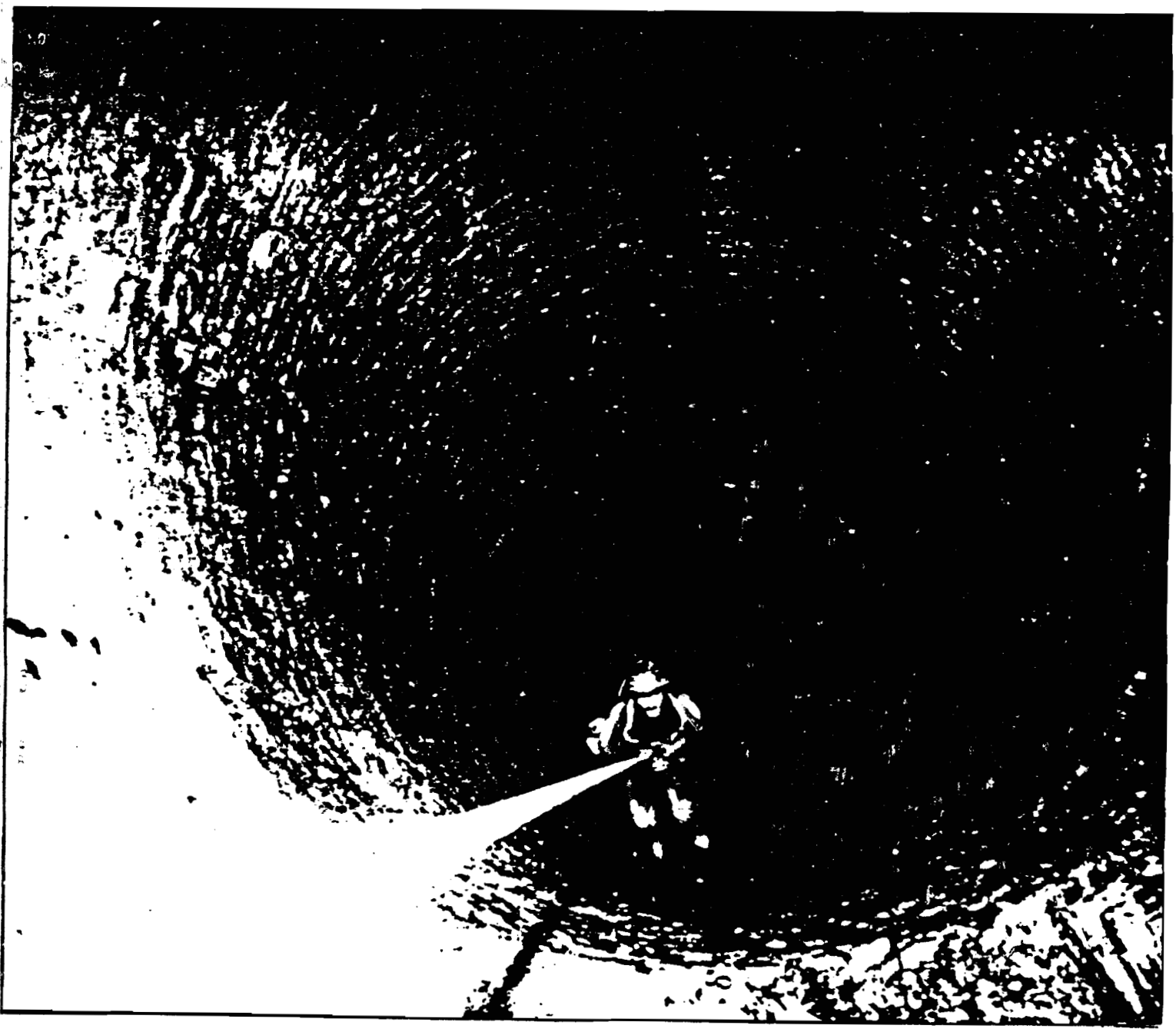

C·A·T 16

NEWSLETTER No.16, APRIL 1987

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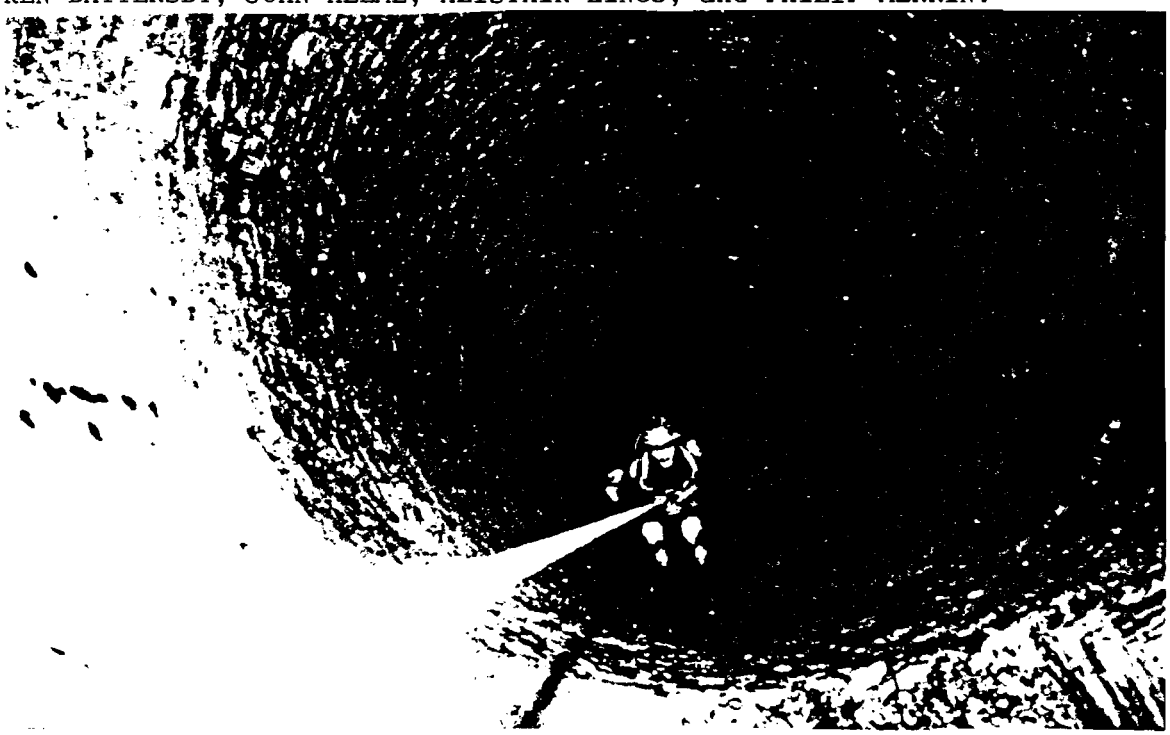
YOUR OFFICERS AND COMMITTEE MEMBERS FOR 1987 ARE: chairman, MIKE MITCHELL; secretary, DAVE BLUNDELL; treasurer, MAUREEN STONE; meets secretary, IAN MATHESON; membership secretary, LINDSAY HARRISON; tackle master and Journal editor, CHRISTOPHER D JONES; Newsletter editor ALEN McFADZEAN; WENDY and KEN BATTERSBY, JOHN HELME, ALISTAIR LINGS, and PHILIP MERRIN.



COVER - Martin Maher descending the Welgill Shaft, Nenthead, 1982. Original slide by Alen McFadzean, converted to black and white print by Bert Wheeler, photocopy enlargement by Joanne at the Barrow College of Further Education. Cheers Joanne, you're a darling.

CHAIRMAN'S REPORT FOR 1986

MIKE MITCHELL

1986 has been another eventful year forC.A.T. with many well supported meets. However, it does seem a pity that some of our less experienced members appear to be reluctant to come on some of the visits which they think may be beyond their capabilities. It must be stressed that all meets, with the exception of severe exploration, are open to all members and that the meet leader will make every effort to accommodate members within their limitations. So please make every effort to come along.

Wednesday night meets at the Farmers Arms, Lowick, continue to be a huge success and again there is still a little space left for a few more people.

Several people merit special mention in my report. In particular Alen McFadzean for his ever interesting and amusing articles in the Newsletters (eagerly awaited by all, I'm sure); Maureen Stone for the thankless job of juggling what seems to be an ever decreasing money supply; Ken and Wendy Battersby, John and Joan Helm and Ian Matheson for their efforts in fund raising, helping to keep our shoe-string finances from breaking; Dave Blundell our Secretary for pushing problems with his pen; Chris Jones, editor of the Mine Explorer (better value than ever this time); Lindsay Harrison for his work on the exhibition at Barrow and as Membership Secretary.

Much work has been done by other individuals in various quarters - digs, surveys, research and meetings. Ian Tyler, Albyn Austin, Don Borthwick, Alistair (warm-the-water) Lings, Pete Fleming for his support of the slide show at Coniston etc., to name but a few.

I have made a note not to mention Ronnie Calvin and his interesting slides and articles on real life coal mining or he might get ideas above his station! (Many thanks Ronnie).

But of course this society is a composite of all its members and we as a committee are anxious to see that everyone gets as much as possible out of membership. But in order to do that we must have feed-back and constructive criticism from you to provide what is wanted in the form of meetings, visits and functions etc. We had only one suggestion for a meet following our last request, which could mean you are all satisfied. I wonder?

Many thanks also to all the committee and members for the support you have given me through the year and I wish you all the best for 1987.

BRIEFLY.....

by McF

The A.G.M. is over and the dust has more or less settled for another year. In front of me, rather tattered and grubby amid the clutter of the editorial desk, is a three-page document I had prepared last December in order to read to our annual gathering of mildly interested and very hungry members after the Treasurer had had her say and everyone was wondering what had become of the farmhouse soup. I confess, I had anticipated a major skirmish over the club funds (or the lack of them) and the Newsletter printing bills (or the enormity of them) and had become accustomed to the idea that at some point during the meeting some cost-conscious individual would stand up and proclaim that, as we had no family silver or nationalized indusrties to sell, in order to survive the Newsletter would have to be cut to one sheet of paper twice a year. In the event no such opinions were aired and my three-page retaliatory document was returned to its folder. What did happen, though, was that several members lobbied quite passionately for the continued production of the Newsletter in its present form, maintaining that if funds could not cope with the printing costs, members' subscriptions should be raised accordingly. This was put to the vote and carried.

Faith in the paranormal wholly restored I set about my Cumbrian gammon steak with vigour. The arguments from the floor had been as sound as a brass knocker: "We must never let it slip our minds," they said, "that up to 80% of our membership do not go underground, do not use our tackle, and are only in the society for the information which drops through their letterboxes."

So true! Cut back on the information and you isolate a sizeable majority of the membership, many of whom are already isolated geographically. In my own experience I have seen several caving/mining groups collapse into ruin and in every case a major contributary factor has been the breakdown in communications, the lack of consideration shown by the nucleus of the society for the non-active members. Thankfully we have not fallen into this trap; our publications continue to appear (though not always bang on time) and, consequently, the society continues to flourish.

That, then, is the main reason for financing a newsletter. Another important reason, and one which again concerns our silent majority just as much as it does the hard core, is the need to provide a medium in which the results of mine exploration and research can be made available on a regular basis. Knowledge is power, someone whose name escapes me once said - I don't know about power but I can vouch that it can be damned useful at times. Unpublished research is no use to anyone and never will be.

Moving on..... Several members have expressed their concern, one of them in a letter to the committee, that the Newsletter is biased in that most of the articles published relate to the south and west of the county while the mining areas of the north and east barely get a mention year in year out. This is a fair comment, and not being an argumentative type of chap I will nod my head humbly and admit that when it's put like that, yes, I suppose you could say the Newsletter is a trifle biased. To remedy the situation I propose that one of you silent types from the top end of the county takes it upon his or herself to submit a regular feature - one or two pages with perhaps the occasional photograph - so that us loud, extroverted, literary expressive types down here in the deep south, and our marras in the west, will be allowed the odd glimpse into the goings on of these other interesting areas.

I am aware that up there in the Caldbeck fells there is a hyper-active cell of CAT members - based in Carlisle - unearthing tons of fascinating information and exploring new ground virtually every weekend. Likewise, in the Nenthead area we have members with their ears to the ground and noses to the

wind. I don't want any excuses, no feet shuffling or bashfulness. I require a special correspondent who can provide me with four articles a year on whatever subject they care to write about on the understanding it concerns the north or the east of the county. Now that's a challenge. Pick up the phone and give me a ring on 0229 64172.

News

JUST WHEN YOU THOUGHT IT WAS NEARING A CLOSE the Coniston Copper Mines saga gets set to rumble on....and on....and on. November's planning inquiry has resulted in Mr Johnston being given the go-ahead for his controversial field-study-centre on the old Bonsor Mill site. The inquiry ruled, however, that the stone-walled and slate-roofed 'site hut', grafted on to the powder store, which was built without planning permission and which Mr Johnston says he is going to turn into staff accommodation, must be pulled down again in five years time when the building work on the remainder of the site has been completed.

But already there is a fresh battle between Mr Johnston and the Lake District Special Planning Board looming on the horizon over the interpretation of the inquiry's decision. Mr Johnston is of the opinion that after the five year period has run its course the staff quarters should be granted permanent status. Mr Rex Baynes, chief planning officer, said at a recent Planning Board meeting: "I have a feeling that the Board and Mr Johnston will still be aruing the point in five years time."

BURLINGTON SLATE LIMITED has resumed exploration for an alternative deposit of blue-grey slate on the moors above Kirkby-in-Furness. A fourteen-foot high core-boring drill rig has been on hire from Penrhyn Quarry, Bethesda, since December of last year. Five sixty-foot deep holes have been sunk underground in the Cavendish Deep Level - an obsolete drainage level widened for heavy machinery in the 1960s - to test the old Crow Brow Vein which was last worked commercially in 1915. The results appear to have impressed B.S.L. management for already waste tips and overburden, nearly 200 feet above the level, are being shifted.

Two 100ft deep core holes, sunk in a small trial quarry at the Engine House, again on the Crow Brow Vein, revealed nothing but severely jointed and mineralized rock. Four more holes are planned for the future, two above the eastern end of the main quarry to test the continuation of the main deposit (all surface signs point to it fast running out), and two more in the floor of the long abandoned High Gawthwaite Quarry on the far side of the fell.

EWAN CAMERON, one of our members from north of the border, has been extending the frontiers of Tyndrum lead mine - his long-running project - yet again. When visiting Ulverston during February, Ewan informed us that the ladderway and stopes explored on the C.A.T. meet of Easter 1984 have been pushed upwards into a completely new level, with a promise ofmore workings higher still. Also recently discovered is a shaft descending parallel to the main workings and not alluded to in any of the old documents. Ewan hopes to produce a survey of the known workings of the mine and publish an account of his research in Journal No.3.

MEMBERS WISHING TO ORDER back copies of the Newsletter please get in touch with A McFadzean, 7 Silver Street, Marton, Ulverston, Cumbria, 0229 64172. Prices will vary from edition to edition and delivery date will depend on when sufficient orders are received to render a trip to the printers worthwhile.

PETER BLEZARD, ANNE DANSON, and the management of Force Crag Mine, would like to thank C.A.T. members who turned up at the mine for December's work meet. Your efforts are greatly appreciated. Thanks again.

SUGGESTIONS FOR THE NEXT MEETS LIST to Ian Matheson the new meets secretary, whose address can be found elsewhere in the Newsletter.

THE PUB QUIZ, organized by Wendy and Ken Battersby for the March social evening at the Farmers Arms, was a huge success. Five (or was it six?) teams competed for the prize - a basket of European wines.... very community spirited! Ten rounds of questions, ranging through mining history, geology, general knowledge, anagrams, geography, place names and other obscure subjects, had a lot of people stumped for a lot of the time though the winning team (who have opted for no publicity) managed to scrape home with a score of 140 points out of a possible 200. An excellent evening's entertainment! Many thanks to Wendy and Ken for putting a great deal of work into the event. Watch this space for details of the next pub quiz, hopefully in the autumn. Star prize next time will be a holiday for five with Captain Ken on a jolly narrowboat on the Shropshire Union. Runners-up will receive a personalized cassette of Ken singing 'Oh, it's such a loverly life on the cut.'

DON'T FORGET our monthly social evenings run right through to June. Second Wednesday of the month, 8 pm in the lounge of the Farmers Arms, Lowick, on the Coniston to Ulverston road.

AND FINALLY, for members who have not paid their subs - single membership is now £10 and double £12. Hope to hear from you soon. This is the final reminder. (should have typed that in red ink)

The History of the British Coal Industry, Volume V, 1946-82,
'The Nationalized Industry' by William Ashworth, Claredon Press.

Most history is written from what may be considered to be a safe distance. The possibility of causing offence to the participants is to be avoided and provided the time delay is not too great or the evidence lost, a clearer perspective is gained. This volume, closing as it does in 1982, is history at very short range, with the added difficulty of being written during the 1983-84 period where the industry can at least be described as being in turmoil. Nevertheless it will stand as an example of how to tackle and surmount the problems of very contemporary history.

The 670 pages are split into four sections. The first starts by considering the coal industry at the time of nationalization, the conditions and the market for coal, and closes with an excellent sixty pages on mining technology and exploration. The second section is the basic history and takes up about half of the text. This is itself divided up into three phases:- the maintenance of maximum output, 1947-57, the industry in contraction, 1957-73, competitive opportunities and economic recession, 1973-82. The third section looks at other activities such as brick making and coal products, a short but enlightening history of opencast mining follows and the section is closed by a chapter on welfare. The sub section on health and safety shows just what can be achieved when there is a real effort to reduce accidents and control diseases such as pneumoconiosis. The final section considers the record, administration, commercial and financial problems and performance, industrial relations and the role of government in the running of the nationalized industry.

The period covered starts with 958 collieries, nearly 700,000 employees producing 187 million tons of deep mined coal per annum (rising to 214 million in 1954), and ends with 191 collieries employing 207,000 with an output of 105 million tons. At nationalization coal was the one major source of energy, though oil was important in transport, there was no nuclear power and gas was made from the carbonization of coal. Today we have energy supply from four sources: oil, natural gas, nuclear power and coal. Most coal now goes for the generation of electricity, the need for a range of coals is diminished and such markets as coaking coal for the steel industry is much reduced.

For a scholarly tome much is very easy reading, even some very long sentences in the more complex sections do not lessen the clarity. A very valuable contribution to the literature, though expensive and sparcely illustrated. You will need a friendly librarian though as the three weeks allowed for most new books on inter-library loans will not be sufficient.

DON BORTHWICK

Coniston Copper Mines - New Discoveries

Top Level Extension reveals its secrets.

P. Fleming.

The following is intended to be a brief summary of a series of important new discoveries made over the last three months in the Paddy End workings of the Copper Mines. A full report will be compiled some time in the future.

The chain of events was sparked off on the Boxing day meet on 26th December 1986, when ten members turned out to investigate the floor of Simon's Nick, which we believe is false. After a prolonged digging session both here and at Middle Level entrance with negative results, apart from finding the remains of a jackroll, it was decided to descend the open stope in line with Simon's Nick nearer to Levers Water. (Why seven years should have elapsed before deciding to do this no one seems to know!)

120 ft below the surface, after passing through numerous shaky false floors, the bottom was reached. Here there was a sump with a jackroll mounted over it, the first one ever found in situ at Coniston.

The sloping floor was followed down using roughly hewn steps cut in the solid rock into a passage which soon led into a crosscut where an iron pricker leaned on the wall. Turning right (NE)the remains of a small dog were noticed. The tunnel ended at another stope with a steep unstable boulder slope running down to the left. Going the other way back along the crosscut a large opening on the left spanned by stemples was later proved to drop down 68 ft on to the four way junction on top level at Junction T4/T5 (see Mine Explorer II Plan No.2). The crosscut continued SW to end in a collapse. Nothing more was done owing to the lateness of the hour, so we prussicked out to surface, declaring it to be "The Day of the Jackroll".

Two days later a team of six went back to investigate the stopes off the crosscut and proved the connection with Top Level mentioned above. The rubble slope at the north east end was descended into a narrow chute choked with loose stone at the bottom. It was thought this choke may coincide with the major collapse on Top Level main haulage. (See Mine Explorer II,page 19). In order to prove this some members abseiled into Top Level via the four way junction and proceeded to the collapse whilst one member remained at the choke. Voice contact was very easy, thus proving our theory. It was decided to embark on a project to stabilise the boulder slope above the choke and remove the loose rock from the bottom, which must be an old ore pass, but it would take a lot of timber. At last we had hopefully found the key to opening up Top Level extension - an exciting prospect. Immediately above the choked ore pass a short tunnel ran into the bottom of a very colourful shaft, rising to workings about 30 ft above.

On the 11th January 1987, eight members returned laden with timber and other equipment and commenced pinning the boulder slope and removing the rock from the bottom. Good progress was made and as the dig got deeper the hanging wall of rock was held back with stemples and boards. A depth of about ten feet was reached that day. In addition to this it

was proved that a side passage off Arete Chamber entered the far side of the stope which drops from the crosscut to Top Level and that the SW end of the crosscut at the collapse coincided with a second parallel passage also running out of arete chamber. More pieces of the Coniston Mines jigsaw were being fitted together.

The 25th of January 1987 saw ten of us back again ladened with more timber, etc. Some entered the crosscut via the new connection from Arete Chamber. Work commenced once again at the dig and in the meantime a "maypole" was erected in the 30ft shaft above the dig and a tunnel was reached. An old wheelbarrow and rubble held back water and this was waded through for 50 yards to a WOODEN BARRICADE completely sealing up the tunnel which was heading beneath Levers Water! Have we found WOODENDS LEVEL? (Mine Explorer II, page 19) We treated the old oaken barrier with great respect ! Above the 50 yard tunnel is a ladderway going up to yet more workings as yet unentered.

The dig meanwhile was going well. Just over 20 feet down the roof of the tunnel was reached and it was only a matter of minutes before the seven of us that were left scrambled through into TOP LEVEL EXTENSION (a five year dream come true). Apart from a minor blockage 40 yards further on it was discovered after a hurried examination of the workings that the whole of Top Level was open right to the end which must be approximately 510 yards from the dig, plus the side passages and stopes. Many interesting artifacts were seen, but detailed exploration was left for another day. It was 9.30 p.m. when we surfaced to the bitter, starlit night on the shore of Levers Water, where our harnesses and clothing froze instantly, making it difficult to remove them or open Karabiners.

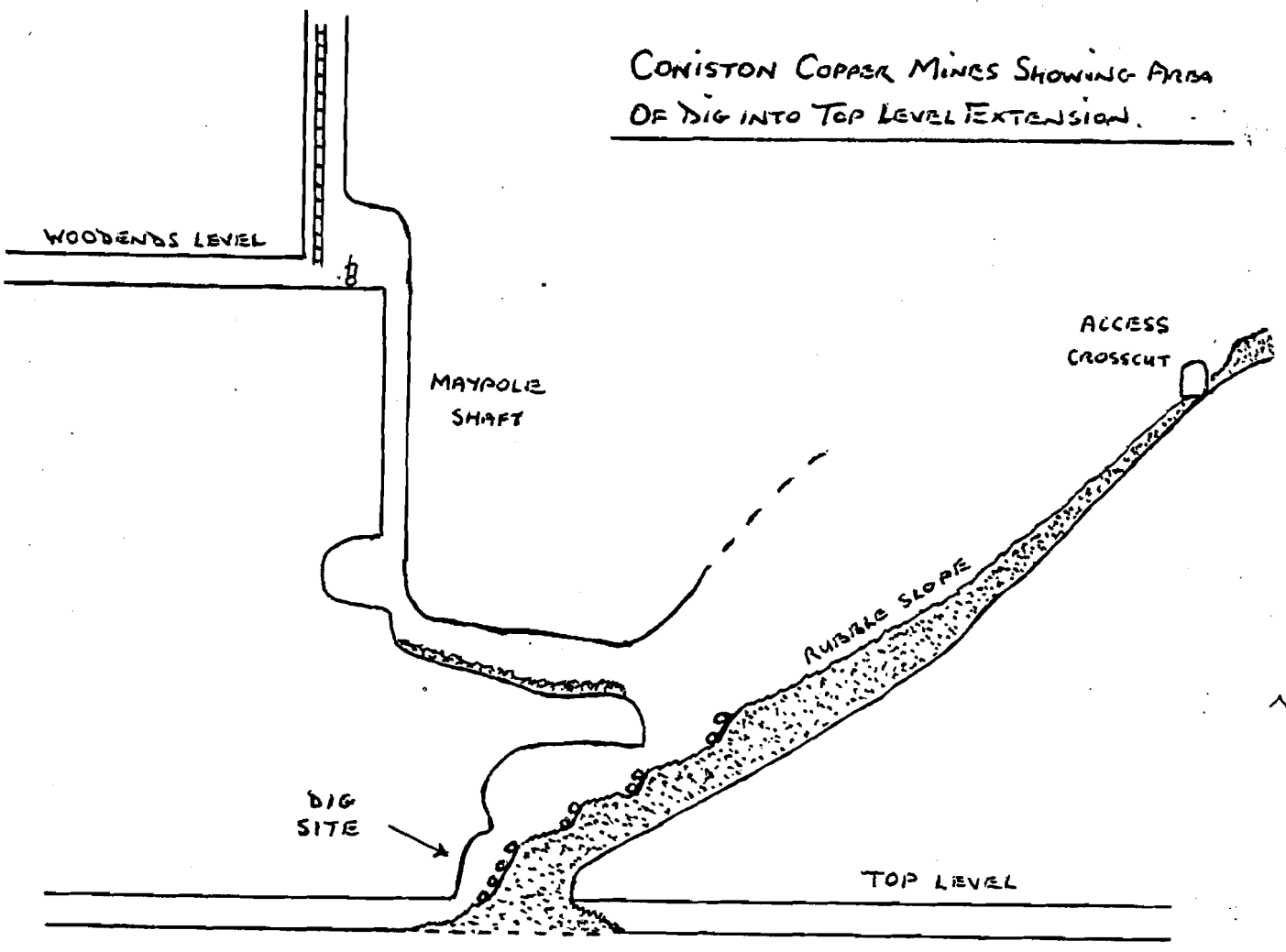
A team of seventeen members and guests gathered on the 8th February 1987 to carry out the first thorough exploration of this very important new discovery, complete with video camera team to make a film of the event. At a point where the tunnel passed through a stope a hand line was placed to reach the continuation of the tunnel. Here we found an ore wagon partially buried but almost still on the rails. Further on a dismantled jackroll was found near a shaft. The jackroll was later re-assembled for photographic purposes. The shaft was descended into a tunnel at about 70 ft, which we think is the continuation of a tunnel on Middle Level first entered from the Windy Stope on 24th March 1985, and the blockage at the end is under Brow Stope on a four way junction, and we are now on the far side of that junction. A dig here would yield more workings.

A side passage off Top Level ran through a highly stressed zone with fractures across the floor, and at one point the right wall has collapsed into a big stope. This tunnel ends at another stope and these have still to be explored. Other short passages run off the main level which still has the rails and points in situ. An interesting exposure of erythrite or cobalt bloom occurs in one passage. Ancient shovels, clogs and drills etc., can be seen. Towards the end of the long main tunnel hundreds of feet of square wooden ventilation trunking is still in position and water flasks can be found. The tunnel ends deep beneath the summit of Brim Fell after a very long and fruitless search for ore. In addition to the two stopes already mentioned there are two more awaiting exploration. One of these is below the ore wagon. It is intended to mount a rescue operation to exhume this wagon and move it to a safer place where it can become a showpiece in this part of the

mine. The task will not be easy as it must weigh four or five hundredweight.

On 22nd February 1987, the workings were again entered and surveyed by a small party in preparation for Journal No.3, by which time we may have completed the 6 or 7 exploratory tasks still awaiting us in these newly discovered parts of Coniston Copper Mines. All artifacts have been left in situ and they should be left there undisturbed for all time.

It is probable that a Club meet will be arranged later in the year to give all members a chance to see what is no doubt one of the most important and interesting discoveries since the formation of the Society. No abseiling or prussiking is necessary.



CONISTON COPPER MINES SHOWING AREA OF DIG INTO TOP LEVEL EXTENSION.

MEET SECRETARY'S NOTES

Insurance Cover: Part of your C.A.T. subscription is spent on Public Liability Insurance, which is arranged through the National Association of Mining History Organisations (NAMHO). Individuals are covered for being sued for damages as a result of their negligence causing death or injury to others, loss or damage to others property, for trespass, and for legal costs incurred in such actions. This insurance does NOT cover personal injury or loss to yourself, although you could claim against another member. Cover of £1,000,000 plus legal fees is provided for all members during both official meets and private trips to disused mines and quarries, and to caves. A synopsis of the cover provided and a copy of the certificate is available from Dave Blundell or myself.

Visitors Fee: A visitors fee of £1 is payable when a non-member attends a C.A.T. Meet. This includes the enhanced premium demanded for invited guests for the insurance cover described above. One such payment provides cover for that person for the rest of the year, though it is expected that anyone attending several meets would become a paid up member of C.A.T. It is the responsibility of any member who wishes to invite a visitor to arrive in time to introduce his guest and pay the fee to the Meet Leader before activities commence.

Coniston Copper Mines Meet, 3rd May: Please note that the Meet Leader will be Mike Mitchell, and not Ian Matheson as stated on the Meets List. We anticipate a descent of the through trip from Levers Water to Hospital Level, and perhaps a visit to the newly rediscovered Top Level Continuation, which is reported elsewhere in this Newsletter. Whilst this meet is graded D in the Meets List the through trip does include some quite long abseils and some ground where it is nescessary to move with care. Entry to the Top Level Continuation can be achieved without abseiling, but involves a rather sporting rope traverse known as MAG's CATwalk. This was pioneered by Mike Mitchell, Angela Wilson, and Gordon Gilchrist, and crosses a stope fifty feet wide some seventy feet above Top Level using a fixed rope and wooden stemples. Members wishing to participate should be mentally as well as physically prepared for quite an adventurous trip, and have as an absolute minimum a suitable harness and cows tails, and a descender, plus of course a helmet and head lamp. If you need advice then don't hesitate to telephone either the Meets Secretary or the Meet Leader.

Change of Address: Please note that the Meets Secretary now lives at 1 Rothay Holme Cottages, Rothay Road, Ambleside LA22 OEE. My telephone number, which was incorrectly stated in the current Meets List, will still be Ambleside 32957.

Ian Matheson.

BE PREPARED FOR EMERGENCIES
[FIRST AID UNDERGROUND]

Exploring disused mines is a potentially dangerous activity, and although we try to conduct ourselves carefully and responsibly underground, sooner or later there could be an accident in which someone may be injured. I know of at least six incidents in which, had luck not been on our side, a serious injury or a fatality could have resulted. One of them was me, but I won't cause embarassment by naming the others. The most serious was a broken leg, in a place where evacuation was fairly simple, but it was only by chance that both the injury and the final location of the victim was not a great deal worse. The purpose of this article is to make people think seriously about the possibilities, and to be prepared to cope if the worst should happen.

Consider three kinds of incident, each with it's probable injuries and problems. Firstly someone may fall down a hole, quite a common accident amongst the' Old Men' who worked the ground which we now explore, and one which might result from a lack of awareness, inadequate lighting, incorrect use of

equipment, a collapse of the ground on which the victim is standing, or just plain carelessness. He may end up at the bottom of the hole, perhaps in standing or falling water, and is likely to have some broken bones, and perhaps internal or spinal injuries. Evacuation is going to be difficult, it is unlikely to be achieved without calling in outside help, and it will probably take a long time.

Secondly, someone may be struck by falling stones or debris. Whilst we always try to assess and to minimise objective dangers of this kind by clearing loose material and making safe, they cannot always be avoided. The resulting injuries would depend upon the size of the falling material, and the hight which it has fallen, but is likely to consist of broken bones and lacerations to the upper body and arms, and perhaps the face. I am assuming that the safety helmet would prevent head injuries, but that is by no means certain.

Thirdly, someone might be crushed and possibly trapped. This could occur in the quite frequent situation in which there is a dig from a cross cut into a stope which has been blocked by debris falling from above, or through a blockage in a level which has resulted from the collapse of false floors higher up. Crush injuries are extremely painful and shocking, and one should not underestimate the damage that heavy objects can do to human anatomy.

Of course a combination of these incidents might occur. For example, several people might be struck by falling debris, carried away down a stope, and crushed by futher falls of rock. However, whilst one may speculate about what might be the worst possible case which could occur, in the event of any serious injury we would almost certainly be dependent upon outside help. This could be a long time coming, especially if the incident were to be deep in the Coniston mines, say, or somewhere like Greenside mine, where it could take several hours to assemble a rescue team at the remote Glencoyne adit, let alone haul a stretcher up the seven hundred feet of ladderway. What we should be prepared to do in such circumstances, is to render effective first aid , to stabilise the victims condition, and to make him as comfortable as possible until assistance arrives.

There are two aspects to this. One is the knowledge and training nescessary to enable one to be effective. I think that meet leaders should ensure that there is someone along who would be able to render first aid in serious circumstances. Individuals can go on First Aid courses run locally by the St John's Ambulance Brigade or the British Red Cross, or, much better, a Mountaineering First Aid Certificate course, which sets out to prepare people to deal with the kind of situations which I have described.

However, even with suitable training, a first aider cannot be effective unless adequate materials are available. So far as I am aware there are no guidelines laid down by C.A.T. as to what first aid equipment should be carried underground, and it is left to each individual to decide what to take. I doubt if at the average meet there is there is enough to deal with a serious emergency underground.

I propose that we should issue guidelines for members, and a list of first aid materials which should be available at C.A.T. meets. I am not the best qualified person to do this, and the matter is open for discussion. However I make two suggestions: That in addition to the personal equipment appropriate to the grade of the meet, every participant underground should also carry a personal first aid kit, containing at the very least two triangular bandages, a wound dressing, and a large roll of adhesive tape. In addition there should be available at the mine entrance, or other readily retrievable location, a first aid bag containing a more comprehensive first aid kit for use by the people on the spot until more adequate help arrives.

Ian Matheson.

TRAINING MEETS - ANTON CHENYLLE-PROCTER-THOMAS

Sunday 4th of September, training meet at Cathedral Cavern. The weather was ace and made for an enjoyable day. Attendance was good (sixteen, two of whom were guests, thirteen of whom hit the ropes and one abstention) and we got off to an early start and wrapped up at about 5.00 pm. Many thanks to M.M., I.M. and A.L. for kind assistance, M.M., L.H., A.L., C.J. and S.C-P-T. for generous loan of personal gear and thanks to all for coming and making it a good day.

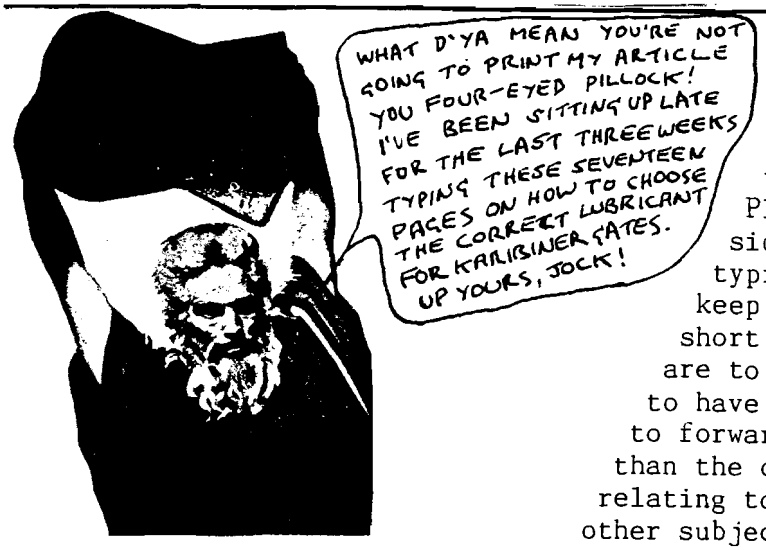
Whilst on the subject of training, may I just make the following comment. There is an old cliche, that "A little knowledge is a dangerous thing". This is particularly applicable to S.R.T. (single rope techniques). Whilst at the training meet everyone had a go at abseiling and prussicking, fair enough, but due to numbers present, time available etc, nobody had a real opportunity to familiarise themselves totally with the more complex S.R.T. manoeuvres. In fact some missed out on certain manoeuvres altogether. Familiarity with all S.R.T. manoeuvres is the minimum requirement for safe and efficient movement underground. Each underground pitch has certain rigging requirements which cannot, for reasons of safety (ie, re-belays, deviations etc), be compromised to suit the capabilities of individuals, and anyone who attempts a manoeuvre without full confidence and familiarity does injustice to both himself and the party with whom he is exploring. Remember that down in the stopes it may be impossible to communicate advice, it may be dangerous or impossible to come to your assistance, you may even have to manoeuvre with a failing or failed light unit, and the ultimate penalty for getting it wrong could cost you dearly.

Whilst a training meet is an excellent forum for airing rusty technique and giving new members a general introduction to S.R.T., there is no way that each person can receive instruction and time to achieve the required level of expertise. To supplement these meets then, I now propose the following;

Any member in need of further S.R.T. practice and instruction please contact me (if possible in conjunction with one further member in similar need) and we'll arrange a date for an informal meet, venue to be arranged at time of contact. I would prefer to limit the size of these meets to two people only to allow ample opportunity for each person to spend half an hour or so on each technique, also to allow time for "fine tuning" of each person's S.R.T. rig... (length of cows-tails, footloops etc, this has led to some problems on training meets) and, if time permits, to broach the subjects of belays, pitch rigging and perhaps basic self rescue techniques.

Of necessity I must limit this invitation to C.A.T. members who have already made the necessary investment in personal S.R.T. equipment. It is my intention to reserve the normal scheduled training meets purely as an introduction to S.R.T. where new members or newcomers to S.R.T. may have a go at abseiling and prussicking only (gear supplied if necessary) and thus be better enabled to decide whether to invest in the necessary gear and pursue the techniques in more depth at a subsequent venue.

This new training procedure takes effect as from now so please, beginners only to Cathedral Cavern (meet at the ford NY 316029 at 10:30 am) on 2nd May. Anyone else contact me, Anton, on Barrow (0229) 35951 to arrange informal meet as per the above.



All articles, announcements, letters to the editor etc, are welcome and will be printed at the earliest opportunity. Please keep articles to an outside maximum of four pages, and typing to single space. Please keep hand-written articles as short as possible. If photographs are to be included it is helpful to have them photocopied first and to forward the paper copies rather than the original photographs. Poems relating to the Caldbeck Fells and other subjects are also welcome, Mrs T.

JONES'S BIT IN THE MIDDLE

Crossgates Mine.

I recently found a letter from Mr. Walter Wadham, reporting on what he found in Crossgates mine on a visit on the 2nd May 1895.

"I went through Crossgates (H.A.& Co's) mine this morning. The difference between it and Whitriggs is easily summed up. The former "all (practically) Ore" being worked just any how & brought to the top by the most expensive method they can think of & the latter "all stone" being worked systematically & in a workmanlike manner. Crossgates is looking, so far as Ore is concerned, even better than when last I saw it but as regards working, I think, if possible, worse and I should think it is only a matter of time & that time a short one until they lose a great part of the Ore & unless they are included in the drunken men and sailors excepted clause. A number of their men at the same time-they are not working a single stone drift."

Martin had a terrible reputation in the last century, the village was noted for it's drunkeness, lawlessness and general vile behaviour. Many small pubs and beer-houses existed in what today is little larger than a hamlet.

SMALL AD.

This might be of interest to all C.A.T. members who want to visit either Furness or the South Lakes (including Coniston) in the summer months... "Our caravan is available for hire during the months of March to October. Situated at Bigland Hall Caravan site, Haverthwaite (handy for the copper mines) and is complete with a quarry for practising S.R.T. techniques. It is a 16' fully equipped 4 berth van, complete with full size awning. All the usual facilities are on site. For further details and a photograph please contact Sue Barrow on Hesketh Bank (077 473) 3312.

Langdale Iron.

I recently discovered a pair of intriguing documents concerning Iron Mines and their potential in Langdale. Both are written by different men to different men but both within a couple of days of each other, in April and May 1860.

"According to your instructions I left Whitehaven on Wednesday morning for Ambleside and arrived at about 4.30 p.m. Dined with Mr. Cram the

same evening. We made arrangements to meet at 8 next morning and go in company to Red Tarn near to and south of Langdale Pike."
The note goes on to describe what they found. Trenches had been dug on the fellside and on seeing "considerable ore" the Mr Cram mentioned above had asked after a previous visit for some bore holes to be put down "as a preliminary expedient". These borings had been "considerably retarded" owing to the severity of the winter. The bore holes had been sunk to depths of 20 to 30 feet and ore had been found down to this depth. Cram was told by the foreman of the operation "that owing to the hardness of the ore he could get no deeper without better machinery." He went on to suggest that the best way to test ore was to sink a trial shaft. The other man, one James Davidson described the ore as " so good and cannot be excelled." Both men drew attentionto the difficulties of getting the ore to the smelters, Davidson describes a series of inclines some 1900 yards zig-zagging down the mountain to the bottom. "After which it will require to be carted about 13 miles to the Windermere Railway along a very irregular road which is very narrow and rugged, or otherwise a tramway might be made to a place called Skelwith Bridge which is about half the distance." He then added the rider that he was doubtful as to the quantity of "Red Ore" to make the cost of transport pay. "In my opinion if the quantity of ore was there the scheme could never pay with the present mode of conveyance."

All in all an interesting series of correspondance.

Book Review.

SRT by Dave Elliot,published by Troll Safety Equipment Ltd, ISBN 0-904405-68-0. price £4.50.

Another excellent book from the pen of Dave Elliot, late of Whernside Manor and long-time equipment officer of the N.C.A. He now runs Lizard Speleo-systems, the place to go for the teaching of advanced caving techniques.

A small paper-back which covers all aspects of single rope technique in a very clear and concise way. This is certainly the book

to get if you can't afford the rather pricey Caving Practice and Equipment that emerged a few years ago. Dave's book is full of useful, practical tips which show up a lifetime devoted to caving. If you can put into practice everything contained in this book then I think you could be called a highly competent caver. Buy it, learn it and do it! CDJ.

Martin's 'ole.

At a highly secret location in Martin (behind CDJ's house actually) a large new hole has opened up over a previously unvisited part of the Crossgates/Whitriggs mine. The hole is about 50 ft. deep and about 30 ft. in diameter and even as I type this is increasing in size as more ground slumps in. The hole runs for some 45 ft. in boulder clay then into the limestone bedrock. Until quite recently it was possible to see into a massive chamber which had swallowed all the overburden. Unfortunately due to the fact that the ground was so unstable it would be extremely dangerous to even try to get down the rascal. The weather at this time of year has caused the thing to be slowly collapsing all the time. Lynsey Harrison is very keen to get down and have a look but every time we try and persuade him he just starts shifting nervously around a nd mutters excuses about his bad back and how it would be different if he were a few years younger, etc. The collapse seems to have occurred over an old shaft which must have descended into quite a sizeable chamber. A case for a dig perhaps when its all settled down.

The Through-Trip-Coniston Copper Mines.

Regular visitors to the through-trip from Levers Water to Hospital Level will recognise that many of the belays were getting in a very corroded and worn state. All of them have now been replaced as well as a great deal of other work being put in such as the provision of new traverse lines over many dodgy bits of floor as well as a new and much safer approach to the final pitch. Much of this work has been put in over the last few months by Anton Thomas and his wife, Sheila, both of whom have become experts with the star drill. Other CAT members have also put in a lot of effort in bringing down much of the hanging death, stabilising pitches. The whole thing is much safer than it has been for many a long year.

Note.

The floor of Arrete Chamber has become very unstable and has started to collapse. A traverse line has been put in to avoid the floor-use it! Try to resist the temptation to fling things through the holes in the floor, it goes down to top level just beyond the crawl through from the bottom of the Arrete Chamber Pitch. Pete Fleming found this out when he tried to impale CDJ and Gordon Gilchrist far below.

Equipment Survey.

Bosch Portable Electric Drill.

This useful item has just been purchased by C.O.M.R.U. for use on rescues. It is, basically, just a ordinary electric hammer drill running on 24 v. with replaceable, rechargeable battery units. So far the drill has been used on a few occasions in the Coniston copper mines. As most of you will know the rock in the Copper Mines is exceptionally tough so this was quite a good test area for it. It performed very well drilling the 12 mm holes necessary in seconds although it was found to be essential to start with a pilot hole and a 7.5 mm bit was used for this. Each battery is able to drive about 12 of these holes so that gave the unit a capacity of 24 12mm holes for the self-drilling anchors used all over the caving world. In softer rock such as slate I think you would get many more.However, it was thought there was little point in putting in 12mm self drilling anchors which still only give a bolt diameter of 8mm and as a result many new holes put in are used with"Throughbolts". These are made by Rawlbolt and are three times the length of the 'Spit'. The ones which are being used are 10 mm in diameter and this is also the width of the hole. They are slightly different in that a threaded peg is left sticking out of the wall which needs to be treated with a little grease to stop rusting. Most of the bolts placed so far have been marked with a red plastic disc (shades of the great controversy) and are of course much stronger. There seems to be little point in using bolts of a higher diameter than 10mm as Anton found out recently when he tried using a similar drill to put in 16mm holes and found that the batteries simply wheren't up to it. The C.O.M.R.U. drill was found to put in about 7-8 of these holes per battery. This gives a more than adequate range for most rescues (hopefully). Be warned however, that normal hangers do not fit on throughbolts as they have to have a 10mm hole.

The drill has, so far, behaved admirably and I feel we shall see it out on quite a lot of C.O.M.R.U. meets. In case you fancy one yourself I think you should know that the cost of the set-up, including a spare battery and bits is around £350.00. If you're still feeling flush, it was obtained from Burrow's, Dalton Road, Barrow.

Book Follies!

I was underwhelmed with apathy for both Christmas competitions, in fact I only had one entry for each. So the big winners were Dave Blundell and Sheila Thomas. They have both kindly (under duress) donated their prizes back. So we will have to think of some other way of getting rid of them. Perhaps another auction like the one held a few years ago is the answer?

Journal No. 2.

The following errors have been spotted in The Mine Explorer:-

Photo's. The first photograph should be Backguards Pit and the second is of Parrock Pit, both in Lindal-in-Furness.

Page 73, para. 3, lines 5 & 6. "...Alexander went to Grassington, John was paid..."

Page 74, para. 3, delete lines 6 & 7 and insert "...and puddled so as to keep out water without the same filtering into the works beneath. A clause which required them to "secure water from flowing into the works beneath Deep Level" gave John Taylor some concern, for he wrote in a letter to Barratt, "I have considered the covenant proposed to be inserted in Lady Le Flemings lease. I am..."

Page 75, para. 2, line 9. The date should be 1852

I hope these small errors have not distracted you too much. CDJ

Welsh Campsite.

The campsite for the Welsh trip at Easter will be at Llechrwd, Maentwrog (Tel. Maentwrog 240). The site is on the A496, about 3 miles from Blaineau Ffestiniog and 8 miles from Porthmadog Alastair has gone to some trouble organising a special financial agreement if there are sufficient number of us. A variety of potential mines have been selected (all of which will probably be rejected in favour of something else).

"I see Phil Merrin's still trying to grow a beard."

Nelson's Level, Grassington Moor. N.G.R. SE 0196 6680

Re-entered by John Southworth (Earby Pothole Club), Michael Forest(E.P.C.) & Barry M. Hunt (E.P.C. & C.A.T.).

October 5th 1986, at the end of a futile exercise of 'shakehole proddling' between Yarnbury and Mossdale Caverns and we were returning down the Gill House Beck Valley towards the track when we entered an area of obvious mining activity. Having an hour or two to spare (typical cavers. Ed.) we poked about in various holes in both sides of the dry valley until a fine, arched portal was seen, subsequently identified as Nelson's Level.
This is blocked by a roof fall after a few feet so we had a look above and behind it where the valley side rises steeply. At the far end of the obvious collapse a small hole was enlarged sufficiently to gain access to the continuation of the level.

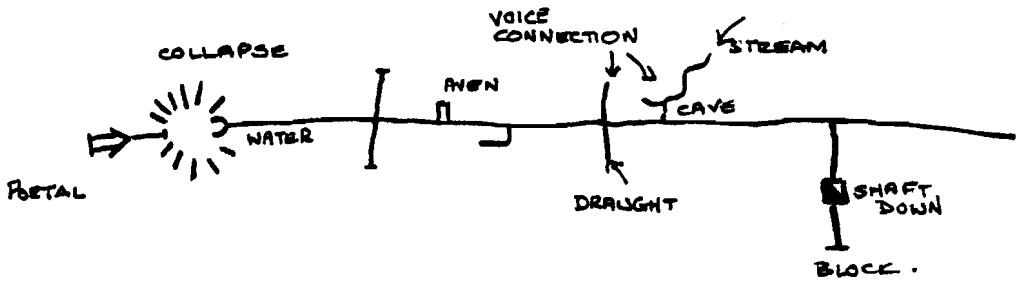
Description (all distances estimated by J.S...in feet).

The entrance is a squeeze through fallen gritstone boulders followed by 30 ft. of knee-deep water with a roof of deads supported on dubious looking timbers. The level then continues (height 6-8 ft.) for 400 ft. to a cross rift at right angles to the passage. The r.h. branch was entered by a 8 ft. climb and followed 40 ft. to a blockage, passing under some nasty looking boulders in the roof. Back at the passage, looking up the l.h. branch is a wall of deads some 20 ft. high with the rift going on beyond. A 30 ft. climb gained 80 ft. of passage ending in a blockage.
200 ft. along the main level is a narrow natural rift on the r.h. side which enlarged to a 15 ft. long bedding plane with a narrow rift on the l.h. side. This is too narrow to enter but has a strong draught.
Back in the main level there is the odd roof fall over the next 270 ft. to where a small stream enters on the l.h. side from a narrow vertical rift, 6 ft. high, blocked by cobbles. This is a natural cave and after a little removal work it was possible to climb up and follow the stream for some 20 ft. until it became too tight. A few feet back down the level from the inlet, in the roof, is a tight vertical rift which was entered; one end being a voice connection with the climb up the cobbles. On the other side a strong draught issued from a 6 in. wide, 10 ft. passage.
Along the main level another 130 ft. on the r.h. side, a level goes off for 25 ft. to a shaft, 20 ft. deep, choked with timber. A traverse over the shaft gained access to a further 15 ft. of level and a blockage with no draught.
The main drive continues for 360 ft. over broken ground, deads, etc to a blank wall.
The entrance draughts strongly but nothing is noticed after passing the natural rift 870 ft. in.
The total length of the level is 1,370 ft. and there are still a few possibilities to be explored but hopes are not high.
The entrance is unstable and it is proposed to fit a steel drum with a 'secured' lid owing to the close proximity of a popular public footpath. As the securing bolt size has not been finalised any visitors should take a small adjustable wrench.

History

A search of available literature has so far revealed nothing much beyond the level's name. A possible survey exists with the M.R.O. but because of the extortionate prices charged for a simple viewing of these documents far less a copy this avenue has not been pursued. Suppression of information to individuals? N.A.M.H.O. please note.

Sketch Plan (Not to scale)



CALVIN'S COLUMN

CLARGHYLL COLLIERY, ALSTON - DECEMBER 1986

This was my first visit to a working mine at Alston. What I did not know was I would go back in time. Clarghyll Colliery is sited below the main Alston to Hexham road, about a mile outside Alston and was first started up in 1940 and is still producing coal from the same levels. There are two levels or drifts serving the mine. One the main return airway and the other the intake roadway which is used as the main travelling and haulage road. This has an 18" forcing fan sited at the entrance, forcing air into the mine, to assist the ventilation which is controlled by a set of air lock doors right at the entrance. This main intake road twists and turns its way for over a mile into the main coal face area and for most of the walk in you are bent over double, splashing through dubs and dishes of black muddy water. When you get into the working area it is no better. Everyone is walking about bent over for it is coal they are after not stone so they just take enough stone out to make height to get the full tubs of coal out and on the working faces the colliers have to lie flat or on their sides to win the coal for they just take the coal out and no stone, at whatever height it is where they are working. The height of coal they were working when I was there was from 17" up to a good height of 21" as one miner said.

The method of working the coal is by short wall or gate and stall. Small roadways are driven off at right angles to the main haulage road, see plan, for a distance of 200 yards. This in turn is split up into 10 yard stalls, one miner to each stall, taking 5 yards of coal from each side of his gate road. When he has advanced 4' he then bores and fires the bottom stone in his gate, all the stone is packed into the area where the coal has been taken out and a wooden roof support is set in the roof every 4'

FULL SETS OF COAL ON THEIR WAY OUTBYE

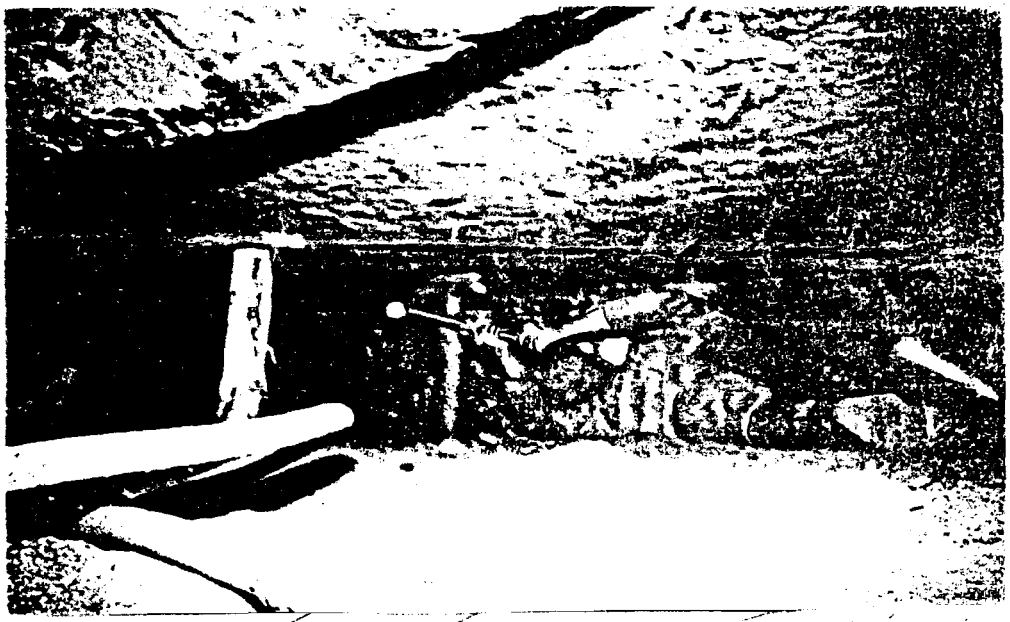
and set into the top of the pack he has built, so covering the trail road. These short faces are driven forward 50 yards so you have an area 200 yards long on both sides of the main road coaling. When they want the coal beyond the 200 yards they go back outbye and drive a roadway off to the left or right hand side beyond the last working face and start again. That is why the main road twists its way inbye.

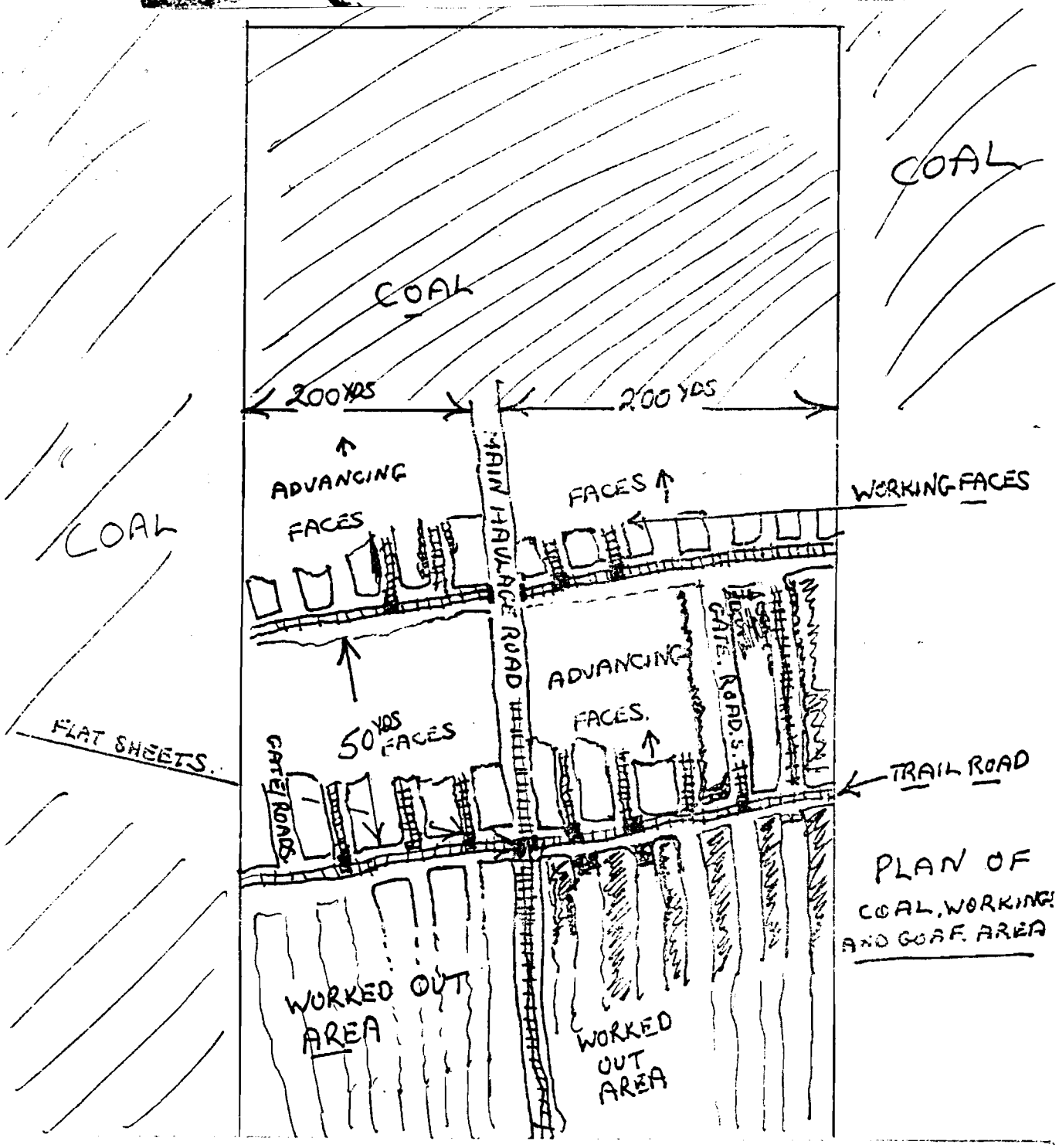
All the coal is won by hand, the miner using a windy pick to break the coal down. He lies flat or on his side, holding the back of the windy pick in both hands, he then has to fill his own tubs and puts his own token on each full tub of coal as each miner is paid by the tubfull, each tub holding eight hundredweight of coal. He has to trail the tubs out of his own gate road, over a set of flat sheets, on to the main trail road. There two fit young colliers then trail the full tubs out to the main haulage road and make these up into sets of 8 to 12 tubs which are pulled out by a main and tail haulage sited on the surface. The two young trammers also trail the empty tubs to the bottom of the gates for the miners and bring timber into the coal faces, so they are on the move all shift.

The ventilation is assisted in the inbye working by using 12" forcing fans and air movers to clear stale air out of blind ends and after shotfiring in bottom stone. There was only one C.P. pump on the main road keeping the water clear in a dish. There were two C.P. pumps in a new development district about half way in that had been used to dewater some old workings so they could prove an area of coal behind an upthrow fault.

TUBS ON FLAT SHEETS OUT OF GATEROAD

There are 28 men employed at the mine, 16 of these underground and up to 70 tubs of coal a day is brought out. An average 30 tons of good Anthracite coal is produced a week from this mine so you go back to the good old method of working in this mine. It is as if time has stood still just like we used to work the main band seams of coal only we could stand up to work.





PLAN OF COAL, WORKING AND GOAF AREA

ROPES AND ROPE CARE

by Anton D. Chenylle-Proctor-Thomas.

A lot of the material within this article will, I'm sure, be common knowledge to many (new comers to S.R.T. notwithstanding) but one has only to take a look in "Chris's C.A.T. kit closet," (where quarter-master Jones keeps our club tackle) to see that what everybody knows is not necessarily, for one reason or another, what everybody does and what ought by now to be an impressive collection of Mega-ropes is just a bunch of old ropelets, the remnants I'm told, of once fine ropes which have been cut and cut again to remove damaged areas. The main cause of this sort of rope damage, as most of us on the Cumbrian circuit will know, is rope abrasion, and we'll go into this and the other aspects of rope care in a moment. Before we do though, let's just examine the role of the rope in modern S.R.T.

If you've ever prussicked so far up a pitch and discovered a nasty loo-king rub on the rope where whats left of the kern (core) is winking at you through the fluff, and instead of kidding yourself (or others) that " Oh hell aye, it's plenty safe is that, it held me didn't it....?" with an " Adds to the spice of the sport...." sort of attitude, you consider it in it's true perspective, which is " My stars!....If that abrasion point had been one incy-wincy bit rougher.... If one extra person had prussicked up before it was noticed....Or if that climb had been a little bit longer....I might have been a gonner, thank God my lucks in" (for that's what it's down to, in the end) then you'll probably have realised that a rope is something which is almost sacrosanct, The need for respectful treatment of the ropes (upon which the safety of yourself and others depends) cannot be over emphasised, for a rope is all that comes between a pleasant trip and disaster, happy families and widows/widowers and orphans. It is the means of conveyance and the lifeline, all your factor of safety is built into that one rope and once you start wearing that down there's a chance you'll end up with more than just grit down your sheath. (Thats S.R.T. clique talk for "Mud in your eye")

In the old days of course, in the years before S.R.T., ropes, used for lifelines, were rarely subject to serious abrasion (because they were rarely under tension) and hence no techniques existed, or indeed were necessary, for it's prevention. It must have been to the surprise of the early pioneers of S.R.T. therefore that abrasion prevention is of major significance to safe S.R.T.. I don't how many "There but for the grace of God go I" 's it took before someone decided that some preventative measures were in order, what is certain though is that they have been around for some time now and all the lessons in this (and other) aspects of S.R.T. have already been paid for over and over, sometimes to ultimate individual cost, and there's no good reason why every club around the country should go through the whole costly business of learning from scratch.

One view about a ropes longevity is that it ought to be perfectly usable (ie, undamaged) until it gets to be so old that you can't remember whether you bought it, had it given to you or found it, at which stage of course, you distrust it to such a degree that you feel inclined to discard it anyway,.. or give it to a friend.....!

Seriously though, some authorities reckon five years to be the retirement age for ropes and while this may be perfectly feasible for personal gear (it's the target I aim for) it might be a bit if an ideal for club tackle. Ideal or not however, there's no reason why a rope should suffer for want of trying.

(contd.....)

The four main threats to a ropes longevity that I can think of, apart from silly things like having it nicked, or dropping down a flooded winze, are (1) External abrasion, (2) Internal abrasion, (3) Percussive fracture and (4) Chemical (or other) contamination.

(1) EXTERNAL ABRASION

Abrasion can really be considered as a cutting action. The prerequisites for cutting (or abrasion) are;

(a) Contact with an abrasive (or sharp) material, usually rock irregularities, protuberances etc down the pitch face, although beware corroded artefacts and equipment eg pump pipe flanges, sheave wheel brackets, pump rod straps, steel pins etc. Also badly corroded belay maillons and steel krabs....badly corroded steel being a most virulent abrasive. Keep an eye also on the condition of any steel components (eg buckles etc) on your S.R.T. harness.

(b) Pressure (between the rope and the abrasive) caused by the tension in a loaded rope, and

(c) Movement of the rope (relative to the abrasive) either pendular (ie pitch swing), or longitudinal (stretch movement) caused by the variations in loading whilst abseiling or prussiking.

Several methods exist for guarding against rope damage from abrasion points.

(i) Re-hanging pitch.

If circumstances allow, it may be worth considering re-hanging the pitch altogether, somewhere where there are fewer abrasion points or better still, where a free hang is available.

(ii) Adjustment of pitch face.

It may be possible to "dress" or eliminate a minor abrasion point with a hammer and chisel. Do not apply this method to anything which may be of scientific, archeological or geological interest.

(iii) Pitch deviation.

A deviation (see fig.1) is a simple method of directing the rope clear of any abrasion point. It will usually consist of a krab on a sling or accessory cord. The sling or cord being belayed to the rock away from the pitch face and adjusted to a length such that with the rope passing through the krab, the abrasion point is cleared.

To negotiate on descent, simply unclip the krab from the rope below you and clip it back on above. On ascent, unclip from above and install it on the rope below you ready for the next person up.

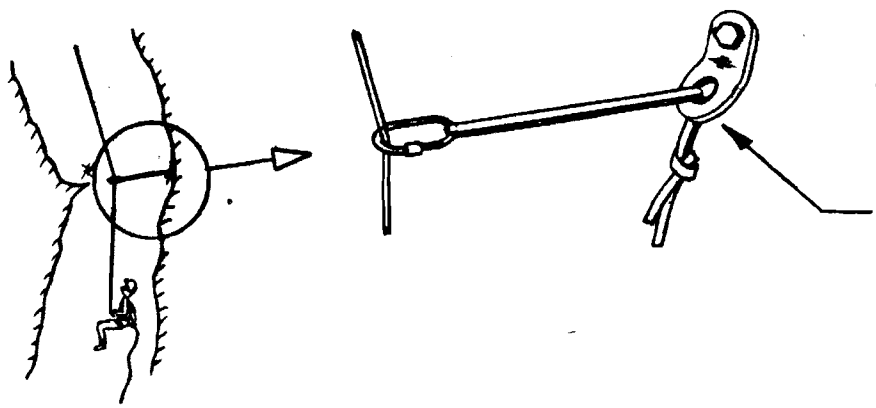


FIGURE (1) DEVIATION

(iv) Re-belays.

A re-belay is not so much a means of avoiding an abrasion point, (although it may be used for this, ie deviation re-belay, free hang from the opposite stope face for example,) but more one of relieving the tension in the rope (and thus the pressure between rope and rock) in way of an abrasion point.

Re-belays and how to negotiate them are adequately referred to in C.A.T. newsletter No 12, page 20, although do please note the following;

(a) When approaching a re-belay, take note whether the rope is attached to the re-belay by a krab or a maillon. If it's a maillon then you may clip your cows-tail into the maillon as per normal. If it's a krab however, then you should clip your cows-tail into the rope loop and not the krab itself. The reason is this. Single bolt belays are not guaranteed, they are prone to failure, increasingly so as the years go by (see forthcoming article on bolts and bolt belays) and if it were to fail as you are negotiating it then the attitude of the rope and your cows-tail, both initially hanging from the bottom of the krab, will change. As the krab is a part of the loading system, either your cows-tail will run up the spine of the krab or the rope loop will run up the front past the gate. If the krab becomes gate loaded (see fig. 2) it may not sustain the shock loading generated by the fall, the safe loading of a krab across the gate is quite low (typically 600 - 700 kg, when new) whereas a maillon is strong "all around". Insertion of your cows-tail into the rope loop eliminates the krab from the loading system in the event of re-belay failure. As an alternative to the above, it is possible (on descent) to clip your short cows-tail into the krab, but with your long cows-tail clipped into the rope loop as added security. Note! Cows-tail krabs should be of alloy and not steel as the cross-latch machining on the gate nose of steel krabs usually leaves very sharp edges and will damage the rope sheath upon insertion (ascent) or extraction (descent) from the loaded rope loop. Alloy krabs have nicely rounded, blunt gate noses.

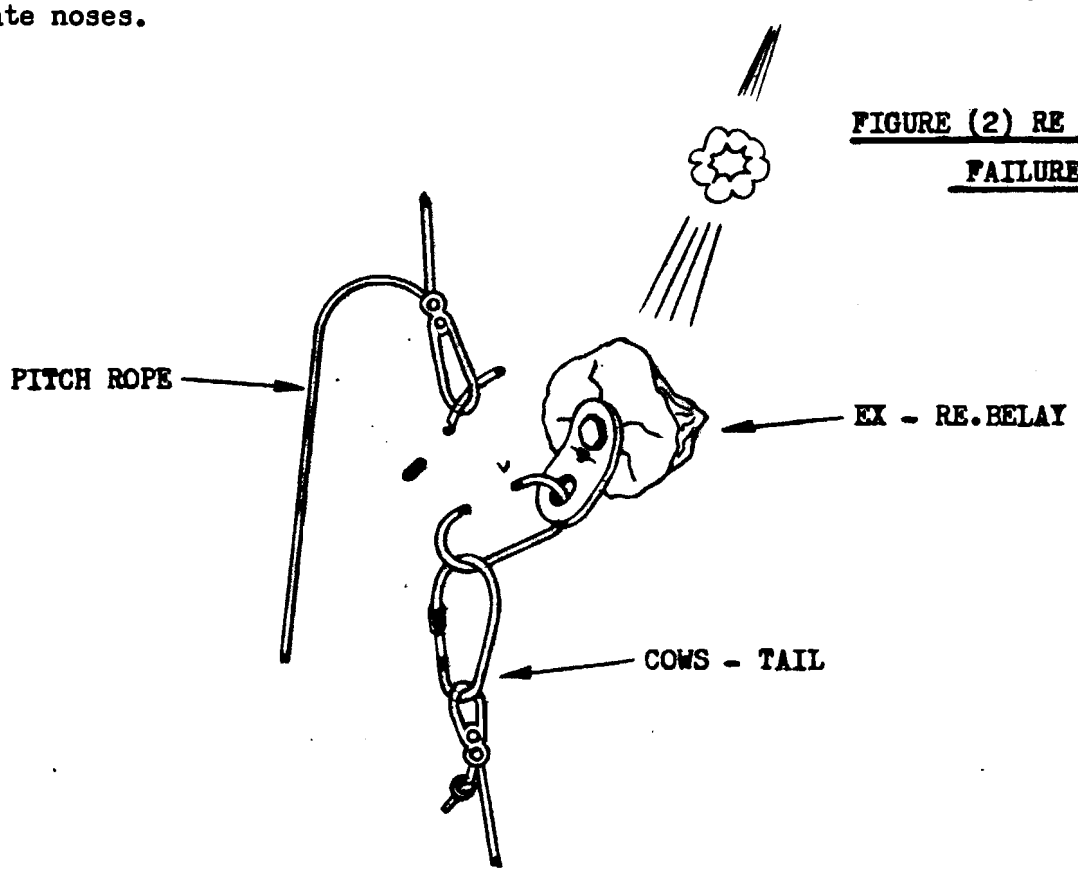


FIGURE (2) RE - BELAY FAILURE

(b) Single spit bolt re-belays, even when at an accommodating ledge, should not be considered as the head of another pitch, ie. upon passing a re-belay, do not shout "Rope free". If you do, and the re-belay subsequently fails, then the person at the top, who may be starting to thread his descender, may well be dragged over the pitch head(proper) whilst still not properly attached to the rope. If he is already descending then the top rope will be pre-loaded by his weight and thus will have lost some of it's energy absorbance capacity, the capacity of which will be vital in preserving the pitch head main belay in the event of a shock loading resulting from a re-belay failure. What's more, his descender will no longer function

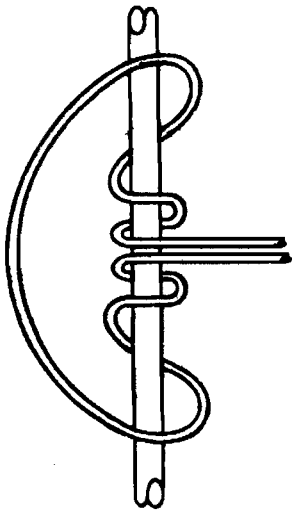
(contd....)

and, if on a wet pitch, he may be stuck under the full weight of water. It is possible to extricate oneself safely from a redundant descender but having abandoned it mid pitch, a ledge further up with the rope held against it under tension from below, may prove to be an impossible obstacle to prussicking equipment, to say nothing of pitch head difficulties.

A re-belay should only be considered as a new pitch head if it is either a sound natural belay or a twin rock anchor shared Y belay.

(v) Rope protectors.

Rope protectors are a means of isolating the rope from contact with an abrasion point. A long, narrow rectangle of heavy canvas or P.V.C. which can be wrapped around the rope to form a protective sleeve. The sleeve maintains it's shape by means of a velcro closer along it's length, and is secured in position on the rope by means of prussik knots. (see figs 3a & 3b).



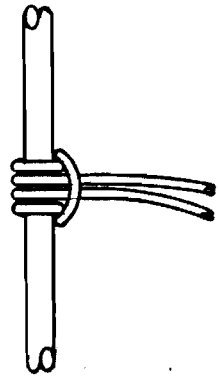


Figure 3a & 3b
Prussik knot

Note. When using a prussik knot for critical applications ie to replace jammer, then put an extra turn (total 3) around the rope and through the loop to strengthen the jamming effect.

One great failing of a rope protector is that it will only protect the rope from abrasion damage if the rope takes a constant line down the pitch. If after a rope protector has been set the rope is penduled or moved laterally, even a foot or so, then a whole new set of abrasion points will come into play which will not be guarded against. Having said this though, rope protectors are certainly a lot better than using nothing, they're quick to place (although negotiating one may take as long as for a re-belay) and where the course of the rope is unlikely to alter, ie, near to the pitch head, between pitch head and re-belay, between re-belays or on short pitches and where the pitch bottom is clearly defined, then nothing could be better. If a rope protector can safely be used instead of a re-belay, then it will simplify the pitch, eliminating all possibility of re-belay failure. The ideally rigged pitch though, will probably include the use of some, or all the techniques we have been discussing.

Where a rope protector is placed a significant distance (ie, 30 - 40 feet plus) from the pitch head or a re-belay, then it should be secured by a prussik knot both above and below, (see fig 4c). Rope stretch under an 80 kg static load ranges anywhere between 2% and 5% and the accrued stretch at any point down the pitch (from 1 - 2 feet at a point 40 feet down, for example) will, when released as someone reaches the pitch bottom, tend to raise the rope protector above the abrasion point (see fig 4a). When someone re-tensions the rope preparatory to a return ascent (or perhaps continued descent) then this stretch will be re-introduced and as the rope moves down past the abrasion point, the rope protector may snag and leave the rope unprotected. (see fig. 4b). A prussik knot below the rope protector will help to draw it down over the abrasion point. This second "pull down" prussik

(contd....)

knot usually need only be placed by the last person down. On exploratory pitches though, where a quick reconnoitre may prove the route to be blind and thus necessitate immediate return, it may be prudent for the first (and perhaps second) person down to also place this knot.

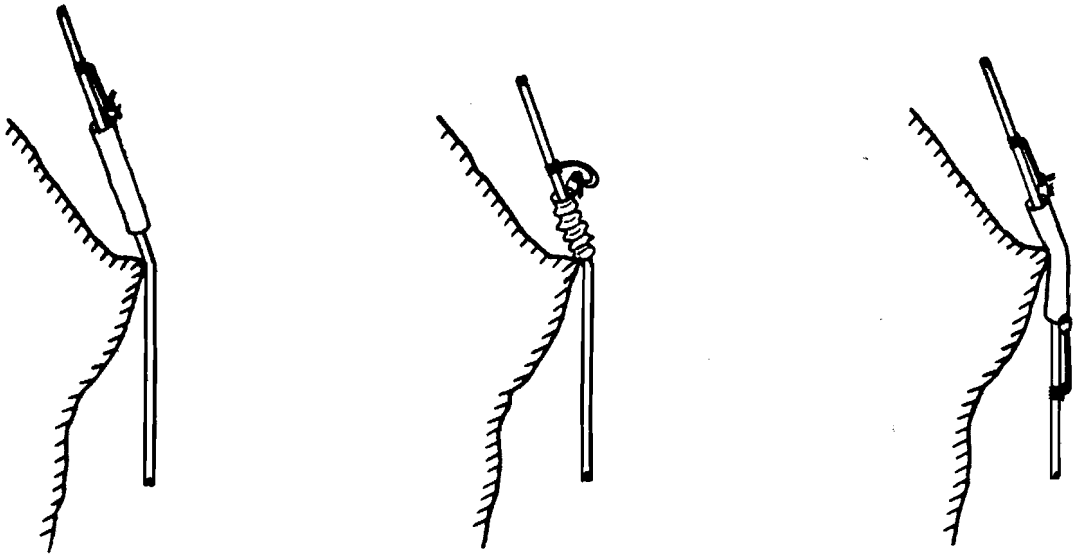
Where a rope protector is used in such a situation it is best to re-tension the rope whilst standing as far back from the pitch foot as safely practicable. This will either enable the rope protector to clear the abrasion point altogether as it descends, or at least reduce the angle of bend that the rope makes over it. This will further assist in the rope protectors re-placement over the abrasion point. Despite these measures though, and where the abrasion point is an upward projecting flake, or a particularly jagged piece of rock, or where the rope makes an accute bend, the rope protector may still be prone to snagging. Where this appears likely then the abrasion point would almost certainly be better addressed by other methods ie, re-belay or deviation. Note! All party members should be conscious of the extent to which they displace the rope whilst manoeuvering at the pitch head and must also ensure that everything is replaced ready for the next person up.

Figures 4a - c. Rope protectors

Fig. 4a
Rope unloaded, stretch relaxes and lifts protector clear of abrasion point.

Fig. 4b
Rope yields to loading and protector snags. Rope now unprotected.

Fig. 4c
Prussik knot to bottom of protector draws it down over abrasion point. Rope thus made safe.



EDITOR - This article is to be continued in Newsletter No17. Also, I would like to point out that the description of the C.A.T. rope collection in the opening paragraph is based on the personal opinion of the author and is not shared by myself, the tackle master, or the committee.

STOP PRESS STOP PRESS STOP PRESS STOP PRESS STOP PRESS STOP PRESS STOP PRESS

Plans are underway to reopen the 200ft deep Hodge Close quarry near Tilberthwaite, north of Coniston, for the extraction of green slate. Mr Michael Hodgson and quarryman Alan Dugdale have approached the Lake District Special Planning Board on an informal basis and are currently negotiating with representatives of the quarry owner, Lord Egremont, for the transference of the lease, held by the Buttermere and Westmorland Green Slate Company, in turn owned by McAlpines of Penrhyn Quarry, Bethesda. The scheme has already stirred up opposition from local climbing and sub-aqua clubs who use the flooded quarry regularly.

Meets Review

by McF

Let it not be said that C.A.T. members lack imagination, resourcefulness, and enthusiasm, three characteristics which bubbled to the surface during Boxing Day's ambitious attempt to dig a hole through the floor of Simon's Nick, Coniston Copper Mines, into the unexplored workings below. Despite the discovery and exhumation of an old wooden jackroll - a windless for winding small kibbles up rises - the dig was abandoned in the afternoon when someone stumbled across a ready made hole not thirty feet from the site of the excavation. Imagination, resourcefulness and enthusiasm perhaps - but notice I did not mention brains! The ready made hole was discovered in the dark corner of an open stope situated above the banks of Levers Water and on the same vein as the Nick. Subsequent exploration has revealed an entirely new system of levels on and above the Arete Chamber Level horizon, two complete jackrolls in situ, a metal ore bogey, a dead dog, an ingeniously made wooden ventilation system, clogs, tools of every description, and the thousands of feet of tunnels and stopes of the Top Level Extension.

Members who have been following the development of our exploration at Coniston, particularly those of you who remember the article in Newsletter No.6 entitled 'The Funnel', will be aware that for many years now our ultimate goal has been to break into what has become known as the Top Level Extension, the ramification of workings running from behind a (previously impenetrable) collapse in Paddy End Mine off into the very heart of Brim Fell. On the completion of a two-day dig in January, which amounted to sinking a timber-lined shaft vertically through twenty feet of deads, we finally won into the Extension and have now, with the exception of a couple of deep stopes, explored it in its entirity. I cannot do justice to the story of the exploration, or the details of the new workings, in this column, so I will say no more. Hopefully, though, a specially extended Newsletter No.17 will contain all the relevant information.

I'd like to turn the clock back a few months now, to September, and astound you with a few details of Don Borthwick's marathon guided tour of Tyneside's industrial remains. Eight members turned out for what proved to be an enjoyable though mentally exhausting day (see notes in opening paragraph concerning members' brains), meeting in Throckly at the site of the old Mariah pit. In what quickly became apparent to be an incredibly detailed journey through the history of the North-East, Don gave members an insight into the development of the glass, brick, iron, lead, armaments, soap and candle industries of the area as well as a factual account of the growth and decline of the coal mining industry.

Members visited Kitty's Drift, an underground wagonway from Kenton Colliery, and the Newcomen engine house at Friar's Goose before detouring to inspect the remains of Walker Naval Yard, Bede's priory, the new coaling terminal, Tyne Dock, the river mouth, piers and Tynemouth. After a brief look at Westoe Colliery they visited the restored windmill at Fulwell, Wearmouth and its once important coaling dock, and observed an inshore gas drilling rig.

At Monkwearmouth Colliery Don explained how the shaft, which commensed sinking in 1826 and took eight years to reach the coal seam at a depth of 1578 feet, was lined with iron tubs to hold back the large volume of water perculating through the magnesian limestone. In 1835, explained Don, the rich Hutton seam was breached at 1722 feet. This was claimed to be the deepest mine in the world at that time.

After a disappointing detour to Ryhope pumping station, where access to the old beam engines was denied, the day drew to a conclusion with an informat-

ive tour of the Washington 'F' Pit museum and a brief look at a section of the Bowes railway.

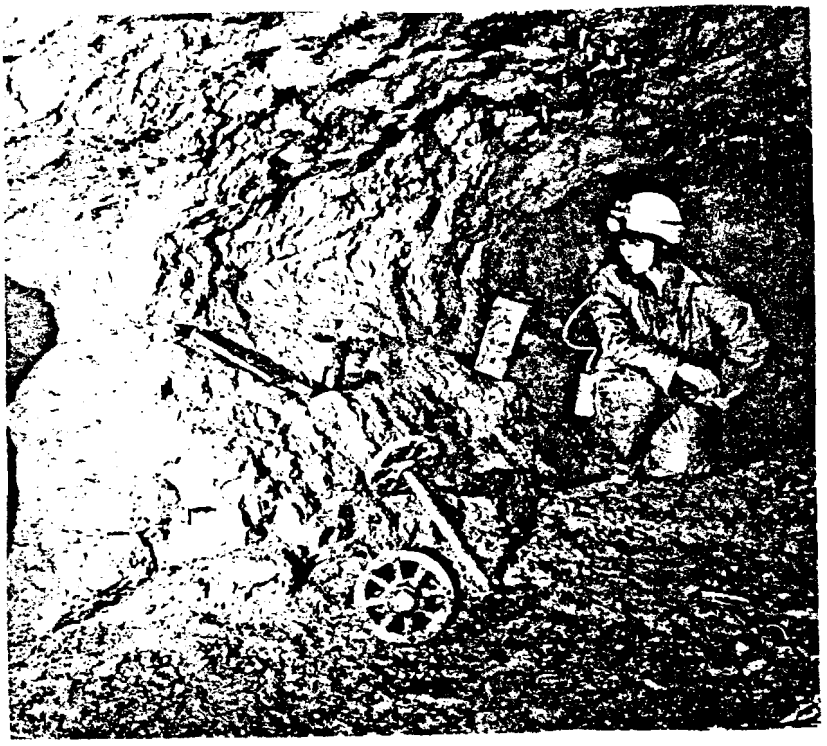
Hats off to Don for putting a great deal of time and effort into this unusual meet.

...FLATS AND PILLARS...

The fourth of January dawned cold, wet and miserable - not the sort of weather to imbue one with rapture at the thought of negotiating Corney Fell in torrential rain and swirling mist in order to get thoroughly filthy in a West Cumberland iron mine. However, the further we travelled, the more the weather improved until eventually, as we passed Sellafield, the sky became fantastically bright and we were bathed in a pleasantly unseasonable radiance (oops....sorry about that, couldn't resist it).In a muddy lonnin a little to the north of Egremont we were warmly greeted by Dave Banks of the West Cumbria Mine Research Group and our meet leader Albyn Austin.

After getting changed in the drizzle (I was just kidding about the unseasonable radiance - honest), eleven C.A.T. members and three guests were taken across a boggy field to a deep crater in the ground - scene of the Gutterby No.3 Pit excavation described by Dave in our last Newsletter. A restrictive hole in the floor of the crater gave immediate access to the main incline, which, at one time, had emerged in the field some distance away but had been filled with rubbish after the mine closed. We were each given a numbered tally, in coal mining fashion, before crawling through the sticky red hole into the incline proper.

Hæmetite mines are not everyone's cup of tea; they are without exception very dirty and, because of the near-horizontal bedding of the country rock, susceptible to roof breakdown and subsidence. To the connoisseur, Gutterby No.3 Pit is a gem of a mine and one offering scope for further exploration for many months to come; indeed, the W.C.M.R.G. are pursuing an active programme and have only recently completed the exploration of the main levels between the first and second limestones. During our visit they embarked on the vertical exploration and, along with Mike Mitchell, Anne Danson and a maypole, scaled



SHEILA C-P-T WITH VARIOUS ARTIFACTS.....

a rise into a series of new workings to discover the remains of two wooden ore tubs.

Gutterby No.3 Pit is an extensive and surprisingly interesting working. Those of us familiar with the hæmetite mines of Furness were taken aback by the dimensions of the 'flats', the areas of worked-out ground where the ore was once sandwiched between the bedded limestone. The flats, following the dip of the beds, were perhaps on average four feet high though hundreds of feet in length and breadth. In many places, as can be expected, the roof had broken down though there were areas of workings still intact and supported by neat pillars of timber and walling stone.

All in all, an interesting and enlightening trip underground. Many thanks to Dave Banks and the lads of the West Cumbria Mine Research Group for going out of their way to ensure C.A.T. members and guests had a thoroughly enjoyable day. Thanks also to Anton and Sheila Chenylle-Proctor-Thomas for supplying the photographs.

The new committee, shortly after being ceremoniously sworn into office, demonstrate rope coiling techniques on the spinning gallery of the Farmers Arms. Can you spot the two female members? Ms Stone, top row, second from right; Ms Battersby, bottom row, third from right. And with that little snippet of editorial suicide I'll bid you adieu.....