C A T

The Newsletter of the Cumbria Amenity Trust Mining History Society

CAT Meet – Wiltshire Stone Mines

No. 111 May 2013

Cumbria Amenity Trust Mining History Society
Newsletter No 110, February 2013.

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News

Money available for conservation work at Coniston?

At the last Mines Forum meeting John Hodgson reported that Natural England and the LDNPA were developing conservation plans within the High Level Stewardship Scheme for Paddy End and Penny Rigg. This requires the co-operation of the commoners and would release up to £500,000 for conservation at both sites. Agreement was anticipated and if signed, work could begin this June or July and continue for two years. An architectural survey has been carried out and specifications have been drawn up and gone out to tender for remedial work at Penny Rigg.

Storm damage at Coniston

I was up Old Man today and unfortunately the roof timbers of the powerhouse have collapsed - most of them are resting on the compressor and the pelton wheel is intact. The winds have been very strong and blown a lot of tiles off the YHA. The extremes of weather seem to be taking their toll (more heavy rain forecast midweek will again cause sudden snowmelt) Phil Conway Jones. 1st Feb 213

Mineral rights transfer, Company of Mines Royal

I was doing a talk recently with mike Mitchell to Cartmel Local History Society about Coniston Copper mines, arranged by Peter Fleming last year. A member of the audience was Oliver Barratt, who claimed to be descended from William Barratt, the brother in law of John Barratt. John Barratt worked the Coniston mines from 1824 until his death in 1866 and he re-opened the Hodbarrow haematite mines, where William became manager. My understanding is that William Barratt was John Barratt's nephew, and John brought him up from Cornwall to be underground manager at Coniston. William married Sarah Saunders of Hoathwaite Farm, Torver, and built Holly Howe, now the Coniston Youth Hostel, on land purchased from John Barratt. He had three sons and died aged 64 in 1881. He is buried in Torver Churchyard. .

William Barratt

After the talk Oliver Barratt asked a question to which I couldn't give a satisfactory answer. The question was "How did the mineral rights at Coniston transfer from the Company of Mines Royal to the Le Fleming family?" I believe that the Company of Mines Royal was dissolved about 1648 as a consequence of the Civil War with Cromwell, and that the mines were closed in 1651. They were re-opened in 1664 by Daniel Le Fleming. That seems fairly straightforward, but does anyone know the details as to how Daniel came to own the mineral rights?

Vielle Montagne records from Liege University archive

Rudy Devreis is our member in Belgium. He has a long association with the Cumbrian mines and visits Cumbria twice a year. He has been researching in the archive of the University of Liege and found records of the Vielle Montagne Mining Company relating to mining operations at Nenthead and in Wales dating from about 1850 until circa 1930. Apparently most of the records of the Vielle Montagne Company were destroyed and

those at Liege are all that are left. Rudy thinks that the records should be held in this area and has already passed some on to our archive.

Windermere Reflections Part 3, 2013

This is a survey of certain Mines and Quarries in the Windermere catchment area. Last year it was Woodland industries and Fulling mills that were parts 1 and 2. The idea being that small groups of people under the guidance of an archaeological contractor, in this case Oxford Archaeology North, will survey the archaeology of selected sites. The whole thing being carried out under the aegis of the LDNPA and the National Trust. The surveys are taking place during four weeks starting the 8th of April, the first fortnight being at the Banks Quarries, then Greenhead Ghyll, and ending up at the iron mines.

The whole thing kicked off with an inaugural meeting on March 9th at Langdale Village Hall at Chapel Stile. The selected sites being Banks Quarry, Greenhead Ghyll lead mine, Providence and Fairfield Iron mines. The hall was full of people who had signed up to take part. A presentation was given by Holly Beavit-Pike of the LDNPA on the Industrial History of the Lake District. A bold undertaking considering how much there is of it, and how little time she had to give it. Jamie Lund of the National Trust then gave a broad outline of the mining sites to east of Grasmere, followed by Jamie Quartermain of Oxford Archeology North, who endeavoured to give a talk on how the sites were to be surveyed and recorded. All this by 12.00 pm.

The afternoon was given over to a site visit to one of the Banks Quarry sites. We assembled at one of the lower quarries and were given a demonstration of the survey techniques. This was not an easy thing to do considering it was snowing; all credit to OAN for it. As it was, most people were more interested in returning to somewhere warm. Still, job done, it was back to Chapel Stile and home, or in my case Brambles Café.

Mike Mitchell and I walked up to Banks on April the 10th to see how every one was doing. It was bright and sunny if a little cool, a fine a day as you could wish for. We could remember many occasions up there when we (CATMHS) were photographing and mapping the sites when the weather was less than clement. The group was just setting up and consisted of 6 people and one mentor from OAN.

Two sets of surveying kit are being used. A plane table, with telescopic alidade, the target being a white board on a ranging pole. The other was an old Zeiss optical theodolite, the target being another ranging pole with a white board on it. The distance and azimuth being plotted on to an A2 board with a 360deg paper protractor on it. Horizontal distances being provided by several D3 Disto's, fixed to the respective surveying devices. So it was 3 people to each set of kit with everyone taking turns.

The system works, the process is easy to carry out, (at least in good weather) and probably more important, easy to understand. The equipment itself, with the exception of the telescopic alidade is relatively cheap and easy to obtain. The survey methods being

the same as used in the previous years projects. I hope the weather stays fine for us all. I am down for the several days at Greenhead Ghyll.

One thing I did notice on our site visit was several Sheets of A4 printed out as targets and pinned to the ground at several points. From what I know of the process these appear to be ground reference points for aerial photographs. On several projects last year, elevated camera imagery was used with a quadracopter (a UAV), and apparently one has been used on the Banks site by OAN. The idea being to take a lot of images (anything up to 200 or so) and using special software (Agisoft) and a lot of computing power, to create a geo-referenced aerial mosaic. The resultant image is very accurate and scaleable. Plus one other attribute, the whole thing is in 3D, very impressive. One could almost say that done right and with good weather, you could get away without having to do a physical survey on site at all!

I will keep you posted on the project. Mark Simpson, April 2013
PS Can CAT have a quadracopter?

Research on Lake Windermere Sediments
Helen Miller, a PhD student from Southampton University, enquired about mines and quarrying in the Windermere catchment area. She has previously focused on modern lake bed environments, but recently has been looking at the geochemistry of sediment cores, and has started researching mining and quarrying in the Windermere catchment. Elevated levels of zinc and lead have been found in recent sediments, possibly related to mining and mineral extraction in the catchment, and also sewage inputs into the lake.

To some extent this complements the work being carried out by Windermere Reflections (reported above) which is concerned with archaeology within the Windermere catchment area. The request was answered through our archivist, who made a very detailed response, and other members of the committee.

Surpisingly, Windermere has probably suffered less than the other large lakes in the Lake District from mining, as there has been relatively little activity in its catchment area. The following is an extract from Mining in the Lake Counties by W.T. Shaw:

‘Tongue Gill Iron Mines. About one mile NE. of Grasmere village are two ancient iron ore mines which have been opened on a haematite-bearing vein coursing NW-SE and dipping SW, through the Borrowdale Volcanic rocks. The easterly mine, called Fairfield, has been worked from two levels driven SE. along the vein but they have long ago been closed up at the mouths. From the lower level or alit there is a strong flow of water which is used to supply the village.

A large tongue of ground separates the becks at this point and the old packhorse road leads off to the left up Little Tongue Gill past the Providence Mine. Here three levels have been driven into the vein which is said to have been very wide and strong with up to 16 feet of solid haematite. In some of the stopes the ground was difficult to control and there was a fatal accident in this mine in the last working when a roof fall occurred.

Both mines were reopened and greatly worked in the early 17th century, when the ore was carted to Langdale for smelting. In 1874 Fairfield Mine produced 204 tons and Providence Mine 300 tons of haematite, which was carted the 14 miles to Windermere station. In all about 1,500 tons of ore was sent away during this last revival. Valued at only 14/- per ton it is easy to see why the venture failed.

Grasmere Mine. This Elizabethan lead mine is high up Greenhead Gill and about one and three quarter miles NE. of Grasmere Village. A well-graded packhorse road leads steadily up the side of the steep gill to the site of the old dressing plant. The veins cross the beck in an E-W direction and are associated with a crush zone or shatter belt about 100 feet in width. Four small veins have been tried by opencasts and shallow shafts and a crosscut adit appears to have been some driven towards them from lower down the gill.

In 1569 the Elizabethan Dutchmen erected a stamping mill driven by a waterwheel with box buddies to dress the crushed ore. The stone buildings have been substantial but have gradually decayed so that now, 400 years afterwards, only the outlines of the walls remain.

The northern vein has been tried by a shaft which is still about 20 feet deep and is no doubt a great deal deeper. It has been cut out of the rock very neatly. Sinking it must have been a slow and difficult operation without the aid of explosives. Not much is to be seen of the two little opencasts, as they are now well grown over, and it is possible that short levels were driven along the veins from them. The southern vein, main source of ore, has been worked from a shaft called St. Benedicts which is across the beck opposite the old mill. A sample of low grade ore from here taken in 1939 ran:- Lead 2.65% Zinc 10.65% Silver 0.3 ozs. per ton of material. The hopes of the Dutchmen were not fulfilled for they closed the mine down in 1573. It has never been reopened and so the remains are of interest as being truly Elizabethan.'

An investigation was carried out in 1994 by Dave Bridge and Ian Matheson. See 'The Elizabethan Lead Mine at Greenhead Gill, Grasmere', The Mine Explorer Vol 4 page 108. Also in the Windermere catchment is the Coniston United Copper Mine at Pull Wyke, which is mentioned elsewhere in this issue.

Some of the results from Hellen Miller's PhD on Windermere have now been published and are available online:
http://www.tandfonline.com/eprint/zRetuAqAAWJiMzHKPfaX/full From here, you should also be able to download the map that accompanies the article. Lake bed geomorphology and sedimentary processes in glacial lake Windermere, UK. *Journal of Maps*, 1-14. (doi:10.1080/17445647.2013.780986).

She is currently working on analysing the recent sediments and heavy metal pollution in Windermere and thank us for all our assistance with researching mining and quarrying in the Windermere catchment.

Lake District Mining Forum meeting, 31st January.
LDNPA Offices, Murley Moss, Kendal
Attendees: for CATMHS, Warren Allison, Mark Simpson, Ian Matheson. National Trust, John Malley. Environment Agency, Peter Bardsley. NAMHO, Peter Claughton. LDNPA, John Hodgson. Coniston Local History Group/ Honister Quarry, Alastair Cameron. Apologies were received from Andrew Davidson, English Heritage, Mike Mitchell, COMRU, Ian Hebson, MoLES.

LDNPA. John Hodgson reported that Eleanor Kingston would be on maternity leave from the end of February. He was hoping for replacement cover. The Lake District Archaeology Volunteer network is to be launched at Brockhole on 23rd February.

Coniston Coppermines and Penny Rigg.
The LDNPA and Natural England are developing conservation schemes under the High Level Stewardship Scheme. This would need the co-operation of the Commoners and could release up to £500,000 for conservation of both sites. An agreement is close to being signed, and work could begin this summer and continue for two years.There would be opportunities for volunteer participation. Specifications have been drawn up and sent out to tender for remedial works to Penny Rigg mill. There has been similar progress at Carrock to preserve the 1914 mill there.

Time Team has agreed to carbon date timber from Cobblers Level. Eglish Heritage permission would be required. The Coniston Coppermines program is to be broadcast next Sunday on Channel 4.

There was discussion regarding the provision of signs to discourage camping and burning of wood from the Upper Mill site at Greenside. A site meeting is to be arranged. Fencing still needs to be re located at Coniston Back Strings. A possible project for volunteers, perhaps led by CATMHS.

Greenside Mine. A scheme to use the stable building at the mine to house information was discussed. There is nothing about the mine in the Visitor Centre at Glenridding so there is scope for a Heritage Lottery funded scheme involving the mine, the Visitor Centre and the Village Hall and using Warren Allison's extensive collection of photographs and records. It was suggested that the village community might apply and CATMHS and the National Trust could be involved.

Windermere Reflections. Four weeks of surveying will start with Langdale slate in March and at Greenhead Gill, Grasmere on 8th April.

Environment Agency. Peter Bardsley gave an overview of regulations regarding contaminated land and mining areas. At Force Crag pollution is mainly from water discharge, the responsibility of the Environment Agency, not from spoil etc, which would be the responsibility of the landowner, the National Trust. At Greenside the spoil heaps cause the problem so the reverse is the case. At Gategill, one of the most polluting mines in the country, there are issues of both flooding and mine water discharge. Corrosion of

the iron lining of the dam culvert could lead to possible collapse or blockage, and the Yellow Dam was overtopped on Dec 30th 2012. Greenside, Goldscope, Yewthwaite, Roughton Gill, and Coniston mines are all of concern.

The National Trust. John Malley is in discussion with CATMHS as to how to deal with Level at Force Crag mine. There is a project to reinstate the entrance as it used to appear and to maintain internal access from level 3 down to Level 1. Ian Hebson has produced a draft report on the MoLES project there.

CATMHS: Carrock mine has been checked in accordance with the agreement. There are no issues. CATMHS took members of the British Geological Society and of Natural England ito Carrock for a visit. There is a possibility of an underground geological survey of the later workings.

Work on Tilberthwaite mine is progressing. An application is in preparation for an exploratory dig to find Flemings Upper Level at Coniston Triddle area. The Russell Society would like to carry out a geological survey of Emanual level at Caldbeck.

PDMHS have recently published BM93, a paper on Holker Smelt mill.

Vicky Slowe, curator of the Ruskin Museum had reported that over 6000 visitors had been to see the CATMHS/Jane Foale display there.

Mark Simpson raised the issue of recording the Skelwith Bridge slate works which has recently closed and is presently lying derelict. It was suggested that a Heritage Statement and survey be put forward as a condition of future planning permission.

Honister Slate Mine. Alastair Cameron
A series of Heritage Interest days, involving both surface and underground features, are to be set up, with a pilot day on February 1st. They hope to run one each month until October. The Kimberly mine is working and two apprentices have been taken on. There are plans to start extraction from the Honister Vein. A new slate saw has been purchased. Honister Mine currently makes approximately 50% of its income from slate and 50% from tourism

NAMHO. Peter Claughton reported that the next conference would focus on mining effects on the environment and on archaeology.

The Research Framework for Archaeology of Extractive Industries in England, funded by English Heritage as run for 2/3 years and is coming to an end. It includes bulk minerals, metaliferous mines, coal and gypsum, etc. There is some concern that not all evidence has been considered. Local interest groups have been contacted and seminars held. Phase 3, to develop strategies hasn't yet begun. A Resource Assessment and Research Agenda is to be prepared for the autumn. Before then it is hoped that the material, which is on the NAMHO website will be examined bt the interested parties. Please check it out for missing features.

Collapse at Deep Level, Coniston

On 9th February Tony Holland reported that there has been a very big landslide in Coppermines valley that has almost blocked Deep Level Portal There is at most two feet of space left to allow the water out. The whole area looks unstable and any further heavy rains or snow melt could result in the portal being sealed.

CATMHS has drawn the condition of the level mouth/portal to the attention of the relevant authorities and we understand that Scheduled Ancient Monument consent and SSSI consent are required to intrusive remedial works. The authorities are considering what action can be taken in both the short and longer term to secure the level and retain the banks. Clearly any proposal must ensure the stream is not contaminated with mud etc. as it is in a very visible location and water is taken lower down for the hydro-electric generation plant at Coniston. CATMHS may offer assistance/advice to help develop these proposals but would not, under any circumstances, entertain intervention without consent from the relevant parties.

Bathe Stone weeend
Stoke Hill Mine - 25th January 2013
Present - Chris Cowdery (ML), John Ashby, Steve Brown, John Aird, Lesley Aird, Colin Woollard, Sharon Woollard, Mark Waite, Jon Knowles.

Stoke Hill Mine is a fully operating Bath Stone quarry a short distance outside Bath. The Bath Stone Group reopened an existing quarry in 1980, and has been operating continuously ever since. Historically, the quarry only extracted a single bed, but the Bath Stone Group deepened the quarry to extract a second bed. Stone from the two beds has different properties and uses, the details of which can be found on the Bath Stone Group's website.

The Stoke Hill Mine an extraction site only, the quarried blocks are transported off-site for further processing.

The group arrived on site, and were met by the energetic Matthew Hawker, the mine manager, our guide. Matthew took us to the kit-store to be equipped with high-visibility jackets, re-breathers, dust masks and ear-plugs. We also received a detailed safety briefing, the content of which contained a refreshing dose of common-sense!

Without further ado, we proceeded across a field to the slope shaft, and descended the stairway into the quarry. Our first port of call was an area of the quarry where the Bath Stone Group first started in 1980. Here the lower bed was the target of the extraction, the method being to drill a continuous line of holes along the back and sides, then

break and lift the block from its seat. Matthew indicated that the work was arduous. From here we proceeded at a leisurely pace to the northern district of the quarry, looking at the modern safety features such as roof-bolting and tell-tales. We passed through an interesting geological feature - the Midford Fault, which introduces an 8 metre throw in the beds. The fault appeared to offer some caving potential being fairly open. Further into the northern area, we looked at the refuge, and the quarry workshop. Again, a pragmatic approach to the problem of workshop cleanliness was observed.

Extraction has ceased in the northern section of the quarry, so we walked to the southern district. Here we watched stone being sawn from the ground with an impressive chainsaw from Fantini. The stone doesn't stand a chance. Further along, roof bolting was taking place, to permit access into older workings for stone extraction.

An interesting technique for lifting stone is used, with heavy duty bags, into which water is pumped. The empty bag can be inserted into a gap, the water pumped in, and the stone will move in a controlled manner.

We then exited the quarry via the main access level, avoiding the ancient tractor being used to transport stone blocks out-bye on a trailer. It remained for us to return our safety equipment, and thank Matthew for his time and enthusiasm for showing us around.

Browns Folly - 26th January 2013
Present - Brian C (guide), Chris Cowdery (ML), John Ashby, Steve Brown, John Aird, Colin Woollard, Mark Waite, Jon Knowles.

Browns Folly is correctly called Monkton Farleigh, however, colloquially it is known as Browns Folly in connection with the tower situated overlooking the Avon Valley above the quarry. The quarry has been worked for centuries, with written records starting in the 1760s. It is likely that the quarry is an amalgamation of a number of smaller quarries, in a similar way to the Box quarry nearby. Part of the quarry was taken over by the War Office in 1937 for use as an ammunition depot, and is still in use today, albeit as a privately owned secure store.

We were fortunate to have Brian join us, as he knows Browns Folly extremely well, and could obviate the need for the ML to navigate. It should be noted that Brian is continually working to keep Browns Folly clean and tidy, and remove modern spray-painted graffiti and navigational aids.

We entered the quarry, and in no particular order, visited most of the key sights. Highlights included old and new sections of the mine, finished product, miners graffiti (and miners pencils!), miners arithmetic, the King Pillar, stone troughs, the well, the ferret hole, Clapham Junction (known for it's proliferation of rail), the waste skip, the stable, saw sharpening benches, the crane, oil lamps and so on. Brian also brought a number of items from his personal collection for our enjoyment.

Ridge/Monks Park - 27th January 2013

Present - Brian C (guide), Chris Cowdery (ML), John Ashby, Steve Brown, John Aird, Colin Woollard, Mark Waite, Jon Knowles.

There is no access at Ridge, so it was with surprise that we found ourselves at the bottom of a shaft safely inside Ridge Quarry. It was equally surprising to find ourselves after a short walk in Monks Park Quarry. Our destination was the section of Monks Park recently worked, and abandoned complete with large quantities of redundant machinery.

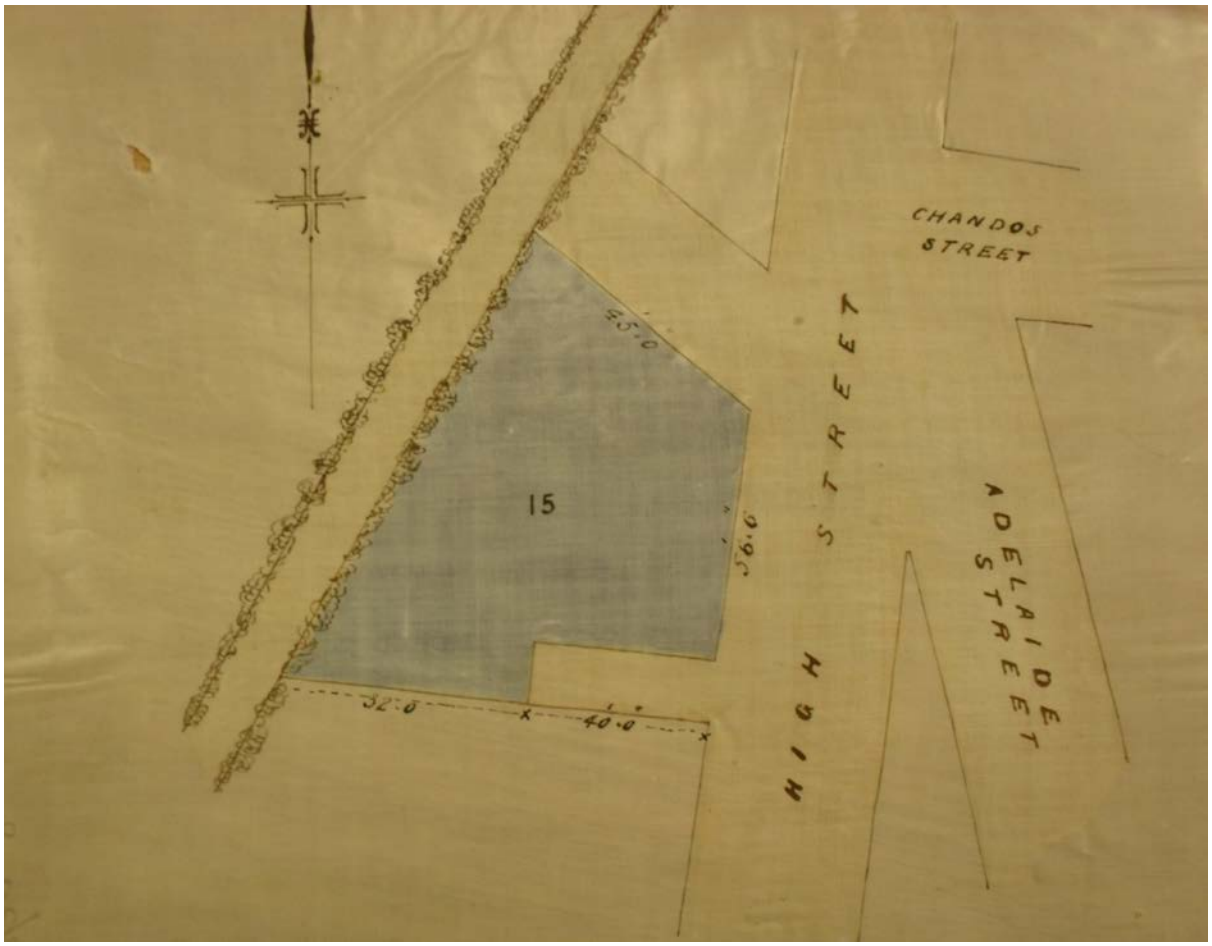
We spent considerable time investigating the various lumps of old iron scattered around the place. A particular point of note was a steel crane made in the same format as the old wooden cranes of the district, and a self-securing crane that could be located into suitable receptacles (clog holes) in the floor and ceiling.

Returning to Ridge, we spent some time admiring the work of the War Office, and the graffiti left by the workforce. There are also remains of an endless wire haulage system, and unfinished pillar reinforcement activity.

As a footnote, both Brown's Folly and Ridge/Monks Park are suffering the ravages of vandals. Brian is doing what he can at Brown's Folly, however, as time goes by all will deteriorate. Therefore it is worth arranging a visit sooner rather than in 20 years time.

Where on Earth?

Can you work out where this is? You can ask Google but it won't help.



Answer on page 31

Caudale Quarry, 24th February 2013
Warren Allison (ML), John Aird, Roger Ramsden, Mark Waite

My word it was cold, really cold, on the other hand there was no wind and it didn't seem to be going to snow. Since the ML was not in evidence the remaining three changed speedily and then set off up the brutally steep slopes of Caudale Moor's north west ridge to the quarry. The ground was like iron, the snow solid and there was no running water except right down in the beck. These were all advantages and the air temperature accounted for the fact the team walked steadily up to the quarry with maybe a couple of 30-45 second breaks in the whole 800 feet climb and got there feeling very comfortable, certainly not overheated. (Even Roger who was recovering from a 60th Anniversary get together of the Mountain Rescue on the 22nd)

Mark Waite led off, going straight down to Brownlees No 1 level, followed promptly by John Aird; it was really good to be inside! Roger gallantly remained on the surface.

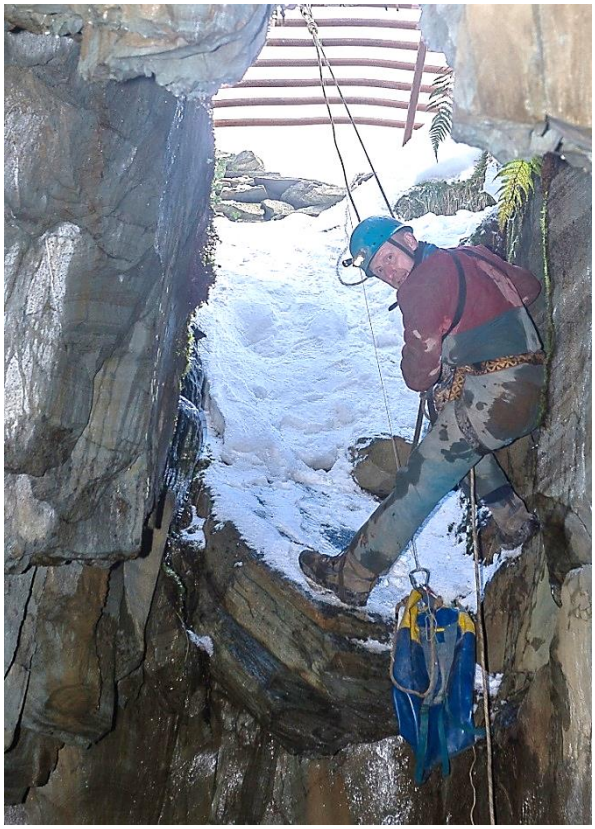
A through exploration of Brownlees horizon revealed a very fine riving hammer; some cigarette packets; an excellent example of a tub* and the remains of a corrack; a set of clog irons were also there along with a plethora of rails, ladders and sleepers, Thos Shaw (father of W T Shaw) clearly ran a very tight ship, the floors of Halls and Potts chambers were completely clear of debris; very far from the

normal scene underground.
Ascent to Grisenthwaites No 3 level followed, even Mark reluctantly agreeing that it wasn't possible to get into Jocks No 2 level without the drill and bolts.

In Peppers chamber is a magnificent tipping slab wagon which must significantly predate Shaw, presumably going back to the Victorian period of operation. It must have been that period of working that excavated and filled Tysons and Tomb chambers, by using the deads underfoot the rock men were able to access the roof for extraction while the splitters and dressers would also work inside on the heaps meaning that only the finished slates had to be transported outside.

In *"Burlington Blue-Grey- A History of the Slate Quarries, Kirkby-in-Furness"* the author R Stanley Geddes asserts "The Burlington Slate Quarries evolved its own distinctive trademark, the "round head". It was the only slate in the kingdom to be dressed with a round head instead of the usual square dressed slate with the two top corners cut away." I am afraid the evidence of the dressed slates remaining in these two chambers comprehensively demolishes this claim; they are large, in very beautifully patterned green slate and have perfectly rounded heads.

A fine "Matt Spedding" tunnel complete with rails runs into Tyson's chamber under the deads to a collapse, exiting the level and climbing over the top revealed a fine example of the head of a "tully". The climb up from the end of Tyson's into Tomb chamber was rather more interesting than had been expected it certainly wasn't anything like a Welsh slate quarry but did produce some fine slate patterns and colours. Of course the real surprise is that when you descend to the far end of Tomb; down an organised way for slates to be taken presumably on sledges you find a loading bay and a railed adit heading off into a fall. This is heading in the direction of the East quarry which lies completely on the other shoulder of the ridge. At this stage it's only fair to acknowledge the accuracy of the plans of the quarry that W T Shaw drew up for the Caudale Slate Co Ltd in 1933, unlike any other quarry plan I have ever met, these are accurate down to the smallest details.

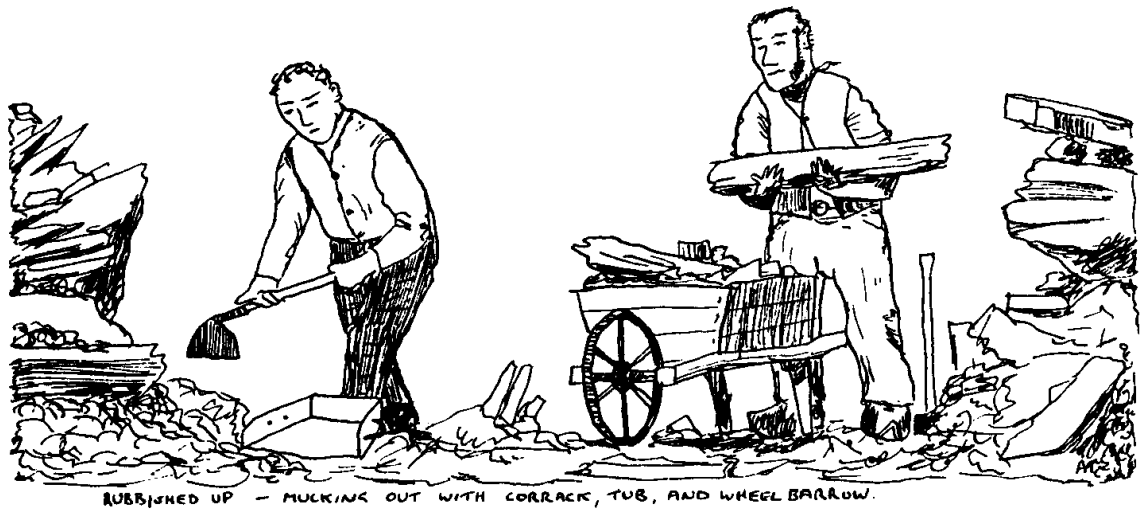


Having eyed up the traverse to get into Jocks No 2 level all that remained to do was to climb back out, de-rig and head off down to the Brothers Water Inn. When we got out Roger was still there (he did admit he'd had to take a fair amount of exercise to avoid hypothermia). Apparently the Meet Leader had turned up but had returned down to the vehicles before we emerged.

Roger then took Mark off to view the surface features that were not snow covered while I stumbled down to chat to the ML who was reading the Sunday papers.

This is a small site with a tough approach but CATMHS has had a long association with it and it is really worth while visiting.

***** For those wondering why a tub was of interest (or indeed what a corrack is) I reproduce below a illustration from "*Cumbrian Slate"* by Alen McFadzean *"The Mine Explorer; Volume II"*



Glossary

Corrack - a corruption of coal-rake; a short-handled hoe or mattock, handy for clearing up rubbish.
Tub - a four sided, double handled dustpan used with a corrack to remove small waste rock
Tully - a heavy hammer with a dull axe blade one end and flat face the other. Used for knocking slate lumps, either by rough riving or docking, into manageable sizes and shapes.
Riving hammer - a sharp-edged hammer used for splitting slate. These are now obsolete, having being replaced by hammer and chisel.

Reference

"Caudale Slate Quarry" Mark Simpson "The Mine Explorer Volume V" Page 85
(Has copies of the W T Shaw plans and is still available from the CATMHS website)

Many thanks to Roger Ramsden for the photograph of the shaft top

John R Aird

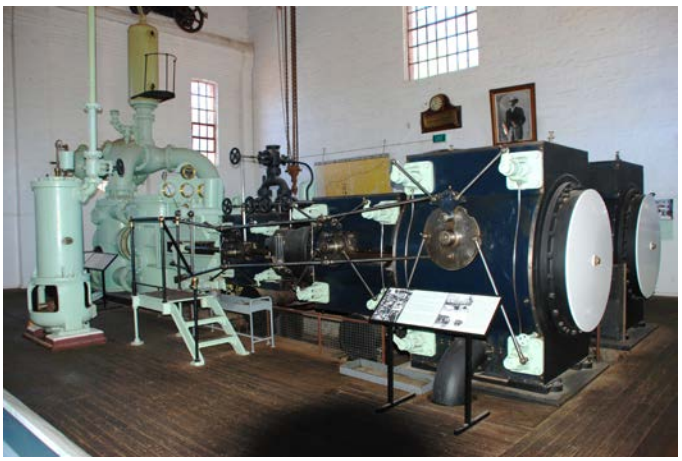
A Visit to the Goldfields of Western Australia

If you are contemplating a visit to the goldfields of S.W.Australia there are a few points to remember. 1. Don't rely on the accuracy of the maps. 2. Always maintain a full tank of fuel (some fuel stations are closed or will only accept credit cards). 3. Many of the old mining sites have been acquired by the larger mining companies and are out of bounds.

Eileen and I decided to organise a final trip to Western Australia. Our aim was to explore the goldfields around **Kalgoorlie** and attempt to travel as far north as was possible. We flew from London to **Perth**, where, after watching the Aussies destroy the West Indies at the Wacca (1 day cricket match) and spilling half a pint of beer down my shorts, so that I appeared to be incontinent; we hired a car and set off on The Great Eastern Highway, towards Kalgoorlie, 370 miles away.

The route follows the Golden Pipeline; this was constructed between 1896 and 1902 to pump water from Perth (Mundaring) to Kalgoorlie. There were 8 pumping stations and two dams en route. The 30 inch diameter steel pipe allowed over 5.1 million gallons of water, to be pumped 330 miles to Kalgoorlie each day and still supplies water to over 100,000 people and property. The surface and underground water in the Goldfields contains six times the salt content compared with sea water. As a result some of the low lying ground is covered with more than a dusting of white salt.

Having visited No 1 Pump Station at the **Mundaring Weir, Perth** we moved on to Pump Station No 3, at **Cunderdin**, now a museum. We viewed one of the three pumps. The pump was a Worthington Horizontal Duplex Triple Expansion High Duty Pumping Engine and I noted it was made by James Simpson & Co. Ltd. London & Newark on Trent, in 1900. The three boilers supplying steam were designed to take coal, however this commodity was expensive so they were converted to burning wood. Each boiler consumed 8 tons of wood per day and the three boilers consumed 9000 tons of locally sourced wood per year. The pumps were removed in 1950; fortunately a pump from No 7 Pump Station was salvaged and moved to the site. At the rear, a loading ramp remains where the timber was discharged. Numerous other exhibits could be seen on site, it was well worth the visit.



Near what was to be Kalgoorlie in 1893, three Irishmen (Paddy Hannan, Tom Flanagan and Dan Shea) stumbled upon gold bearing ground. Shortly afterwards Sam Pearce and Will Brookman found rich gold 3 miles to the south and pegged out their claims. This was the Golden Mile. Two mines, The Great Boulder Mine and The Ivanhoe Mine became the most profitable. In 1900 the population at Kalgoorlie had reached 25,000, however by 1920, because

of the changing fortunes and rise and fall of gold prices many mines amalgamated and companies began to struggle through the difficult times ahead. It was during the 1980s that Alan Bond began to purchase numerous leases in the area in order to create one large open super pit. However he failed to complete his objective. The Kalgoorlie Consolidated Gold Mine was formed to manage operations of the joint venture and continue to this day.

General mineralisation was created in a pattern of shattered rocks, shearing and faulting. The company has found 800 ore lodes in the 'Golden Mile Dolerite' with a length of 8,780 yards by a width of 2,200 yards. Some of the lodes were found to be 1,968 yards long, by 10+ yards in width and 1,312 yards in depth. The gold grades were associated with gold-silver-mercury telluride's and alteration minerals with high vanadium contents. (KCGM info.)

The next day we arranged a trip to the Kalgoorlie Consolidated Gold Mines Super Pit. It was 1pm, 43 degrees centigrade and we changed into long sleeved shirts, thick trousers, sturdy boots plus high visibility vests, then transported in a small bus and viewed the vehicle repair shops where the large dumper trucks were serviced (each could carry 220 tonnes of rock). The main attraction was the trip into the pit, which didn't happen because there was a blasting operation due. We traded vantage points for a good view of the blast, nothing happened, 45 minutes later standing in temperatures of over 43 degrees – nada!

Our driver informed us that there was a 20 minute delay; he decided to move us to another viewing area. Just as we got there, the explosives went off and we all missed the initial blast. The view into the pit was quite awesome, regular benches and roadways stepped down to the bottom workings, as in a wide inverted cone. Dozens of old levels and stopes were exposed in the rock faces. Timber recovered from the old workings had to be reburied, it was found to contain arsenic which had been used to kill termites!

Our trip continued with a close up view of the mill, processing from the course crusher through the ball mill, cyanide process to sacks of balls of carbon/gold. (Carbon produced from coconut shells). Iron Pyrites was recovered and sold as a by product. A very good and close up view of the mill – and our trip was over. To be quite honest, we were under the impression that we were going to descend well down into the working pit. Having spent a vast sum of money for the trip it was found afterwards that the public viewing gallery gave a much better view of the pit! So we stripped off, soaking wet with sweat and belted back to the accommodation where we knocked back two pints of Pure Blonde beer.

The following day we set off north towards **Gwalia.** On the way we called in at **Menzies** which is supposed to abound with mining relics – like large fly wheels, boilers, etc. Apart from

half a dozen properties there was little else, a ghost town, compared with a population of over 5,000 at the turn of last century. The petrol station pumps were still working, paying by credit card only. All the promises of mining artefacts had gone. Afterwards we learnt from the locals that there had been a huge 'bush' clear up in the last two years and many items had been taken away for scrap. We continued passing numerous ghost towns (scraps of concrete foundations), the odd bungalow or so. After a while we turned off to try and reach the town of **Kookynie** and Niagara dam. The maps indicated that the road became a dirt/dust track; however this was not so, it was hard paved all the way to a pub! Again the town had disappeared. (As a result of the shortage of timber and metal sheets in most areas the population dismantled their homes and took the materials with them, leaving foundation stumps!).
In 1907 the Kookynie had a population of 3,500- Eleven hotels, swimming pool, town hall, seven brass bands, brewery and soft drink manufacturers. The Grand Hotel remains (up for sale). We popped in and spent an hour chatting to the owners over a couple of beers and a basket of chips! Several old mines nearby have been recently acquired and exploration in the area discouraged.

A little disappointed we set off back along the road, when eagle eyed Hewer (that's me) spotted a few small heaps of stone. Curious, we stopped in the middle of the road – no traffic, I jogged across 20 yards or so from the road and immediately several thorny plants attacked my heels. That wouldn't stop me, oh no; for the little spoil heaps were the sides of several timber lined shafts, about 5 feet long 3 feet wide and 'undreds of feet deep – well, about 60 feet deep. A series of shafts followed the line of an outcropping quartz vein before stopping.

Two or three costeening trenches crossed the vein and metal rods projected from the sides of one of the larger shafts, perhaps the drawing shaft. Highly elated I filmed only to be aware of Eileen shouting and waving her arms. I thought 'I've been caught trespassing'. I could hear her shouting " 'Opping oo" 'What?'I irately bellowed. "'Opping oo!" Came the reply again. So I limped over towards her, and suddenly the biggest Kangaroo God ever created came bounding across the ground – obviously he hadn't got thorns in his heels. Eileen dug in her bag and brought out a sharp needle, I don't like needles! She gave a wicked smile.....Payback?

We moved on to **Gwalia** and **Leonora** where another active pit was progressing deeper into the earth. We stayed for two days at 'Hoover House', where Herbert Hoover lived from 1897 when he was the manager at the Sons of Gwalia Mine, and later became president of the United States of America. Our bedroom was actually his bedroom, containing original furniture; the toilet came complete with a resident frog, living under the rim! The Hoover site is also an eclectic museum. The head-frame and wooden incline are the only complete unit in Australia

(allegedly). The 1,000hp steam winder came from England in 1912 but current one is not the original though very similar.

From Gwalia we made our way to **Laverton**, a focal point for exploration and mining. The town has a strong commitment to Aboriginal culture and little else. Driving back the 81 miles we and pushed on north to **Leinster** which is a mining town more for Nickel than gold and continued to **Agnew,** declared as a town site in 1936, nothing much there now apart from a pub which was closed when we arrived. Opposite the pub a collection of mining relics have been assembled. Gold was originally discovered in 1892 but it wasn't until 1894 when Tom Cue staked out a 21 acre claim call **Woronga** that most of the gold was recovered. The Stamps now on view came from this mine site. Nearby was the site of the Thunderbox Mine which was developed in 2001 however the gold bearing ground ran out by 2007.

The following day we set off back to Kalgoorlie, calling on the way, at **Broad Arrow**, established in 1893 when good gold was found in the vicinity, another deserted town though the pub is still standing (built in 1896). In its heyday the town had a population of 2,400; by 1911 this was down to 240 persons. Nearby a large steel water tower still provides water for the isolated community and featured in the 1971 movie 'The Nickel Queen'.

Approaching Kalgoorlie we hurtled into the outback (300 yards) to the Two Up Gambling School – a circular shed enclosing a circular ring where betting took place against two pennies landing the same way up or one against the other. A rather wild site and we imagined a lively occasion on Anzac Day. We extricated ourselves from the bush and thousands of tin cans and headed for 'The North Hannan Mining College of Technology, where a museum is in the process of being created on the original mine site. Numerous head stocks have been saved from destruction over the shafts, such as the Great Boulder Mines Ltd, Hamilton Shaft. One of the early stopes has been cleaned out and preserved for inspection. Other attractions include the huge dumper trucks, winches, and a gold panning area (yes I did have a go and recovered two specks of gold, happy man!).

Our final foray at Kalgoorlie was to drive along Bulong Road to the abandoned town, mines and cemetery. After 18 miles a sign announced that we had to seek authorisation in order to

proceed from the nickel mine; tough! We ploughed on, the abandoned town had disappeared, and we were surrounded by fencing and hostile notices. We retreated before the mine security crew spotted us. Don't believe the maps!

Visiting the pioneer grave yard on our way out from Kalgoorlie was a poignant moment; a number of severely damaged graves revealed young men killed by rock falls. One stated John Campbell, Age 20, Accidentally killed at the Paringa Mine, 1st March 1904.

It was time to head south to **Esperance** on the coast of the Southern Ocean. The following morning we called in at **Norseman** and decided to travel off road on the **Old Coach Road**. During 1892 two prospectors found Gold in the Dundas Hills 12½ miles to the south of Norseman. To be known as the Dundas Goldfields. Shortly afterwards richer finds of gold were found at Norseman and as a result a number of mines sprang up along the 15½ mile north south route of The Dundas Coach Road.

We turned off the highway onto a narrow soft dirt road stopping at each mining site. Luckily Heritage Trail notice boards presented a potted history of each site. All the shafts were open and not fenced so one had to take care, the usual shouts of "Watch out for snakes, spiders and scorpions!" came from Eileen – she didn't mention thorns or shafts!

The Cumberland Mine was our first stopping point. Discovered in 1897 and driven to a depth of 80 feet, a rich 20 inch band of ore was intersected. 3½ tons of ore yielded 1,054 ounces of gold. Unusually the company fitted security doors at either side of the band of ore. Success continued with yields of 495oz/ ton and a 23lb stone produced 26oz of gold.
Having now covered the back of the car with bright red dust we continued to The Red, White and Blue Mine. Operating during the 1930s from a shallow opencut, it produced 20,000 ounces of gold. Again one really had to take care, some of the shaft mouths were flush with the slightly rising ground and quite deep, the open cuts were easy to see. The Iron King Mine was a much larger operation, much of the ground had been restored and vegetation planted. The mine produced over 1 million tonnes of iron pyrite from 4 X 900 foot shafts. From 1994 The Australian Gold Mines NL extracted 700,000 tons of ore from a depth of 162 feet producing 50,000 ounces of gold. The site is undergoing investigation for Gold and Tantalum. (We saw no evidence of operations).

The Lady Mary Mine. Gold was discovered here in 1894, a shaft was sunk 100 feet to a reef. Numerous miscalculations due to the undulations of the surface resulted in levels missing each other and shafts completely missing the levels! Captain Hoskins was brought in to rectify the problem from 1898 to 1904. As a result 19,244 tons of ore were crushed producing 21,916 ounces of gold. The mine constructed its own township. A lone grave in the trees stated 'James Dennis. Who died through an accident. Nov 14th 1895 Age 27 years'. We turned off the dirt road and followed a rough track to a 1987 decline; this sloped for 400 feet to intercept the Lady Mary South workings. Only 100 tons of low grade ore was recovered. I wanted to explore but I kept hearing 'things' chirping and moving around down the decline, I sort of lost interest!!

Back on the track we reached the Break O'Day Mine and in the middle of the bush we found a cricket pitch, this was laid out in 1895! Had a quick game, I lost! The mine operated from 1890 until 1899. The extensive town site is now lost to bush, except the cricket pitch! The next working was The Rose Hole Mine on the site of The Edwards Mine. The latter was floated with a capital of $50,000 and later sold at auction for $300. The Rose Hole Mine operated from the 1960s and produced 8oz/ton of gold. The existing head frame was cobbled together in Norseman, but it served its purpose well. Our last mine to visit was The May Bell Mine, gold was discovered in 1890, forgotten and rediscovered in 1892. However it wasn't until 1894 that the company was floated. The mining results were disappointing, the gold was intermixed with silver, bismuth, lead and copper.

We continued on our way to the cross roads with the Telegraph Road where I got lost, due to my filming the bush road. So we set off back the way we came, my error was pointed out – a lot of finger wagging and I had to turn around. Still we made it back on to the main road (through a very dodgy section of washed out track) and on to Ravensthorpe where we viewed the old smelter (1906 to 1918), the draught tubes and tips from the road. (Private).

Our journey continued to Esperance, Albany and Margaret River before returning to Perth. At Esperance we experienced miles of empty white sandy beaches and at Albany we visited the Brig Amity that arrived with convicts in 1826 and we viewed the jail. At the museum I handled a meteorite which was found at Kybo Station in 1988. Believed to be a fragment of an asteroid, it weighed 3.5 tons, content 50% Iron and Nickel, 50% Iron and Sulphur. 4.6 Million years old. Wow! After Albany we visited The Tree Top Walk, or rather I did as Eileen felt the steel walkway rocking and backed out. Walking some 125 feet above the ground along 6 X 190 foot bridge spans. It was here that one can view the Red Tingle Trees only to be found in this region. The trunks, up 63 feet in circumference make it the largest buttressing eucalypt.

The trip that took several weeks to plan was over. It was a great experience but disappointing that so many mining relics had been removed and the large mining companies had fenced off so much land.

(Technical Information from Heritage, Shire, Mining, KCGM & Public Information Boards).
Richard E. Hewer February 2013

The Words "Familiarity" and "Contempt" come to Mind

During the life of CATMHS's it can be fairly said that exploration has gone hand in hand in a very proper regard for safety, since underground operations are inherently dangerous. (No one can say when part of the roof may fall!) Careful assessment of risk has been practised, the risks communicated to other members of the group and appropriate measures to minimise the danger adopted. Go back as far as the exploration of the "Funnel" at Coniston in 1985 and you find that one of the two pitons being used as a rebelay pulled out but the other did not! (NL 008 "Coniston Copper Mines; a Progress Report" P Fleming.)

Groups have self-selected so that each member was confident of their and the others' abilities and all observed the same largely unwritten rules and protocols. As SRT took over from the electron ladder this culture became vitally important. Where "outsiders" were involved especially in large numbers problems could and did arise, well described in John Brown's account of the first through trip at Greenside after the re-opening of the Lucy Tongue level (NL 052 1998) and Jon Knowles remarks about leading a visiting group from PDMHS through Force Crag (1995/10/29). Even a single non-conforming member of a meet could and did lead to real problems only resolved by the high level of skills of the rest of the group, see I Matheson (NL 040 1994) with regard to Brewery Shaft at Nenthead.

In the recent past a group of CATMHS members had been called in to assist in the opening up of a lead mine; this involved an unusual pattern of exploration, entrance at just above river level, quite deep water for quite a long distance along the adit followed by prussicking up past three rebelays into a steady flow of water coming from above then out into the dry and then a couple more pitches with rebelays and deviations, all of which had had to be bolted up from below. During the day the party of four had advanced further upwards until it became apparent that the chaotic ground conditions and narrowing stopes meant further progress was not on. Descent was made back to the top of the rigging, the decision to retreat being confirmed by the last man down having to dislodge a hundredweight boulder from between his legs after wriggling through a small hole on top of it.

So it was with a certain amount of satisfaction tinged with no little regret at not having discovered more artefacts or a new way out that a select group of three CATMHS members clustered at the top of the pitch waiting for the representative of the local explorers to call "Rope free". Instead of which an indistinct expostulation was heard along with the noise of something falling onto loose rocks. With one voice our three heroes said "He's abseiled off the end of the rope" and indeed he had! Voice communication established that the victim was only bruised but had lost his spare battery off his helmet. How could such an elementary error as failing to tie a knot in the end of the rope have occurred?

The foot of this pitch was on a pile of loose rock some two metres high which sloped fairly steeply down into the mouth of a level. A few weeks previously when the group had left it was obvious that the rope was far too long, getting tangled in the loose rocks and extending down into the level. Since it was going to be left in-situ it was decided to cut it about a metre above

the top of the rocks and it was just left like that. Obviously as each person had climbed up in the morning they had observed the lack of a knot and mentally said “it’s not important because when your weight’s on the rope you’ll be standing on the rock pile before the descender runs off the rope”. Not of course if you have pushed yourself off from the wall with your feet for the last few feet of the descent in which case you go off the end of the rope due to the steep slope and end up lying head downwards on your back.

Luckily from this point on all went well, the victim’s bruising only really developed later, a search of the rock pile located the spare battery and the head light of another member of the party which had suddenly showed signs of packing up didn’t but things could have been very nasty indeed; a single rock lying in a slightly different position could have resulted in severe injury in a location where rescue would have been exceptionally difficult.

The rule’s simple: - **Any rope on a pitch must have a knot tied in the end!**

Moses Kellow

Drinking After hours

From Edward Wadham's diary:

10 July 1888 *(in London)*

Called on Dr Wadham *(his brother)* Met Caine, Preston & Mercer at Palace Chambers at 11 o'clock – and had a conference about the Local Gov^{t} Bill – To the Local Government Offices with the same party and had an interview with Mr Long – very satisfactory -

Telegraphed to Barrow to call a Parliamentary Committee for to-morrow at 4 o'clock – and came home by the 1.15 train –

To a Ball at Furness Abbey at Night -

Very cold – showery

THREE MAGISTRATES FINED.—At Barrow, on Friday morning, the following gentlemen were charged with being unlawfully found on licensed premises, during prohibited hours, on July 10:—Sir James Ramsden, J.P., John Fell, J.P., Edward Wadham, J.P., Major Strongitharm, J.P., George Huthwaite, Edward Allen, Walter Whitworth, William Fell, and W. Williams. It appeared that all the defendants attended a ball at the Furness Abbey Hotel on the date named. The obtaining of a license for an extension of hours had been left to Mr. William Fell, but he had been too late in making the application. He did not inform them that no license had been obtained, thinking it could be got afterwards; consequently the rest of the defendants were in entire ignorance of the matter. The cases against Messrs. Strongitharm, Wadham, and Williams were dismissed. The others were fined 1s. and costs.

Reynolds's Newspaper Sunday, July 29, 1888

An account of W T Shaw's works at Coniston in the 1950's

I recently came across a presentation that Bill Shaw gave at the 1959 Symposium on the Future of Non-Ferrous Mining in GB and Ireland. It appears on page 219 in a discussion section and had previously escaped my notice (see attached). It is a first-hand account of his work with the McKechnie Bros in 1954 which has since been well documented by Eric Holland in Coniston Copper (pp 281-285) but he then presents his views in the way the mine might be developed in the future which I found interesting. You may already know this of course, but after having failed to get into the Paddy End section of Deep Level he proposed driving a level from below the Paddy End dressing floor dumps aimed at the Gin shaft on Stevens Vein. According to the old mine plans a drive in that direction would appear to catch the SW end of workings on Paddy End Vein and then traverse to the part of Stevens Vein beyond the Leverswater Crosscourse where it would then have to turn NE to intersect the remaining stockwork of veins before continuing on to Triddle Vein. A sketch map in the 1925 Geological Survey Special Reports Vol XXX (see attached) does indeed show the Gin Shaft on that part of Stevens Vein. For interests sake I plotted out its position on the RCHME survey (see attached) and found it to be on what the surveyers describe as a rocky knoll with a collapsed adit entrance in its side. If this is indeed the correct position of the Gin Shaft I would estimate it to intersect Top Level about 220ft down in the vein containing Shattered Stope, roughly at the far end of Earthquake Passage. It may well be worth a closer inspection above and below ground to look for any signs of a shaft here. I guess Shaw was only using the Gin shaft position as a direction indicator as his drive would have been about 600ft below the surface at that point!

Dave Bridge, 8th Feb

Part of a written contribution to Discussions on Mining in Northern England and Midlands by W T Shaw presented at the Symposium on The Future of Non-Ferrous Mining in Great Britain and Ireland, 1959 On The Lake District Mining Field

Mr. W. T. Shaw:*
Coniston Mines

As a native of Coniston and of a family who can trace five generations of copper miners, I was very interested in the report and recommendations of Mr. Eastwood.

In 1954 I had charge of a small venture which aimed at examining the bottom of the old stopes on Paddy End Vein. Much of the information on grade, etc., given by Mr Eastwood was not available and I am pleased to give figures which I obtained and which I think check closely.

Based on data obtained from old records of 1870-71 the then average production was 2 tons of 9 per cent copper ore from 1 sq. fm of ground which had an average width of 2 1/2 ft. Additional to the above yield was the ore recovered by the stamps from middlings obtained in dressing the two tons of concentrates. This amounted to 1/4 per cent copper. Sampling of the hand-sorted waste gave 3/4 per cent copper. It would therefore seem that the actual value of the crude ore was about 3 per cent copper. The dumps at Paddy End mine were estimated at 60,000
tons with a possible grade of 0.75 per cent copper. Tests showed that a concentrate carrying 25 per cent copper was easily obtainable with good recovery.

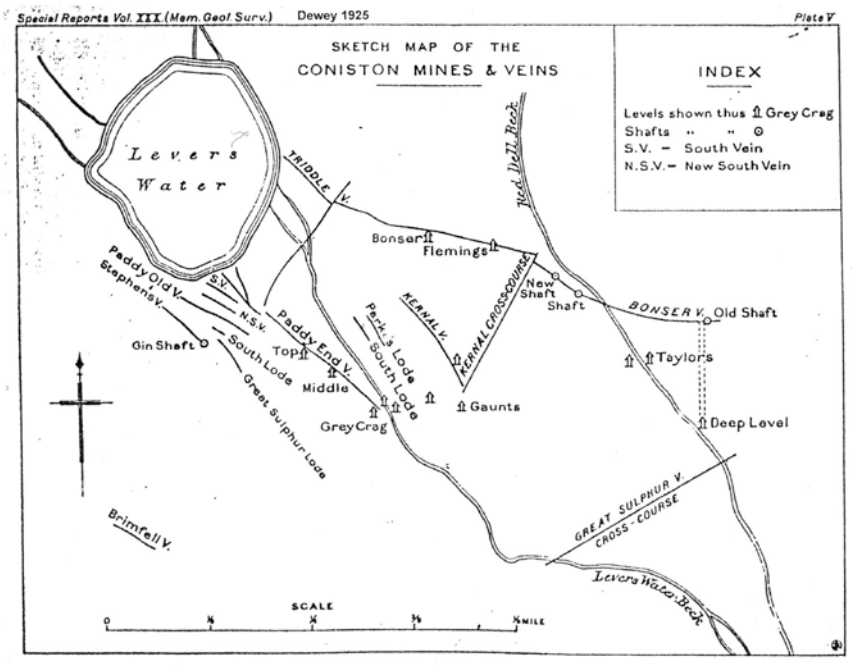
To gain access to the Adit or Deep Level at Paddy End meant laddering down an old incline shaft for 35 fm. As the Hospital shaft was known to be in very bad shape in 1914 it was decided to reopen Courtenays crosscut to the South Vein and try to get down the old South shaft. After clearing out the old level to the shaft it was found that the shaft sides had been extensively robbed

out by later-day tributers and the shaft now resembled an open stope with large piles of deads stacked precariously on old timber. After laddering down 70 ft
it was found that a flat crosscourse had passed through the vein throwing it some 20 ft towards the hanging side. Because of the impossibility of getting any timbers of this length into the workings and the extremely dangerous state of the hanging-wall it was reluctantly decided to give up the work.

A trial was then made to get through the Deep Level which commences as a 120-fm crosscut to the Bonsor Vein and lies some 3/4 mile to the east of Paddy End workings. After cleaning up and laying tracks and pipelines to the Old Engine shaft a 300-ft detour drift was driven and connected with an old north crosscut from the Bonsor Vein. This work was necessary to by-pass the large old stope known as the Cobblers Hole. In olden days this was crossed by a bridge hung on
huge chains and it is said that from it you could see a light on the 70-fm level below. This bridge has long ago disappeared. On coming back to the Deep Level through the crosscut we hoped it would be found to be open for long stretches but this did not prove to be the case and it was estimated that something like 125 fm of new drift would be necessary to by-pass the old open stopes. After careful consideration it was decided not to proceed with the work.

In driving the 300 ft of new tunnel much useful information was gained on the probable costs and progress likely to be obtained if the mines were reopened.

During the course of this examination work it was found that the mine plans were some 25 years behind at the time of closure. During this period, however, due to the continued fall in the price of copper the amount of development work lessened steadily, with all available labour employed stoping and also a host of tributers at work taking out pillars and remnants. The result is that all the old workings are in a complete state of collapse and not worth reopening.



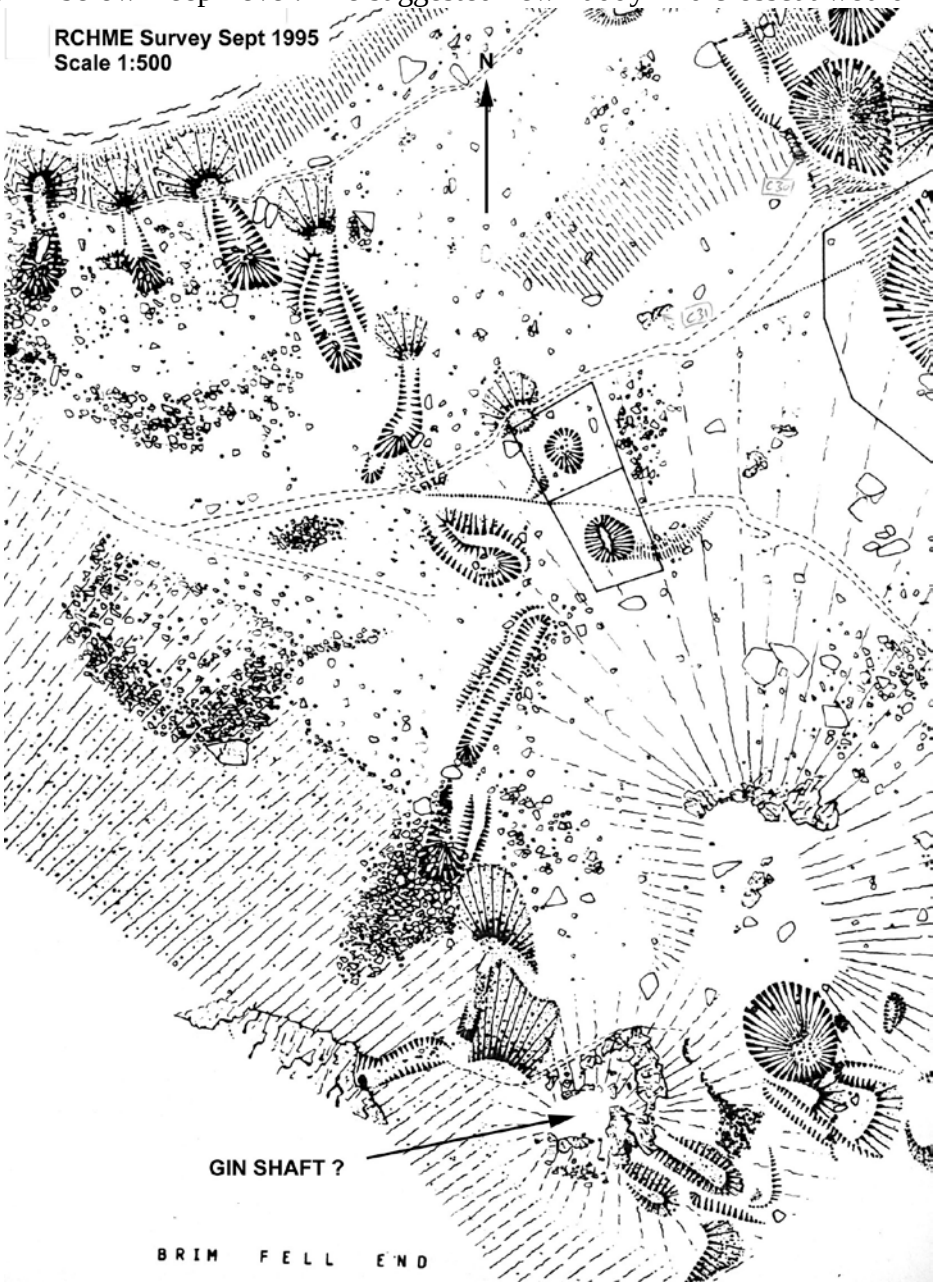
If the price of copper rose to say £300 per ton it might be feasible to mill the dump at Paddy End and at the same time drive a new crosscut from a point near the foot of the dump. This crosscut would enter the Paddy End Vein about 100 ft above the Deep Level. **It should be aimed at the Gin shaft on Stevens Vein** and would gain 130 ft of backs below the Grey Crag Level. Apart from Paddy End Vein, which is worked out at this point to 10 fm below the Deep Level, it would bottom the stopes on Stevens Vein and open up blocks of ore to Grey Crag Level on the South Vein, New South Vein, Paddy End Old Vein and Bellman Hole Vein, all of which have been extensively stoped above Grey Crag Level. A shaft would have to be sunk from a suitable point along the crosscut to open all the lodes in depth. There is no water problem as some 25 fm were sunk and worked below Grey Crag Level without a pump

previous to the holing of the Deep Level. The crosscut should be continued under Leverswater to cut the Triddle Vein. This vein was opened on Grey Crag Level in 1870 and proved to be a strong sparry vein but with only poor values at that point.

The Bonsor mine reached a depth of 205 fm below the Deep Level, and although the lode in the bottom was as strong as ever it contained an ever-increasing amount of magnetite, unfortunately at the expense of the copper ore. It can be concluded that 1200 ft below the Deep Level at this side of the Triddle crosscourse is the economic limit. This large crosscourse, however, rakes west and is believed to be a considerable downthrow on that side: Thus, the so-called Triddle Vein, which has always been thought to be the continuation of the Bonsor, has been worked in beds of much higher horizon. These beds are very hard and the lode contains much quartz whereas in Bonsor the ground was more slatey with but little quartz in the richest ground.

It is therefore believed that all this favourable ground lies below the bottom of the present Triddle mine which itself lies only 30 fm below Deep Level. The suggested new Paddy End crosscut would provide a suitable horizon for testing this theory by diamond drill. The Triddle Vein is thought to continue to Seathwaite mine, in which case it should be the most northerly of the veins there, presuming of course that the Great Crosscourse throws to the north.

There is ample water for dressing and an area below the mine would make a suitable tailings pond, although most of the sand and waste could be used to fill old stopes. This would avoid trouble with the Friends of the Lake District. The local men are mostly slate miners and make excellent ore miners,and nearly all are descendants of the old copper miners. Local people would welcome any reopening of the mines which, for hundreds of years, provided the main industry of Coniston.



* Mines superintendent, McKechnie Bros., Ltd.

Skelwyth Bridge Gold Mine. Extracts from Edward Wadham's diary, 1854.
Peter Sandbach

13 January 1854 Friday

Went round all the Pits in the morning, in the afternoon to meet Mr Woodburne Postlethwaite & went with him on to Ducher's Lot to inspect vein of Spar supposed to contain copper, dined with Woodburn Postlethwaite and to a party at Kennedy's in the evening.

14 January 1854 Saturday

Called on Mr Cranke & reported to him concerning the Ducher's Lot, had conversation with him regarding the gold at Hawkshead. Called on Wearing and inspected "Form of Contract" home by 12.10 train and left for Rusland in the afternoon.

Paid Marvin two weeks wages & extras 10s 0d

17 January 1854 Tuesday

With Clayton & Roper to the Pits in the morning, put Clayton through the A1 engine and brought him down to Rawlinson's Incline & shewed him the Devise for self-acting and gave him an order for one for Whitriggs and Lindal-cote

25 January 1854 Wednesday

Writing all the morning, went to Preston in the afternoon, that is I should have done so, but a severe storm in crossing to Fleetwood wherein the vessel was nearly lost, the rudder chains having snapped – obliged to put back into Piel, but eventually got across all safe & stopped at Fleetwood for the night.

1 February 1854 Wednesday

Went up to the Skelwith Bridge Mines, found them carrying on the levels satisfactorily, in the Limekiln level which is now driven up to where the vein should be, found a little water in the "face" & some "spar" with small crystals of copper in it considered this a favourable symptom & should think it likely they were not more than a fathom from the vein. Inspected the place where the stuff is got from which "gold" is alleged to be produced if this proves true, there is plenty of it. 111 bags of copper ore had been sent away averaging about 1 cwt each

2 February 1854 Thursday

Came from Rusland to Ulverston saw Mr Cranke & reported to him the state of things at Skelwith Bridge. Reported to Mr Roper on the Tramway & "let" the Headen Haw Magazine to Richard Helme of Rampside. Gave Jackson an order for an "office table". Went with Mrs Ainslie to buy crockery etc.

21 February 1854 Tuesday

At Skelwith Bridge inspecting workings

To Duddonhall in evening

Found at Skelwith Bridge that they had forked the adit on the Limekiln vein with the hope of finding the main vein, which they have not yet done – a man came in while I was there with

some specimens he had found in a new place, all this looks as though there was a vein somewhere not far off. Nothing doing in regard to the gold

3 March 1854 Friday

Rode Ainslie horse from Ulverston went Carcettles and "dialled" all the workings, found the nearest place they were to the Duke's boundary, was 40 feet a very good prospect for ore & likely to lead into the Duke's ground. Inspected the Tramway, condemned the planking for the Viaduct. Went to Lindal mount & so home.

Paid for (Potatoes 2 stones L.M) 1s 10d

10 March 1854 Friday

Took Section for Piers for the winding apparatus at the top of the Incline, tried depths of cutting & found them "irregular" ordered Ashburners gate to be set up, inspected the Viaduct & the works generally – went to Ulverston & saw Satterthwaite about the Kitchen range at Lindal Mount – Received a letter from Will about a Dog-cart, decided to let him send me one down.

Paid - Putting up 1s 0d
Postage stamps 2s 6d

17 March 1854 Friday

Went to look at Rawlinson Incline in morning, found they had been trying it with <u>one</u> rope, but it had completely failed, so were getting the second rope on again. Inspected Rawlinson's Pits & Old Crossgates Pits – Measured up Lindal Moor Tramway Contract & went into Ulverston to make out the Certificate – thence to Dalton and fetched some of my traps. Saw Mr Taylor of Muncaster

Paid sweet oil (Lindal Mount) 9d
Marvin (Wages) 6s 0d
Harriet (advance) £1 0s 0d
Fare to Ulverston & back 1s 0d
Parcels (L.M.) 6d

27 March 1854 Monday

Went to Skelwith Bridge and found all going well, Mr Archibald with me and much pleased, took some specimens up to Town with him.

Expense to Skelwith 2s 6d

29 March 1854 Wednesday

Went to Lindal Moor and set out masonry for drum at top of Incline –went over the Tramway.

Mrs Archibald called. Went to Dalton found Mr Postlethwaite very ill. Drove Mr & Mrs Archibald down to Barrow in the Irish car with my mare. Home to dinner and into Ulverston "shopping" – came into collision with the "Bus" on the way home but luckily got off with a bent axle & came safely home

"Dick" filling soil (wages Lindal Mount) 5s 0d

2 galls Colza oil (Lindal Mount) 10s 0d
1 qt vinegar (Lindal Mount) 1s 0d

6 April 1854 Thursday
Dialled the Ulverston Mining Co's & Joseph Rawlinson's workings at Old Crossgates, and the UMCo's at Eure Pits, found the UMCo's into Joseph's at old Crossgates but all right at "Eure Pits", was thrown down the shaft at "Old Crossgates" for 4 fathoms all at once & got my middle finger of my right hand considerably smashed. Into Ulverston & got my finger doctored by Seatle. Attended a meeting of the Lindal & Marton School.
Putting up 1s 0d

24 April 1854 Monday
Set John Nelson's book straight at Newland. Came home & went with Ainslie to Duddon Furnace, he got larking with the girl at the Inn & we accordingly got stuck there for the night having missed the train.
Putting up etc 6d

1 May 1854 Monday
Went up to London
Coach to Milnthorpe 10s 0d
Fare to Preston 5s 0d
Dinner 7s 6d
Fare to London £2 8s 0d

3 May 1854 Wednesday
Carriage of "gold"? ore to London Bank 3s 9d

5 May 1854 Friday
Analysing Gold ore with Will, found it good for nothing. To Blackwall to dine with Woodburne on white-bait, very good.

NARROW ESCAPE.—On Thursday last, an accident which might have proved most serious in its results, occurred at Cross-gates' Iron Ore pits belonging to the Ulverston Mining Co., under the following circumstances. Mr. Wadham, mining agent to the Duke of Buccleuch, was descending a pit at the above mentioned place, and when about 27 feet from the bottom, the bucket came in contact, with a "spile" or some other projection, which arrested its descent, and it became stationary. Mr. W. immediately called aloud for the horsegin, to be stopped; but from some negligence no notice was taken of his dangerous situation, and the rope continued to be "peyed out." Mr. W. imagining that his orders had been obeyed, contrived to get clear of the spile, when he was immediately precipitated to within a yard of the shaft foot, and fortunately escaped without other injury than a severe laceration of the middle finger of his right hand.

Ulverston Advertiser 13 Apr 1854

NOTICE TO CONTRACTORS AND BUILDERS.

THE NEWLAND Co. are ready to receive TENDERS for the FORMATION OF A TRAMWAY, from Lindal Moor Mines to the Lindal Station of the Furness Railway Company.

Also, for the ERECTION OF A MAGAZINE, at Headon Haw.

Also, for the ERECTION OF TWENTY COTTAGES on Powka.

Plans and Specifications for these several contracts may be seen at the Newland Co's. Office at Lindal Moor Mines, from Monday next, the 21st inst., to the 5th December, proximo; and Tenders will be received until that time, addressed "H. A. & Co.," Newland Office. (Tender for Works.)

Newland Office, near Ulverston,
November 15th, 1853. 3 525 3

Soulbys Ulverston Advertiser

Peter Sandbach has spent some time searching the area around Skelwith Bridge for evidence of mining, but without success. Surely a mine from which "111 bags of copper ore had been sent away averaging about 1 cwt each" must have left some trace. Is the name **Limekiln Level** a clue? Is there more than one Skelwith Bridge? He subsequently sent the following abstract, asking if it might give some clues:

20 April 1853 Page decorated with a large North arrow
Met **Mr Boundy** by appointment at Hawkshead at 10.0 am, went with him to the ground near Skelwith Bridge held by himself & others under the Duke for the purposes of searching for Copper Ore and other Minerals. Found a Vein at the East End of Black How Coppice which follows the course of a streamlet running down the same Coppice and Bears NNE. The Vein 2 feet wide on the top & appears to widen downwards a Level being driven up from a gill near **Pull Cottage** which will cut this vein at 20 fathoms, also a vein running across the road leading from the main road at Holmeshead Hou Farm which Vein takes a NE & SW course, and has a strong cross course meeting it about 11 fathoms from the place where a Level which being driven up to cut the Vein at 10 fathoms will meet it. This Vein is as much as 4 feet in width at a depth of about 5 feet. Also a cross course in Redding bottom upon which a Pit has been sunk and is now being deepened. Rode my Mare both ways. Dined at Grizedale & spent the evening arrived home at 11.30 pm doing the distance from Grizedale (18 miles) in 2 h 10 m.

This is almost certainly the mine to which Peter Fleming led an evening visit in July 2002. The names John Boundy and Pull Beck are significant, as is the mention of a limekiln. His report is reproduced below:

Coniston United Mine, Peter Fleming, CAT NL 69,Oct 2002
After looking around the quarry and at the machinery used there we proceeded to the scattered remnants of the Coniston United Copper Mine. This little known nineteenth century mine is located on several east to west copper veins to the north of **Pull Beck**, which flows into Windermere at Pull Wyke. Despite its name it had nothing to do with the better known mines at Coniston. It was never an important mine and the proprietors lost a considerable sum of money on their speculation. The veins were too poor to yield a profit. Each of the five locations we visited were in a narrow band of Coniston limestone.

Our first stop was to look at Pull Scar Cottage, which was formerly a mine building, probably the office. It is now a private house. The present owner, John Spencer, told us the building was extended many years ago but he thinks the staircase is original. Nearby, in a tributary stream flowing into Pull Beck, is a level at GR35420188. The entrance cutting is silted up with deep water behind it. In the summer of 1982 it was explored and surveyed by Sam Murphy in conjunction with the Kendal and District Mining Research Society, using an inflatable rubber boat. They found the level extended for 90 metres and was up to 2 metres wide. Towards the inner end two short side passages were driven but no stoping was evident and it is presumed the copper veins were barren at that depth below the surface.

We then walked though the woods and meadows to a second level at GR.35800218. The entrance, situated in an old bottle tip, ran, like the first one, in a north westerly direction.

Nothing was known about this level. It was not mentioned in Sam Murphy's report so Dave Bridge bravely volunteered to wade in to explore. He paced it out and found it to be of similar extent to the first tunnel with no sign of mineralization This done we proceeded towards Holmes Head Farm and with the permission of the fanner, Eddie Hetridge, we examined the earliest workings on the sett. These are located near the headwaters of Pull Beck, There used to be a shaft sunk in 1827 to a depth of 13 metres at GR.34750210. In 1852 the shaft was re-opened and the workings examined Good Ore was found in the east end of the old workings. To the west the vein was cut off by a strong crosscourse.

The prospects must have seemed bright for the mine, for by the end of the December a smith's shop and changing house had been erected and some ore was being dressed at the surface. Over the next two years intense development of the mine was carried out under the direction of the agent, **John Boundy**. The shaft was deepened to 24 metres, levels were extended along the vein east of the shaft, and a crosscut was driven south from the shaft along a crosscourse in hard blue limestone looking for the westward continuation of the lode. Ten tons of copper ore were dressed and sent to port during this period.

Hardly any trace of this shaft remains today save for a depression in what is now known as Low Riddings Field. It seems that many years ago a horse and cart were lost down the shaft and it was subsequently filled in. Not far from here in a small wood a deep cutting can be found in rock which marks the entrance to another level, now blocked. This is probably the crosscut to the shaft and workings just referred to. Traces of barytes and chalcopyrite have been found in the nearby overgrown spoil heap indicating the crosscut reached the vein. This can be found at GR.34800185. Close by, in the north bank of the small stream, **a lime kiln can be found**, and about 40 metres upstream there are open works and spoil heaps marking the outcrop of the vein. Coniston United Mine was a speculation. It lasted only a couple of years as an active mine and then vanished from history. Mr. Boundy was the agent for another copper mine at Ulpha and it is interesting to conjecture whether his activities there led to the abandonment of ConistonUnited or if the veins were simply too poor to yield a profit. Certainly his work up to January 1854 had cost a total of £1217 4s l0d, but had raised only 10 tons of marketable ore, valued at about £8 per ton.

Having seen, as far as we were aware, everything that remains of Coniston United Mine, we retired to the Drunken Duck for a pint of ale. Thanks go to Sam Murphy for permission to quote from his research material, and also to the members who turned out and showed so much interest.

Peter Fleming

Where on Earth? The answer:

Plot 15 is the Vulcan Hotel, Askam and the level crossing it just off the top of the plan. The hedge-lined road is now Duke Street. Before that it was Sandy Lane but when the plan was made on 8 September 1870 it was nameless. It comes from a document in BD HJ box 443 dated 4 September 1878 in which the Furness Iron & Steel Co mortgaged all their property to Wakefield Crewdson & Co for £103,989.

Peter Sandbach.

Advert from The Miner's Year Book, 1943

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