HELP GIVEN BY CAT MEMBERS.
THANKS P.B.


NEW COLEDALE MINING LTD.
MILL FLOW SHEET
FORCE CRAG MINE
©NCM. 1986
DRAWN BY.
M. SUTCLIFFE
(MANAGER)
GRIZZLY
RUN OF MINE ORE HOPPER
APRON FEEDER
CONVEYOR
SCALPING SCREEN
JAW CRUSHER
RETURN CONVEYOR
SINGLE DECK SCREEN
CONVEYOR
FINE ORE HOPPER
DOUBLE DECK SCREEN
CONVEYOR
SCREW FEEDER
CONCENTRATE SURGE HOPPER
BUCKET ELEVATOR
BELT FEEDER
TAILINGS TO WASTE
4 COMPARTMENT JIG
CONCENTRATE DISCHARGE SLUICE
TO STORAGE OR BUCKET ELEVATOR
BALL MILL
RAKE CLASSIFIER
ZINC ROUGHER FLOTATION CELLS (WEMCO)
SLURRY PUMP
BARITE ROUGHER FLOTATION CELLS
ZINC CLEANER AND SCAVENGER CELLS (DENVER)
DISC FILTERS
BARITE CLEANER AND SCAVENGER CELLS (DENVER)
ZINC
BARITE

NEWS FROM INDUSTRY ASL.

REPUBLIC OF IRELAND. Emerald Resources intend to reopen the Ballingarry anthracite mine near Thurles,Co. Tiperary.

Eglinton Oil & Gas hope to rework the dumps at Avoca mine for gold,subject to negociations with the Dept of Energy.

Feasibility studies have started on Conroy Petroleums Lead-Zinc prospect near Galmoy on the Co,Kilkenny/Laois border.
It is estimated that the orebody contains 11 million tons of ore with an average grade of 12.5% combined Lead-Zinc.

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BOOK NEWS

'A History of the Kelton & Knockmurton Iron Mines 1852-1923' By R.E.Hewer. This book will now be available in August. Priced approximately £6 plus P&P. Published in a strictly limited edition, members wishing to purchase a copy should place their orders NOW (send no money) to avoid disappointment. R.E.Hewer. 'Ellers' 36,Benomley Crescent, Almondbury, Huddersfield. HD5 8LU.

The publication is the result of 5 years of intensive research, material being drawn from several archives throughout the country.

The contents cover the geology, topography and history of the area around Ennerdale as well as the activities of the early prospectors the rise of the Kelton & Knockmurton mines and the dominating influence of Messrs. Baird's on the local community and surrounding land.

A detailed history of the Rowrah & Kelton Fell (Mineral) Railway (which served the mines) and the associated branches, together with the earlier proposed tramways,inclines and rail routes are included in the text.

A study of the steam engines which operated on the above lines lead the author to the Scottish Railway Preservation Society where the original engine still survives.

Other details include a short history of Messrs. Baird's. The rise and fall of Mr. Boundy's mine. Recent exploration finds in the old workings.

Several photographs, maps, plans, sections and bar charts.

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GLOSSARY OF THE MINERALS OF THE LAKE DISTRICT AND ADJOINING AREAS. 104pp.

B. YOUNG - British Geological Survey, Newcastle-upon-Tyne.
ISBN 0 85272 099 8

This useful reference book is a list of the minerals found in the area,and where and how they occur. For anyone with an interest in Cumbrian minerals it is well worth having. Not illustrated,except on the covers.

PRICE £8.50.

ABBOTT HALL MUSEUM - KENDAL. Exhibition of Lake District mining.

This consists of a tunnel complete with mine tubs,timber sets and miners working at the forehead.

BOOK REVIEW

ON ROPE, North American Vertical Rope Techniques.
Published by Vertical Section of the National Speleological Society, Huntsville, Alabama. ISBN 0 9615093 2 5 341 pp at £16.00

This impressive looking hardback book is presumably the bible to North American cavers in much the same way that "Caving Practice & Equipment" is to us . It also shows just how far apart the two continents are in vertical methods of SRT. It describes in infinite detail all the methods of ropewalking from the 'inchworm' to the 'Phase 3 Texas system (?)' but I'm afraid our much loved 'Frog' system is dismissed as best for the "intricate rigging styles of European cavers...the system is heavy, bulky and slow and has become the dominant style used by an entire continent." The thinking behind this is that rhe technique is too slow over big drops, but what do they do in intricate situations? Well if you think we have troubles at changeovers, thats nothing, space prevents me from quoting the page devoted to this manouevre but it entails such gems as "Downclimbing is extremely difficult, due to the footcam being out of reach...convert to the Texas system..." Now it seems to me that any method where I have to go in for aerial acrobatics and changing prussiking methods might just not be the one for me. Later in the same chapter we hear of the "Motorised Ascending Device or MAD." this is some kind of petrol engined ascender for those really deep pitches (Welhope shaft eat your heart out).

It seems that the whole book has a preoccupation with bigger and bigger pitches using rope that is preferably totally non-flexible and indestructable. It seems in the chapter on rebelays that the American caver is a dodo. Rebelays "...require techniques that the average North American caver is unprepared to handle expeditiously" and "cows tails ...increase the chance of a fatal error." The use of the rebelay is only recommended where you can stand off on a safe ledge. The best way to avoid rubbing according to them is rope protectors.

There is an interesting chapter on rigging and performing on really long drops and the account of abseiling on Mt. Thor, 3230 ft and then prusiking back up is a bit chilling. It just seems that the whole point of abseiling and prusiking is to get somewhere not as something to do in its own right. But maybe I'm old-fashioned.

Apart from these and a good many other gripes there is some good in the book if only to see how its done 'over there'. There are a great many illustrations and I think a lot of useful tips and advice although I don't think the cost really makes it worth buying to find them out. But what could you expect from a book where one of the Authors is a lecturer at McDonalds Hamburger University!

However don't be surprised if one day you have to rescue the present writer from the top of a pitch where his Double Bungie Gibbs ascent system has become inextricably tangled with his chicken loops and the pigs tail has got wrapped round his gossett box...

CDJ

Book Review

Chalk Mining and Associated Industries of Frindsbury.
by A. Pearce & D. Long. Research Report 3 of the Kent Underground Research Group.
Price £3.00

Now not everyone believes that there can be anything worth calling a mine to the south of Derbyshire until you get to Cornwall. Well this is the book to prove you wrong. What you get for your money is 140 pages jam-packed with information about the extractive industries of this corner of Kent. The book itself and its layout leaves a lot to be desired, the whole having been printed by a dot-matrix printer at A4 size and many of the photo's are rather blurry. But the fact that it looks like a draft copy should not deter you from looking within. Now being roughty-toughty northern types we all look down on Kent as being devoid of mining interest but I wasn't able to put it down once I'd started. The book is very well written in a chatty but informative style and despite there being no 'caverns measureless to man' I felt compelled to just read a bit more. As a result I now feel I can discuss deneholes and chalkwells with any native Kentish man. I know that one of the authors has been involved with the local council who are now trying to sort out the position of many of these holes as greedy developers have built housing estates on top of them and are now finding their houses sliding into an 'ole and man such instances are discussed including one fatal accident where a woman was swallowed up by a hole that was being employed as a septic tank over 150' deep!

The book makes excellent reading and budding authors would do well to read it if only to discover how a book on mining doesn't have to be as dry as dust. What a pity the cover makes it look so desperately amateurish.

Enquiries for the publication should be directed to:-
Mr R. Le Gear
18 Bladindon Drive,
Bexley,
KENT DA5 3PB

CDJ

STOP PRESS STOP PRESS STOP PRESS STOP PRESS STOP PRESS STOP PRESS STOP
Eric's book is out! Priced £14.95 Full Review next newsletter.

SORRY, No Gear Review this issue,'cos theres nuffink tasty to look at!

FOR SALE **********

ADJUSTABLE TRIPOD,wooden legs,extends to 4'high. Suitable for surveying equipment etc,.

3M DRY PHOTOCOPIER Model 307 Single sheet desk top type copier,uses intermediate sheets(not supplied) to produce negatives,which are then hand fed into printer with copy paper (not supplied) Sold as seen,lamps operate,but unable to test.

OFFERS for any of the above to the secretary, Dave Blundell Tel.(0539) 821750.

OPEN DAYS AT THE BRITISH GEOLOGICAL SURVEY.

5th 6th and 8th MAY at their Newcastle Office.
5th 6th and 8th MAY at their Head Quarters Keyworth,Nottingham.

For further information contact Dr Brian J. Taylor 06077 - 6111 ext 3392.

The small Newcastle Office will presumably have a display of current work in the Lake District.
The open days at Keyworth are well worth a visit for those with any interest in geology. ASL.

HILARY BIRD.MINING FACSIMILES,41 WINDSOR WALK, SOUTH ANSTON.SHEFF
We are taking orders for two books which,if demand is sufficient, will be published in 1983.Insufficient orders will mean that these titles will not be proceeded with:-
THE GOLD ROCKS OF GREAT BRITAIN & IRELAND;and a general outline of the gold regions of the world,with a treatise on the geology of gold. JOHN CALVERT. 1853. 324 pp.,+ xx + appendix -Assayso of the gold ores of Britain.
Origianal copies of this book - when found - have been selling at auction for upwards of £70 and since the work deals with British gold working essentially, we wish to make it more readily available to the mineralogist and mining historian.There are 24 chapters with both the British gold mining fields and also those overseas included.
A short run of facsimile reprints will be offered as a soft,laminate cover version,whilst a few will be available as a case bound edition. The former will be priced at approximately £18.50,whilst the latter at £28.50,post and packing extra.
Spec.Repts.,Min.Res.Of G.B. Vol. VIII. IRON ORES:HEAMATITES OF CUMBERLAND,LANCASHIRE AND THE LAKE DISTRICT.B.Smith (1924 edition) 182 pp.,4 plates,29 text figs,many as fold-outs.The volume deals with all the iron workings of the area,including the famous Hodbarrow Mine. Available as soft-back only @£15.50 + p.& p. A N D.

RESERVATION FORM

Please reserve me:
.....copy/ies Gold Rocks @£18.50
.....copy/ies Gold Rocks @£28.50
..... copy/ies Iron Ores @£15.50

Name .....
Address.....Signed.....
Return this form (do not remit money,you will be invoiced) to Hilary Bird,41 Windsor Walk,South Anston,Sheffield S31 7EL.

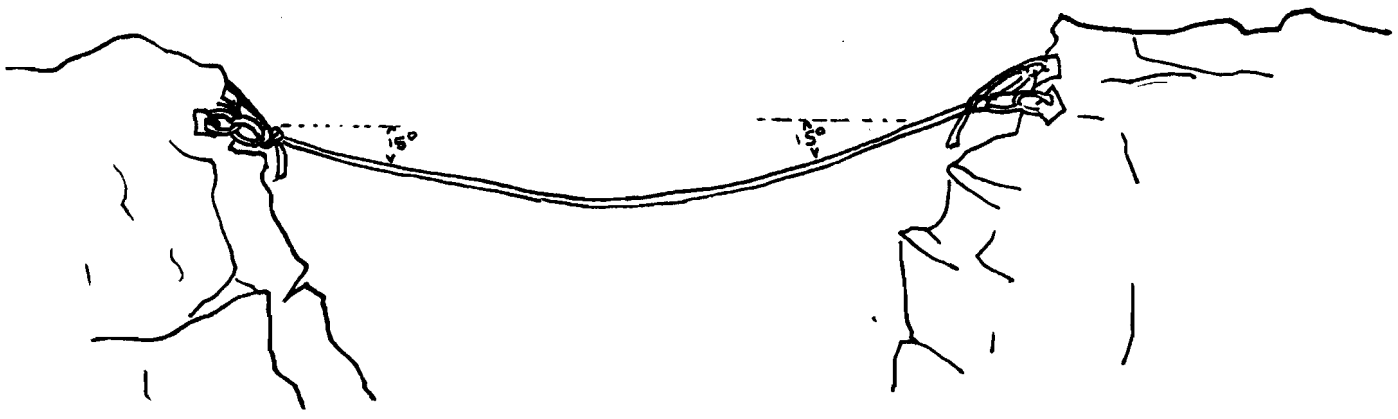
The Tyrolean Traverse.

Those idiotic enough to want to cross horizontal spaces with nasty things beneath them such as deep holes, deep water and rivers etc. may consider a tyrolean traverse to be the answer. These are quite controversial in informed S.R.T. circles because of the huge stresses that they can put a rope under.

A caving rope is best as wire will inevitably break unless it is so thick that it is unmanageable. A good rule of thumb to use is that stresses should never exceed 15% of the breaking strain of the rope. This means that with a 10.5 mm rope a traverse rigged with a 15° sag should safely support 500 lbs. The sag should be measured with the rope unloaded. The sag is important and tyroleans should not be rigged to be as tight as possible as this creates excessive strain on the rope, which after all was designed to support weight vertically along its length and not at right angles to it. Other sources (Padgett & Smith, 1987) state that a safe sag of 10% per person of the horizontal distance should be employed, e.g. that if a traverse 100 ft. long is to support 1 person at a time then the rope should sag 10 ft. in the middle when unloaded. If the system was to be used in a rescue situation then the sag would have to be 20-30 ft. to allow for the combined weight of the victim, barrow-boy and the heavy stretcher. Of course this extra weight should be taken into calculations regarding the breaking strain of the rope.

Anchors.

In an underground situation the anchor used should be, obviously bomb-proof as the stresses set up even on a 15% sag will create 200% of the load on each anchor. If using rock bolts of the self drilling 'Spit' variety 2 is a minimum and 3 would probably be much safer. If using the electrically drilled 'Throughbolts'then 2 would suffice but make sure you are 100% sure of the rock condition. Make sure also that the loading that the anchor is being subjected to coupled with the angle of departure of the rope/carabiner is within its safe working capacity.



Marbach and Rocourt (1980) recommend rigging a double rope for added safety.

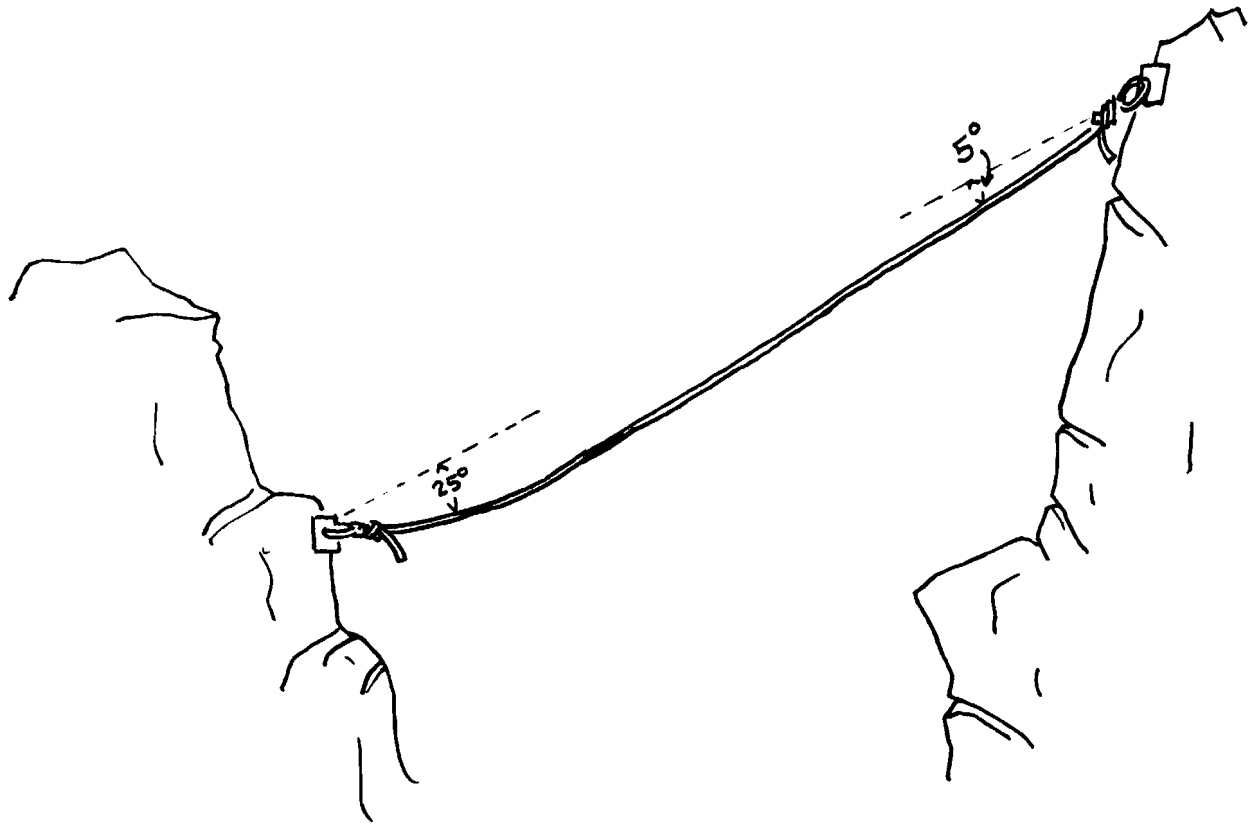
Knots and Belays.

Because of the extra high tensions which occur at the belay it is advisable to tie a figure of nine knot as this is considerably stronger than any other and also it is easier to undo after. Do not use an ascender to tension the rope as this can easily fail by simply pulling apart or bypinching the rope and destroying the sheath.

Tilted tyroleans.

These are perhaps more likely than a straight horizontal one and should be calculated using the same rules with a combined sag of 30° at both ends.

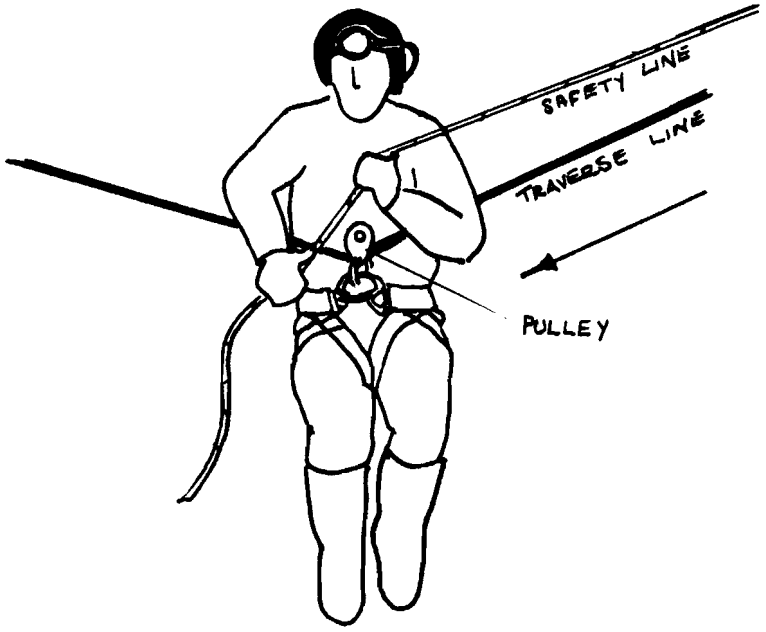
e.g. The sag can be measured to have a declination of 5% at one end and 25% at the other.



Getting Across.

It may be that only one person needs to work particularly hard, that being the first, the rest simply being pulled across on a pulley and indeed in a rescue situation this is what will happen. However in an age of self-sufficient S.R.T. everyone should be capable of leading. Obviously it is only necessary to ride to the lowest point of sag on

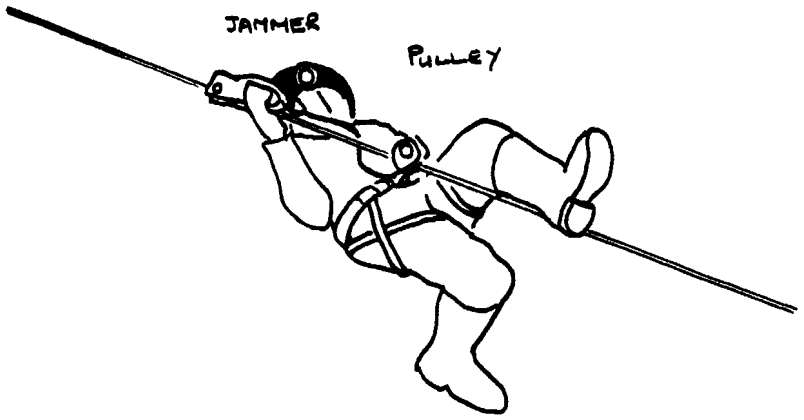
the rope but this should be controlled by either a strong arm on the actual traverse rope or by lowering down by a spare rope perhaps with an Italian hitch. The main traverse line should be attached to the main attachment point of the sit harness either by a carabiner or by a pulley.



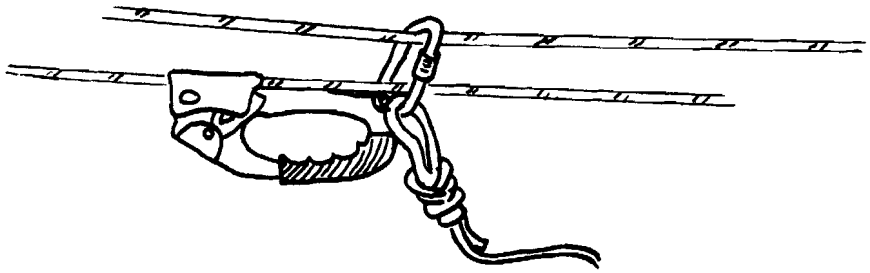
The above arrangement can be used to pull people across by attaching a hauling rope to the main harness anchor.

If you have to make your own way across there is, sadly not one single accepted method of hauling your body across and the method would have to be changed according to circumstances. The present writer has however found this method to work.

When you arrive at the low point of the sag by whatever method chosen, attach the foot jammer and safety cord to the traverse line,and this can be used to haul up the line and avoid slipping back to the middle. As the belay point is approached,it may be necessary to put on another jammer attached to the short cows tail, otherwise it is difficult to make progress. It often helps to lie parallel to the rope and get a leg around it. On a steeply tilted traverse it may be possible to use the normal sit/stand rig to ascend,and a descender on the way down. Of course you could always take the tyres off a bike and ride across using a discarded maypole to balance.



If 2 traverse lines are used, such as recommended by the French, then a double pulley or just a 'crab' is necessary on the sit harness to accomodate both lines, and the hand jammer should also have an extra 'crab' through to the 2nd line.



The overwhelming consideration with a tyrolean traverse as indeed with any form of S.R.T. should be SAFETY and a traverse should only be attempted if a thorough knowledge of the technique is established.

Marbach, G. & Rocourt, J.L. (1980) Techniques de la Speleologie Alpine, Techniques Sportives Appliquees, Coranche.

Padgett, A. & Smith, B. (1987) On Rope, Vertical Section, National Speleological Society, Huntsville, Alabama.

AVOIDANCE STATEGIES EMPLOYED BY CAT MINE EXPLORERS IN CRISIS SITUATIONS (ONGOING).

by Dr. Samuel Stemple. Ph.D.

With the emergence of a rather competitive element to mine exploration coupled with the need to descend (and ascend) deeper and more complicated pitches the author has noticed a series of avoidance techniques which normally experienced explorers are using to maintain their pre-eminence in the field. Less experienced members of CAT will be able to detect the usage of the subterfuges and act accordingly. The author calls this Avoidance Strategies Supplied by Older Lazy Explorer Syndrome or ASSOLES. This syndrome takes the form of a number of ploys which may be used singly or in series, depending on the state of advancement of ASSOLES. The author has included a list of the best known from his extensive records.

(1) MISSING CLOTHING PLOY The user turns up and is just undressing when he discovers he has left his boxer shorts/undersuit/surgical support at home.
(2) MARTYR PLOY Adopts a sad visage and stands down to let others carry on, "Look, lets be sensible, someone needs to stay at the top in case any latecomers arrive/ to give a hand with sack hauling/ etc." An even better example of this is "Well, I suppose someone had better take the non-SRT group on a walk-in trip." Often used with (3). N.B. The downcast facial expression is essential.
(3) MISSING/DAMAGED GEAR PLOY Discovers at pitch head that over 50% of SRT gear is missing. "I can't use anybody elses sit-harness because of my medical condition." or "My lamps going dim."
(4) WRONG ROPE PLOY Discovers he has not got enough rope " I thought we were only doing the 20' pitch today, not the 800', Damn, I fancied that too." This is often fraught with problems as some smart ass invariably has a spare 800' in the boot of his car.
(5) NEW DISCOVERY PLOY Used to explain away several weeks non-appearance, the user adopts a faraway look and mumbles of "caverns measureless to man...long levels ending in a dig...bloody deep water." When pressed for details often says "Can't tell you yet, still negotiating access...it's right on the roadside, so I don't want too many folk in." Often used with (6).
(6) SELECT GROUP PLOY Dodgy this as it uses others "There's a small group of us digging...No, there just a few mates, not in CAT."
(7) TOO MUCH TO DO AT HOME PLOY This includes plastering, fitting bathrooms, taking the cat to be doctored and even "Got to build my house by next week."
(8) WORK PLOY Excellent for the self-employed. "I've got to get the books done for the VAT man/ I'm behind with my orders/ got to finish 100 Little Dragons by Monday/ Can't get off, my boss is in China/ I'm on duty and can't get a swap."
(9) RESPONSIBILITIES PLOY Much used by those who were at the forefront of every new discovery and now all they can manage is the annual AGM and dinner. "Sorry, I promised to take the kids to see their Gran" or "Ever since I sold the Landy I can't get the Sierra up the Copper Mines track." Another favourite is "I'd better not, I was working all Saturday and I've got a lot to do at home." Allied to this is "Sorry I'm late Dear, but it took a bit longer than expected 'cos we had to haul a new lad out...No of course thats not alchohol you can smell..."
(10) I'M GOING PROSPECTING PLOY. Turns up with cagoule and fell boots and trudges off into the mist with a gleam in his eye. He mysteriously returns at night with tales of a strange new level found at the end of a particularly hairy climb "better done on a rope next time" and "bit of a dig but it's venting like hell." Unable to locate it on next trip or it turns out to be a drainpipe from the Youth Hostel.
(11) LOCAL PLOY. "No, I'm not coming all that way, I'm really only interested in the local stuff." Often used with (5) and (6).

(12) DIVERSION PLOY "I think I've got a puncture, I'll catch you up when I've changed the tyre."
(13) SOMEONE PINCHED MY CAR PLOY. This has ben successfully used on several occasions, twice by the same person.
(14) SKINFUL OF ALE THE NIGHT BEFORE PLOY. This is not terribly effective and is generally only used by inexperienced ASSOLES as it does not create any sympathy, the more skilled operators go for a desease which has similar symptoms.
(15) EDUCATION PLOY. "Of course I'd be there like a shot but I've got to get this dissertation finished/ book to the printers/ research completed."

There are many more examples of ASSOLES and the author would be pleased to here of these in the pages of this august periodical.

Impact Force Formula

I recently found this in a book on caving rope care. Please, what does it mean???

K=Impact force in Kgf

G=Weight in Kg

f=fall factor

a=stored up value indicating which portion of the entire fall energy leads to the impact force.

M= Rope modulus describing the connection between the braking force P and the rope elongation l(in %) when a fall is stopped according to the formula P=M-L/100

$$K=(a+G)+(a+G)\sqrt{1+\frac{2XfXM}{aXG}} \quad [Kgf]$$

I hope this clears up one or two points for you.

ALDERLEY EDGE..... HOUGH LEVEL.

Members of Derbyshire C.C and N.M.R.S have been involved in digging open this level, they are approx ¼ mile in. They have laid rails and removed waste using 2 ton side tippers. Haulage has been by hand but a diesel loco acquired from the Water Board is now being rebuilt in situ, to provide powered haulage.

To make a throu trip from Hough level to Wood mine, Bear Pit shaft 180' deep and infilled totally is to be excavated. Work at the moment is centered here, so far the team are 90' down. A scaffold head frame and winch to hoist kibbles has been erected. There is a meet here on 17th April, enquiries to N.M.R.S or Anton C.P. Thomas.

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Bright prospects for a royal goldmine

Colin Wilde on the men who have struck it lucky at Gwynfynydd

A RICH gold strike in Mid-Wales has thrust the Principality back on to the list of world producers.

The last six miners remaining at Gwynfynydd are quietly jubilant about their find after months of exhaustive exploration.

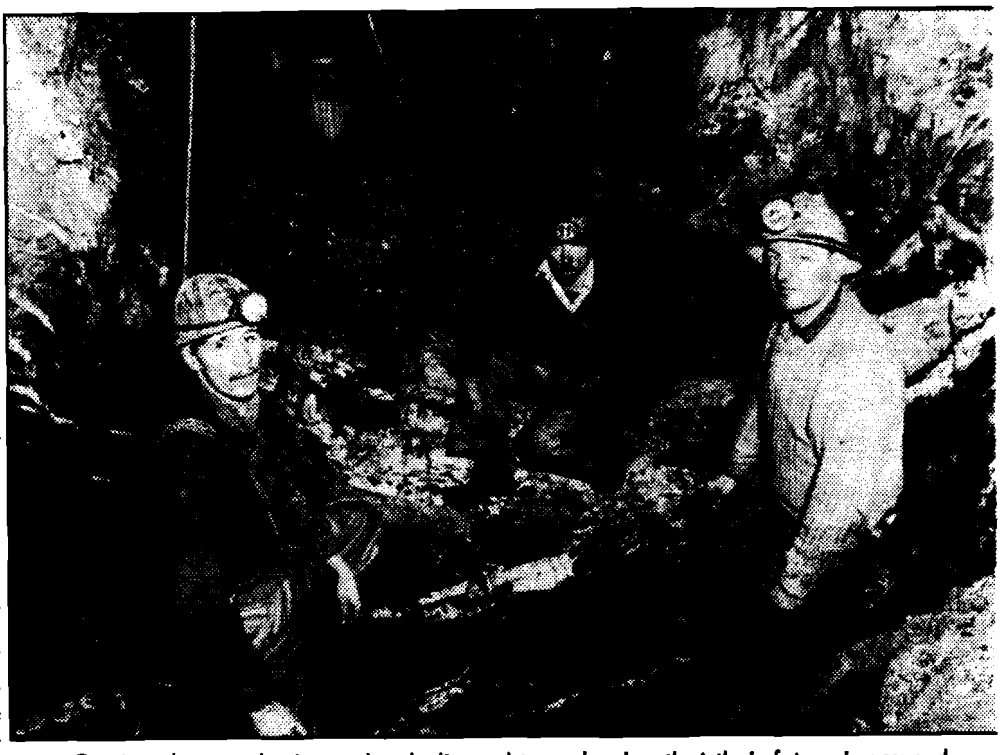
Tucked away in the mist-shrouded forests of the Mawddach valley near Dolgellau, they finally struck a major gold tongue of extremely high grade ore last December.

An immediate future, at least, is assured now that they are back in commercial production after a lapse of nine months.

Rarity of Welsh gold, together with the fact that the Royal Family have used it in most of their wedding rings since 1923, enable it to command a 100 per cent premium on the spot market price of standard gold.

At prevailing levels, the Gwynfynydd gold, which bears its own distinctive "maiden" trade mark, is fetching around £500 an ounce.

It is unlikely to see any immediate drop in value in the current economic climate and especially now that the mine is the only source of Welsh gold.



Getting down to business: the dedicated team hoping that their future is assured

Since operations resumed seven weeks ago, the 110 tons of rock mined has yielded 300 ounces. By international standards, the volumes are insignificant. In quality terms, the ore yield is nine times higher than the average industry figures for commercial mining elsewhere.

"The ore shoot here is so rich, there's no waste rock at all," said mine manager Nick Warrell. "This is bonanza-type material — nothing compares with it world-wide."

He feels justly rewarded for his efforts since recommissioning Gwynfyndd in 1984, after an interval of almost 70 years. With 20 years' experience of Cornish tin-mining behind him, he was on the verge of emigrating before he arrived on an initial three-month contract.

Arwell Thomas is equally delighted. His great grandfather mined the last large strike here nearly 100 years ago. Arwell, 25, works much harder for an average of £80 a week than he did when he was a garage mechanic but he finds the job infinitely more interesting.

After following the flooded rail tracks 400 yards along the main shaft into the mountain, we clambered down a metal ladder into a 40ft black hole. There at the bottom, glittering in the miners' lamplight, were lumps of solid gold sticking out of the bands of quartzite.

"You very rarely see it in seams," explained Mr Warrell, pointing to the sparkling mustard-coloured patches that look as if they had been sprayed on to the rock.

Hand-cobbed, the lumps of gold ore are hauled up on an ancient pulley system for crushing inside the mine before being sent off for smelting and refining.

Despite advances in technology, mining here is done in much the same way as it was last century.

The deposits are highly localised in small pockets within the rocks. Finding them is still a hit or miss affair as the 15 abandoned mines in the Dolgellau gold belt testify.

"You never have uniform grade one ore on an annual basis," Mr Warrell explained. "There is no way of determining how large or how long it will go on for."

Putting aside the uncertainty he is very optimistic about the future. The vein they have struck is a rediscovery of the original lode that the fabled Pritchard Morgan came across exactly 100 years ago.

This earned him his first fortune and the title of Welsh gold king, before he became MP for Merthyr Tydfil.

The last commercial mining took place at Gwynfyndd in 1916 when 300 men worked there. Men of straw appeared briefly during the Second World War but to little avail. Not until 1981 was any serious attempt made to reopen the mine.

It was a City financier, Sir Mark Weinberg, chairman of Allied Dunbar, who came along and bought the mine as a private investment after securing the mineral rights from the Crown.

He provided the capital himself for refurbishment and initial operation. Over the past two years, 1,000 ounces of gold have been extracted.

Pleased with his success and aware that the original 36-ounce nugget given to the Royal Family from the nearby Clogau mine was finally exhausted, Sir Mark Weinberg presented a one kilogramme ingot of fine gold (enough to make 100 wedding rings) to the Queen in 1986 to ensure that they would have future supplies of Welsh gold. A smaller ingot was later given to the Duke and Duchess of York as a wedding present.

But just as the mine has gained a new lease of life, expansion plans have been blocked by the Snowdonia National Park authority, which has demanded a new site for the waste rock.

With aerial ropeways, this will cost £800,000. Many conservationists say the new scheme proposed will cause far greater despoilation to this area of outstanding natural beauty than putting the waste alongside the mine.

"We just don't have this sor of money," said Mr Warrell "The mine has to pay its way a it goes along."

Now they are looking for joint venture partner. Until the find one, they cannot take back the 17 men made redundant a year ago or take on the additional 25 who are needed.

"We're not rogue operators," said Mr Warrell. "We do have a conscience and a duty to preserve the landscape, and firmly believe industry and the environment can co-exist."

FEB 88.

MEET SECRETARY'S NOTES,

MOSS HEAD ROPEWAY BRAKE HOUSE AND LOW WATER POWER HOUSE

These sites in the disused Coniston Old Man Slate Quarries are of considerable interest, are largely intact, and are well worth preserving. Some deterioration has already taken place, and the structures urgently need attention. What is required is the removal of debris, restoration of artifacts to their original positions, and protection of the wall tops by capping with mortar. C.A.T. has permission from the Quarry Company and the Land Owners to carry out this work, and to erect a small explanatory notice at each site. Work was due to commence at the last Boxing Day Meet, but inclement weather discouraged us. Since then I have made minor and temporary repairs to the gable end of the Low Water Forge to prevent it's imminent collapse. We intend to continue with the project when warmer weather and longer days are with us. If you are willing to help then phone Ian Matheson, 05394 32957, and I will inform you of progress, and arrange suitable dates for working parties.

ROUGHTON GHYLL MINES, JULY 3RD

In addition to the information published in the Meets List Ian Tyler would like it to be known that the descent to Mexico Mine involves a 150' pitch, E/D SRT - Ladders. The Meet starts at 10.00 am due to the three mile walk in.

MEETS LIST FOR SECOND HALF OF THE YEAR

I am now thinking about the Meets List for July until the end of the year, and I would be grateful for suggestions, and for offers to lead meets. If you don't make suggestions then don't complain.

Ian Matheson.

C.N.C.C. Bookings '88

Little Hull Pot . . . . . June 5th, Sun
Washfold Pot . . . . . July 10th, Sun
Notts Pot . . . . . Aug 14th, Sun
Mongo Gill Hole . . . . . Sept 25th, Sun
Lost John's . . . . . Oct 23rd, Sun

FORCE CRAG MINE

1st November, 1987
Meet Leader : Peter Fleming

Twenty-two members and guests arrived for this popular meet at what is the only working metaliferous mine in the National Park. Our host, Pete Blezard enlisted the assistance of the Members who arrived early in order to clear a roof fall near the entrance to Zero Level.

Whilst this was progressing the main group entered No.1 Level and examined two stopes, one of these formerly connected with No.2 Level, which is now blocked at the entrance. We continued to the end of No.1, where it is sealed with a brick wall on account of the Radon Gas. A copious flow of water, however, is allowed to escape.

We retraced our steps to the connecting ladderway, which we descended to Zero Level. Half way down a sub level was entered and the mineral deposits noted - mainly barytes, and zinc with a little dolomite and Galena. An ore slusher and associated machinery were also examined.

On reaching Zero, we followed the rails to the end and climbed a ladder into a recently worked new stope which still has a fine wide vein of white barytes in the roof. Walking back towards the portal we looked at the flooded shaft and hopper which the previous mine owners had installed.

By now the collapse near the entrance had almost been cleared, so we returned to the mine office for lunch.

In the afternoon No.3 Level was entered and explored to its end. The Laporte incline was then ascended and the rickety ladders climbed through the 100 ft level to the 80 ft level. Many artifacts remain in these areas.

The stopes were then climbed to High Force Crosscut where two old wooden ore wagons still stand on the rails. Unfortunately the large roof fall which occured about four years ago still seals off the exit to the fellside, so we returned down the incline to No.3 and back to the Mine Buildings.

Our thanks are due to Pete and Anne for allowing CAT Members free access to their mine workings once again.

MEMBERS ATTENDING :-

Peter Fleming	Don Borthwick	Gordon Gilchrist
Mike Mitchell	Damian McCurdy	Ian Tyler
Barbara Mitchell	Dave Bridge	Clive Barrow
David Bowers	Angela Wilson	Steve Clarke
Shiela Barker	Guy Jones	Martin Riley
Paul Timewell	Chris Moore	John Adams
Roy Garner		

GUESTS :-

Cheryth Wood-Johnson	Simon McCurdy	Walter Bullen

BROW STOPE/ TOP LEVEL CONNECTION 29th NOVEMBER 1987

Ian Matheson, Peter Fleming, Mike Mitchell, Chris Moor, Gordon Gilchrist Chris Jones, Cheryth Wood-Johnson.

The purpose of this meet was to try to prove a connection between the blocked ladderway at the bottom of Brow Stope, where there is a hanging iron chain, and the Four Way Junction on Middle Level, which can be reached via the Shattered Stope in the Top Level Extension.

Chris Jones went into the Funnel with two visiting cavers to establish the traverse across MAG's Catwalk, and said that he would climb down the shattered stope and try to make contact through the Four Way Dig on Middle Level. The rest went down Brow Stope from the surface via the wheelbarrow level. A quantity of rubbish was discovered at the bottom of the stope, left by a previous party of mine explorers, and this was cleaned up.

The proposed dig was not promising, as the large boulders looked impossible to shift. However Peter Fleming and Ian Matheson set off up the ropes and round to Top Level to try to prove the connection by voice contact. On the way up they met CJ, who was very displeased about the abrasion which had occurred to some of the ropes, one of which was his own new one. Their ascent was accompanied by the sound of much crashing of falling stone in the stope below as Mitchell and Co. went about their work.

When they reached the Ore Tub in the Top Level Extension about an hour later they were hailed by Mike Mitchell from below! Shortly after their departure he had been looking at the blocked ore pass at the end of the stope when he saw amongst the stones the lense of his headlamp, which had been broken when he was partly buried in a run of stone beneath the Ore Tub on February 8th. He immediately recognised it, realised where he was, and set about clearing the ore pass. By the time Fleming and Matheson reached the other side they had already cleared a hole through. The two above spent an hour making this safer by pushing the loose rocks down through the hole, and then Cheryth and Chris Moor climbed through and completed the through trip via Top Level and MAG's Catwalk. Fleming and Matheson also went out that way with all the spare gear, whilst Mitchell and Gilchrist ascended through Brow Stope to strip out the ropes there. All met on the surface, well pleased with the days discovery.

This connection completes yet another link in the ramification of Levers Water Mine, Brow Stope, and Top Level, and provides an escape route from all three. It also provides an alternative way in to Brow Stope without the need for an abseil. Finally, Mike recovered all his belongings which were lost in the stone shute last February, including his watch, which was still going when found !

Ian Matheson.

BOXING DAY MEET 26TH DECEMBER 87

Ian Matheson, Mike Mitchell, Peter Fleming, Phil Merrin, Dennis Webb, Chris Jones, Mark Scott, Cheryth Wood-Johnson, Sheila Barker.

On show at the BMSC Hut was a superb pricker which Mark Scott had found beside Levers Water Beck close to the head of Hospital Shaft on Christmas Eve. About two feet long, and completely intact, it has an iron handle with a round eye some three inches in diameter, whilst the business end is of copper, drawn to a fine point.

The plan, weather permitting, was to make a start on the preservation of the Low Water Turbine House and the Moss Head Brake House. However, the weather, heavy rain, wind, and low mist, made this a most uninviting prospect, and it was decided instead to go underground and try to stabilise the new Top Level/Brow Stope connection. This was done by sending the loose material above down through the hole, where a small party cleared it away.

As this job neared completion a few members went to examine Earthquake Passage and the Shattered Stope with the twin objectives of seeing if there had been any more movement in the passage, and of trying to locate the head of a timbered shaft which had been seen from below on a previous visit. The floor of the passage has indeed moved, and seems to be falling into the Shattered Stope. In order to indicate future movements a stone was left wedged in an apparently widening crack in the floor near the end of the passage. The Shattered Stope was examined, and a bat was seen, hanging on the wall close to the passage leading to the Four Way Dig. The wall of the stope was followed from here towards its junction with Earthquake Passage, and a crawl beneath huge jagged blocks led to a squeeze into a narrow part of the stope where the floor sloped downwards. This was followed, and led to a debris strewn floor on the Middle Level Horizon. At the bottom of the slope was what appeared to be a shaft head. About eighty feet above, in the roof of the stope is some timberwork which seems to match up with this. Stones dropped down caused much rumbling of falling material, and spontaneous runs also occured, originating unseen from somewhere below. This is a very unstable area. There seems to be two holes, the nearer dropping straight down into a narrowing stope, whilst the other, about five feet further on drops down beside a masonary wall about forty feet high before sloping steeply down in the direction of the descent from the junction with Earthquake Passage. There was neither time nor inclination to proceed further, but before leaving we sent a member to shine a light down at the Earthquake Passage junction. This was seen to be about seventy feet above and thirty feet further along the stope.

Ian Matheson.

REPORT OF C.A.T. TRIP TO HONISTER QUARRIES , 18th. OCT. 1987.

Hurricane Helen hit Cumbria in the early hours of the morning of Sunday October 18th. At about 10 am the eye of the hurricane was passing down Borrowdale as valiant C.A.T. members were driving the other way. Keeping the cars on the road proved to be the hardest task of the day.

On top of Honister Hause rain came horizontally and becks were blown upwards into waterspouts.

There was only one sensible place to be (other than home in bed) and that was underground. Therefore without any delay twelve C.A.T. members and one guest struggled into their gear and disappeared into Link Level at the base of Honister Crag for 6 hours of exploration.

Honister Slate Mine is a marvellous museum to the history of slate working in the Lake District. Much of the older workings have not been destroyed by more recent activity. It's an explorers paradise.

In the middle ages slate was being won from the crag by simple techniques of small surface workings and short tunnels. It was only in the late 1700's and 1800's that increased activity produced the need for a concerted attempt to improve the methods of getting slate off the crag. Infactthe most interesting aspect of the workings to the industrial archeologist isn't the closeheads and working areas but the remains of the methods used to transport slate from deep inside the crag to the road at the top of the Hause.

Initially slate was "sledged" down the scree on wooden sledges fitted with rudimentary brakes. During the 1800's the external incline was constructed much of which still remains as a magnificent monument to Victorian engineering. The incline followed the natural strata of the rock right up the crag face to link the entrances to the various levels. This construction is best viewed from the slopes of Dale Head on the opposite side of the pass.

Honister's notorious weather must have taken its toll of the external incline. Maintenance costs would have been very high. Engineers of the day showed tremendous imagination when they designed and constructed a replacement inside the mountain and subsequently many years later this was replaced by another internal incline further across the crag face.

Once inside the Link Level C.A.T. members were able to strip off their wet outdoor clothing and take stock of the situation in comfort.

The Link Level is itself an interesting feature. Driven horizontally along the base and parallel with the face never more than 20 ft. inside the crag, it linked two areas formerly served by an aerial cableway outside. In the 1930's it was a common sight for travellers climbing the pass to see large clogs of slate suspended in mid air being carried by the cableway. Wear and tear and Honister's notorious freak winds took their toll. The cableway fell into disuse to be replaced by the Link Level.

The Link connects the two main areas of slate mining inside the crag. Both areas are associated with the internal inclines. These are cut at an angle of about 40 degrees to the horizontal. Each incline runs from the foot of the crag to a point close to the top. At frequent "stations" up each incline tunnels run off further into the hill and most end in "closeheads" (caverns). Several of the caverns interconnect forming large open voids. Also from most of the "stations", tunnels run the opposite way opening to day on the crag face. It was from these openings that spoil was tipped to cascade down the buttresses and crash to the scree below. Few rock climbers bothered to pioneer new routes on Honister Crag in the early days.

The incline towards the east end of the workings was the first one inspected by the party. This construction is referred to as the New Incline and it is still in complete working order. Unlike other similar constructions elsewhere, this one is not self activating or counterbalanced The slate trolly is lowered by cable from a winding

drum sited at the top of the incline. The drum is driven from an electric motor via a massive worm reduction gear.

The party ascended the incline making use of the access ladders. A number of levels and closeheads were inspected on the way as was the winding gear at the incline head. It was while at the head of the incline that an interesting discovery was made. In a higher access tunnel which had previously been considered a ventillation tunnel, a large sheathed wheel was found. It was well supported in a massive framework and was orientated to the angle of the incline. Could this indicate that the incline had once contained self activating or counterbalanced mechanism or perhaps it was just an aid during the construction and commissioning of the incline.

Having inspected everything there was to see at the incline head including some very artistic graffiti on the walls of the winding cabin it was getting near lunchtime. However before descending for butties and hot coffee a quick diversion was made to the top window in Honister Crag to look out to day and view Hurricane Helen which, if anything, appeared to be getting worse.

After refreshments the group proceeded along Link Level and prepared to explore a much older part of the system. In the last years of the 19 th. century, Victorian engineers built the "old" incline. This was to replace the even older external incline and runs parallel to the external one approximately 120 ft inside the crag.

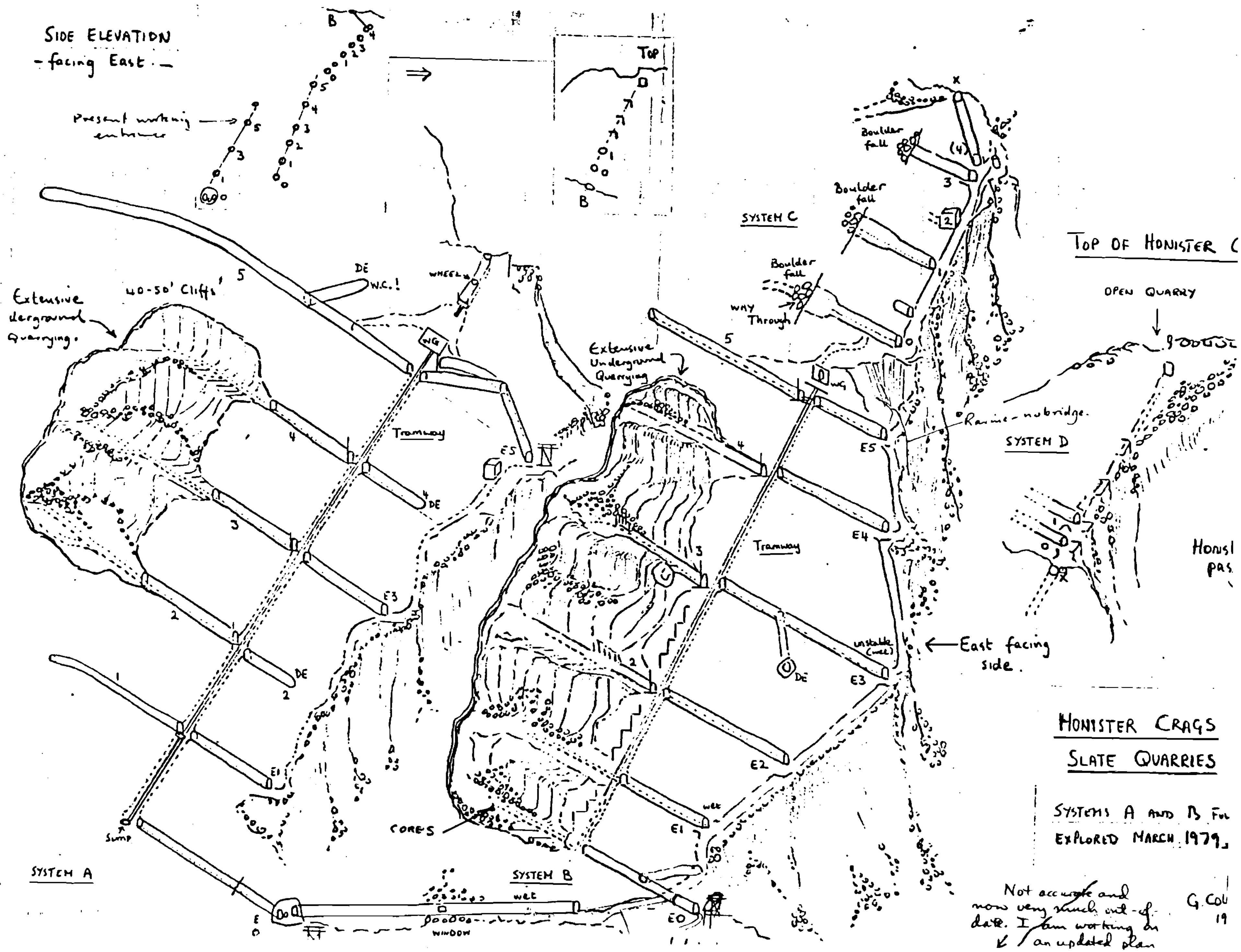
Unlike the New Incline this one was designed to operate by the counterbalanced system. The counterbalanced "dog" can still be seen at the incline foot and the slate trolley lies off the rails near the top. It wouldn't take much to get the incline back into working order; perhaps another project for C.A.T.----?

The party spent several hours exploring the environs of the incline. The design of tunnelling was very similar to that seen earlier in the day. Levels connected the incline with closeheads deep in the mountain and other tunnels ran out to day on spectacular situations on the crag face. Such was the ferocity of the storm outside that some connections with the outside world were covered with a curtain of falling water.

Before departing an attempt was made by a few of the party to force a way up through ancient workings above the incline head. Other members of the party wandered off along lower levels. The spirit of adventure seemed to have gripped C.A.T. members and the meet leader rapidly lost control. It took some time to round everyone up and do a head-count. The attempt at exploring the area above the incline was eventually abandoned.

At the head of the incline we were virtually at the top of the crag. It seemed that the only sensible course of action was to go out to day, brave the storm and make for the walkers path down from Fleetwith Pike. It was very satisfying to have climbed Honister Crag underground and spend so many hours on such a wet day completely dry and comfortable.

It turned out that getting back to the cars wasn't the end of the day's adventures. Although we didn't know it the storm had closed the main roads through the Lakes, and as most C.A.T. members were heading for Coniston / Furness we were due for a difficult journey. We were soon turned back from the Thirlmere and then the St. Johns-in-the-Vale roads and although one car managed Kirkstone, most ended up detouring to the M6. Some of us even came to grief in Keswick.


Side Elevation
- facing East -
Present working entrance
Top
Top of Honister C
Open Quarry
Honisl pas
System A
System B
System C
System D
Extensive derground quarrying.
40-50' Cliffs
Extensive Underground Quarrying
Boulder fall
Way Through
Tramway
Wheel
W.C.!
WG
DE
Sump
Window
wet
Cores
Ravine - no bridge.
East facing side.
unstable (wet)
E0
E1
E2
E3
E4
E5
Honister Crags
Slate Quarries
Systems A and B Fu
Explored March 1979.
Not accurate and now very much out-of-date. I am working on an updated plan
G. Cou
19

Letters To The Editor

Game or endeavour;

In response to two statements made recently in our newsletter (No 18 p10 & No17 p5), I would like to propound an alternative view, one shared by myself & other, if not many other, members of our club. In contrast then, and particularly to assure those perhaps less fatalistic members considering an entrée to underground exploration, I would like to say that an element of danger does not necessarily have to be the, or even a, reason for mine exploration....an element of danger is not what it's all about. Personally I find that an unnacceptable level of risk is a definite dissincentive & possitively detracts (?) from my enjoyment of a trip.

I would never wish to infringe on personal freedom of choice... we all explore mines for reasons of our own choosing... but I do feel that we should never allow ourselves to be accused of taking on fate simply because a risk is there to be challenged. Mine exploration is a serious archeological endeavour so why should we, following in the steps of t'owd man, that same t'owd man who inferior technology notwithstanding took every step to assure his own safety, why should we then assume more risk than he ? In fact in many instances it would prove archeologically instructive to research, develope & implement those means by which he assured his own safety ie, timbering techniques etc.

A more serious view subscribed to by a minority (thank heavens)... and one which I hope that minority would keep to themselves for it does our club, or our cause no credit at all... is that which suggests that hazards should be purposely left unamended to cater for those who insist on a certain level of danger. A pitch for example should not be rigged to elliminate abrasion points thus maintaining the "buzz factor" or element of spice.

Apart from the obvious implications concerning newcomers to our activity, those who learn by our example & who may have no precedent to enable them to judge what is safe and what is only half safe (thus is the door opened to a possible perpetuation of untechnique as they pass these on in turn), the main salient point here is the definition of acceptable level of risk. This of course will vary from individual to individual & will usually depend on what level of exposure each person has grown acclimatised to in the past. Another factor though may well be the degree of exposure to , or isolation from club, regional or national incident statistics. I do not wish to be alarmist but

DID YOU KNOW;

1, within a recent 9 month period 2 C.A.T. members (on seperate occasions) have experienced the "buzz" of having false floor dissapearing from beneath their feet, ...no injury but close.
2, I can refer you to two rope abrasion related deaths (non C.A.T.) & two abrasion incidents (C.A.T.) which had potential.
3, At least one person has died from rockfall. (non C.A.T.)
4, On one C.A.T. meet we came across a stack of deads trickling rocks onto the way ahead... of its own volition.
5, I can refer you to two spit bolt anchor failures (C.A.T. & non C.A.T.), both of which failed under a static load.
6, There are at least two incidents (one C.A.T.) where people have had close calls on through trip abseils.
7, At least two bad air/gas incidents, one fatal & one recently (Cwmystwyth) where victim was rescued unconscious (both non C.A.T.)
8, At least two fixed mine ladder incidents, both in C.A.T. & not serious but when's the next one going to happen, & where & to whom ?
9, Plenty of climbing & electron ladder incidents... bone fractures & that sort of thing, but one seriously complicated by non use of proper climbing helmet ie skull lacerated by broken shell of builders type hard hat (non C.A.T.)
10, Plenty of people walking into shafts & that sort of thing (one C.A.T.)

All these incidents have come to my notice during my relatively short involvement in underground exploration. There are likely to be plenty of incidents occuring which do not get published or broadcast so the above is probably only fractionally representative of the true state of things. I hope this satisfactorily conveys the fact that there is still plenty of existant risk without willfully neglecting the means to further lower the odds in our favour.

Anton D. & Sheila J. C-P-Thomas
Barrow

ED. For many people including the minority the'buzz effect' comes from being underground and often where no one has been for 100 yrs.

The vast amount of underground exploration our club gets involved in and the high standard of safety achieved over the years,demonstrates that it is not a club containing a small group of people with suicidal tendancies.

All the views expressed in letters and comments made,are personal and do not reflect the feelings of the committee or the club.

(THE EDITOR WOULD WELCOME THE VIEWS OF OTHER MEMBERS ON THIS CONTROVERSIAL TOPIC)

"HAVEN BLASTING DO IT AGAIN"

QUOTE FROM CHAIRMAN RON CALVIN R.M. "THE POLICE WERE ROUND WITHIN 5 MINUTES"

IAN TYLER SPORTS

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