No 48

December 1996

The Newsletter of the

Cumbria Amenity Trust Mining History Society

Roderhope Fell Mine -- The Cages - by Jon Knowles
Alistair Cameron in the Background.

Contents

My thanks to all those members who gave me their help
and contributions to the Newsletter.
Mark Simpson

Have a happy Christmas and best wishes for the New Year

Meets Reports

Coniston Pumping 1995/1996
Mark Scott

The open stope in the Levers Water area had all been explored. Easy enough, throw a rope down, follow it and make exciting discoveries. What about the flooded slopes in the same area?. Easy, throw a hosepipe into the stope, suck it and syphon out the water, not that easy, try it sometime. *(Editors note:- a gallon of water weighs about 10lb and there is a suprising amount of water in your average hosepipe. What weight of water can a person suck? I wonder).*

Many hours of sucking on a garden hose pipe producing nothing except a mouthful of dirty water and gurgling noises decided me that there must be a better way. There is! Submerge all of the hosepipe with a weight on the end, evacuated all of the air (a clear pipe is best), put a thumb over the other end, walk down the hillside pulling the pipe behind, ensuring that the nether end remains submerged, remove thumb and water will follow.

A syphon relies on atmospheric pressure and will only work to a theoretical depth of 10.3 m, in practice it is approx 8m due to frictional loss, water temperature and air pressure. Air pressure becomes less the greater the height above sea level.

Anybody wanting to know more about hydraulics, pumps, primers, syphons etc, should read the ' Manual of Firemanship Book 7, ISBN 0113406029. Good bedtime reading, it is no use as a pillow book!

Back to the stopes.

The open stopes near Levers Water may be the oldest in Cumbria. The copper ore would have been relatively easy to extract at first. Thorsten and his mates when not raping and pillaging, would chop down a few tres, which at that time grew on the shores of Levers Water, collect some dry bracken, heap it on top of a vein outcrop, rub to sticks together and start a fire. When the fire had heated the rocks to the required temperature, they would nip down to the lake, fill leather buckets with water, add some vinegar *(Editor- Why vinegar?)* and throw it on to hot rocks, thus shattering them, and enabling the ore to be extracted.

Eventually these workings became too deep, too deep for the locals, so send for the Germans, they knew a thing ore two about deep mining and, there was now shortage of vinegar, they brought their own supplies. A little known document document in the vaults of the British Museum states that the Germans had a sourkroat take- away where the Yewdale Hotel now stands to make the miners from Augsberg feel at home. Cabbages were grown on the playing fields of the John Ruskin School before the invention of football.

(A historical note - Up to the late nineteenth century the area of Germany consisted of many small states doing their own thing but with a similar cultural heritage. Germany did not exist as such until Chancellor Bismarck got their act together and the country that occupies the present borders was forged.)

Back to the mines ! Years passed, the mines became deeper, Top Level, Middle Level, Grey Crag Level, Deep Level and below. In time the workable ore was exhausted, the pumps stopped working and the mines slowly filled with water. All below deep level is completely flooded except maybe a few air pockets. However, not all the upper workings are free draining and so they too have become flooded. The area to the South of Levers Water where the veins outcropped is a fascinating place to explore - with care!.The area is only small but contain many interesting features, huts, grooves leading to piles of stones, mortar stones, dressing floors, ancient paths, blind stopes to the front of the cliff and - flooded stopes.

The first stope to be syphoned is situated in the rocky face below and about

situated in the rocky face below and about 100m to the south-west of Simons Nick. This was done in January 1989. After two days the water level had dropped by 6m but was still running. Two days later I returned (January 27th) with SRT and bolting kit. The syphon had stopped so down I went. The walls were wet and covered with slime, there was still water in the bottom of the stope in what appeared to be a sump. The stope is in the shape of an up-turned squashed funnel approx 8m deep and 8m long by 3m wide and runs at right angels to the other stopes in the area. One end was stacked with deads, below and beyond this a tunnel dissapeared, metal rails and stemples protruded out of the watwer. The lip of the stope had a small false floor supported by rotting timbers. Stones began to fall into the stope, dislodged by the rope, and, curiuosly satisfied I prussiked out. Water makes its way slowly in and it took about two montyhs of winter rain to refill.

The next stope to be syphoned lies directly below Simons Nick and on the same level as the large gash which Sheila Barker and I had spent many back breaking days clearing only to find a solid floor. Spoil from above had been tipped into this stope, and some of this material is supported by timbers. The back of the stope appears to form an adit heading into the rock face. I am of the opinion that somewhere in the front of this cliff there is a connection with the inner workings of the mine, maybe the Belman Hole Level (Stope 2). This missing level could be hidden by spoil from above, could this be it?

The syphon was not very successful, too much dead matter blocked the end of the pipe and so it was not possible to enter the stope.

I returned to the stopes to lead with a the hosepipe in the summer of 1995. I had been nominated to lead a pumping meet and thought it would be prudent to check a few things out befor taking the CATMHS pump to the area. Simons Nick has puzzled many society members for its dimensions suggest that it has a false floor and may lead to the inner workings. If the bottom was solid there would be water in it and I had noticed that in freezing weather a candle of ice forms on the lip of the Nick and there is nearly always a trickle of water in all but the dryest of weather.

Parallel to the Nick is a flooded stope and I set up two syphons and started to empty the water into the Nick. Four days later with several CATMHS members I returned and found that the syphons had stopped working and the Nick was still dry. On a sunny day in June 1995 four members in SRT kit prepared themselves for a walk across MAGS Catwalk while chief pump operator Mitchell got to work. Within seconds water was gushing into Simons Nick and the SRT men began their descent to the Belman Hole Level to await the expected flood and the mystery would be solved.

But the best laid plans of CATs and men!!! As one stope was emptied the Nick filled, and after twenty minutes or so, a Niagra was cascading over the lip to the South end, and continued to do so for the next half hour even though the other stope had been emptied. The SRT men returned and reported few signs of wetness.

All was not lost however, and two people abseiled into the stope and found that it was approx 8m deep, 2m wide and 15m long and at its far end was coffin shaped. The floor was covered with rubble, timbers and very dead sheep.

The pump was now moved to the stopes that I had syphoned out as mentioned above.The stope below Simons Nick appears to go no-where, maybe a dig is needed. The stope to the south west of the Nick was pumped out but due to a lack of time and fuel we were unable to reach the depth that the syphon had reached. The water from this working and the overflow from Simons Nick had vanished into the scree below the crags. In February 1996 a crater appeared in this area, the material descending into Stope 1 blocking access from Top Level, the entrance from the stope into Top Level outbye, and through a 'window' into Paddy End stope, down to Grey Crag Level.

In June 1996 a second trip to above working was arranged and as the water level dropped the pump was lowered on ropes to reached a greater depth than could be attained by syphon. Because the stope does not fall vertically all of the water could not be pumped

out, but the depth was plumbed, and the total depth is approx 10m. The water from this pumping ran under the scree to appear into the crater and thus to Deep Level. It would have been interesting to have been below the crater watching the water cascade down the stopes. There appears to be a retaing wall above the crater, may be there was a man-way to the inner workings. Despite any solid evidence to date I am sure there is an intermediate connection to the inner workings between Simons Nick and Top Level.

On the east side of Levers Water Beck, just below where the pack horse bridge once crossed there is a small flooded stope, 0.5m wide, 3m long and 2m deep. This was syphoned out till the hose became blocked. It appears to be very old and hand worked.

In Red Dell approx 200m above the dressing floors in the side of the beck where it narrows is a small working which can only be reached when the water is low. The level is 4m long, 1.5m wide and 2m high. The flooded sump at the far end of this level was syphoned in May 1995 but because of the lack of fall for the hose a depth of only 2.5 m was reached. There are timbers in the working which may be the remains of a ladder. The water was plumbed to a depth of 3m. There is no spoil at the entrance to the working due to being washed away by the beck. The level appears to be hand worked.

High up in Red Dell is the ancient working of Gods Blessing. To enter the adit is a tight squeeze into thigh deep water, beware of sumps!!. Above the entrance is flooded working with a large boulder above the entrance. This working was syphoned in June 1996 prior to a proposed CATMHS meet in the valley. There is a steep unstable scree slope which runs into deep water, the roof is low and access is almost impossible. I tried it at the end of a rope, and it is very douptful as to whether it leads anywhere, although there is a shallow depression several meters inbye of the working which is in line with the adit below. It is a long way up the valley to carry a pump to completely de-water this working.

There are still flooded stopes, sumps and adits to syphon or pump out in Coniston, Tilberthwaite and Greenburn areas, maybe next year.

Mark Scott -- October 1996

Taylors Level 16th June 1996.

The last meet in Taylors Level, which took place on 21st January, was to systematically probe the rises above this 19th century adit. As reported in Newsletter No 46 a manway was ascended using a maypole, and entry gained into workings 130 feet above Taylors Level. Only two people reached that high point, and they reported that there was timber and rubble above which, if cleared, just might give access to Flemings Level which was thought to be only 60 feet higher. They felt however that an attempt to clear the blockage from below would be very dangerous.

This return visit was to give others an opportunity to examine the new ground and obtain a second opinion as to the possibility of breaking through the blockage. Unfortunately this confirmed that the risk is unjustifiable, for any disturbance could easily bring unknown quantities of debris down on those attempting it, and so nothing new was achieved. The maypole and rope was left in situ for the time being.

Ian Matheson November 1996

Coniston Copper Mines 8th September 1996

Members attending were John Davis, Tristan Goldsack, John Knowles, Ian Matheson, Mark Simpson and the meet Leader, Peter Fleming.
The purpose of the meet was to assess the possibility of finding a way through the collapse in Middle Level, just outbye of the X cut to South vein. Such a possibility had been noted on an earlier meet by climbing a short rise just beyond Blue Rock Chamber into a stope over the collapse. The idea was to see if the some of the boulders could be cleared at the south end of this stope to gain the continuation of Middle Level towards the entrance portal. This project was soon abandoned on account of the unstable nature of the site and the difficulty in lifting clear some of the heavier boulders. For those of you who wish to try your luck in this area, spialling along the line of the existing tunnel seems to be a more viable operation.

The party then headed back to the Top level horizon.

Mark Simpson requested help in stabilising the access into Stope 1, and with several members, wormed their way through the collapse, the rest acting as backup. Jon Knowles having an interesting few seconds when the hole started to disintegrate around him. The hole is now stabilised with timbering.

As a result of survey work recently undertaken by several of our members on behalf of the B.G.S. A new area of exploration was found at the end of one of the stopes of the Top level horizon on tunnel T3 (South beyond the Wall). So whilst work was proceeding above, others of the party were fitting new bolts and hangers to improve safety to this area.

Some members now made their way out, as it was by now quite late in the afternoon, John Davis, Peter Fleming and Ian Matheson descended into the new area of tunnel to see what was there. A 60m abseil landed them on what appeared to be a pile of massive blocks wedged across what was taken to be Paddy End stope somewhere above the twin tunnels area of Middle Level. However, looking down an opening, the stope appeared to bend round to the east at an angle of 45 degrees, which was not expected. A new stope ?

Overhead at this point, going in the same direction, was a heavily timbered false floor, which we could not account for. Another hole in the floor gave a view down towards what could have been the end of a tunnel; perhaps Middle Level Extension.

Owing to the time, no further exploration was carried out, as we were expected at the BMSC cottage to end the "Meets" meeting, but we'll be back!

Peter Fleming with additions by Mark Simpson.

(At the time of writing 19/11/96 the Coniston Survey has not been to the new ground.)

Hudgill 11th August 26/27th October, 16th November.

On the 11th August six members attended and six tub loads of muck were removed from the level. Pete Blezard visited Aston scrap yard and bought some corrugated sheets to roof the bait cabin (winter approaches). After, whilst drinking tea in the newly acquired Danson.Blezard caravan, Mike Mitchell spotted a barn owl, the first we have seen in the area. Over subsequent weekends good progress was made along the level, mostly due to the efforts of John Brown and new member William Smith. On approaching the area where the tunnel had collapsed and two years ago a dig had been started from the surface, it was found that the arch and side wall had totally caved in. It was decided to still cover the level, but the east wall had to

be completely rebuilt and a timber and sheeting roof put on, (the timbering also holding the sides up). At the same time several people dug down to the level just by the rock face, unblocking the top of the adit. This job was completed on 27th October, twelve members attended over the weekend.

The meet on 16th November was less well attended - 3, however good work was done. Clearing out where water had washed in a load of muck and lowering the floor level underneath the newly repaired roof. The floor level was some 10 ins or so above what it should have been, the material at this point was very hard but once through it become very soft and silty, but by the end of the day the floor was level from the end of the last 16ft rail section. Another 4 or 5 feet will need excavating before the next 16ft can go in, but at least we can see our immediate goal.

The arching inbye of this point is in a straight line with the arching actually in the mine itself and the top of the arch is lower than the arching outbye of the collapse. It looks as if the original portal was at this point and then a new section built to bend and extend the entrance round to the west. The junction point was obviously not strongly made. Another thing is that the arching inbye is now starting to rest on bedrock.

Sheila Barker with contribution from Mark Simpson.

Tales of Furness Folk or The Meet that never was. Ding Dong September 15th

So, where were you all on the Ding Dong meet. Dave and I checked out the route, checked the water level in the 56yd level and found it warm and thigh deep. All would be well.

Sunday was actually warm and dry. 10.00 am the rope was rigged and lo!! nobody came. We waited and waited and ---- still nobody came . So the immortal words were said, we derigged and went for a walk -- same as you I suspect.

A week later bolstered by John Davis from Coniston we ventured into the mine and up the Derby Rise to see the stopes still with the clog prints. (How many have been here since it shut 10 - 20 I suspect). Barrow ways, lumps of haematite still where they fell and all the equipment of mining. We ventured to Coke Can Chamber and viewed Alen McFazdeans ladders rising into the higher workings amongst the fallen boulders and smashed equipment. This sort of sight must have been the one which Furness and Millom miners must have found when stunned by the robbery of Harrison Ainslie & Co when they returned to the mine in this part of the Moor Field.

No new ground was entered and , as we made our way out, plans were made for a return visit. However, the rain and CATMHS commitments dashed these plans, the rain ensures that until there is another dry summer, no one else will see the workings still so complete and hugely empty.

Till next year then !!.

Woodbine Chimney

Rain and gales ensure that the chimney stays without its cap, but the brickwork has been carefully put in by Rolf Fischer and is now completed. We hope to have formwork ready for concrete pouring and the cap made before the spring is out, only then will the ladders be stripped out. So leaving the last mine chimney in Furness in a solid state. (Maybe it is now the only chimney from a mine left in Cumbria.)

My sources tell me that the Dock Museum has started a plan a section on the iron industry in Furness and have brought in consultants to produce a mining and iron working section. Plans are afoot - to dig out a

bogie from Daylight Hole. Let us hope that some of the artifacts now in storage in the town hall will again be on show to the public. Any views on this to me please.

Finally a warm welcome has been given to Grege and Joe who have joined the mining history fraternity only recently but have already gone down several mines, as well as researching many sites, which some of us have not seen for many years. (They also lost lamps etc down one -- Nothing new in the world is there.)

Paul Timewell --- November 1996

MURTON FELL LEAD MINE 26th AUGUST

Five members turned up for the meet, and it need hardly be stated that no-one refused the 2 mile lift up the Scordale valley in Dave Robson's 4x4. It was clearly impossible to do justice to both Hilton and Murton Fell mines in one day and so we concentrated on Murton Fell which is on the north side of the valley. After a steep walk to the top end of Mason's Hush we traversed to the portal of Hardshin's Level (called Mason's Hole Level on the old plan) hidden away above remnants of masonry which punctuate the steep valley side at this point and lead down to two substantial ore bins at the end of a rising grassy track. The level is driven beneath the Whin Sill and enters a large area of flats at the top of the Melmerby Scar Limestone thought to be associated with Mason's Hole Vein. These flats were worked for lead by the London Lead Company during the period 1824 to 1876 and more recently for barytes, of which there was plenty in evidence including the cockscomb variety.

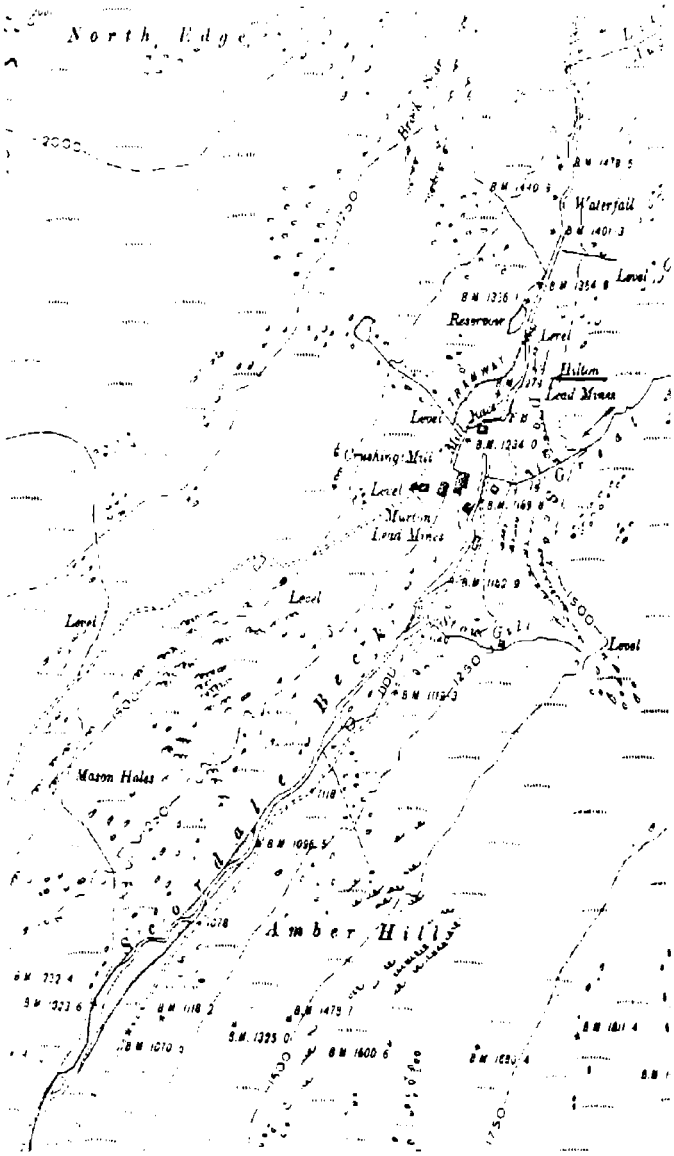
The flats are said to extend for 850 ft with an average width of 60 ft and with their ramifications and open sumps provide considerable scope for exploration. At the far SE end a partitioned shaft cried out to be rigged so Mike Mitchell, Peter Fleming and the writer descended on a 50 metre rope (which proved to be only just long enough) while Paul Timewell and Dave Robson disappeared into the labyrinth of cavities and sub-levels of the flats. A sub- level about 30ft down the shaft led to further workings which were collapsed. We later found that we had hit upon Hall's Rise which communicates with a branch of Hardside Low Level to provide a tramming route to the crusher. At the bottom we followed the Low Level branch inbye for another 200 yards to where the stone arching had collapsed. At about 95 yards in that direction a second rise connected with the workings above (Hodgson's 1st rise?) and nearby was a dry open sump. Outbye we joined the Low Level cross-cut to Murton Fell North Vein. This was silted up well short of the intersection with that vein but provided a way out in the other direction through what can only be described as a letter box.

While Mike prussiked back up the rope Pete and I picked our way up the old miner's track to the High Shop on the crest of the hill at about 1500 ft and having failed to locate Murton Horse Level (a high cross-cut to North Vein) rejoined the others in the flats. By that time the other party had set up as tour operators and directed us to the key sites which included jackroll, hoppers etc.

Later that day we were informed by the leading member of a shooting party of military personnel that there was no public access off the track and that "caving" was strictly forbidden. After all, if there had been an accident we might have ended up suing the MOD!

Dave Bridge

Hilton & Murton Lead Mines
From O.S. 6inch



Meets Reports awaited

Whiteheaps	June	29th	ML Jon Knowles
North Pennines	July	27 & 28	ML Sheila Barker
Silverband	August	25th	ML Jon Knowles
Faggergill	September	22nd	ML Jon Knowles
			See Bulletin 96/3 October 1996
Cornwall & NAMHO		27nd to	ML Jon Knowles
		Oct 6th	See Bulletin 96/3 October 1996
Tilberthwaite Slate	November	3rd	ML Alistair Cameron
Rampgill		17th	ML Sheila Barker.

THE GEOLOGICAL SURVEY OF PADDY END MINE

The new ground which we discovered beyond a previously unclimbed pack wall in Top Level (see survey report in Newsletter No 47) was eagerly explored at the next scheduled Coniston CAT meet by Peter Fleming, Ian Matheson and John Davies. Their findings, which should appear as a separate meets report, opened up more questions. At the same meet the dig through the recent collapse in Top Level was stabilised giving safer access to the most easterly stope.

The survey meets since 12th August have concentrated on the Funnel and Windy Stope to relate the different parts of Middle Level etc in South Vein and New South Vein.

Meet No 9 - Date - Mark Simpson with John Davis

Only two of us to carry up all the rope etc (75m,35m and 45m). The intention to go down to middle level in stope 6 (windy stope) and fix the relationship with Green Ginnel. In the event things turned out a bit differently.

I went down first with the intention of stopping off at Middle Level but before I knew it had descended through the 'Egg timer' a horrid thing to look up at - a hole through stiff fill with nothing to support it. In the event the descent was taken to the present floor of the stope, some 10m below the ML horizon and John came after. This part of the stope consists of a large chamber mainly caused by a Double Decker bus size rock detaching itself from the hanging wall probably helped by the change of hade, the odd shape of the stope and the quatze strings in the rock. We went south over the block to where the green stuff was splattered on the rock from Green Ginnel, John pointing out a descent to a continuation of the stope under the block. The South end of the stope had a niche in it where the vein had been tried. Some hand held compass and tape measurements were taken and the decision was taken go back to Top Level X Cut. I made my way up and stopped off to look at the remains of ML northwards and found it went for 6m from the rope to a collapse which cannot be far from the M L X cut. The decision to do this was not taken lightly as those of you who know this area will appreciate, however if you are doing a survey needs must. All that can be said about this excercise is that the sooner this spot drops onto the floor the safer for all concerned - nuf said!

We had a late lunch in the Belman Hole X cut and decided that the descent into Lake Stope (Stope 5) would have to be postponed (a pity as it was then dry) so we attacked the fall at the end, Angela's Dig, and after some little time broke through into the rest of the level, Dead Dog Passage. So now a survey line can be taken right along the passage. This done we made our way out.

I think it was from this time that the decision was made to only have parties with a minimum of three people on surveying trips, and the technical info in this newsletter may owe its inclusion for the same reason.

No 10 - 16th October - MS, JD and DGB

We pushed on with the traverse into the Funnel (see 7th June meet) after removing a mass of fallen debris from the ledge, and attached a hand line. We then roped down beyond a low wall of deads which span the stope and landed on a sloping ledge just above the Belman Hole horizon. Inbye the vein is shifted to the right and the workings disappear out of sight. A carefully placed bolt enabled a traverse to be made round the corner followed by a short descent to a section of solid floor at the Belman Hole horizon near the end wall of the stope. A short trial level was found to continue inbye from this point containing a shovel and other artefacts. Illusions of virgin territory were shattered however when we spotted an 8mm anchor flagged with red plastic tape - a hallmark of early CAT exploration, and we later found that Mike Mitchell and Alen McFadzean had visited that part of Windy

Stope many years ago. The vein undergoes a marked change of hade at the sloping ledge which coupled with the cross course forms a remarkable bulge in the hanging wall.

Meet No 11 - 1st November - MS, DGB, JD and PF

On this occasion Peter Fleming joined the team. We descended directly to the Top Level cross-cut from the Funnel (a muddy descent requiring several rope protectors and far more rope than the popular route to Top level) and then continued down Windy Stope to the incline which starts above the Egg Timer and takes one below Middle Level in the direction of Levers Water. The idea was to survey all of this remote corner including the long cross-cut to the Four Way Dig and Shattered Stope to the W which is gained by climbing a fixed rope beyond the bottom of the incline. The area is interesting being intersected by a strong cross fault which should also be evident in Levers Water mine and possibly in Brow Stope. From the measured profile of the loose unstable incline (a brute to set up tripods on) we now know where to look for the Middle Level cross-cut from Lake Stope. Since CAT's previous visit some years ago the floor of the working at the far end has sunk by several feet and a hole has appeared at the very bottom of the incline which Mark discovered led down to what may have been an ore shoot, though blocked. PF estimates this to be about 100 feet above Grey Crag Level.

Dave Bridge

Now the plan of this area has been drawn up and with the confirmation of old mine plans, Middle level in stope 6 only went as far as the cross course at the north end, the fault being virtually N/S. However the part of ML visible in the east end of the chamber north of cross course appears to have come in from stope 5 (Lake stope), an interesting site for a dig. Also in this area a ore shute comes through the roof along the hade of the fault. The chamber appears to be formed not only by mining but by the north wall breaking down, the whole lot seems to be moving down the fault judging by the cracks round the walls. It was noticed that water was coming in from the direction of Lake stope, which on this day was well full of water.

It was also noticed that although the start of the X cut to Brow Stope started along the side of the cross course it soon diverged to the north after several meters and headed dead straight to Brow stope.

Mark Simpson.

November 21 -- Dave Bridge and Peter Fleming.

The detailed plan survey of the Belman hole horizon north of MAGs. The previous survey being by handheld compass and so very inaccurate.All the horizon was done including down the 6m dig to Top Level and also taking in Woodends Rise before access is lost there forever. This was done several years ago by MWTS and IM so it will be interesting how the survey compares. Sophisticated height measuring equipment was tested on this occasion and was found that with minor adjustments the system worked well. For those of you with a technical bent here are some details:- The helium used was balloon grade, i.e. not pure, the balloon was standard of the shelf, the thread was heavy duty canvas thread. The balloons being inflated from the car and carried up. It was suggested at the last committee meeting that ordinary balloons would easily burst and some stronger rubber container might be considered, but Dave considered that the sight of people in underground gear carrying up funny shaped balloons might be detrimental to the reputation of the Society. The ordinary inflatables worked satisfactory. Modifications will included some spooling device with a counter.

Another device had been tried out earlier, consisted of two torches with a pencil beam , fixed at each end of a rod of known length. One fixed at right angles, the other on a protractor quadrant and movable, so where the two light beams crossed, the angle could be read off and by trig, the height known.

The accuracy of the device being a function of the rod length, its stiffness and the power and beam shape of the torches. This device also worked but development was put off until the geological part of the survey.
Mark Simpson

27 November M.W.T.S. - D.B - J. D and P.F.

The aim of this days meet was to try out the new drill, the new expansion bolts, and to investigate and survey Lake stope (S5) or is it South Vein. The drill eventually decided upon, drawing on COMRU's experience was a 24v Bosch hammer drill, and very pretty it looked too, it does not look like that now. The bolts were the 8mm expanding sleeve type, which needs a hole of exactly the right size or else the sleeve does not grip, the device does not appear to be depth dependent.

Anyway we made our way up to Levers Water (I hate the walk up) and thence to Top Level Xcut/Stope 5 (Lake Stope) junction. (4 bodies is getting to be a must now). It was decided to try things out by traversing north along S5 on the same level as TL X Cut and John Davis set off, whilst Dave Bridge and Peter Fleming went to S1 to properly survey it and TL (TL only being done by hand held compass).

Nine bolts and several hours later, John had gone as far as he was going and it was decided to abseil from that point down to the floor of the stope.The drill did all that was promised, half a minute per hole at the most. It worked out at 6 holes before the need for drillbit replacement. Bolt centres depending on the rock face, and the strength of the person doing the drilling, the average being 3ft. Now that bolt placing is now longer a problem, the main difficulty is, acquiring the right rigging technique and it was this business that seemed to take the time, though this will improve with experience. For people following on once the route is set up, practice is needed in safe traversing and getting on and off an abseil when you are up a stope wall.

One thing that was noticed in the roof where boarded up hole was, said to be under Angela's Dig, was that it now appeared not to be a shaft but a stemple and boarded roof to a stope and thus may not be near the Dig at all. (This was reinforced by the plan that Dave had drawn up of the November 21st survey).

John came back for lunch at the same time as Dave and Pete returned, the time being about 3.00. Afterwards we descended to the stope floor, the new descent is now well clear of the water, and making our way north as far as we could get, up a steep slope of fine whitish fill and then surveyed back down to the south wall. Progress north wards is prevented by a solid wall of deads and fine fill, and it appeared that the stope went on. Looking up was a surprise - at what looked like the Belman hole horizon was a stemple and boarded roof, in apparently good condition.Going south the roof reduces in height and appears to contain a sub-level, all very intriguing, several possibilities were proffered by our Coniston Savants but as we all know to our cost, if you cannot measure it properly you are only guessing.

So it looks as if a strong investigation at A's dig is now becoming a serious possibility, the other is to bolt up to the manway that went vertically from S 5 south (the landing point for the present descent from the Belman Hole Horizon.).

That done we returned to TL it was found that the stope bottom is some 5m above ML and the ML X Cut works out at being under the new descent - so no easy dig down there! The South Wall which has the ladders up it is a E - W fault and should be the same one that forms the S wall of the ML X cut. we have to check where it appears in S6. The location of the north end of S5 will have to wait. So no new ground but one or two interesting possibilies!

The best is yet to come.

PS -- A tripod of the correct type has now been obtained, thanks to a chance observation by Peter Fleming. All we need now is something like an ArgoCat to carry all the gear up for us!-- So keep your eyes open-

Mark Simpson November 1996

Duke Pit Fan House.

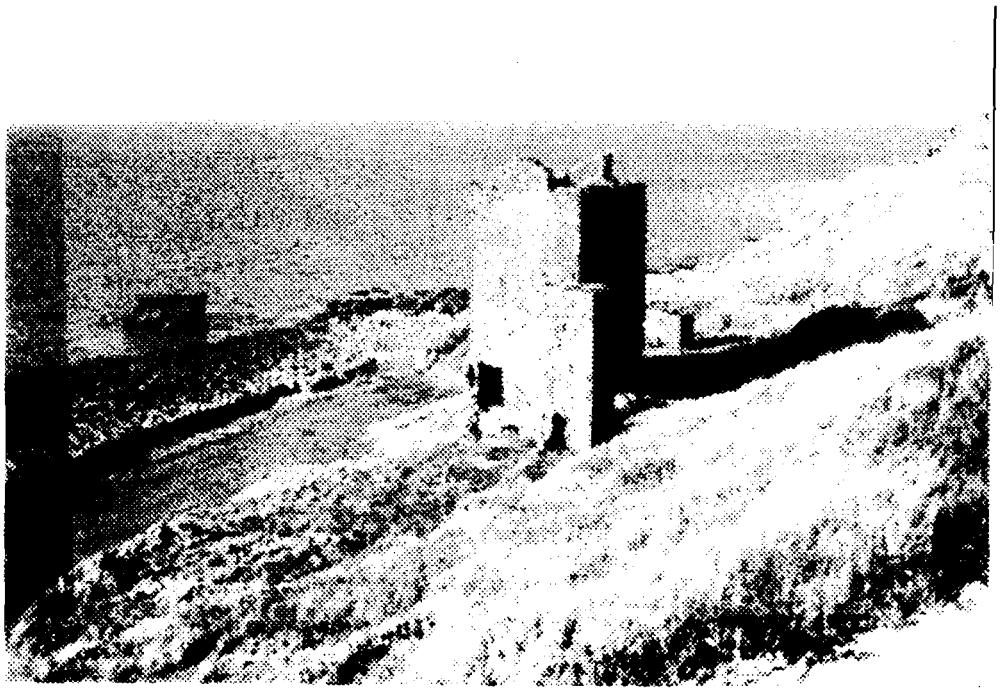
On Wednesday 6th November a protest was made outside the Council Offices about the building of houses on land very close to the above building, but the council gave permission to build the dwellings.

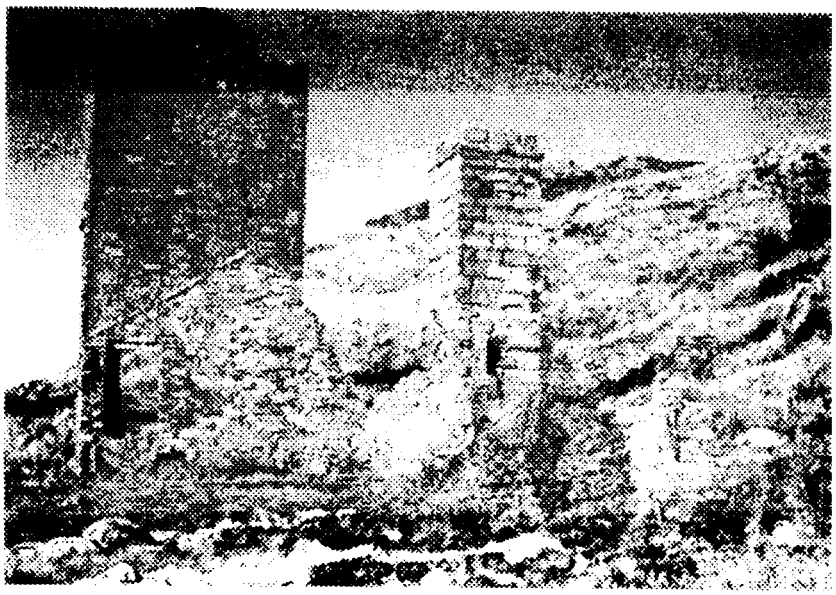
This area of land is an important open space and £460,000 has been spent in improving the area.

I will be taking this threat to the area as far as I can and am writing a few letters in the hope I can obtain some help. I will keep an eye on these sites and keep members updated.

Ron Calvin RM 17 November 1996.

Saltom Pit 1996





This article I recently discovered in an box file and decided to put it in the newsletter, because although some years old, the information is still relevant. Editor.

Knot Tests

Dave Elliot and Donna Mroczkowski

Below is an extract from a report sent in late 1983 by Dave and Donna about Knot Tests carried out using realistic conditions. Some tests on the effect of jammers on ropes are also described.

Basically, most tests carried out so far have been done under static conditions, using new, dry ropes and consequently have little relevance to practical conditions. Figures published by different testers on strengths of knots show wide variations for the same knot. In a cave the ropes are usually older, wet and muddy and slow continuous loading does not occur. An attempt was made to obtain some idea of the strengths of the ropes and different knots under dynamic conditions:

For a more realistic approach we used retired SRT ropes which had been soaked overnight, and a simple drop test identical to that we use routinely for testing ropes. Doubtless everyone is familiar with this device (Fig. 1) - a one metre long sample with a knot in each end is subjected to successive fall factor 1 falls with an 80 kg. weight until it breaks, the number of falls giving some indication of how safe the rope is. Tying a different knot in each end of the sample, systematically testing one knot against the other, provides a rough ranking of relative knot strengths - the rope will always break at the weakest knot. Without force-measuring equipment it is not possible to assign a precise value to the weakening effect of each knot, other than by counting the number of falls held, but neither is it important. Such figures are of little practical value , at this stage we need only to know which knots are strongest.

We tested a great many different knots - mainly to check if there was some "wonder" knot we didn't know about. In fact for the most part the results were fairly predictable.

Of the Attachment Knots the Figure 8 and Figure 9 are by far the strongest. Of the Figure 8 it is often said it is stronger if tied with the loaded rope on the outside of the first bend, this is mistaken - it makes no difference at all. The Bowline on a Bight proved to be fairly strong, whereas anything else - Bowline, Overhand, Butterfly and a few others all appear to be about the same, that is weak. The Bowline instead of being the strong knot most people think it is, gave poor results - in fact the only common knot we found to be consistently weaker than a Bowline was a Clove Hitch tied round a karabiner, which instead of slipping as might be assumed, seizes up and breaks at a very low level.

Of the Junction Knots only the Figure 8 Bend and Double Fishermans are worth considering, both of these are as strong or stronger than a Figure 8 and therefore satisfactory. A number of factors affect the strength of a knotted rope and tables of our tests present certain anomalies which are not fully understood and which could prove misleading if interpreted too rigidly. Instead let us be content with broad concepts and see if we gain an overall understanding of what happens to a knotted rope under certain circumstances. The heart of the matter is that with the very old, weak rope we used for these tests, in general, the Figure 9s supported two shocks and broke on the third, Figure 8s broke on the second and almost everything else broke on the first fall. Excellent we thought - use only Figure 8s and 9s for everything and we can rest easily in our beds - however life is rarely that simple.

Take the situation in the diagram, (Fig. 2) here the main belay knot is loaded along its main axis and retains its maximum strength. However, should the loaded belay fail, the knot is then pulled in a much less satisfactory fashion and the results are very different. (Fig. 2A).

Loaded in this way, strong knots like the Figure 8s and 9s are considerably weakened, so much so that if a test sample is tied with a Figure 8 or 9 in the centre and less strong Overhand or Bowline knots in either end - the rope invariably breaks at the central knot.

Presumably with this situation in mind, French cavers devised a specialised knot - the Figure 8 Romaine - where one of the standing ropes emerges from the top of the knot alongside the attachment loop, in order to alleviate this unkind loading. (Fig.3) Trouble is it doesn't work - or at least not enough, the rope still breaks at the central knot.

In fact, whatever knot is tied in this position, it turns out to be weaker than a simple Overhand, which we've already seen to be weak enough for anybody's taste.

Clearly it's good to avoid this situation wherever possible - we must make sure that belays do not fail, and the simplest way to ensure this is to use a Y-anchor for the main belay (Fig. 4).Here the load is distributed between two belays which are consequently much less likely to fail. The central knot is still pulled at an acute angle and in certain circumstances still fails at comparatively low loads. For instance with Y-anchors formed with a single loop knot and the usual Overhand Knot at the other end of the sample. the rope still fails at the central knot. However, when the Y-anchor is formed with a double loop knot - a Bowline or Figure 8 on the Bight - things take a turn for the better and the samples break at the Overhand Knot. So once again we have a clear result - two loops are better than one, and once again we are about to fudqe the issue.

Although fairly unlikely, it is conceivable that one of the belays forming the main anchor could fail - what happens to the double loop knot in this case? This was simulated in our tests by attaching one arm of the belay with some thin cord so that it did indeed fail - the results were interesting. In the case of the Figure 8 on a Bight, nothing untoward happened and the samples broke predictably at the Overhand Knot on the second fall. With the Bowline on a Bight however, sometimes, depending on how the knot was tied, the slack loop slid into the knot, dissipated much of the fall energy in doing so and nothing failed, not even the Overhand Knot.

So now we have a distinctly unclear result, where the weaker knot (Bowline on a Bight) gives better results than a much stronger one. What we have in fact is the same apparent disparity that exists with the rope itself. In that there is no virtue in the rope simply being strong, in order to absorb the fall energy it must stretch - the same applies to a knot, to dissipate energy it must slip.

Here we find ourselves straying from the comfortable pastime of typing knots by the fireside and into an area of caving technology where very little is known with any degree of certainty

We have blundered into the realm of the shock-absorbing knot..

The principle at work here is relatively simple and the diagram should make it clear enough (Fig 5). Certain loop knots are tied in the rope with no function other than to isolate a loop of rope, then as the falling weight is arrested the slack loop slips into the knot, uses a certain amount of energy in doing so and also releases more rope to help absorb the remaining energy. Knots such as the Figure 8s and 9s are useless as shock absorbency knots, simply because they don't slip. Best are the Butterfly, or Bowline on a Bight knot, although there is ample opportunity here for the development of a knot specifically for this purpose.

Rigging is beyond the scope of this short paper but a couple of diagrams illustrate how such knots might be used (Fig. 6). Two points to remember, firstly, they should be positioned in a normally lightly loaded section of rope such as the traverse line, more or less at any point that is convenient. In the main pitch rope they would become tightened and less effective. Secondly, because such knots must slip in order to work, they are dependent, amongst other things, on the condition of the rope surface. They are most effective in new slippery ropes and most ineffective in old stiff ropes, which brings us to a very important point - there is no means available to us of making an unsafe rope safe - do not be deluded into believing that tying knots in an old worn rope will make it safe - because it won't. Put it in the dustbin. The main use of these knots is with thin ropes where energy absorption capacity is low to begin with.

So what we have learnt from all this - well not much, there's a long way to go.

During these knot trials we made well over 100 tests - and in each case the result was the same - the rope eventually broke. Underground this is undesirable - it's best if it doesn't happen. With the information gained in these tests and from what we know of the rope - we should always be able to rig the rope on the pitch so that it never does. but there is a much more immediate consideration - the caver isn't normally attached to the rope with a knot, but with jammers or a descender.

In arresting a shock load these mechanical devices are likely to cause far more damage to the rope than any knot. To avoid such damage it is essential that we minimise the violence of any shock load and instead come to a gentle progressive halt. This is an area where it is possible that the development of shock-absorbtion knots may be a means of protecting the integrity of a low stretch speleo rope, the capacity of which to absorb shock loads is necessarily limited.

In this context the breaking load of the rope or strength of knot is largely irrelevant - what is important is the value of the "peak force" - that is the shock load developed in the rope, and that developed during the first fall, assuming that once having fallen you don't do it again - or at least not straight away. This force is transmitted along the rope to the belay at one end and the caver and his jammers at the other - it must be kept as low as possible.

To determine the severity of this effect we made a series of tests using a jammer to attach the falling weight to the rope - in this case a Petzl "Croll", the normal body-mounted device. With both old and new rope the result was exactly the same. The jammer ripped the sheath of the rope apart and slid down the core until stopped by a knot in the end. Attempts to modify these results by tying various shock absorbtion knots in the sample had some effect with the new rope - but not enough. In every case the sheath failed immediately above the cam and the jammer slid more or less unimpeded down the core, the cam prevented from gripping by a jawful of sheath. We can presume that at some point bunching of the sheath would stop the fall - we don't know. It is also entirely possible that friction would melt the core, or the caver smack into something solid before this happens.

As for the jammer, it is undamaged; after 15 such falls there is no discernible effect, which if nothing else serves to illustrate the doubtful relevance of earlier tensile tests made on jammers where the body of the device either distorted or the cam collapsed under the strain, apparently at much higher loads.

A point often made in favour of the Frog System is that by having the body-mounted jammer below the foot one, should shock load cause the lower jammer to damage the rope then the upper one is still attached to an undamaged section (Fig. 7). It sounded reasonable so we tried this by attaching a second jammer to the sample, linked to the weight by a short length of rope to simulate the caver's safety cord. This alas. brought no more peace of mind than the previous test.

The upper jammer simply ripped off a short length of sheath and slide down the core after the other one.

A fall factor 1 drop is undoubtedly a severe test of caving equipment, but then again reality can be severe also.

These then, disquieting as they are, are the results of some simple backyard tests made with very crude equipment and a few days work, a profitable way of using up old rope if nothing else. These tests provide no answers, they represent no more than a fairly realistic indication of what questions we ought to be asking, and illustrate very clearly how much work remains to be done in this area before we can consider the techniques we use to be safe.

Reprinted by kind permission of Derbyshire Caving Association.

Sent in by **Dave Parsons.**

Note:- For the current state of play as regards ropes, knots etc contact the N.C.A.

The inset diagram on second page over was not part of the article above but is for all those of you that have forgotten what a **Z Rig** looks light. Can be a life saver!

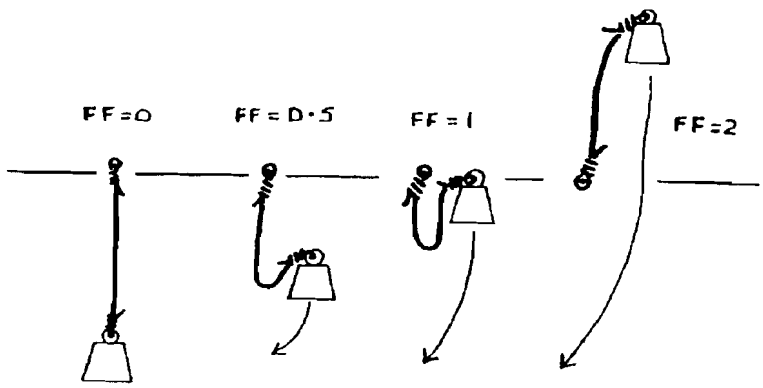


Fig 1 Fall Factors

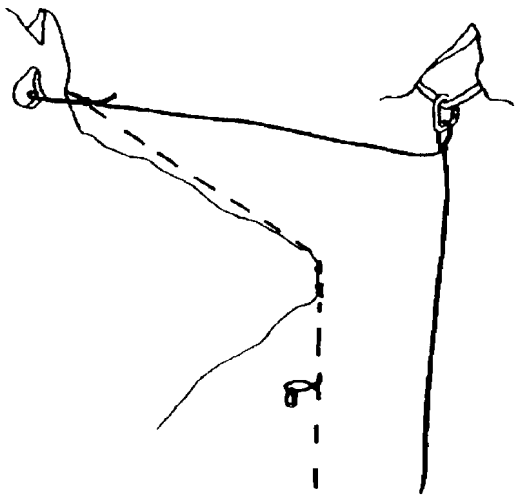


Fig 2

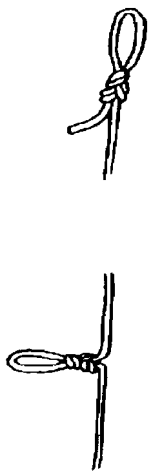


Fig 2A

Fig 3

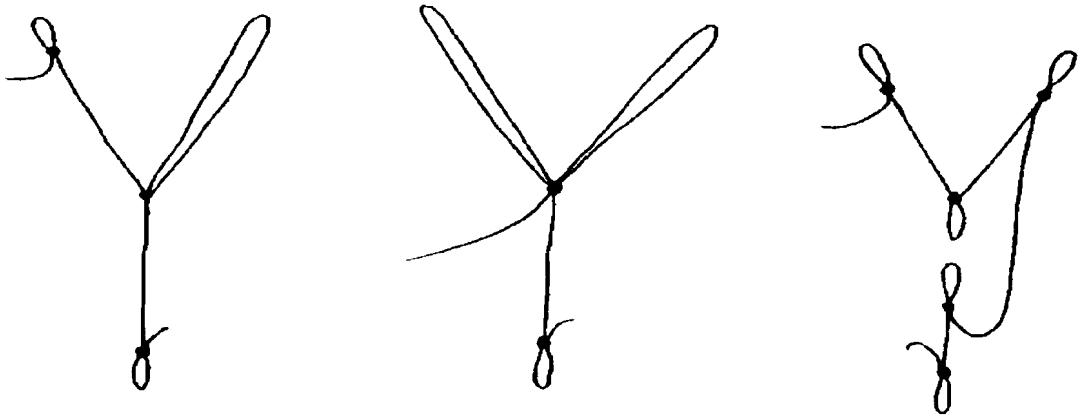


Fig 4

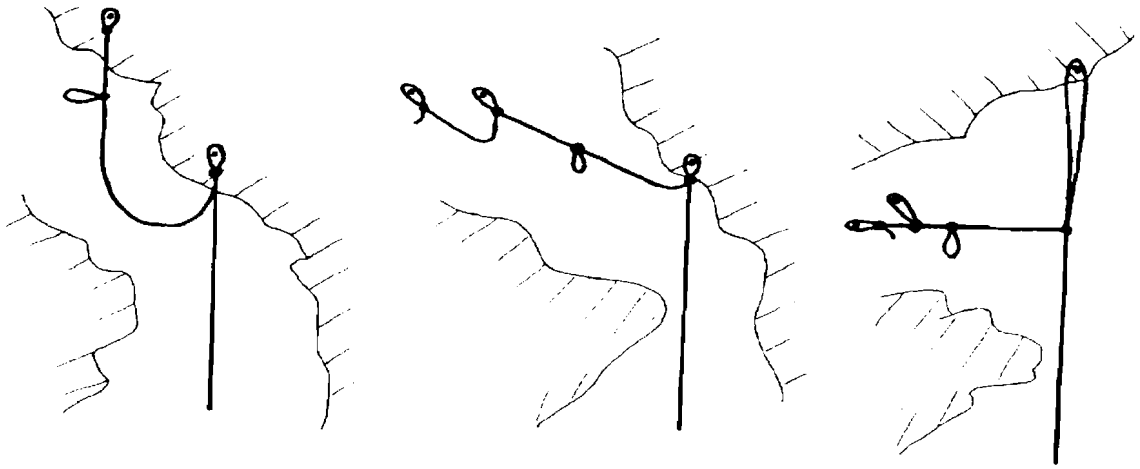


Fig 6

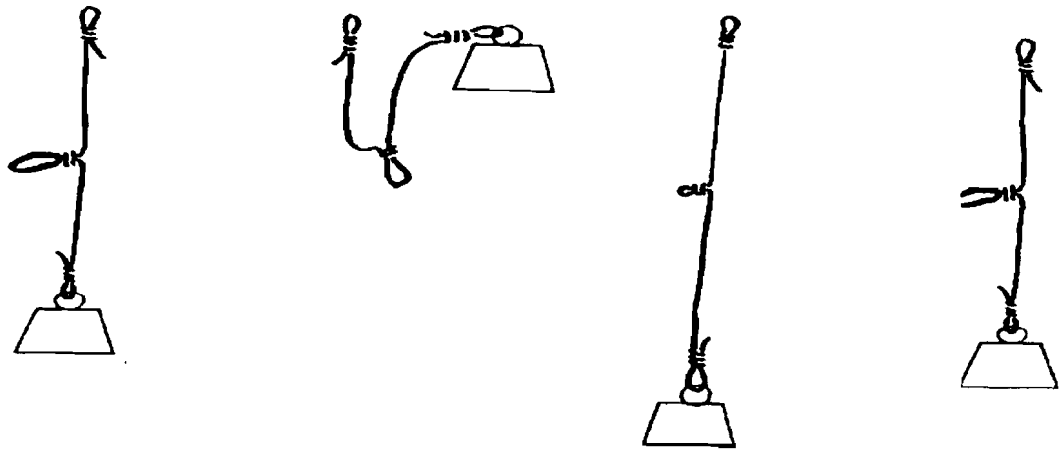


Fig 5 Principle of shock absorption knots

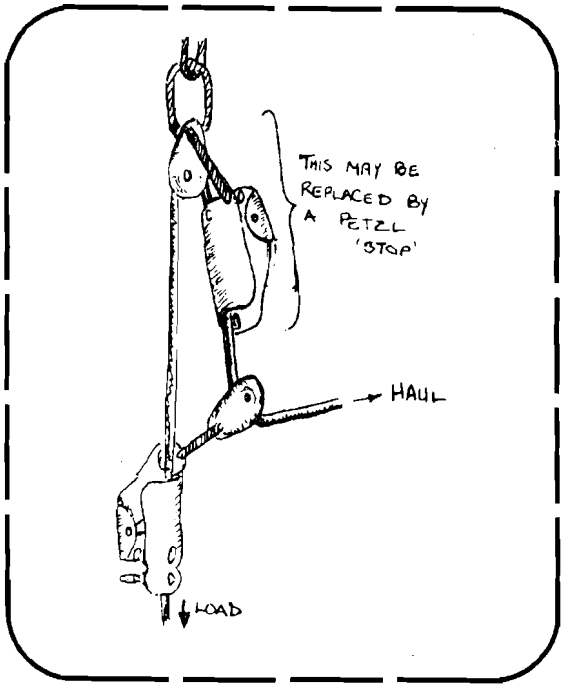


Fig 7 Frog Rig

Databases

The need for such a means of information storage was instituted by a project I am at present involved in. The project involved a survey of various farms in my local area, linked into the OS grid, of the extent archeological and historical features, together with a detailed description, field drawings photographic record and overall report. This involved collating all existing information such as held by the RCHME, bibliographical, photographic, etc.

It was part of the brief that each site of interest should have its own report sheet containing all the above information, and be in a form that could be used in a computerised database system (To be used in a IBM clone PC)

The requirement was that the written information should be available on one side of an A4 sheet. (for binding into a report).This ment that the text had to there ready, and that drop down text's etc could not be used. There would be up to 35 headings with their associated fields. Each one of these fields might contain the amount of text contained in the above first paragraph. The database used had also to have all the usual querying facilities.

Like most computer owners in this country I had used Microsoft Works and so tried to make this work with the above requirements. The programme would not have it, people have said that there is a way that this can be done, and some ways seemed to involve OLE links to word processors. These things seemed a bit complex, and, having a brief flirtation with MS Access (A very good bit of software it you are into that sort of thing), I looked to see what else is available.

And Lo! there are other database programmes in the world, quite a few infact, many or them able to do marvellouse things. Which one to choose? I read reports about these things and understood only part what was said, and then wondered if there was any way of any hands on experience. Quite by chance I had a magazine give away copy of Claris Works version 1.and gave it a go, and surprise surprise it did the business and was simple to use. The next question was was there a modern equivalent of it and there is, Claris Works 3. There is also by the same company a database only package called Filemaker Pro, and having read the reports, knew that the works database worked the same way as the Filemaker. It was decided to buy this package, having already the MS Works, keeping ones fingers crossed that what was said and what it did were the same thing.

The upshot of this was that the programme worked, however, it did not import the information from Claris Works V1 only from V3, just as well I did not crack on with the original software. The new software that came was version 3 which was not only more expensive than the v2 which I had originaly set my eyes on, the system requirements had also gone up - a good 486 and 8Mb ram. (It also seems to need a good graphics card).

Now there is other software that may also work just as well and may be cheaper, but you go with what you can get your hands on, without, incidentally, any help from Claris themselves. I had assumed that the best way of obtaining info without buying and hoping hard, was to contact the manufacturer, and maybe they would send me details and perhaps a demo disk. After a lot of telephone time precisely nothing is what I had. So if anyone from Claris reads this- I was not impressed. So there you are, if anyone requires any further details - give me a ring

Mark Simpson November 1996

INTERNET NEWS

NCA Website is at:
http ://web.ukonline.co.uk/nca

TrogNet LAUNCHED

TrogNet is a virtual library designed as a single point of entry to key Lntemet data on the world's sub-surface cavities. You can use TrogNec to: ' Explore caves in Canada ' Book yourself a ticket on a Eurotunnel train ' Buy mining equipment ' Browse speleological and mining libraries ' Download pictures of minerals and software ' Download surveying software ' Get data on the latest earthquakes ' Contact like-minded individuals and organisations. The major divisions are: '

Caves:- Natural cavities formed through volcanic, solutional or tectonic action. Mines:- Cavities produced by the extractive industries ' Tunnels:- All other man-made cavities. Sub-headings include: News & Events; Places & Trips: Technology & Techniques; People & Organisations: Publications & Articles; Archives & Data.

TrogNet will be updated and will expand. Anyone interested in sub-surface cavities should include the TrogNet LrRL in their Hot List. It will save a great deal of browse and connect time. KEYWORDS:- Cave - Tunnel- Undergnound - Mine - Subterranean TrogNet is at:- http://ourworld.compuserv.com/homepages/hape/

From Speleo*Scene* No 25, Sept/Oct 1996

Activities Centres Act Does the above effect our Society?

Centres that offer activities under the broad headings of caving, climbing, trekking and watersports for people under 18 years must be registered for a licence before the end of July 1996. After this date it is illegal (and a criminal offense) for a Centre to trade if it has not lodged and application. Providers should contact TQS for an applications pack which provides guidelines on the regulations and how to apply.

The Dept for Education & Employment has appolnted TQS Ltd. to administer the new regulations now in force under the Activity Centres (Young Persons) Act 1995. which became law on 16 Apnl 1996. The regulations apply to centres operating as a 'business". i.e. intending to make a profit. Voluntary organisations such as the Scouts and certain youth groups are exempt. as are schools. though they may choose to register voluntarily. The regulations are printed as statutary instrument no. 772, 1996 and are available from HMSO for £2.80 Licence applications must be made to: TQS Ltd., 24 Lambourne Crescent. LLanishen, Cardiff CF4 5GG. Tel. 01222-755715, Fax: 01222-755757

TQS are organising a series of workshops in conjunction with tourist authorities and trade bodies to enable Centre Providers to meet inspectors and have an opportunity to raise questions concerning the regulations.

ARE CAVING CLUBS AFFECTED?

Caving is defined as exploration in caves or disused mines where climbing. divlng or other specialised skills are involved (Showcaves are therefore excluded.) Caving clubs who do not make a charge for taking young people caving should not be affected by the Act. John Cliffe, formely NCA's Training Co- ordinator has now taken up the post of Senior Inspector with the new Licensing Authority, He has informed NCA that. as yet, no Licences have actually been granted but that inspections will start once the inspectors have completed thelr tralnlng: the first licences will not be granred until later this year at the very earliest. It seems that some centres. rather than face the cost of registratlon, have now ceased to deal with people under the age of 18.(The cost of an application for a licence is £200 and there will be other cost, such as for inspections.)

From SpeleoScene No25, Sept/Oct 1996
A publication of the NCA.
Ian Matheson has all the latest info on the above

New Members

Michael Pocock	14 Balfour Road, Carlisl, CA2 7DU
Billy & Kevin Griffin	32 Central Avenue, Castle Croft,Egremont, Cumbria,CA22 2BL
Les Hewitt	8 Charlie Street, Greenside, Tyne & Wear, NE40 4AQ
Gregg Parsons	22 Cheltenham Street, Barrow in Furness, Cumbria, LA14 5HA
Joseph Quinn	28 Bowness Road, Barrow in Furness, Cumbria, LA14 5PW
William Snaith	Brookside Bungalow, High Coniscliffe, Darlington, DL2 2LQ

Derbyshire Mining History

Amongst some old mining documents which have recently come to our notice was the following letter. Whilst in conversatation with that doyen of Eyam Mining, Mr. E Maltby, I memtioned the matter and he kindly wrote up the incident E.Simpson.

Sheffield 11 August 1879 My dear Sir,

You will perhaps have seen in the newspapers references to the recovery of a miner at one of our Mines near Foolow, after being confined five days and five nights. There was great excitement in the district and people came continually from the surrounding villages for information as to the progress of the exploring party. A person named Isaac Hadfield who keeps a public house at Little Hucklow, has been summoned for selling beer during prohibited hours under the following circumstances. It appears that a Little Hucklow man and his wife on Saturday night, the night before the miners recovery, went tn the Black Engine Mine for news, Hadfield asked the man to call and inform him as to the position of matters when he returned.

Two men went to Hadfield's house, before the time of closing, to ask if he had heard anything from the mine, he told them he expected the neighbour who had gone, every minute and the men decided to wait for him. When the neighbour came he and the two men called for some beer and they listened to his story. Two policemen, I believe in plain clothes appeared on the scene and the result is that Hadfield is summoned to,appear at Bakewell on Friday next. There is no doubt from what I hear that the beer was filled after the proper hours of closing but Hadfield says he forgot everything about time in talking about the accident. So far as I know he is a decent man and I should be glad if you would be good enough to bring out the facts if you should be one of the sitting Magistrates. The circumstnnces in my opinion are peculiar and I venture to think no summons should be issued.

I may say that on the following day, Sunday, shortly after the miner was rescued, a young man from Litton who so far as I can remember had been at the mine rendering assistance from Friday until Sunday at noon, with a few hours absence for rest, and who had been at the mine from Sat- urday evening till Sunday at noon without any rest whatever, was drinking a glass of beer in a public house at Foolow during prohibited hours, the same policeman appeared in plain clothes, saw him and threatened to prosecute him, should this be done I will see that the man is defended as I consider thc latter circumstance very impudent piece of business. The Litton man was on his way home.

Although we had, every evening, from 200 to 500 people on the hillock crowding about the shaft top in a dangerous manner and impeding work,and on the Sunday morning two or three thousand people,I only remember seeing the policemen on the ground once. At the time he was at Little Hucklow, I well remember what difficulty we had in keeping the people about the shaft top in order, and it appears to me the policeman's presence would have been far more serviceable, than in hunting about to detect petty breaches of the law in small public houses. I am aware the sins of omission or commission on the policeman's part do not excuse Hadficld but they have an indirect bearing on the subject.

I am no apologist for non-law-fearing publicans, many of whom are great sinners and, subject to now and then an exception, I think the Act should be rigidly enforced, but poor Hadfields case is I think one of these exceptions and thc Litton man's case another.

Black Engine Lead Mine Accident

This mine is situated under Bretton Edge,a short distance north of Eyam village. In 1879 it was being worked by a small numbcr of

miners who had ageed to be co-partners and work the mine under what was known as the Cope or tribute system. Under this system the miners made an Agreement with the owner of a mine to work it for a fixed period.The miners providing their own timber, all undergound working tools, candles and blasting powder, and to pay the Owner of the mine such sum as may be agreed upon by the two parties from time to time,

On Tuesday July Ist, 1879, the men went to work in the East end of the mine as usual about eight in the morning. During this afternoon some of them moved to another part of thc mine,leaving two men, Francis Middleton and Dennis Bagshawe. These two men having finished their day's work about 3 p.m. were making their way to the foot of the shaft and for home, when a large fall from the roof of the mine took place, Middleton who was in advance of Bagshawe heard the roof timbers cracking, made a dash and just managed to get on the home side of the fall. Bagshawe had to fall back to escape being buried by the fall and was imprisoned.

It soon became known that a miner was trapped in thc Black Engine Mine. The managers and men from the various mines in the district quickly arrived on the scene. Relays of rescuers were formed with bucket chains to clear a way through the fallen material. As this was being accomplished strong timbers were being fixed to support the roof and prevent further falls.

The Chief Government Inspector of Mines for Derbyshire (Mr Evand) had been informed of what had taken place, and Mr A.H.Stokcs, the Deputy Insp ector, arrived at the mine on Thursday morning. On arrival he asked if Charles Maltby of the Eyam Mines was there. On being informed that Mr Maltby wass down the mine, a message was sent asking him to come up as Mr Stokes wanted him. Mr Maltby came up and after a consultation the Inspector, with Mr Maltby, went down the mine and inspected the fall. Mr Stokes agreed with all that had been done,and what was being done to rescue the imprisoned man, but he did not agree with the rum being added to the hot coffee which the men were being supplied with along with bread and cheese, so the coffee was sent down to them minus the rum. Mr Evans arrived later at the mine but did not go underground.

A change in the weather occurred early on Friday morning with the barometer beginning to fall, this allowed the bad air to come out of the old mine workings and it impeded the work.Arrangements were made as early as possible to cart water from a source a short distance away and run it down the shaft. This improved the ventilation. Towards Friday evening a change for the better occurred in the weather, the barometer began to rise, and the ventilation in the mine became good.

Exchange signals had been made between the rescuers and the imprisoned man at regular intervals by rappings. On one occasion, during the day of Friday, the signals were not returned and some fear was felt as to how the bad air had affected the imprisoned man, but in the evening the signals were returned. The work was again pushed forward as fast as thc conditions under which it was being done would allow. In the early hours of Sunday morning the rescuers were able to talk to the imprisoned man; and about six o'clock a hole was broken through the fall and some light refreshment was handed to him. When the roof had been secured and a clear pessage made he walked to the bottom of the shaft and was drawn up about nine o'clock.

He was taken to a farm house near by and appeared to be little the worse for the five days confinement. The work of rescuing him had been done under difficult and dangerous conditions, and men had to climb out of the mine on a climbing way that was not one of the best, and the work had to be carried on under a roof that might have collapsed at any time, but the men trusted to Providence and stuck to the job of rescuing the imprisoned man. Bagshawe and myself met together a few days after his release and during our conversation he told me that he knew every effort would be made to get him out and he never gave up hope. He collected all the pieces of candles that he could find. There was a small trickle of water within reach, so

hc made a cup with some clay and collected the water to drink Whilst the candles lasted they gave him an idea of the time, knowing about how long a candle would last, these gave out he judged about Thursday. After this he lost all knowledge of the time, but he could hear the rap- pings, the rattle of the buckets, and the work going on for his liberation. He never lost courage but there was a time when he felt ill and laid down, but after a time this passed off. This would be the time when the venti- lation was bad as already mentioned.

The rescue was brought to the notice of the Order of St.John of Jerusalem in England and particulars were given. That Order passed the resolution which I quote:

'At a Chapter of the Siseth or English League of the Order of St.John of Jerusalcm held at the Chancery, St.John's Gate, Clerkenwell, on the 9th day of December, 1879, the following resolution was ordered to be entered on the records.

"That the Bronze Medal of thc Order awarded for deeds of Gallantry in saving life on land be conferred on Charles Maltby in recognition of the successful exertions made by him and others at great personal risk in rescuing one Dennis Bagshawe from the Black Engine Mine at Eyam via Sheffield in July last where he had been imprisoned for five days owing to a sudden fall of shale from the roof."

Signed J.T.George General Chancellor.

Charles Maltby was the Manager of the Eyam Mines. the other referred to in the resolution were John Hancock of Tideswell,Manager of Messrs Shuttleworths Mines at Great Hucklow, Thomas Davis of Foolow, Engineer at the Mill Dam Mines at Great Hucklow.

The above was sent in by **Dave Parsons**.

A Thought to finish with:-

There are mines for silver and places where men refine gold, where iron is won from the earth and copper smelted from the ore; the end of the seam lies in darkness, and it is followed to its farthest limit.

Strangers cut the galleries; they are forgotten as they drive forward far from men. While corn is springing from the earth above what lies beneath is raked over like a fire and out of its rocks comes lapis lazuli, dusted with flecks of gold.

No bird of prey knows the way there, and the falcon's keen eye cannot descry it, proud beasts do not set foot on it, and no serpent comes that way.

Man sets his hand to the granite rock and lays bare the roots of the mountains; he cuts galleries in the rocks, and gems of every kind meet his eye; he dams up the sources of the streams and brings the hidden riches of the earth to light.

But where can wisdom be found? And where is the source of understanding? No man knows the way to it; it is not found in the land of living men. The depths of ocean say, 'It is not in us', and the sea says,'It is not with me.

Red gold cannot buy it, nor can its price be weighed out in silver, it cannot be set in the scales against gold of Ophir, against precious cornelian or lapis lazuli.

Gold and crystal are not to be matched with it; no work in fine gold can be bartered for it; black coral and alabaster are not worth mention, and a parcel of wisdom fetches more than red coral; Topaz from Ethiopia is not to be matched with it, it cannot be set in the scales against pure gold

Where then does wisdom come from, and where is the source of understanding? No creature on earth can see it, and it is hidden from the birds of the air.

Destruction and death say, 'We know of it only by report.' But God understands the way to it,he alone knows its source; for he can see to the ends of the earth and he surveys everything under heaven.

When he made a counterpoise for the wind and measured out the waters in proportion, when he laid down the limit for the rain and a path for the thunderstorm, even then he saw wisdom and took stock of it, he considered it and fathomed its very depths.

And he said to man: The fear of the Lord is wisdom, and to turn from evil is understanding.

Job 28.

DR DESCENDER

Dear Doctor

Regrettably I am having further sack trouble. When recently looking in mine I found that rodents were living inside and had eaten some of my rope.

Anon, Birds & St.Bees

I am sending you by express courier 80 m of stiff old CAT rope (in a 50 m sack) in the hope that this might get eaten as well.

Dear Doctor

On a North Pennine dig we were read out a list of actions which had been compiled by the absent Mr Blizzard. The final item on the list inferred that a broom should be inserted into one's anatomy and the site should be swept up. Is this usual ?

Anon

I don't think this is normal, so I have spoken with Mr Blizzard and he assures me that he will leave sketches next time.

Dear Doctor

On a recent trip to Foggerhill I found it very interesting closely watching people as they got undressed but found, to my surprise, that my attention went unwanted. Why are people so ungrateful ?

Anon, Ingleton

Dear Chester,
We have had your sort writing in before but on this occasion you must have come over all queer since, for once, you were not the worst dressed person on the meet.

Doc

Dear Doctor

I recently got lost on the way to the Slate Museum. I was following some map references but I ended up east when I should have been north and north when I should have been east. To cap it all when I finally got to the museum I fell down the stairs and rolled along the corridor, or was it the other way around ? I feel very confused.

Anon

Your confused ! - what about us ?

ADVERTISEMENT FEATURE

New Improved Beal Mice Food - In tests nine out of ten mice preferred it to either Edelrid or Bluewater.

LATE NEWS

The two former and one current Meet Secretaries who were entombed at Coniston have now been freed - despite the efforts of one of them.

DOCTOR DESCENDER - THE WORST IS YET TO COME. DON'T SAY YOU WEREN'T WARNED !

Meet 27th /28th July - Joint CATMHS and Russell Society at Nenthead

Saturday

A fine day greeted 12 members of the above groups, the leader for the day was Brian Young (RS). The first stop was at the stamps where the Great Limestone makes its first appearance on this site, the formation of the limestone south of the equator and its slow drift northwards was explained. As we progressed towards the river, the interesting and specialist nature of the flora present throughout the year was discussed.

While looking across the river (southwards) at an exposed section of hillside the alternating strata were explained to us. Walking upstream we paused to look at the Iron Post Limestone, so called by the miners because of its extreme hardness. On up the river to the waterfall, here where the alteration of the Limestone into Ankerite can clearly be seen. This is a geologically important spot and some time was spent here as the mineralisation of the area was explained.

Smithsonite ('dry-bone') was found on the old heaps (history unknown) to the south of Smallcleugh portal. Also found was a septarian nodule which contained cubes of galena, this is evidently unusual and will find its way to the RS exhibition at the Hancock Museum in Newcastle.

We moved back down the valley to the Nenthead Fields Vein (a small mine near the village school) the adit here was collapsed and very wet. The tip was searched in the hope of finding some hemimorphite but nothing much of interest was found.

Back to the cars for a short trip down the valley to Blagill. The upper level of Blagill mine is where the mineral Barytocalcite was first identified and as the 'type locality' is now a geological SSSI. Despite the site becoming overgrown good examples of the mineral were to be seen. The adit has collapsed a short way in, Brian Young thought it would be a good idea if CAT dug it open (Oh no not again!) as he anticipated that valuable clues for its particular abundance at this location would be found.

Sunday

Again a party of 12 (only 4 from the previous day) visited Smallcleugh mine. Not the usual CAT, mad dash to the far reaches, but a more sedate procession to the Ballroom. Firstly the whim chamber was visited, then into the first section of flats where we stopped at the location of plate 3 on page 149 of Dunham. Here among other things the importance of the thin shale bands acting as barriers to the mineralising fluids was explained. Passing on through the bends and crawls to the roadway through the flats, here the Smallcleugh horst (up-thrown section) was explained. Onward with many stops to the Ballroom, the usual oooh's and aaah's then a somewhat speedier return to day by the same route.

A second successful day where the skills and experience of the two groups were pooled for the benefit of those attending.

SB & DB

CUMBRIA AMENITY TRUST MINING HISTORY SOCIETY

Committee Meeting held on the Monday 28th September 1996 at the BMSC Hut, Coniston.

Agenda

1 Apologies for absence
2 Minutes of the last meeting
3 Matters arising
4 Secretary's Report
5 Treasurer's Report
6 Membership Secretary's Report
7 Meets Secretary's Report
8 Format of future publications
9 Publicity officers Report
10 Furness Projects
11 Hudgillburn Mine
12 Newlands Furnace
13 Coniston Coppermines Site
14 Date and venue of next committee meeting
15 Any other business

Present D. Bridge, S. Barker, J. Helme, J. Davies, P. Fleming, I. Matheson, P. Sandbach, M. Simpson, P. Timewell and A. Wilson. 10 Members in total.

The meeting commenced at 7.30 p.m.

It was with the deepest sadness that the Chairman informed the committee of the death last week of member Phil Merrin. Although for two years Phil had fought against cancer, he had still managed to complete several SRT trips.

An active member for many years, Phil's enthusiasm and humour would be greatly missed by us all. Dave was sure he spoke for all members when he expressed his heartfelt condolences to Cheryl and the children.

1 Apologies for absence

M. Mitchell.

2 Minutes of the last meeting

The minutes of the committee meeting held on Monday 22nd July 1996 had been previously circulated to members. It was PROPOSED by J. Helme and SECONDED by D. Bridge "That the minutes be signed by the chairman as a true and correct record of the proceedings". This was carried unanimously.

3 Matters arising

3.1 Item 5.1 S. Barker had received all the spare copies of B-L-F, with the exception of two copies to be returned by P. Timewell.

3.2 Item 15.2 P. Fleming and A.D. Cameron had attended and enjoyed a very interesting day.

4 Secretary's Report

The Secretary had received:

4.1 Copies of the current NAMHO minutes and newsletter, also a form to complete for our entry in the next NAMHO handbook.

4.2 One copy each of the LDNP's Draft Management Plans for the Helvellyn and Skiddaw Massifs. The secretary had circulated the plans to several members of the committee for comment. Their views were included in the answering letter to the LDNP, which the secretary read to the meeting.

4.3 Letter from the North Pennine Heritage Trust regarding their new access arrangements for the Nenthead mines and site. This letter to be printed in our next newsletter to pass the information on to members.

4.4 Copies of the NCA Bulletin and training leaflets, to be sent to newsletter editor and the CAT library.

5 Treasurer's Report

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

5.1 Another excellent period for literature sales. 'Slate from Coniston' had now produced £3136 towards production costs of £3721. Journal No 4 is now in profit by about £200.

5.2 Most of the outstanding invoices have been received, the last one unpaid will be pursued in the next few weeks.

5.3 He anticipated that the "end of the year" balance would be at least as much as last year, despite the production costs of the Coniston book.

5.4 We have now stopped selling 'Beneath the lakeland Fells' details are as follows:
July 1996 70 copies purchased - cost £250.
Sept. 1996 59 copies sold - producing about £600.
This leaves 11 copies for future disposal by the society.

5.5 P. Fleming reported he had recently sold 1000 copies of the Coniston Trail leaflet to the Coniston Tourist information office.

5.6 The purchase of a re-chargeable drill and extra batteries was discussed, this subject to go on the next agenda as a separate item.

6 Membership Secretary's Report

I. Matheson reported he had posted the current newsletter five days ago. The society now had 92 members, 4 honorary members and 6 libraries. P. Timewell reported he had met two thirteen year old boys who were **very** keen to join CATMHS. After discussion it was decided we should encourage them, as we are a bit short of younger members! P. Timewell offered to advise them on gear, etc. after they had returned their application forms (signed by the parents).

7 Meets Secretary's Report

The meets secretary had contacted the secretary asking if the committee would decide whether the monthly social evenings were to continue, as he wished to print the next meets list shortly. It was decided to continue with the social meets and the committee appeals to members to attend as often as possible.

8 Format of Future Publications

It was decided to put the last meeting's suggestions on hold and continue as before. It was PROPOSED by D. Bridge and SECONDED by J. Helme that the copy date for Journal No 5 should be December 1997. A note to go the next Bulletin to this effect.

9 Publicity Officers Report

Nothing to report.

10 Furness Projects

10.1 Woodbine Pit, Newton. A small amount of work was required to finish this project.

10.2 Furness survey. The work is continuing. The photographs of the washing floor at Rita Pit had turned out well, the surveying work would start again when the foliage had died down.

11 Hudgillburn Mine

S. Barker reported there has been a notable lack of activity at HGB whilst members have been enjoying the holiday season. The next meet on 27th October should see the old adit timbered, where it had collapsed originally and cut and cover work begin. Hopefully extra workmeets will be arranged before the snow sets in, please contact S. Barker if you wish to attend.

12 Newland Furnace

J. Helme reported that work was proceeding, he was grateful to the Furness lads for continuing with the corbelling work while he was on holiday. The next job will be to put solid infill, into the space between the corbelling and the support wall on the inside of the furnace.

The next work meeting will be on 28th September. The CIHS will be at the furnace on 29th September, to start rebuilding the firebrick lining.

13 Coniston Coppermines site

P. Fleming reported on the last Coniston Exploratory meet at Paddy End; a decent was made into new ground, the exact location of which was a little unclear. The area will require a more thorough exploration meet in the near future to clear up the confusion. The establishing of a new through route was discussed (after the collapse below Simon's Nick). A meet to be arranged to do this work, Action P. Fleming.

D. Bridge reported on the Paddy End survey, there had been 9 meets to date, covering, Belman Hole, Windy Stope and Middle level. These mid-week meets would be continuing mostly attended by M. Simpson, D. Bridge and J. Davies, any help would be appreciated.

For many years P. Fleming has been asking the LDNP to carry out work on Miner's Bridge in the Coppermines valley, which is deteriorating. He would also like to see it returned to its Victorian state. It was then a famous viewing place, Peter intends to write to the Parish Council and Andrew Lowe, hopefully to achieve his aims.

14 Date and venue of next Committee Meeting

This was arranged for 7.30 p.m. on Monday 11th November 1996 at the BMSC Hut at Coniston.

15 Any other business

15.1 J. Helme asked if he could have details of any expenses before the end of October to enable him to complete his accounts.

15.2 D. Bridge outlined the progress of the MPP to the committee, EH had sent us the Step 3 reports on Copper, Tin, Arsenic and minor metals for comment.

15.3 P. Fleming had received a letter of acceptance from John Waddams, whom we had invited to be guest speaker at our annual dinner.

15.4 S. Barker had picked up the rope from D. Parsons, it was decided with all the ongoing projects the society needed to buy another rope. After discussion J. Davies was asked to buy a 100m 10 ½ mm rope.

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

SB 12/10/96 Chairman

CATMHS Financial Statement	September 1996	
Balance July 1996		2231.56
Donation Committee Supper	3.00	
Literature sales		
Journal 4	87.48	
BLF	60.00	
Leaflets	3.60	
Honister	12.00	
SFC	848.88	
Bank interest	0.25	
Total	1015.21	1015.21
		3246.77
Expenses		
Printing & postage NL & meets list	106.31	
tackle 110m rope	150.00	
Meeting room rent	3.00	
TOTAL	259.31	-259.31
Balance		2987.46
Balance held as:		
Building Society	2865.69	
Bank	121.77	
TOTAL	2987.46	