CUMBRIA AMENITY TRUST

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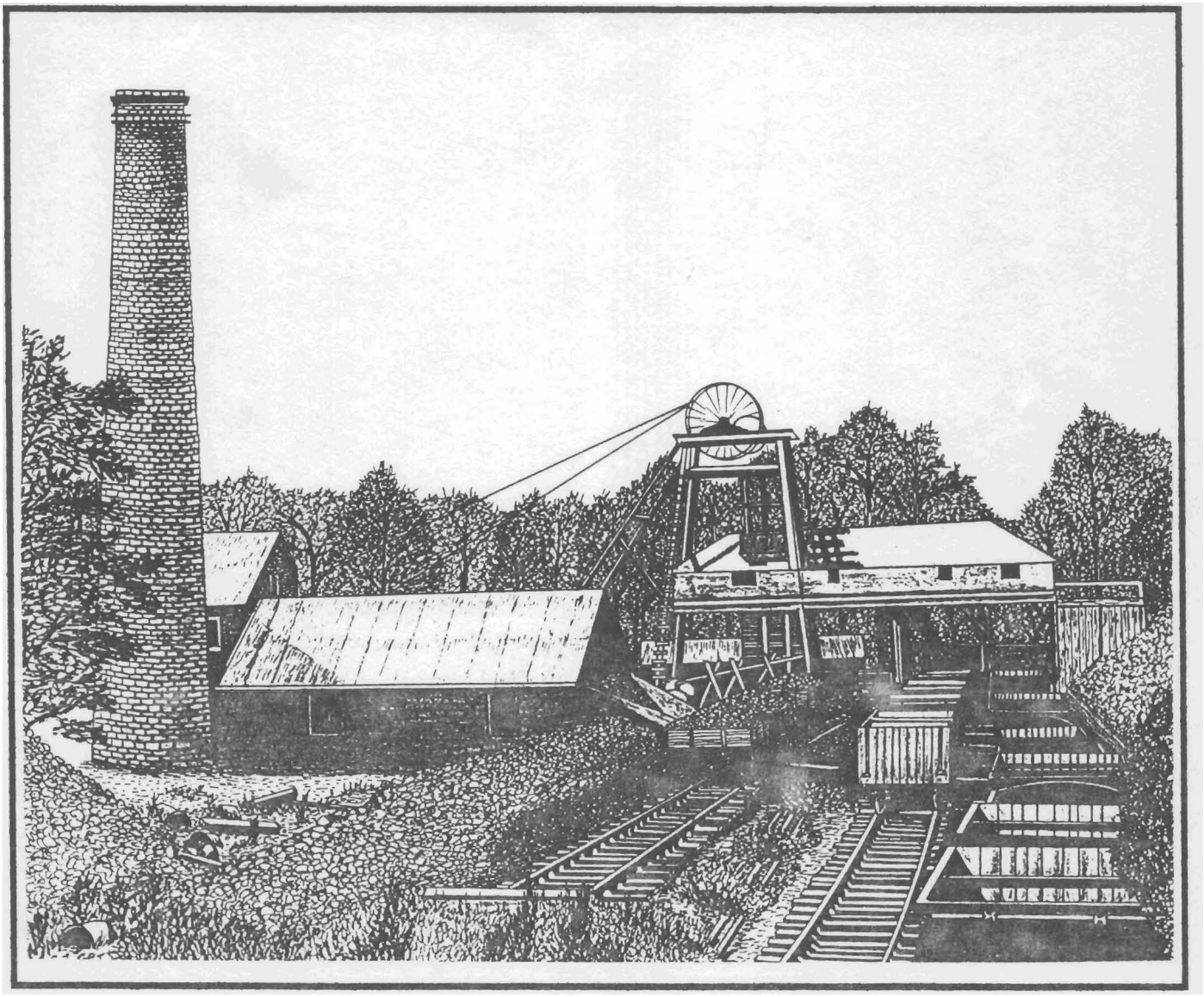
OCTOBER 1993



MINING HISTORY SOCIETY

Contents

Front Cover:-
Pallaflat Iron Ore Mine at Bigrigg, West Cumberland

From an Ink Drawing By Sheila C.P.Thomas

Society notes

The meets meeting on the 6th of September was well attended.with the results that you can see. Please do not forget that the Furness Iron I.A.Survey is still going on. as well as the Newlands Furnace Restoration project.(Last Saturday of the month - contact John Helme). The Greenside dig is soon starting up again.Mike Mitchell is our link-man there.The active membership is relatively small and cannot do everything.(some do active A.I..go to rescue practices regularly.and lead normal domestic lives as well.)if you are not involved yet please make an effort. you will be very welcome.

Dave Bridge and others have been giving talks and showing people round various mine sites.Peter Fleming has been battling with beaurocracy to try and get things moving at Red Dell,Coniston. Scheduled A.M. status is a mixed blessing. Not forgetting that all of your committee are working away to keep things running and hopefully furthering the aims of the Society.

The A.G.M. and Dinner is fast approching.there will be a guest speaker. so please come and support this occasion.

To end on a pecuniary note:-After the A.G.M. your subs are due.and.as the journal is soon going out to print.most of the society's cash will be required to pay for it.so your prompter payement would may the treasurer very happy.

Finally:- Would YOU know what to do????- If you have not been recently to first aid lessons.do something about this lapse.You never know when the knowledge will be required or where. and it might be you or some-one special to you that could benefit. If you need advise have a word with Mike Mitchell who knows most things about first aid,safety and rescue on mountain or in mine.

Welcome To new members:-

John Aird	London
Ross Evans	Brighouse
Geoff & Carol Falkender	Carslisle
David Parsons	Howtown
Simon Silvie	Barrow-in-Furness
David Wilson	Thame
William Birkett	Cleator

CATMHS Meets October 1 to April 1 1994

October	16/17	Visit to Great Orme Copper Mine- Llandudno. Meet at Copper mine site on the Great Orme 10.30 both days. SRT required but trips can designed to suit party.Phone M.Simpson for further details and accomadation.
	31	Greenhead Gill Elizabethan Lead Mine.- to explore, survey and record the site. Meet Leaders- D.Bridge & I Matherson. 10.00 at the bottom track on the road behind the Swan Hotel (GR NY341084).Note:- the survey will be predominantly a surface one.
November	7	Greenside Mine- Workmeet in Lucy Tongue Level 10.00 at Youth Hostel Car Park.When you arrive at the site please first let Mike Mitchell know you have come,and he will know what needs to be done.
	Also:-	MOLE's visit to Florence Mine.CATMHS members welcome :- contact Ian Tyler on 0228 561883 charge £5.00.
	21	Danby Level - Arkengarthdale - Workmeet /exploration with T.Whitaker of NMRS met Punch Bowl Low Row at 10.30 (SRT req)
December	4	BMSC Dinner
	5	Taylors Level- Coniston- Workmeet -10.00 at BMSC Hut (SRT req)
	11	CATMHS AGM and Dinner at Yewdale Hotel Coniston,Guest Speaker-Mr A Lowe,Conservation Officer for the Lake District National Park Planning Board.
	26	Boxing Day-Greenside Mine- As November 7th
January	2	Coniston Exploration- 10.00 at BMSC Hut P.Fleming Meet Leader.
	16	Triddle Shaft to Taylors Level through trip 10.00 at BMSC Hut (SRT req and may be wet)
	30	Cathedral Cave Tilbertwaite - Training meet. For those who wish to try SRT (Gear will be provided)brush up their ladder work and belaying techniques,how to set up a travers line and use one. ML's M.Mitchell, J,knowles S,Barker.Meet 10.00 Little Langdale Bridge. GR
February	6	Greenside Mine- As November 7th.
	20	Borrowdale Wadd Mine 10.30 ML D.Bridge- This will be a definite through trip from Gill Stage to Gilberts Level ,and a chance for people who came on the 30th of January to put into practice what they have learnt. (SRT req).Grade D- Meet below mine on the Seathwaite road (GR NY 237125)
March	6	Visit to Tarmac Quarry Ingleton,
.	20	Rotherhope Fell Mine -- . Details in next newsletter/newsheet.
April	1/2/3/4	Wales - Croesor- Rhosydd, Bryneglwys, etc Meet Leader Jon Knowles. Details in next newsletter/newsheet.

Meets Reports

Wanlock Head - Gold Panning - Elvan Burn 23rd May

Something like sixteen CAT members, all with the glint of gold in their eyes,abandoned their native county and thundered north along the A74 through Galloway towards Leadhills. It is Sunday 23rd May ,the forecast is good and after a massive fry-up at the Little Chef at Johnsonbridge we turn off the main road at Elvanfoot and head up the Elvan Burn toward Wanlockhead. The bleakness of Beatock and the Galloway hills gives way to much more attractive scenery with spoil tips and disused railway lines. This looks really interesting country . Obviously it is going to be a good day.

We all met up at the Mining Museum car park at Wanlockhead. quite a few members have travelled up the night before and have camped at Sanquhar (pronounced "Sanker") where a lot of whiskey appears to have been drunk. Ann danson and Pete Blezard are the meet-leaders, the organisation is slick,clearly ,we are going to have an interesting time.

While we wait for the off Dave Blundell and the two Camerons decided to try panning the stream which runs beside the museum car-park. It doesn't take long to find tiny flakes of bright yellow metal. Suddenly the fever takes hold. What are we all waiting for? Bugger the late-comers. Lets get going. Soon we are travelling back along the Elvan burn towards a convenient parking place on the river bank.

Tourists driving up the road from Elvanfoot on Sunday 23rd May,may have been surprised to see a large group of people all bent double in the middle of the river. Certainly the bus -load of Germans who stopped, had a field-day with their camcorders while the tour guide,no doupt,explained that they often did this sort of thing in Scotland on Sunday afternoons.Probably made their holiday.

We panned the river for several hours. Excitement was interspersed with frustration.It seemed unbelievable that one pan could produce significant number of gold particles while the next,with silt from exactly the same place on the river bed,produced nothing.After a while a number of people did other things, It was warm sunny afternoon. Mike Mitchell spread a blanket on the river bank, found some cans of beer in the van and closed his eyes. Sheila decided to explore the hillside above and Ian Cameron tok Gemma for a walk on her lead. The meet leaders had planned to abandon panning by mid-afternoon and visit the mining museum at Wanlockhead to complete the day.But some people couldn't be dragged away and so they left them. Towards evening, as the main group returned along the valley,they were still there, bent double in the middle of the river.

Thrang Quarry,Chapel Stile,Langdale Wednesday 26th May Meet Leader Peter Fleming

For an evening meet the attendance was good with twelve members turning out. Permission had been sought in advance for access to the quarry from the joint owners, the National Trust and Mr John Sanderson.

It is probably fifty years since Thrang Slate Quarry was last worked. An unusual feature to be found here is a 95ft shaft square in section, measuring 10ft across. The upper 60ft or so are masonry lined. At the bottom of the shaft is alarge closehead containing a green pool about 25ft in diameter. From the northern end of the closehead a tunnel is driven 25yds as a trial and contains the remains of detonator boxes.

It is still possible to gain access to the main adit running south from the rubbish pile at

the bottom of the shaft, but it is in a very dangerouse state due to the rotting timber roof supports, and ends in a total collapse after 20 yds or so. It is said the shaft itself was fitted with a water balance bucket lift which was later superceded by a steam engine for raising worked slate to the surface. Why this should have been necessary when a low adit level existed is not clear. however,the remains of a small steam boiler are still to be seen in the open quarry bottom at surface. In the lower part of the open quarry stands an Ingersol Rand compressor, which we were told by John Sanderson.who was most helpful, was the first compressor of its type brough into the country.

Sixty foot down the shaft a side tunnel leads off into another large closehead. It is possible to reach this from the outer quarry along a narrow passage formed on one side by stacked deads. Most of the members entered by this route. Six ventured to the bottom of the shaft. Time did not allow us to look around the extensive surface workings which include several ruined buildings and access to another underground working. Copies of an engraving dated 1834,showing the quarry working, was shown later to those who retired to the nearby pub for refreshment.

In view of its antiquity and interesting features to be found at Thrang Quarry, it is a pity that moves have never been made to preserve it and use it as a show mine, a purpose it would be idealy suited to because of its location close to the road.

I should like to thank Alistair Cameron for some of the information given in this report and also the members who supported the meet on what began as a wet evening.

Rotherhope Fell Mine,Blackburn Level
June 19th Meet Leader Mike Mithchell

It was wet and windy when a substantial group of CATMHS members met out side the Blackburn Level. Permission to drive up the valley had been obtained from the farmer. The gamekeeper came racing up the valley after us. He asked us not to go on the fell, as it had been a very poor season for grouse rearing and he did not want the remaining few to be disturbed. This scotched any ideas we had of exploring the higher levels.

The Blackburn level(the main adit) was driven by the famous engineer John Smeaton, who held the position of Receiver for the Greenwich Hospital in the 1760's.It runs almost due south for 3,000 ft to cut the Victoria vein, after a total of 4,200ft the level reaches the main vein. At the main vein there are two shafts: No 1 Shaft is 336 feet deep and shaft No 2 which still has it's cages in situ is 120 deep.

After enthusiastically photographing the various mining features , lunch was taken in the large Engine Room (painted matt black), which was excavated to house the hoisting and pumping machinery for No 1 & No 2 shafts.

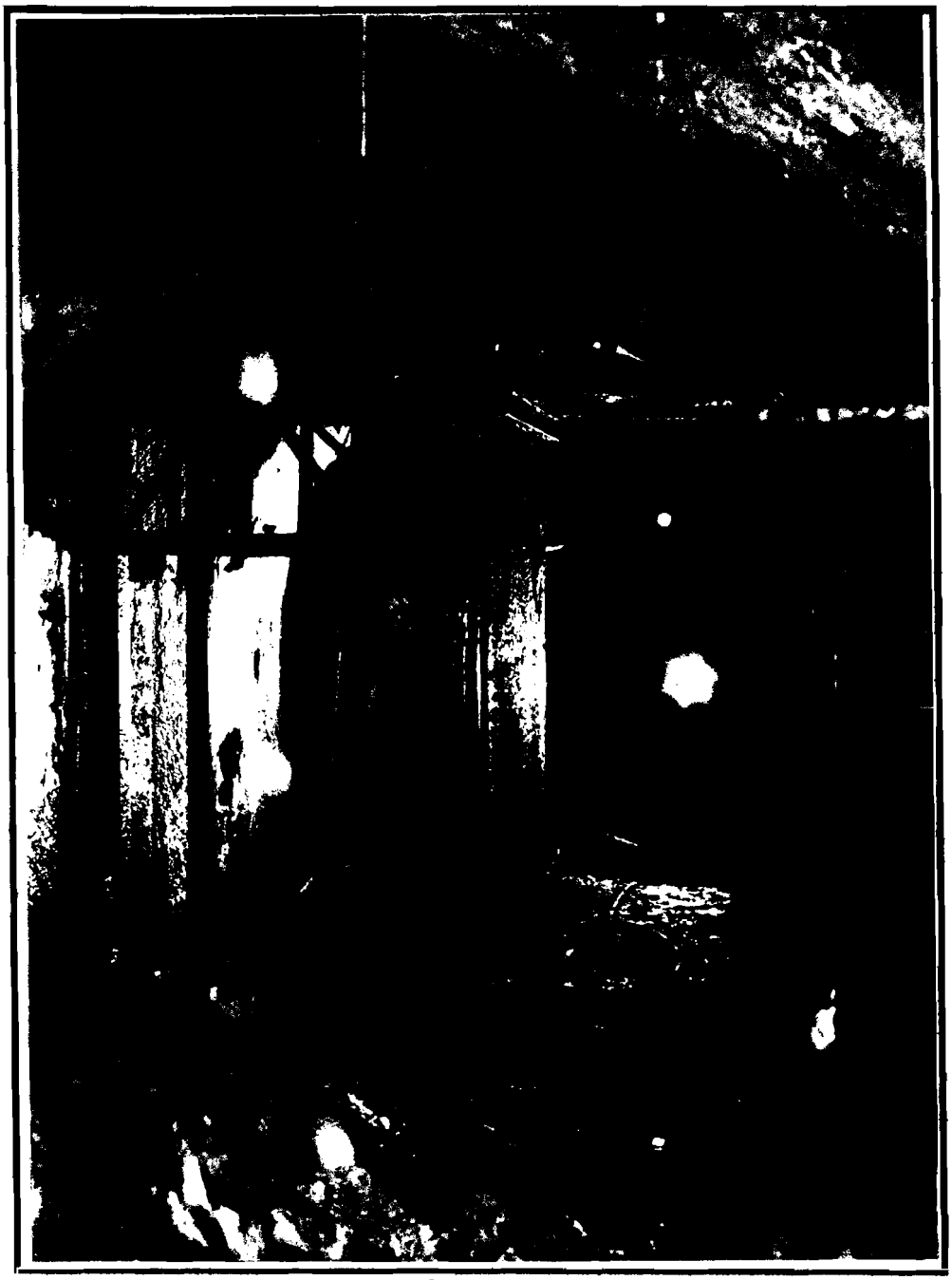
After lunch the remainder of the mine was explored. On the return trip a very wet rise was explored with some difficulty, to no avail.

Across the main adit from the above is another short level with and ore hopper and ladder way at the end of it. This was explored to the top but no exit was found.Mike suggested removing some material from the hopper.A brave soul was found to do this while the rest cowered in the level. A lot rumbling ensued, and stuff like lumpy porridge came out the bottom plus the odd lump coming down the ladderway.After all had quietened down, the same brave soul was voluntered to ascend.It was found that one could gain access to the top of the ore hopper and above this was a small chamber with no way off.Seems it was an exploratory raise. (editor).

After returning to day and as the rest of our plans had been spoiled by the gamekeeper, we decided to pay a visit to the Killhope Mining Centre.

The meet was rounded off by tea and buns at the Hartside Summit Cafe

Sheila Barker



The cages over shaft No 2 ,Blackburn level

Eskdale Iron- 4th July Meet Leader - Albyn Austin

13 punters, a dog, the society chairman and the meet leader, assembled on a wet Sunday morning in Eskdale. Due to a mix up in the published time, some folk arrived for 10.00 and the meet leader being last to arrive at 10.20. At least we were away at 10.35, even after allowing a little time for late comers.No-one wanted to go up into the misty fells to SRT down the Nab Ghyll shaft, much to the chairman,s relief. We shared cars to travel up the valley to Wha House bridge,as parking is limited. We needn,t have bothered as no one else was about other than us and the odd shepherd. We followed the footpath to Birker Fell until we reached Spot How Ghyll copper mine. All of us went up the middle level, and the keen ones climbed up through the stopes to the top level of this charming little mine. The rain revealed some small pieces of copper ore on the tips. The problem was there was not much

pyrite in the vein and most of that was iron and not copper. Members debated whether there was a water wheel driven crusher here and where it might have been located. Certainly the tips look as though they may have been roller crushed and/or stamped. A portable steam engine was another possibility. Lower down the Ghyll, the course has been diverted by a dam, but you needed the eye of faith to see a wheel pit or a dressing floor here.However a piece of cast iron gear wheel was found hereabouts a few years back and is now in the Whithaven Museum.

After lunch at Dalegarth,or by the Esk at St Catherine,s Church, we set off to explore the Gyll Force workings of the South Cumberland Iron Ore Co.There was some tut-tutting that the old girder bridge carrying the old branch line from the Ravenglass and Eskdale railway had been decked over to make a footbridge. The walk across the foot wide girders,(300mm for the junior members) and 30ft(10m) above the river was thought to have been good character forming stuff by the senior members of the party. The meet leader recalled the local farmer telling him he used to ride his moter bike over the girder when he went to round up his sheep.

All four levels were confirmed to be open,but the two lower ones had internal falls after short distances, but numbers 3 and 4 went in reasonble distances.The meets leader managed to stay on the outside of these dirty wet holes by talking rapidly about their history,the weather, the political situation in Macedonia, in fact anything rather than wade into waist deep water,and muddy red crawls along these little levels.At this point the less hardy members crept away to ride on the Ratty.However they did promise to visit the mining relics in the railway museum at Ravenglass.

Nine survivors battled on to the Gate Fell levels,(2 open) and a few of them found some trials down by the Esk,on the way back. Here the meet leader was finally coaxed into a watery level by the chairman,the leader muttering all the time that it didn,t go very far and really what was the point.

After a cup of tea back at the cars and the departure of a train from Dalegarth, a refugee member form Somerset was surprised to learn that the principal characaters in the Eskdale Iron mines also had mining ventures in North Devon and Somerset- namely Faithful Cookson, W.H.Hoskings and the Owen family who introduced William Donaldson and the Allport Brothers to loose their shirts at Gyll Force. Mr Donaldson was reputed to have left a good stock of Records in the Home counties Record Office by a passenger on the railway who was talking to one of the drivers. Donaldson had been at Trinity College Oxford an a Mr W Donaldson M.A. had a series of correspondence with lord Ponsonby, on criminal statistics of all things, in the Bodliean Library at Oxford- hint-hint to any members in ther South

The survivors now set off to Nab Ghyll mine where the lower levels tips ere explored,all the levels being run in. A half hearted attempt to dig No.1 level out was abandoned and after a lengthy search the meet leader located the cast iron winding whel for the incline,about 3/4 of the way down the fell side near the western boundary of the mine sett. Repeatedly pupils from the outward bound school had pushed it there one Saturday while their teachers were attending a marriage at church of one of their number. Pictures having been duly taken, members rushed to Dalegarth Station for an ice-cream before the station shop shut and just as the sun broke through over the dale.The meet leader managed to dissuade even the keenest from visiting any more of the numerous small trials in the Dale, and so terminated proceedings. The survivors claimed to, have enjoyed themselves and all set off home in good spirits.

Anyone interested in the history of these mines should read up the relevant bits of Adam,s book and the CAT Mine Explorers Nos 1 and 2. Accounts of the mines can also be found in Moles newsletter Northern Mines BM No 19 carries an article on the Devon Iron Mines run by the Eskdale Adventurers. The Ratty railway histories also have sections on the mines.

Albyn Austin September 1993

Caldbeck Fells- July 13th

Meet Leader - Mark Simpsor

Present:-Mark Simpson (ML) Jon Knowles.Sheila Barker, Angela Wilson, Paul Timewell, Peter Blezzard,and Ann Danson.
Weather :- Mainly overcast with very light rain, the forcasted rain fortunatly held off until we finised the days proceedings.This was an area of Cumbria that I was unfamiliar with, although I had read about it.I sought advise from Dave Blundell as to what was still worth looking at.He sent me a very detail letter containing a itinerary,maps and other useful information.The first thing that he pointed out was that it would be best to treat the day as a surface excursion with the possibility of few underground excursions if folks wanted to have the burden of carrying extra gear.There are places that are still accessible but you would have to make special trips to them and know exactly where they are.

We parked at Fellside,there is plenty of space for vehicles.and having decided that the party was fit and active elected to go for the long round trip,about 10 miles or so.(The shorter option being about 6 miles.)

At 11.45 we took the track that leads up Fellside brow and turned east at Ingray gill (The main track going to Hay Gill.)Very soon on the south side is the site of the entrance of Crosscut to the DeerHills vein,which was apparently only a trial.We then passed on to Old Potts Gill barytes mine,worked until 1947,the only surface remains are an old powder house,recently restored.Here Peter did some panning of the gravels in the bed of one of the streams issuing from one the adits.No gold!.We then bashed on to Sandbeds mines ,the site of a CAT meet several years ago when Mr Ian Tyler kindly showed members around part of Sandbeds West (See CAT).The weather on that occassion if I remember right was cold,drismal and low cloud,the better weather now enabled a better appreciation of the site. We then headed west along the line of Sandbeds West and contoured round with the intention of taking in Old Potts Gyll Mine.Very shortly we come upon the fencing that guards where the eastern most stopes of the Potts Gyll mines brake through to the surface.These holes are very deep and interesting,although the surrounding ground did not look that good,baryte decomposes on weathering.

After several members had investigated this area, Jon Knowles upholding the Society's honour by going underground,it was decided to go straight round to the China Clay mine where we would have lunch.It being by now midday.(there were some dark mutterings about this delay in taking our repast).

Nothing much to see at this site (the mine being worked for Umber) but a small incised valley with light brown sides of weathered clay, with no obvious site for the entrance.

At about half one with rain threatening we hauled ourselves on to our feet and headed to the Mexico Mine where apparently it is possible to enter the Top Level and descent aprox 180ft down an unlined shaft to the bottom level,which is only accessible for a short lenght,the ground being very broken and clayey.We had a look at this site,nobody fancied going in,but the site may repay a further visit.At this point the party split,Angela and Sheila joining other people on the nearby waste tips.before making their way down Roughten Gill.The rest of us cut across Blea Gill west below Iron Crag to Roughten Gill.we must have passed the site of Laintons Shaft without realising what the pile of stones was part of,although I remember stopping and looking at it.

The area at this point looks well mineralised and worked over.and in Roughten Gill itself are several early levels that were inspected.Paul went in one but came out when the mud started to come up to his boot laces.The gill is a very interesting place and when we were there somebody else had thought so too, judging by the dirty water.Peter went upstream to investigate .The rest of us made our way round to Silver Gill and flogged up to the top where Peter joined us and related his discovery (If you wish to know more you will have to ask him).

The way on was North across Steel Yard to Swinburn Gill and down to where it joins Red Gyll,an interesting place where Peter pointed out the salient features,since he knew the place well having been involved in a dig there with Eric Holland.The Dutchmans Level (the middle one)still being accessible.We had a root round the tip while Peter had another panning session and then made our way to Roughten Gill and the track back to the vehicles.By this time it was late afternoon and Peter obviously must have been thinking of tea and cakes judging by the way he shot off back.Leaving the rest of us to proceed at a more leisurely pace,Jon Knowles kindly volunteered to have a look at the Breafell Lead Mines for us on the way.We crossed the Dale Beck and stopped for a minute by the smelt mill (well demolished) to look across at the hushes on the west side of the valley.I often wonder where the water came from to creat such large features.

The cars were reached at 5.00 Angela.Sheila and Peter waiting for us,and,we all dashed off to the Priest Mill Tea Room in Calbeck.(Just in time), a place I can recommend.

Mrs Tyler who was also in the Tea Room very kindly let us have a look round the mining museum and bookshop below.I think impressive is a good word to describe it,so much in such a small area,it certainly made one think.

We left Caldbeck at about 6.30 the end of what I hope was a pleasant and interesting day.The rain started to come down in bucket fulls.

Further Reading:-

Mines of the Lake District Fells -- John Adams.

Mining in the Lake Counties ---- W.T.Shaw.

Swaledale-HardLevel to Brandy Bottle Incline-
August 22 Meet Leaders M.Simpson with T. Whitaker (NMRS)

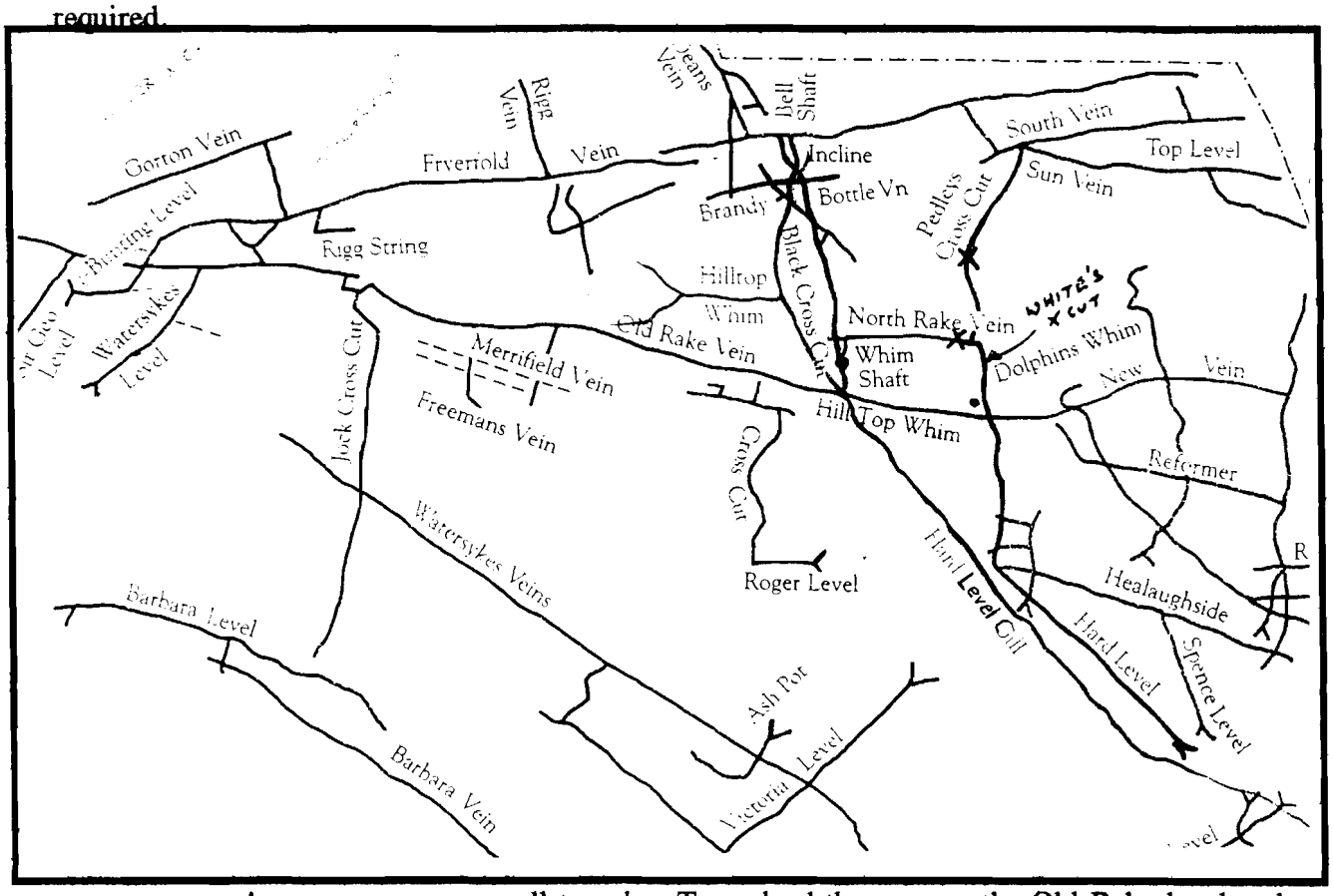
Ten members and guests turned up at the Punch Bowl,Low Row for the days events,a very good turn out.(It is nice when this happens especially when obtains the services of other societies members to act as guides,in this case Terry Whitaker of Northern Mines.)

At 10.30 we all went up the road to park at the Surrender Bridge (the road up to the Old Gang Smelt Mill is gated and locked.) Getting changed into wetsuites etc was a painless affair as the weather was fairly pleasant althought I can see that in winter it would not be too good.I have to admire one brave soul who inspite of the known dampness of the place decided to trust to the insulation value of a furry, Adam, I salute you.

Anyway, we all got kitted up and made our way up the track to the O G Smelt mill, had a look up it,the National Park seems to have done something to it in the way of stabilisation but with a seeming lack of conviction. The present mill being built about 1828 and the ore hearths and flues can still be seen, along with the peat store,the whole operation was abandoned by 1890.

Just above the mill beyond the dresing floors is Hard Level entrance,the level itself being driven in 1785 by Lord Pomfret as a means to access the Old Rake and Friarfold Veins.At one time you could have entered here and come out at Bunton Level,Gunnerside in the West or out of Moulds Level further East in Arkengarthdale.

After contemplating the entrance and the fact that someone had recently cleared it out,plus a few words about the place from Terry,we 'plunged' in. Thigh deep water was soon encountered but no worse,the level going straight for a considerable distance before turning north to meet the four way junction of Old Rake Vein,New Vein and Whites Cross Cut, the way on being along Old Rake,the other two being blocked. However Terry wanted to go along Whites X cut and into Pedleys with a view to removing some debris in the level and easing the the water level.The first blockage was just before the North Rake and with the help of many willing hands was soon taken down,the next one in Pedleys was up to the roof and was the consistency of wet concrete and looked very similar and may be due to water pressure behind the fall.On the principal of nothing ventured nothing gained I and Pete Blezzard had a go at it but the nature of the fill discouraged prolonged activity plus the fact that low angle of slope of the fill ment that rapid retreat would not be easy,a long poking device is definily required.



As soon as we were all together Terry lead the way up the Old Rake level,and were soon into more water due material being washed in from various raises,the floor level being to within several feet of the roof in some places,with chest deep water inbetween. Anyhow the slope of the level was such we were well out of the water by the time we came to the junction with the Black Cross Cut,into which we went, (straight on being to Bunton).
After a short while of good passage we forked right at the Whim shaft and where the level hit the North Rake Vein, the way on was left up through some deads with water coming through.(Caution being required here).On entering the chamber above where several levels entered,lunch was declared.Terry ,obviously not used to this sort of thing,took himself off further up the X cut,to avoid the sight of large amounts of food being consummed.

Lunch over we made our way onwards, the level dry but half filled with roof material,the rock being a hard shale with odd lumps in it.Terry ,who seemed to have been contemplating the wonder of things and CATs in particular,in some side hole.was soon

reached and having checked we were all together, proceeded up the X cut .Things got seriously wet just before we arrived at the Brandy Bottle Incline.The cause was as usual, fill from a raise backing the water up to within a few inches of the roof,this final length of level was not that long but interesting, the exit being into the half flooded chamber at the bottom of the incline.When all were through and strong man Gorlay's voice had returned to normal we waded past the ore wagons to have a look at the Friarfold vein which was only accessible for a short distance in both directions.

This did not take long and we were soon making our way up the steeply sloping incline, about half way up a level goes off back over the way we had come which intersects the Brandy Bottle vein and goes on to meet the FriarFold vein at a higher level,we had a look at this but it too was run in after a short distance (note the stone arching at this point is very bad). Continuing up the incline another we came to another opening, The Flinchert Level,the exploration of which we left to another day.This was primarily due to the floor of it being covered with thick glutinouse mud.

We reached grass late in the afternoon and a mile from where we had gone underground,emerging through an oil drum set in the bottom of a depression in the ground,the original entrance having long since gone.After Terry covered the hole over with some pieces of wood and stone we made our way down the track by Hard Level Gill back to the vehicles.Debriefing was carried out at Punch Bowl which incidentally did afternoon tea and cake, very civilised.

Woodbine and I.A. Meet August 29

Present Paul Timewell and P,Sandbach.

This was to be a big day for the Furness group,with activity on two fronts.We would continue with the pointing on Woodbine chimney,whilst simultaniously drawing some of our diminishing mining sites.

The site of Violet Pit is as nice a spot as one could hope to find on a summers day.Violet was one of at least five shafts working Rita sop,in the Kennedy brothers Roanhead royalty, and became the main pumpshaft. There are engine beds dating from about 1880,and the base of the big Hathorn-Davey engine whicn drained Roanhead mines from 1912 to 1942, and Stank mines before that. Paul met me there at eleven, having decided that pointing chimneys single handed was not on. We took a few measurements from the capstan and the winding engine, before deciding that we could do no more without technical assistance.

Our wayleave from Lake District Estates covers those lands controlled by the FFA. This is an organisation dedicated to the pursuit of fish and the cultivation of blackthorn. Their territory includes Burlington Pit, the greatest of all Furness mines, and we thought it worth a visit. We found a stone wall and a millwheel and the hole left by the excavationm of 15 million ton of ore. It is good spot for trout.

As we were now on the Burlington royalty, it seemed worth a visit to their trial at Bennet Bank. We found an adit runing for about a 100ft,with a very small stope in the roof. A dead loss of Barrow Haematite, but all that can be seen now of their undergound workings at Park. After lunch on the banks of Rita sop, we resolved to brave the brambles, and investigate North Pit. Passing the Roanhead office area, we noted the last building on the site. It looks like a useful barn, and was a store in 1877, when Rita sop was a brickfield. Climbing the banks of Burlington sop to the north this time, we found a small pond and two very small ponds. There was nothing to show that these were mining subsidences, although North pit was one of the last developments at Park working from 1895 to 1914. **Paul Sandbach**

Bowscales Mine September 5th

Present P.Timewell,A,S and I.C.P,Thomas.D,Robson. P,Sandbach

The Sisis had rested in it's shed since the Logan Beck pumpout. The grass had grown long in our addit tail, and the lock on the gate had rusted up.

Half a mile up the hill from Logan beck,near the ruins of Bowscales farm there is an adit at the side of the beck.it is flooded and there is a deep sump just inside the entrance. The first edition OS map of 1867 indicates "Shafts", and the 1898 map records " Old shafts (copper)",implying that there may be more there than meets the eye. It was decided to take a pump and,investigate.

The Sisis was overhauled and packed onto it's trailer, together with pumps,hoses, ladders, and enough petrol to drain a decent size mine. After a rather sulky start, the tractor 'flew' up the farm track in its usual eccentric style. Beyond the bridge was new ground, begining with a deep bog, and a steep hill, no problem to the Sisis. The next gateway proved too much, with a steep and rocky ground, and a tight turn, so we drove a stake into the ground, engaged the winch, and hauled it out. The rest of the hill was a easy ride. The winch was used again on a ford, and the last hundred yards were difficult,due to soft peaty ground,but we got there in less than twice the time it would have taken to walk.

The pump was quickly carried over the fence and set running in the portal.In 30 minutes the mine was dry.It proved very similar to it's description in John Adams' "Mines of the Lake District Fells".The adit runs for 16.6 metres and ends in a blind heading. The winze is 4.7metres deep ,with rocks and old timbers in the bottom.There are strange mud stalactites at the far end, but they have the consistency of rice pudding and collapse if you go near them.

Surveying took a further 20 minutes. Whilst we were pleased to be the first visitors to the bottom of Bowscales for about a century,for once we can say that no further work is needed.

P.Sandbach.

Advance Information - by I.Matheson

Greenhead Gill Meet October 31st

Grasmere Lead Mine lies at an altitude of one thousand feet between the junctions of Grains Gill and Rowantree Gill ,at OS NY 350087. It was worked by the Elizabethans in 1569, when they erected a stamp mill and box buddles powered by a water wheel. the mine closed down by 1573,and according to W.T.Shaw it has never been reopened,so that the remains are unique,being truly Elizabthan. The site was visited last February in order to examine and record it, and to prepare a case for scheduling as an ancient monument. There was only time to make a rough sketch of the two sites, so now we intend to make a proper survey and permanent record of its present condition.

Lots of people are needed to hold survey poles and record data ,as well as to take sightings. No previous experience is required, as training will be given and equipment provided,so please come and help. It is now thought that,although it is undoubtedly Elizabethan, some alteration has taken place since those times, but when for what purpose, and by whom is not clear, so we need interpretive skills,and if it exists, further knowledge of the site.

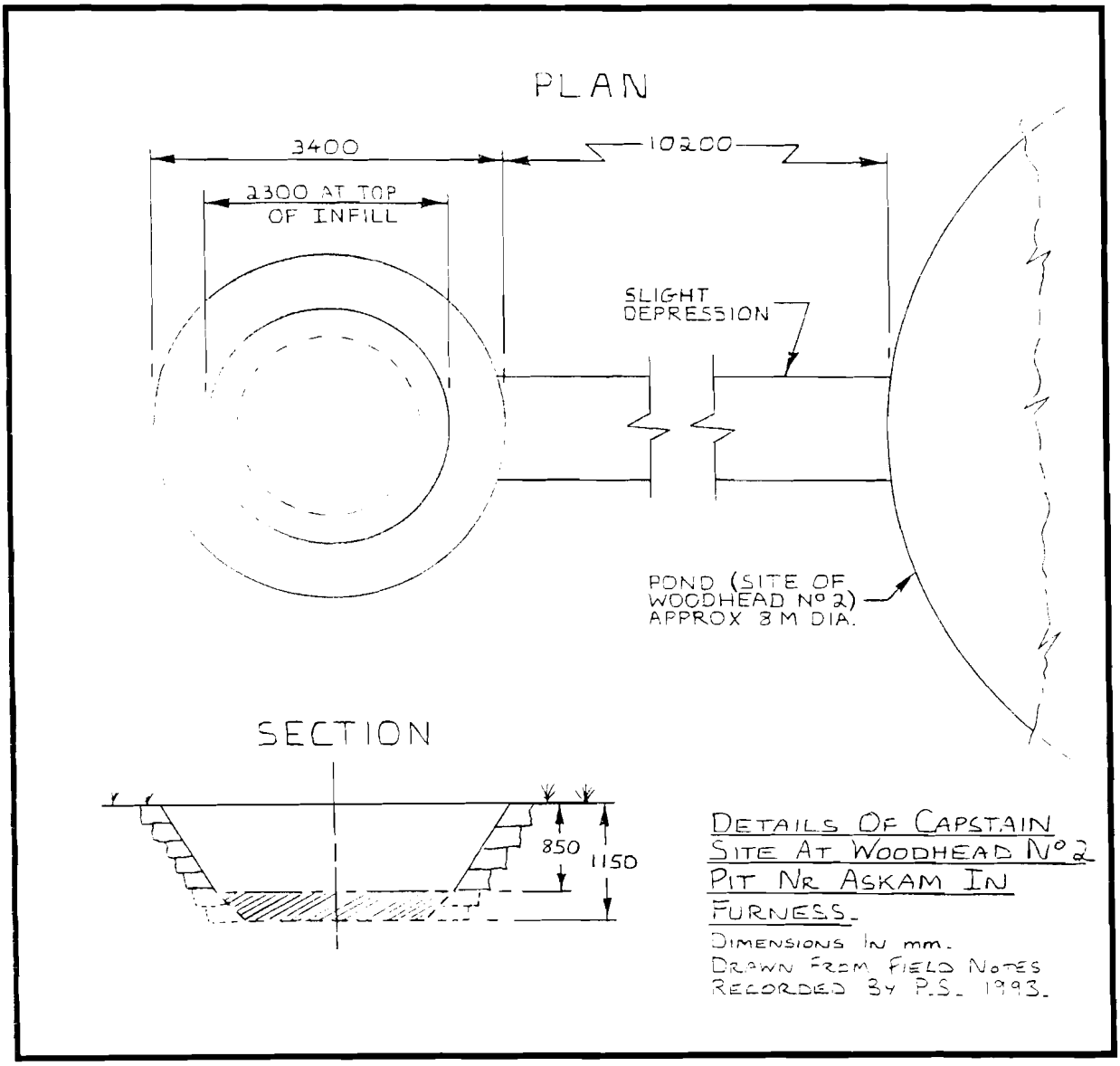
Access is easy .a twenty minute walk up an old track.The site is in an attractive location, and there are quite alot of surface remains to see. Most of the work is clean and on the surface, so walking gear and warm clothes would be appropriate.There is however an adit, which is wet,by which I mean waist deep, so if you want to examine it then you will also need a light and getting wet kit.See you there. PS The weather will be nice.

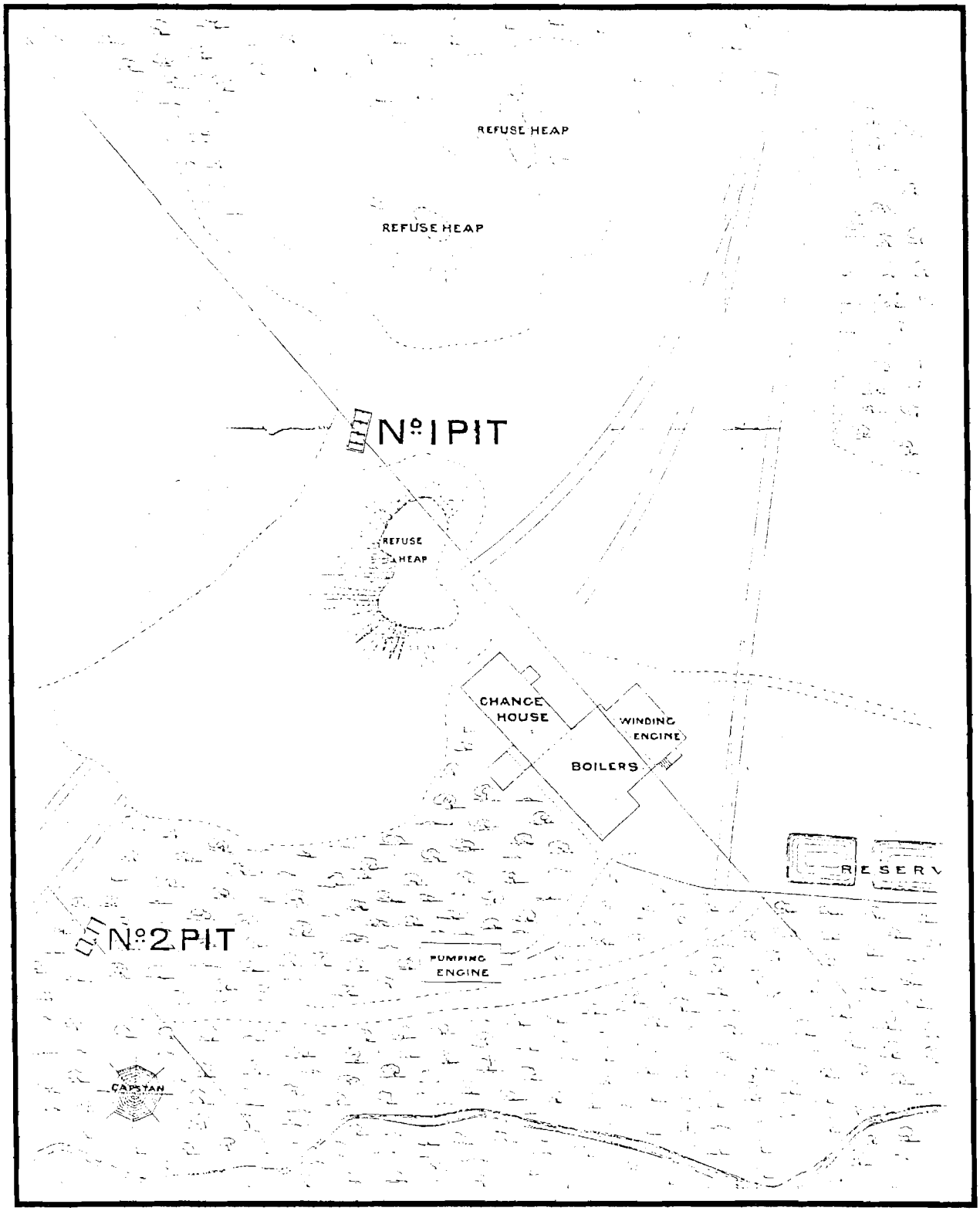
Woodhead Spider

Cumbria record Office at Barrow have two good surface plans of Woodhead mine at Askham, the earliest from 1873.The first thing that struck me about the 1883 plan was how carefuly the Kennedy's surveyors had plotted each bramble and thorn bush. I can personaly testify to the accuracy of this part of the plan.

The other odd thing about this plan is that it shows a giants spider's web.They are fond of animals in Askam. Hens roam the streets, and horses come over to chew your coat. A pig met me on the farm track on the way to the mine. Spiders of this size seemed possible, but unlikely.Perhaps it was a cartographer's mark, indicating the plan was drawn by a Mr Webb?. Tne 1892 version clarified matters by writing "CAPSTAN" across the thing.

Returning to the site, I looked closer amongst the bushes, and found the base, which Anton has kindly drawn for me. Scaling the plan suggests a radius of 14 ft, and if operated by 8 men it would be a powerful hauling engine. But was manpower used for haulage in the 1870's.More information would be welcome.





Detail of mine plan Z2963 in Barrow record office.The shaded area to the left of No 1 pit is a subsidence, now a pond on the foreshore. The upper pond is not shown, as this appeared overnight in 1903 ,taking the tramway and a string of wagons with it.The bases of the pumping and winding engines can still be found --- **Paul Sandbach**

Underground Dangers

Abstract from an article by L & C Armfield for:- "**BELOW**" the Journal of the Shropshire Caving & Mining Club

Sometime about the begining of April 1993 the lower level entrance of Cwm Rheidol was reopened.This had been done on request from the N.R.A. to prevent a blow out and thus pollution to the river.The mines in this area contain a large amount of Marcasite which forms the yellow ochre for which these mines are well known.

On May 1st a party from the SCMC went in, straight into thigh deep water which thickened into ocherous mud.After about 30 yards there was found fallen timbers and mud partially blocking the adit.At one point 2 small jets of water were spurting out of holes in the hanging wall indicating that the rock over was holding back a lot of water.

The party had gone in about 200 yds when it appears that people started feeling odd but individually thought that it must have been peculiar to themselves and put it down to the previous nights ale etc.

Another 20 yds the person leading at the time stopped and it was soon realised that everyone was feeling similar i.e feeling dizzy and puffing and panting,and that bad air was the probable cause.An immediate retreat was made and all emerged to day safely.

The Journal Editor's footnote:-(K.Lake)

The problem encountered in the level at Cwm Reidol would appear to be classic oxygen deficiency.There area several 'classic' factors present in the above account,which give clues to the possibility of poor air:-

a) A recently re-opened level that has been flooded for a considerable time.
b)The large amont of timbering present in a very wet level.
c)The presence of a large amount of ochre or mud.

The first 2 on their own,can be clues to a potential lack of oxygen,but combined should make anyone attempting exploration very cautious.

The third one,while a potential contributor to a reduction of oxygen can be the source of a number of gases .e.g CO2. CH4. H2S. especially if a lot of organic (and sulphurous) material is in the mud.

The answer is,take care when entering places where such conditions exist, and if you feel "funny" tell everyone else,because if the air is bad,chances are the others will also be affected too.

Observation by CATMHS Newsletter Editor on the above:-

The presence of running water does not appear to have improved the oxygen content of the air,or if it did then it may have been more than offset by the agitation of the mud in the adit and the releasing of gases.No note is made of any air movement. (See following article)

CAUTION

Mine Air and its Properties - a general guide

This article was prompted by an experience I had in the far reaches of Smallcleugh some time ago, and by the previous article from Shropshire Caving and Mining society.

Going in any mine involves risks but the one involving bad air is the most insidious as usually it can not be seen and sometimes is odourless,help from the people with you will be douptful for if, you are affected, so are they. Should you have electronic or chemical sniffers, or a miners safety lamp then the risks are much reduced.The old standby of lighting a candle is ok if all you have to worry about is Oxygen deficiency but if there is a chance of methane then it might be unwise to ignite it.

It is beholden to all of us to know something about this subject,and how it may affect us,especially if you are not carrying any of the above. It is easy to pass the onset of these effects as a bad attack of the willies,bad insides,or being just plain out of condition,but on the other hand do you want to take the risk. Ask all in the group,and if in doupt GET OUT.

The air we breath consistes of the following:-

21% Oxygen, 78% Nitrogen, 0.03% Carbon Dioxide and traces of other gases.In a well vented mine these proportions will be similar,the O2 being rarely less than 19%.If ventilation is poor this can fall a lot lower.

Oxygen (O2) can be absorbed by reaction with coal/shale,timber decay.and respiration,it can be displaced by people exhaling,bacterialogical action and by gas from rock or from elsewhere in the mine.

Carbon Dioxide CO2 (will not support life or flame).Is the product of combustion and/or slow oxidation of carbonaceous substances .Also by the dissolving action of acidic waters on limestone.People breath out CO2. It is absorbed by flowing water,but note! it will only do so if it is not already saturated with CO2.(its proportion of available air is rarely over 12% i.e still lethal).The gas is a constituent of Black damp,sometimes having a musty smell due to timber decay and fungus growth,and is due to the absorption of the O2 leaving just the N with 1% or more of CO2. HEAVIER than AIR

Carbon Monoxide CO - Odourless colourless.Heavier than air. Over 0.5% and unconscousness will ensue.Produced mainly by imperfect combustion.e.g. fire, explosion, and engine fumes.

Methane CH4--Odourless,colourless,lighter than air.
Found usually in coal mines,but can be found in carbonaceouse shales, and by infiltration into metal mines at a contact or near carbonaceous rocks.Will explode at 5% and less than 13.9%.The gas can remain in crevices,porous strata and unsealed old workings,and can be releases by roof falls or sudden a fall in BAROMETRIC PRESSURE

Hydrogen Sulphide H2S – Rotten Eggs-very slightly heavier than air.Very soluble in water and can sometimes be given off in dangerous quantities from agitated stagnent water in old mine workings. Very poisonous and will burn in air at 18% to 43% air mix

(A point about gases being soluble in water is that as for all practical intents and purposes temperature is constant underground,(where there is little air flow.)so the amount that is in solution is dependent on atmospheric pressure.This does vary -a sudden reduction in barometric pressure should be noted.)

It is obvious from the above that it pays to know something of the geology of rocks in which the mine is,also what the barometer has been doing in the previous 24 hrs.Mines by their nature can be convoluted places so the air proportions can vary within a few feet. The mines history can be useful i.e methane explosions and candles being extinguished are good hints.

Physiological Effects.

Oxygen Deficiency--A person not exerting himself may not notice anything unusual until the O2 falls below 10% .Breathing becomes deeper and quicker,the pulse faster. At 7% distinct panting,face starts going blue,mind becomes befuddled and senses dulled. If the air has no O2 at all unconsciuosness is immediate, with no advance warning.Note a flame is extinguished at about 17% but an acetylene flame will burn in 12-13%
.A point to watch when entering newly accessed passages is that the first people in it may use a lot of the available oxygen, people coming after may have problems if there is no ventilation.
Excess of CO2,usually with Oxygen Deficiency - not immediatly serious. There is slight distress at 1-2%, at 2-4% breathing becomes laboured,6% panting,increased pulse,throbing head,flushed face.At 11% unconsiousness.The gas is not fatal unless breathing it is prolonged.On the return to fresh air headachs are experienced.

CARBON MONOXIDE (deadly)because blood likes CO more than Oxygen and for this reason affects the body long after return to fresh air.Anything over 0.15% is dangerous,0.4%can be fatal.No warning is given,continued exposure at 0.03% is unsafe.

HYDRGEN SULPHIDE H2S (More poisonous than CO)- A small % causes irritation of the eyes and nasal passages. 0.05% causes giddiness, vomiting and catching the breath,at 0.07% is fatal inside an hour. The after affects are painful.Note if you stop smelling it this may be because your ability to smell has been affected by the gas,not that the gas has gone away.

You can see from the above that you do not need much in the way of Oxygen Deficiency with the addition of Carbon dioxide and may be H2S, to make your survival doubtful if you go into places where these conditions are likely to be found and are overcome. I think 15 mins was as long as you could hope for unless fresh air was reached.
So in poorly vented areas ,WATCH OUT,Monitor yourselves,look out to the people you are with.

Note!! all of the above can be encounted in parts of Pennine Lead mining areas,particularly shale areas.

M.Simpson - Abstracted from Peels Mining Engineers Handbook
loaned by kind permission pf Pete Blezzard.

If people have extra knowledge to impart about the subject then please let me know so that it can be incorporated in above article which will then be reproduced in the next newsletter.
My thanks to Jon Knowles and Dave Blundell for additional information and making corrections.

RATS RATS RATS.

Anton C.P.Thomas and family spent a lot their summer looking at mines in Derbyshire.and had an interesting time and will lead to one or two CATMHS meets there in the future. Soon after returning home from their last visit Sheila Thomas was ill with bad flu-like symptoms.aching and swelling of the joints, and all in all felt very grim.I am happy to say that she soon got better but now has a marked aversion to eating underground. Her recovery was aided by quickly calling a doctor and explaining where they had been.thus helping to ensure the right diagnosis.

Weil's Disease is not nice,and is associated with rats,if you go into a mine that is near human habitation,has refuse or any organic matter or you even suspect the presence of rats,then be careful.any open unprotected wound however small will invite infection.

If you get the above symptoms and have been down a hole, get a blood test as soon as possible.

Spreading the Word

Kettering Scouts.

On the 8th of August 1993 CATMHS members took a group of the 1st Kettering Scouts on a trip into Hospital Level, Paddy End Mine, Coniston. They were a bit horrified at the sight of knee depth cold water but soon forgot their discomfort when they came to travers the holes in the false floors. They did not appear to be intimidated and all enjoyed peering down the shafts.

All were impressed by the total blackness when Angela Wilson told them to switch their lights out. They thoroughly enjoyed their visit, and have requested another trip on their next holiday in the Lake District.

The Scout Master gave 20 donation to CATMHS funds.

Sheila Barker

Cumbria Metallurgical Society

Ten members of the CMS were taken on an underground tour of the Coniston Copper mines on Sunday 6th June. The itinerary included Deep Level as far as the Cat Walk.most but not all negotiating the LMQT dig, followed by an inspection of Hospital/Grey Crag level and its ramifications. Finally the waist deep water of Levers Water Mine and the climb through the stopes provided a sporting and photogenic end to the day."If that was a' walk-in'trip how do you describe Mag's Travers?" was one comment.

Dave Bridge.

Friends of the Whithaven Museum

After an illustrated talk on the lead and copper mines of the area which I gave to Friends of the Whitehaven Museum on July 6th it occured to one of the audience that a project could be set up for, local youngsters to make a hand- driven ventilation fan or 'windy billy' which could then be displayed in the museum (I understand they have already made a Spedding mill). The problem is where to find one which can be copied. Does anyone know of the where abouts of one of these devices, in a museum? or drawings of one.

Cumberland Geological Society - Force Crag Mine

Force Crag Mine proved a popular venue for the Cumberland Geological Society on Sunday 12th Sepember when 34 people turned up,as well as three members of CATMHS (Angelar Wilson, Jon Knowles and myself).who agreed to act as guides. Apart from a few stalwarts who decided to leg it up the valley most drove to the mine by permission of the National Trust who had arranged to unlock the barrier at the road end. After a short introduction to the history of the mine the party snaked its way up to High Force where the accessible parts of the High Force level were visited by groups of about 12 at a time. We then retraced our steps to Low Force for lunch before scrambling up to No 3 level where all endured the knee deep water and muddy crawl to enter the La Porte incline, this time as two separate parties.

The mixture of cap lamps and torches created an impressive sight as the parties slowly ascended the incline to the 1100ft level, stopping on the way to inspect the 200ft 'Big Rise' and the battery of hoppers in the 650 ft level. This part of the trip was aptly described by some members as an underground fell walk. With such a large number of people it was impracticable to complete the ascent to the upper mine because of loose debris in the upper incline and the meet ended in good time at about 4 pm. Despite an unfavourable forecast the weather thankfully remained fine which contributed in no small way the the success of the day.

Dave Bridge

News Abstracts

Stainton quarry extension plan agreed.

Tilcon Ltd won approval for a 5.5 acre extension to the north of Stainton quarry after it was agreed to retain a buffer zone around the site.This will protect the residents of Highfield cottages and Skells Lodge on the western side of the site.

Evening Mail. (no date on information)

Optimism over valley mine.

This has been expressed privately over the future of a redundant drift mine in the St Bees valley.This is based on the fact that the Mainband Colliery Company, which developed the drift mine over two years ago, is a subsidiary to another company - Geevor- which is starting trading again.

Since St Bees drift mine closed it has suffered from theft, vandalism and flooding.

Whitehaven News 16/9/93

Mining news seems to have been a little thin on the ground over the last three months--- editor

Minera (Mwynglawdd) Lead Mine

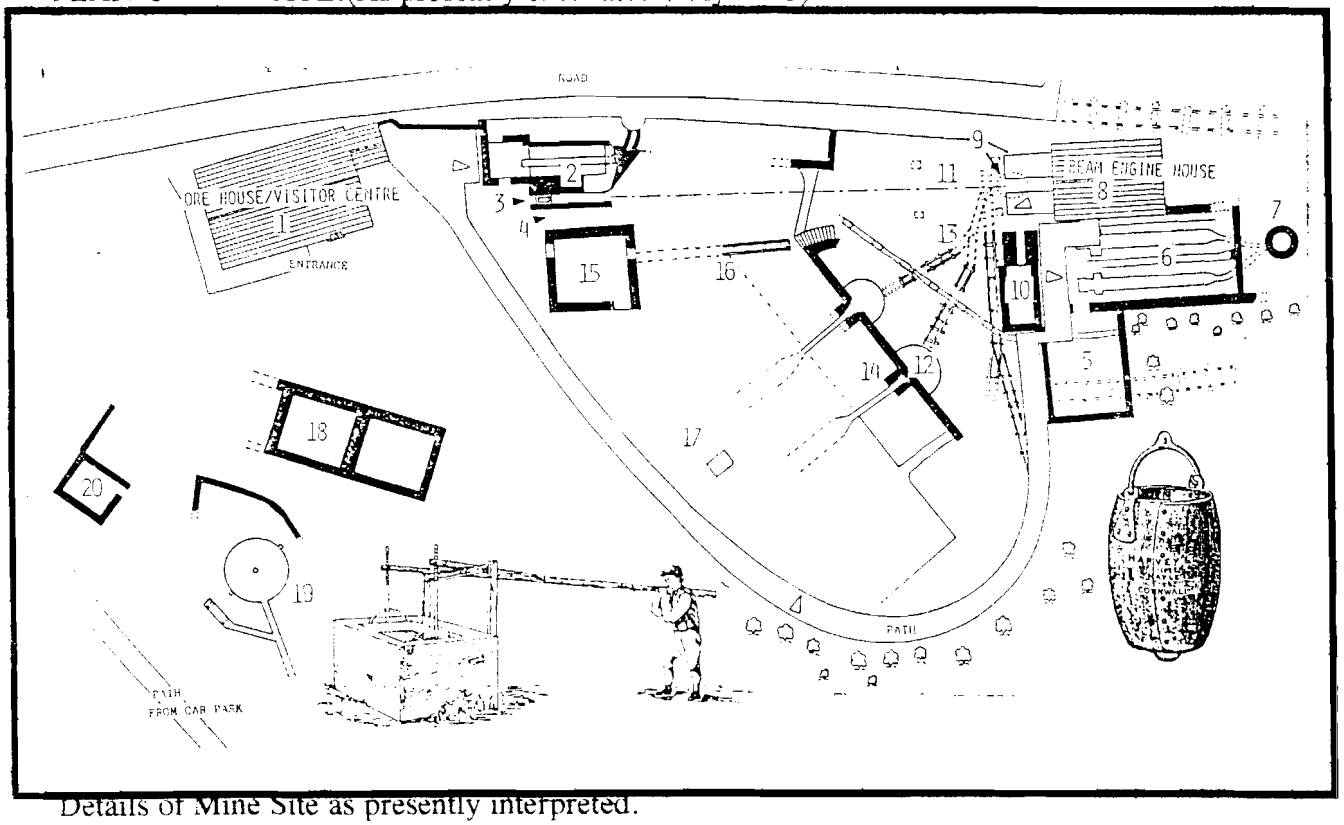
Whilst I was in the Wrexham area last summer I called in to see this site which was being advertised in the local tourist information as being just opened to the general public.The following information has been reproduced by kind permission of Mr Bill Slater. the Industrial Archaeologist for Wrexham Maelor Museum Service.

The Minera Mines are situated some 3 miles due east of Wrexham and mining there has been carried out since medeival or possibly Roman times right up to the 20th century, the principal product being lead and zinc. During the course of a land reclamation scheme,certain industrial archaeological features were located which required excavation and recording.This was carried out during 1992 and at the Meadow Shaft site in 1993,further excavations are being carried out at the Taylors Shaft.Consolidation work to the exposed structures is being undertaken as well as further interpretation and reconstruction of machinery such as the buddle,winding headgear,replica beam engine and shaft.

The site is not large,and is on a small scale,the biggest feature being the restored engine house ,but there is a lot to see.(This being due to the fact that most of the site was covered by boiler ashes and mine waste which preserved what is now available to be seen).There is excellent car parking,Visitor center(with a very good model of the site) and good facilities.By next Easter 1994 it is hoped to have pit head gear erected by the engine house.

For more information see C.J.Williams book 'Metal Mines of North Wales' where there is the well known photo of Meadow (City) Shaft engine house as it was in 1905.

PLAN OF THE SITE.(As presently excavated ,July 1993)



Details of Mine Site as presently interpreted.

1)Ore house the concentrated ore was taken into this building for sampling and weighing before it was auctioned to the smelting companies.
2 Foundations of the steam engine erected in 1858 to power the rope winder and rock crusher.Adjacent is a small brick boiler house to provide steam for the engine.The engine was a 20 hp horizontal 14ins cylinder
3)The winder drum sat in the narrow pit to the right of the engine,this also contains a wooden condenser box.
4)Gear pit.The drive from the engine was transmitted via gears to the rope drum (3) and rock crusher (15).
5)Coal store for boilers .at end of railway siding which connected to the Minera Branch Railway built in 1851
6)Boiler House - Contained two Cornish boilers 2.1m diameter by 9.1 m long.
7)Chimney for boilers.
8)Engine House - Built in 1857 it housed a 42inch dia pumping engine of Cornish make with 9ft stroke running at 3 strokes per minute.The engine continued working until it was scrapped in 1910.(This building is now complete with two bob platforms)
9)Meadow shaft-capped in 1985 and was 371m deep when the mine closed in 1914.The shaft was oval in shape 2.1mx 2.4m and divided into separate compartments.
10) Pit for balance box which conterbalanced the weight of the pump rods in the shaft.
The winding rope from rope drum (3)was taken to wooden head gear over the shaft (9)
11)Position of headgear over the shaft (to be reconsructed in 1993-1994)
12) Semi circular ore bins
13)Track way for ore truck between shaft head and ore bins
(Apparently the ore etc was raised in a kibble which was tipped into the ore wagon at the shaft top.)
14)Dressing Floor.The ore was drawn out of the bins onto large picking grates supported on large masonry structures.
The pure ore going straight into the ore house,the rock containing some ore was broken up with hammers and gone over again.
15)Mechanical rock crusher .superceding hand breaking.
16)Inclined tramway to take material from dreassing floor to crusher.
17) Hand operated jigs (Hotching Tubs)to separate ore from waste These are boxes full of water ,a smaller box with a seive bottom is filled with ore and Jigged up and down in the water.The heavy ore particles sink and the lighter waste rises to the top of the bed.
18)Settling ponds-take the dirty water from the 'jigs'
19)Circular Buddle -To recover ore from small sand size particles.
20)Miners shelter.

Mark Simpson

Extracts from the Minutes of the Mining Forum Meeting held on Wednesday 14 July 1993 at the Glenridding Ranger Base

Present	Andrew lowe	LDSPB
	Peter Davies	"
	Gerry Friell	English Heritage
	Mike Mitchell	COMRU
	Peter Fleming	CATMHS
	Dave Bridge	"
	Ian Tyler	MOLES
	Doug Sharman	"
	David Cranstone	Cranstone Consultancy
	Brian Young	BGS/Russell Society

Coniston Copper Mines

As a result of the Planning Inquiry the Inspector had come down heavily on Philip Johnson who has to remove the temporary building and reinstate the land.In relation to the Study Centre building he has appealed to the High Court on some technicality and is playing for time. English heritage are drawing up suitable conditions for the Scheduled Monument Consent, one of which was that Philip Johnson was not to level any spoil heaps or bring materials in from the outside.Brain Young said it was important from the geological point of view not to import materials at all as it caused interpretative problems. In fact the Coniston site has now been proposed as a geological SSSI. Peter Fleming would like to see the gates and boulders removed which are an eyesore and detrimental to adjacent properties. He also pointed out that 95% of work done by CATMHS since the site was scheduled in 1985 has been done outside the scheduled area.

David Cranstone will look at the site within the next 8 months and recommend an extension to the scheduled area. The assessment of mine sites within the Monument Protection Program being carried out at present by David Cranstone is confined to surface features. Underground features will be the subject of a separate report. Gerry Freill said that the work on the sheaved wheel (and pump rods) in the Old Engine Shaft could go ahead as it is not in the present scheduled area. CATMHS agreed to work to requirements and standards if it was soon to be scheduled and to discuss this with Gerry. No problems on this point were envisaged.
Pete Fleming had brought Scheduled Monument consent forms for perusal concerning work on thr Red Dell Wheelpit which had been dragging on for the last 18 months. Rydal Estates require a copy of the insurance policy which LDSPB will cover providing the work is carried to their standards.Rydal Estates need a covering letter from Bryan Otway (LDSPB Financial Officer) to this effect and, if permission is granted,a date should be set for the work to commence.CATMHS will rely to some degree on Board expertise, especially for the dry-stone walling,which Peter Rodgers (LDSPB Area Manager) will organise.

Greenside Mine

Ian Tyler thanked the LDSPB for access and said that the site had now been tidied up. A sign needs to be put up at Lucy level and also the seeded area needs signs to discourage walkers. There had been no problems passing a loaded stretcher through the entrance to the level. The boulder had proved a bigger problem than was first thought .Peter Davies was pleased with the state of the mines and thought it was an excellent project. Ian tyler asked if English Heritage would grant permission for the tub from Horse Level (dated 1820/1830) to be recovered and treated as it has deteriorated dramatically during the last 10 years.
Peter Fleming pointed out that the Coniston Information Centre were selling CAT leaflets (400 to date and 500 more on order),but was disappointed that the excellent leaflet on Greenside mines by Sam Murphy was not available for the public at the Glenridding Information Centre.

Force Crag Mine

Lack of interest by the National Trust was remarked upon and the group felt that it was essential to have a NT representative on the Forum. David Cranstone pointed out that in other regions the NT is very keen on industrial archeology. Although the NT say that everything at Force Crag is under review a decision needs to be made quckly at this deteriorating site.Ian Tyler reported that there was 8 feet of water now in the whole of No 0 Level(about 400 yards is flooded) and there has been no maintenance in No 1 Level since March 1992. The mining groups would be happy to put effort into conserving the mine but do not have the resources to do a major job on it. The worry is that a build up of water in the mine could ultimately result in a burst out.It was agreed that Peter Davies should mention these problems to Martin Norris (Area Manager NW area) with a view to arranging a site meeting.

Monument Protection Programme

David Cranstone gave the following update:-

Lead: Thanks to CATMHS for a report on Greenhead Gill.

Coal: Starting work next month area by area - it will be October/ November before they get to Cumbria. Some sites in West Cumbria need looking at.

Arsenic,Copper, Zinc, Minor Metals and Vein Materials: Out to consultation at the moment (ie Step 1 Reports). Will work in these in November and the Lake District will be looked at then.

Stone:Starting work this year.

Lake District National Park Archeologist

An archeologist, John Hodgson, has now been appointed for the LDNP and will start work on 31st August, A new person, Mike Daniells, has also taken over from Tom Clare, the County Archeologist.

Royal Commission on the Historical Monuments Of England

Gerry Friell explained that the Royal Commission is a national body responsible for compiling a record of all sites and monuments (as opposed to English Heritage whose role is to conserve and manage them). The main records for the North of England are held in York and field work is carried out from the Newcastle office,who are keen to survey mining landscapes.

Mining Groups

MOLES: Work at Hay Gill awaiting exceptionally clement weather. Roughton Gill in progress and has been completely surveyed.Work on Honister shelved while Greenside in progress. Two more publications due out next year.

CATMHS: Chimney at Woodbine Mine, Furness being repointed and top rebuilt. Ongoing contribution to the Greenside project. Received back from NE Museum Service the wrought iron kibble from Coniston Copper Mine. Display of artifacts was held in Coniston at Easter and now the trustees of the Ruskin Museum are seeking to extend and open up a display on Coniston mines. The Russell Society (via Brain Young) would like to contribute interpretative and display mineralogical material at Coniston to complement mining artifacts. Mike Mitchell asked what the LDSPB would think of small descriptive notices or plaques with information on mine workings at selective sites (shafts,etc) which would also act as warning signs, Gerry Friell said to apply to English Heritage for consent.

There was no representative for the Lakeland Mines and Quarries Trust.

Dave Bridge

DUSTING ALONG THE BOOKSHELF....

INDUSTRIAL ARCHAEOLOGY REVIEW. VOL, XII.NO, 1. By A.I.A. 1989.

C.A.T. Library no, MG 32.

This is a book worth reading as it covers a wide range of interesting topics pertaining to Metalliferous Mining.I have listed here some of the contents...

The Medieval and Early Modern Cornish Stamping Mill
Nineteenth Century Tin and Lead Dressing: A Comparative Study
The Archaeology of Washing Floors: Problems, Potentials and Priorities
The Brunton Buddle
Mining and Tourism in Southern Australia
The Industrial Landscape of Rio Tinto, Huelva, Spain
Conservation of Mining Sites in the Gwydyr Forest Area
The Beam-Engine House in Wales
Conservation of the Remains of the Lead Industry in the Yorkshire Dales

Full of excellent drawings, plans and photographs to accompany the very full text. Articles cover the technological, archaeological, historical, geographical, social and architectural aspects of the subject, with the surviving evidence of industrial activity as the focal point and common theme. Emphasis is placed on the practical aspects of a subject in which fieldwork plays an essential part, including recording, surveying, excavation, interpretation, conservation and protective legislation. This is material of relevance and value to those concerned with industrial archaeology.

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MINES OF THE GWYDYR FOREST. part 1. By J. Bennett and R.W. Vernon. 1989.
Llanrwst Mine and its Neighbours. C.A.T. Library no, M G 38.

This volume describes the group of mines at the head of the Nant Bwlch yr Haiarn, which became dominated by the Llanrwst Mine. Nant B.H., or the Gwydyr Nant as it used to be known, is central to the area, and the remains of the Llanrwst Mine Engine House is the best monument to the old miners to be seen anywhere in the Forest.
The adjacent setts of the Alltwen, Gorlan and Bryn Eisteddfod Mines have been included in this volume.

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MINES OF THE GWYDYR FOREST. part 2. By J. Bennett & R.W. Vernon. 1990.

The Hafna Mine, Llanrwst & Gwydyr Nant. C.A.T. Library no, M G 39.

The area covered by this volume, part 2 of the series, lies in the Gwydyr Forest to the north of Nant Bwlch yr Haiarn, or the Gwydyr Nant. This was one of the earliest places in the Forest to receive the attentions of the 'Mine Adventurers'. According yo documents surviving from the late eighteenth century, large tracts hereabouts were in their hands and their efforts are described in this volume.

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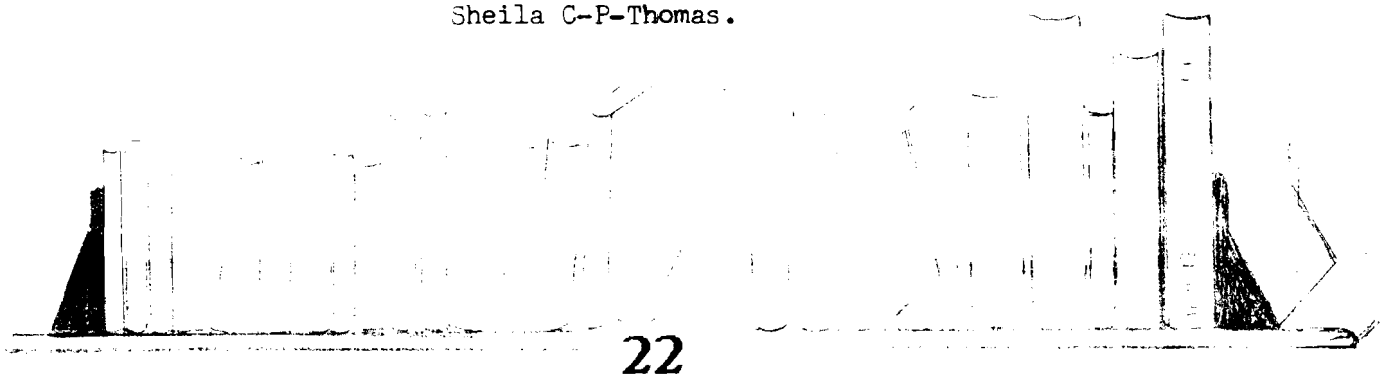
Sheila C-P-Thomas.



BOOK REVIEW

Mines of the Gwydyr Forest by Rob Vernon & John Bennett

Four parts of this seven part work have now been published. These being :

Part 1 - Llanrwst Mine & its Neighbours
Part 2 - The Hafna Mine & some early ventures in Gwydyr Nant
Part 3 - Parc Mine and Adjacent Setts
Part 4 - Aberllyn Mine and Adjacent Setts

These A5 publications which are well produced, but in a very cheap binding, describe the numerous workings which abound in this upland area to the North-West of Bettws-y-coed. Although the reviewer has a soft spot for mines in this area of Wales and would like to praise these books he cannot but fail to think that the authors have not done the mines justice, although to be fair some of the workings do not deserve justice.

In what seems to be a particular trait of books on Welsh Metal Mines these publications are heavily biased in favour of the commercial history, and although this can be interesting, and at times even amussing, it does not make for a balanced history. It is especially disappointing that the underground workings are not described in detail since access to the majority of them is extremely difficult and if discovered would most likely result in prosecution. The forestry commission in this part of Wales have done everything possible to keep peolpe out of the workings on their land whilst the Mining Societies in the area have genarally just stood by. Years of supposed delicate negotiations, involving one of the authors, have produced not a single concession on underground access.

The commercial histories of the workings are charcterised by "salted" ores, prosepectuses that history has shown to be at best over optimistic and at worst downright lies, and all the other usual traits of mine promotion at its most unscrupulous. This is delightfully summed up in volume 4 where a correspondent in the Mining Journal of 1879, explaining why he had omitted the Griffin Mine from a piece on hopefull prospects in Gwydyr, explained his omission with "My motive for this was that the really meritous and occularly demonstrable properties of value which abound in the district should not be injured or prejudiced by shams or pretenders". History shows that the correspondent was more than justified in his acid condemnation of the mine.

Turning now to part 3 and the Parc Mine, which being the biggest working in the Gwydyr is the book most likely to appeal to those with only a general interest in North Wales mining. Whilst the authors must be commended on the frequent use of maps and diagrams it would have been much more usefull if the maps were either based on Ordanance Survey maps or were at least marked with the major surface features other than mining remains since they are very difficult to follow on the ground. There are sufficient photographs, particularly of the more recent operations, but almost without exception they are undated, and this becomes a farce on p128 where two photographs are captioned thus " . . . many years after mining finished" and, immediately below, " . . at the same date as above" !.

The statement made in the preface to part 3 that access to the No.3 level at Parc is no longer possible is incorrect although extreme care should be used to avoid detection. Note that the first 30m of the level are on National Park land.

In summary, although this series may remain the definitive work on a number of the smaller workings, i hope that better works will be produced on the major sites. Get the books from your library, save your money.

Jon Knowles

DOCTOR DESCENDER

Dear Doctor

I was recently CAUGHT late at night in the public toilets in Garagill. Help !.

Anon, The Alps.

I realise that this is an extremely delicate matter which must be treated in the strictest confidence. However, before I can discuss your particular problem with all my associates and interested members of the general public I do need further information about the exact nature of your request for assistance since your precise problem is unclear. For example is it that you were caught or that you were alone ?. If the former I can only hope that the authorities are lenient, although this is unlikely, and if the latter I regret to inform you that the editor advises that the lack of material for the newsletter is not so serious as to require personal adds from your sort.

Dear Doctor

I am in desperate straits since my friends think I am developing suicidal/homicidal tendancies whilst I just feel that I am having harmless fun. For example would you think it unnatural to push a big rock off a ledge whilst people were standing below ?, or climb up inside a full ore hopper to empty it from inside ? - what could possibly happen after all ?.

Anon, Ingleton

From your description it is blindingly clear to me that you suffer from Debilitating And Frightening Turns Near Every Spelological Site or DAFTNESS for short. This is an unusual condition which has its origins in OGC or in medical terminology Old Gloves Condition. This is the term used to describe persons who have worn the same gloves for so long that they have failed to realise that the garments completely disintergrated many years ago. The sufferer still beleiving that the gloves are perfectly servicable. The ailment is easily cured by buying NEW gloves.

Medical complaints ?, embarassing disorders ?, strange maladies - write in complete confidence, enclosing a cheque for £5 payable to Jon Knowles (who has generously agreed to handle the administrative side leaving the Doctor free to concentate on his research), at : 6 Ferncroft, Hightown, Liversedge, W.Yorks, WF15 8DT.

THE HATHORN DAVEY ENGINE AT VIOLET PIT ROANHEAD

BY JON KNOWLES

On what, with hindsight, was probably one of the hottest days this summer a small, but select band, of members met at ding dong before moving on to Roanhead to assist the Furness Adventurers in recording the remains at this site. What the author quickly discovered was that Furness has been split up amongst the adventurers and each has his own "patch" and Violet Pit is in Pete Sandbach land.

Messers Timewell, A.Thomas, and the author were given the task of recording a formidable concrete engine base which is all that remains of the Hathorn Davey pumping engine which pumped the shaft. This task took all day, under the unrelenting sun, amidst much good natured banter. The sun was so hot that the author wore his shorts and even Anton took his sweater off.

Pete had been able to uncover much about the engine from his extensive research. The most notable fact being that it took almost 10 years from the commencement of the foundations before the engine was finally put to work.

Since the authors employers, Sulzer (UK) Pumps Ltd., bought Hathorn Davey & Co. Ltd. from the receivers in 1936, he decided to investigate and see if any records could be found of the engine. At this juncture a brief history of Hathorn Davey would be appropriate.

Sun Foundry dates from the year 1846, when a Charles Todd initiated the building of locomotive engines. The venture was not a success, in fact the old records indicate that only one engine was built, for a Railway Company in the Kendal District, (does anybody know anthing about this ?) and in 1853 the foundry was taken over by a firm under the title of Carrett, Marshall & Company, whose speciality was the manufacture of boiler feed pumps of a direct-coupled flywheel type.

In 1872 the business was cought by Col. John Fletcher Hathorn, who installed the Devonian Henry Davey, an Engineer with pumping experience, as manager. Some two years later Davey was taken into partnership and the firm at that time was known as Hathorn, Davis, Campbell and Davey. Davis and Campbell retired in 1879 and the name was changed to Hathorn, Davey and Company. Henry Davey was a very competent pumping engineer and was responsible for many patents, one of which was known as the Davy Differential Gear. It enabled higher speeds to be applied to existing plant, which was very attractive to the pumping engineers of that period. Davey moved to London in 1887 as a consulting engineer although continuing his interest in and representation of, the Leeds firm.

The firm became a Limited Company in 1904. During the period of the first world war the activities of the Company were mainly directed towards the war effort and included the supply of hydraulic presses for armament works, plunger pumps, accumulators and shell presses. After the War a considerable extension of the works was undertaken. Land which had formed a part of the once celebrated Leeds pottery was bought from the Middleton Colliery Co. and a new foundry with access to the colliery sidings, was built.

The Company was particularly successful for the next ten years with the manufacture of triple expansion vertical pumping engines but with the recession in 1931 and the continued depressed state of the engineering industry, coupled with the liquidation of a firm to whom the Company acted as sub-contractors on a large contract, brought serious financial difficulties. In 1934 the Company's Bankers appointed a receiver who, in 1936, sold the business to Sulzer Brothers of Winterthur, Switzerland. It is an interesting and honourable fact that one of the Hathorn Davey Directors personally paid all private creditors, leaving only the Bank as a creditor.

Unfortunately when Sulzer moved from the Sun Foundry to new premises in the early 1980's the majority of the old records were destroyed although some were salvaged by interested individuals and the Armley Mills industrial museum. Consequently the only records remaining on the site now tend to be old sales catalogues and similar items. However an interesting booklet entitled "Certificates as to the Working and Efficiency of the Differential Pumping Engine" came to light which contained a section drawing (see next page) which so strongly resembles the remaining engine base that it is not unreasonable to assume that this type of engine was installed at Violet. The drawing shows a compound engine with high and low pressure cylinders and it is known from Pete's research that the engine at Violet had two cylinders.

From the booklet a number of items of Furness interest also came to light :

a) A letter to Hathorn Davey from J.Davison of the Yarlside Mining Company, Parkhouse, Dalton-in-Furness dated November 25th 1890.

Dear Sirs

I may say the Engine you last supplied has been doing a lot of work this last month or two, and when Mr. Martin was here she was doing eight strokes per minute, and forcing water 567 feet high. She is now doing seven-and-a-quarter strokes per minute at same height.

b) A letter to Hathorn Davey from W.Boulton also of the Yarlside Mining Co. dated 3rd August 1881.

Dear Sirs

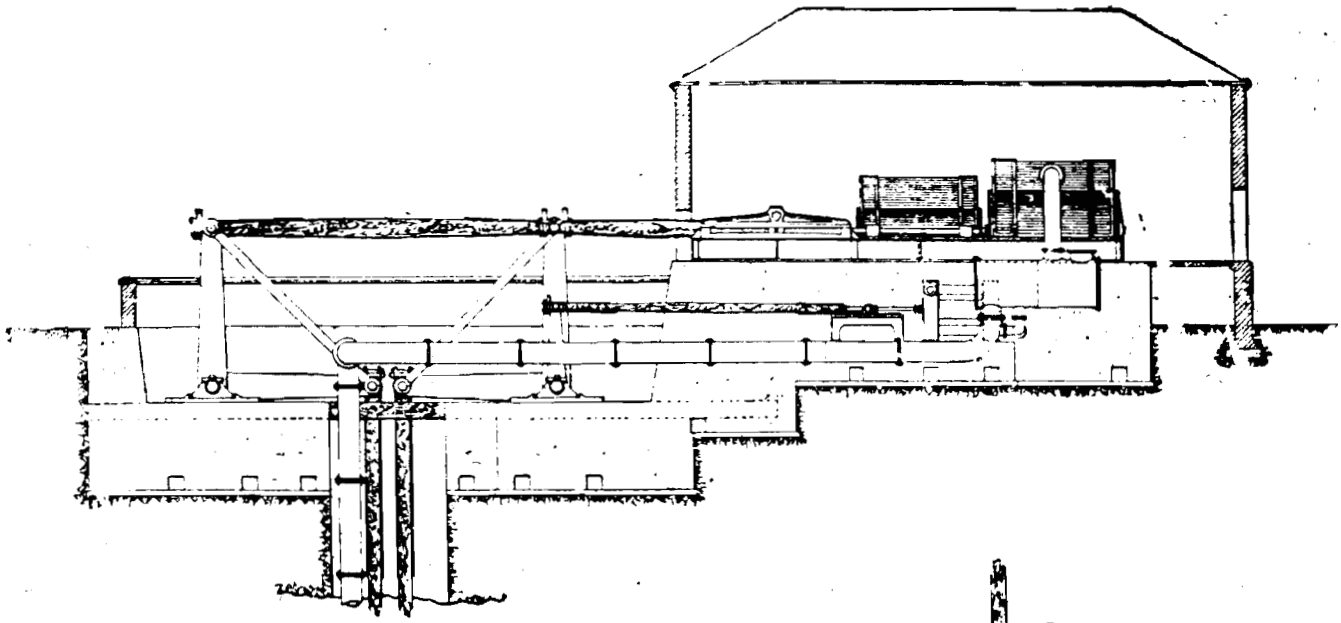
We have carefully kept a record of the cost of working your "Compound Differential Pumping Engine", and we find that after charging cost of fuel, wages, stores, repairs, and interest on capital at 10%, the total is less than one farthing per 1000 gallons raised 100 feet high.

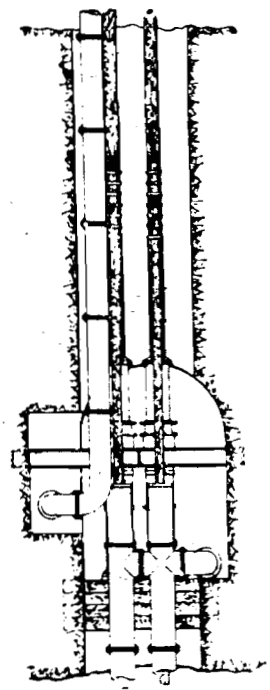
c) Included on a "List of some of the larger Overground Compound Horizontal Differential Mining Engines, made for working Pumps at the bottom of the pit by means of Bell Cranks and Rods" were

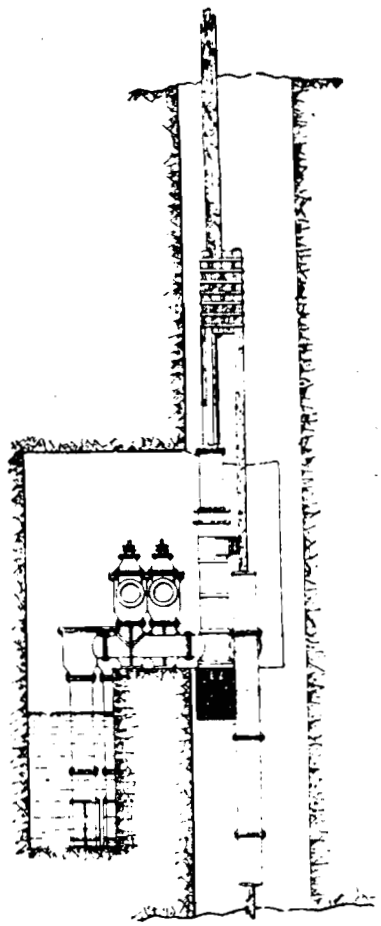
Cleator Iron Ore Co.	42000 g.p.h at 900 ft.
Harrison Ainslie & Co.	120000 g.p.h. at 678 ft.
Yarlside Mining Co.	120000 g.p.h. at 430 ft. (two engines of this rating)

A rough calculation gives the power of the largest of these engines as approx 1000 hp.

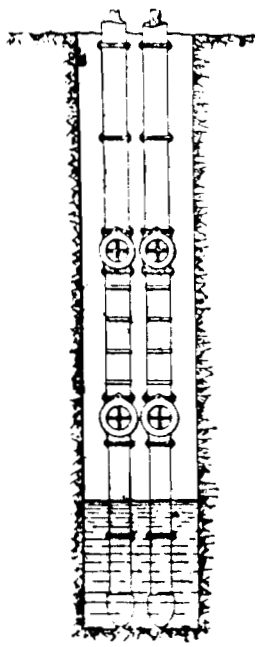
NOTE. I feel that an explanation of the differential gear would not be of interest to many readers and consequently have not included this.

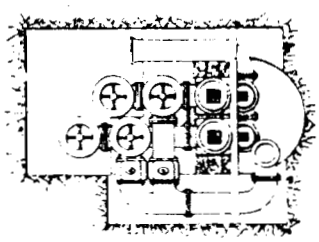






END ELEVATION





PLAN.

Peak District Mines Historical Society Ltd.

June 1993

MAGPIE MINE ENGINE HOUSE APPEAL
Patron: The Duke of Devonshire

The Peak District Mines Historical Society was founded in 1959 and is a founder member of NAMHO. I am writing to all NAMHO members because I believe that "a problem shared is a problem solved."

The Society leases the Magpie Mine in Derbyshire and this site is dominated by the Cornish Engine House and Chimney. It is the Engine House which is the problem.

The enclosed Brochure describes the problem. The Cornish Engine House at Magpie Mine is collapsing due to the effects of the weather. The Brochure also suggests ways in which you can help us to save the structure.

I realise that as a member of NAMHO you, and your Society, have a more than passing interest in the preservation of such mining sites and structures. Will you please carefully read the Brochure and pass it on to other members of your Society? I would then ask your Society to help us with the rescue of the Engine House in whatever manner that you can.

Please don't let this Appeal go unheeded. PDMHS needs all of the help that it can get to reach our target of £60,000 to enable the structure to be strengthened. It needs YOUR support.

Yours sincerely,

Wes Taylor
Chairman

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