Northern Mine Research Society

Newsletter

Society established 1960

www.nmrs.org.uk **May 2014** www.nmrs.org.uk

Presidents Jottings

Thank you to all who attended the recent **AGM in Ingleton**. Again there were some new faces which is very encouraging. We must thank Norman Dray and Bernard Bond for organising the opening and locking up of the premises and for Bernard preparing a walk and information after the formality of the meeting. Sallie Bassham had collected the freshly made buffet earlier in the morning which we all enjoyed tucking into! If any members would like copies of the reports presented by our Committee members please contact me. In a concise form we heard how our Society is in a healthy financial position, how membership remains more or less steady, publications for this year are on target, newsletter content is increasing, new members have come forward to lead meets, both our records and library are utilised, and our website continues to expand.

The only bad news is Ron Callender`s retirement from his position of NMRS Secretary. We must thank him for all his efforts and hard work put in over the years which has really been appreciated. At the meeting Committee members, having contributed their own money, presented Ron with champagne and chocolates as a small thank you for all his contributions. I am sure there is someone out there, within our membership, who could take on his role. Please contact me if you require more information regarding what is actually necessary. We also had an opportunity to welcome Len Morris to our Committee.

The **elected Committee for 2014** comprises

President	Barbara Sutcliffe
Vice-President	Malcolm Street
Treasurer	Tim Cook
Secretary	**Vacant**
Librarian	Sallie Bassham
Recorder	Mike Gill
Public Relations Officer	Rob Needham
Editor of Publications	Richard Smith
Committee Members	Peter Pearson, Len Morris

As in previous years some of our Committee members have other responsibilities, such as Meetings organiser (Sallie), Webmaster (Malcolm), Publications Officer (myself), Newsletter Editor (Rob),

Editor

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Would you please note that the deadline for inclusion with the August 2014 Newsletter is the 25th July 2014.
Submissions are welcome that would be of interest to members of the NMRS. These can be forwarded to me as text/disc by post or you can email or telephone. If you require anything returning please ask. Photographs, plans and drawings are acceptable as long as they can be reproduced in black and white.

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Membership Secretary (Malcolm) and NAMHO representative (Sallie)
We must thank all members of Committee whose efforts result in the smooth running of the Society.

Also on view and available at Ingleton were our new three fold flyers aimed at encouraging membership, our publications and the extent of our website. Ron contributed a great deal into this our latest project. With the next BM imminent (it should be with this Newsletter) he had also designed and made a folding board for me to take to our next event, "Yorkshire Geology Day" at Caphouse Colliery where we hope to promote "Malham Mines" Members present were able to have a preview of the this board. Mike Gill needs to be thanked for providing material for Ron to use.

We would like to welcome the following new members
Christopher Bell - Consett
Dr Michael Butler and Richard Butler -Stockton-on-Tees
Ian Lawrence - Middlesmoor
Dr Benjamin Oldcorn - Redruth
David Sables – Lampeter
David & S.E. Shearsmith – Coxhoe, Co. Durham
Steve Livera - Scarborough
Paul Rodriques - Consett
We were very sorry to hear of the **death** of Tony Fretwell who was always a good friend to those who were new to mining history and exploration. He was generous with his knowledge – especially of the Durham Dales and was a founder member of the Durham Dales Mining Society in 1982. He was always delighted to show, and explain, underground and surface remains. He led several NMRS meets and, when he was able to, he came to NMRS General Meetings where he was always good company.
Also Douglas Richardson died before Christmas. He was a major mover, President and Editor in the 1960s for our Society in its early days. The concept of monographs began with him and Jean Dixon and the Individual Survey Series. His family very kindly donated some of his NMCRS publications to us which were really appreciated. Let me know if you have some gaps in your collection that need filling. We would also like to thank David Neal for his donation after selling some of his books via our Newsletter.
It was recently brought to my attention that one of our members, Andy Richards had been to Buckingham Palace where he was presented with the **Young Achievers**` award by Princess Anne. She recognised him from when he was previously named St John`s Ambulance cadet of the year – at a reception the previous week. One of our younger members, Andy (18) had helped a man suffering a heart attack in York city centre, clearing the crowds around him and using the first aid skills he had learnt volunteering with St John`s Ambulance. The award was recognizing his quick thinking and first aid training that saved the man`s life. It is not the first time Andy has come to the aid of others. Well done Andy.
Finally with the summer ahead of us with (hopefully) plenty of opportunies to go and and about following our interests I hope some of you will gather material for the short presentations we usually have at our **Autumn Meeting** in Gisburn on Saturday 25th October. Any offers will be gratefully received by me. Remember the maximum length of a presentation is 15minutes and we do have a computer and projector available. I look forward to hearing from you!
Reminder – WE NEED A SECRETARY!!

Rogerley Meet
This is planned for a Saturday in July or August. Until the Americans operating the Mine arrive back in the UK we will not be able to arrange a date. Thank you for those of you who have already contacted me regarding this trip. I will contact you as soon as the meet is arranged. Anyone wanting to go on the reserve list please get in touch.

Barbara Sutcliffe

LIBRARY NEWS

We are grateful to many generous donors. Thank you to Tony Oldham for another box full of wonderful books – thank you too to Peter Claughton for transporting the books, so we did not even pay courier costs. Tony's latest gifts include three of the Landmark Series ("Victorian Slate Mining" and books on coal mining in Pembrokeshire and Somerset), Robert Duncan's "Mine Workers", Miles Oglethorpe's "Scottish Collieries", Diane Hodnett's "The Metal Mines of West Cork" (a 'must read' if you are visiting there for the first time), a photocopy of Robert Dron's 1921 "The Coalfields of Scotland", a potted history of Wick in Gloucestershire, a 500+ page Metalliferous Mining Treatise published in 1901 and CDs of Mines in Ireland and South West Scotland. Thank you too to another frequent giver, Ivor Brown, whose latest gifts include a 1944 "Study of The Mining Crisis", two HMSO Regional Guides to Ancient Monuments, an Ironbridge Gorge survey of the Laxey Wheel (including a fold-out plan of the Man Engine), copies of "Mining History News", "Plan Especial de Campomar Area Natural Recreative Itxaslur", Conference Papers from a 1994 International Mining History Conference, 1996 Spanish Conference Papers, 1987 Council of Europe Reports on Industrial Heritage, Neves-Corvo and New Mexico and a bilingual booklet on Bilbao. Thank you too to

Barbara Sutcliffe for booklets on Morwellham, Peak Cavern and Wheal Agar, several copies of the journal "Gem" and "The History and Use of Diamond" by Tolansky.

Sallie Bassham (sbassham@chipmail.co.uk or 015 2424 1851)

Visit Reports

NMRS visit to Boulby Mine, 18th March 2014

The Boulby mine was sunk in the 1960s/70s to exploit potash and other mineral deposits found during oil exploration in 1939. The deposits date from the Permian 290-245 million years ago when the Zechstein Sea covered much of Northern Europe from NE England to Germany. This tropical sea (the UK at the time was at a similar latitude to the current Sahara Desert) had a restricted access to greater oceans – similar to the Mediterranean Sea – which resulted in high salinity and the deposition of evaporates. The area was subject to repeated cycles of evaporation and inundation forming beds of evaporates with the least soluble at the bottom and most soluble at the top of the sequence. The last period of inundation led to the deposition of a layer of poorly consolidated clay marl which directly overlies the potash deposit.

All 8 members turned up on time and on the right day (my organisational skills have never been great). Our guide and fellow NMRS member was to be Neil Rowley. We began with a short presentation on the geology and history of the mine, its working practises and a look at the products with a summary of what they are used for. A large platter of bacon sandwiches was then produced and consumed before we set off to the pithead to get changed for the underground visit. As the mine does occasionally encounter explosive gases such as methane, nothing which could cause a spark can be taken underground – this includes anything with a battery in it which includes car keys, watches and cameras, so no photography allowed underground.

The mine provides everything needed for a trip underground, we were taken to the visitors changing room where named lockers produced boots, socks,orange shorts and short sleeved shirts, Hi Vis vests,protective eyewear, shin pads and hard hats with ear defenders. Once suitably attired we went out to have a look at the new (as yet unclad) upcast shaft where skips containing 32 tons of ore are brought to the surface, the 1150m journey taking 2 minutes from loading to discharge. We then headed for the lamp room where we signed in and were given a belt loaded with self-rescuer, lamp and holster containing a bottle of water. With no pockets available, Neil kept all of our tokens.

There are two shafts close together at Boulby, the man-riding shaft is also the downcast shaft where air is forced into the mine by a very large, surprisingly quiet fan. This means that to preserve the air pressure, there are air locks to negotiate before gaining access to the cages. There are two cages in the shaft which counterbalance each other, the larger of the two has three decks which can accommodate 26 persons on each deck. We travelled in the smaller one which holds twelve. The descent takes about 6 minutes and for someone with a fear of lifts was very smooth.

On reaching the shaft floor you are met with the deafening roar of a howling gale blowing out of the shaft, ear defenders are mandatory. A short walk along the wide roadway led us past various forms of modified transport to our own transport, a Ford Transit stripped of most bodywork (except cab) and fitted with a cage with low level seating. To minimise the risk of fire, the vehicles electrics have been stripped to the minimum, fire extinguishers are fitted and plastic fuel tanks replaced by metal.

Once seated and safety chain fitted, we set off on our 7m drive to the working face under the North Sea. All permanent roadways in Boulby are driven in the salt bed below the potash, the potash has inferior engineering qualities to the salt and is not suitable for a permanent roadway left to its own devices the roadway would close in about 5 years. When the geologists find an area where the potash is worth mining they simply put up a ramp into the potash bed and start driving a production panel. In each working area there will be a continuous miner, a bolting crew and a probe drill which follow each other around the multiple entries. As already mentioned the clay marl above the potash is very weak so a 2 metre thickness of potash is left in the roof of the workings throughout the mine.

Once the bolters have finished one section they change places so that the miner extends the

newly bolted heading whilst the bolters fix the roof in the heading the miner has vacated. All the salt roadways are driven in pairs, one for vehicular traffic the other for conveyors, and also to accommodate inward and return airflows. Whilst driving these roadways it is necessary for them to be connected at intervals so that the rock can be loaded onto the conveyor from both roadways. Once the workings move forward it is important that the two are separated to keep outward and return air from mixing. To plug the gaps they use huge polystyrene building blocks which are then sprayed with sealant. We were driving along the main route for the outward air and our first stop was to see how the return air from one of the working faces was directed across our tunnel. It came through a boxed off section straight across the road and through to the main return airway in the conveyor tunnel alongside. It was here that a rather nice piece of rock salt was 'discovered', broken up and examined. Before we left another piece was left in its place for the next tour.

Our next stop was one of the working districts, 881 panel, you could tell we were nearing the working area by the banks of switchgear and transformers lining the roadway. Each district has a meeting point with a bait table and this was our first stop, to sign in. Due to the extremely hot working conditions there are 2 extra men in each crew so that it is possible for crew members to take a break without disturbing the work the crew are engaged with. This is also where the first aid box is stored, these are quite comprehensive as the main first aid station is a long way away. Each box has a defibrillator and entonox for painkilling as well as the usual bandages. From here we walked to where the continuous miner was working – or should have been – it was idle whilst the crew debated on whether a welding repair could be done then or later. This did give us the opportunity to inspect the business end of the machine which has a rotary cutting head 4 metres wide and studded with spearhead shaped tungsten cutting tips around 30 of which will have to be replaced each shift. When working, the rock that is ground off falls onto an apron, is drawn back through the machine and dropped out of the tail either into shuttle cars which transport it to a fixed conveyor.

When working, the operator stands behind his machine and operates it by remote control. It is powered electrically so crew members are required to look after the trailing cables to stop them being damaged as it is manoeuvred

In the adjacent heading we watched the roof bolting operation. A four foot long hole is drilled, a slim pack of resin and hardener is forced into the bolt hole, the mixing occurs as the bolt is spun home, hardening takes seconds. It was also interesting to see a 'tell tale' which is a simple device fastened into the roof with the protruding end covered in coloured bands, whichever colour is visible against the roof is an indicator of how much the roof has lowered!

We then had a short walk to see the permanent conveyor before returning to our vehicle and heading back towards the shaft and return to the surface. After changing out of our underground clothing we joined Neil in the company offices for a final chat over a cup of tea.

I should perhaps mention the following which were not seen but were discussed:

Safe Havens – there are 10 of these scattered throughout the mine, they have been established in case of fire. Everybody carries a self rescuer but these are only short tem protection against carbon monoxide so these are rooms equipped with various mechanisms to provide breathable air in case the mine fills with smoke or gas. \once the doors are closed a piped air supply can be turned on which provides positive air pressure keeping smoke/gas from entering the room. If fire destroys the plastic air supply pipe there is bottled air available. These rooms can be moved so that they can remain close to the working areas.

Exploration – In order to locate the best areas for future potash mining, exploration holes are drilled both horizontally and at varying angles up to 2km distant from current workings using a core drill. The cores are then analysed and the areas mapped.

Polyhalite – The company is currently mining limited quantities of Polyhalite deposits found 150m beneath the rock salt. This rock can best be described as an altered anhydrite which contains both potassium and magnesium. Boulby is the first mine in the world to produce this rock commercially. It is used as an organic fertiliser.

I have thanked Neil Rowley on behalf of the Society for his friendly, interesting and very informative tour.

I should also thank Gordon Hudson for the use of his photographs and for the original idea to make enquiries about visiting this most interesting mine.

Michael E Cooke, 19th March 2014

Dunkirk Coal Pit 'Constant Mary' surface meet and visit to Woodend Mining Museum 5th April 2014

Clearing skies and warming weather gave our group of 16 an easy field walk to view the, once water wheel powered, Constant Mary drift coal mine. Led by local man Richard Matthews, who shared his vast mining knowledge of the area, surface and underground. Having worked on the preserved Constant Mary site for over six years, viewing stone Sizes and their lifting of them is staggering. Further help coming along in that time.

On our return walk due to time we were unable to visit the nearby Bridge Hey Colliery. In October 1983

myself and other NMRS members were allowed to clear a small area of the site, and a wooden marker post is still in position. Further details can be found in the relevant newsletter.

Photo 1. Worked with a 12' dia waterwheel, a 6' dia cog wheel turning a 12' drum.

Photo 2.Dunkirk Mine Haulage Water Wheel Foundations Rebuilt by Richard Matthews & Brian Jeffries

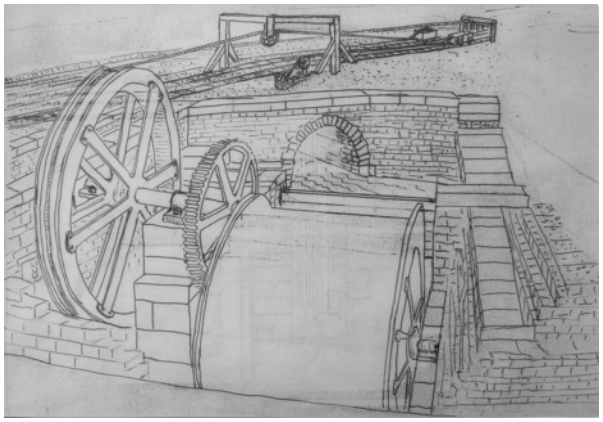


Photo 3. Drawing of the Constant Mary (copyright Richard Matthews

Bridge Hey Colliery NGR SD 757 343

Sinking of both shafts by the Fort family of Read Hall, to the Lower Mountain seam 68yds, with production at 1869-70. At this time it was the largest coal working at nearby Read. On the surface, the won coal was conveyed on a series of chain haulages to the Cock Bridge, at this time it was the nearest roadway (A680).

Photo 3. Group photo with Richard Matthews

Abandonment January/April 1884.
The above has been taken from The Industrial History of the Burnley Coalfield, by George M. Heys.

On arriving at Woodend Museum, time was taken for lunch. Our last visit here on 8th June 2013 was for helping to identify the increasing number of mining artifacts. The number of visitors is increasing. With a further room display, the new roof is now in place and on the following day (6th April) Radio Lancashire came along to view and to tlk to the owners, Harry and Carole Johnson. Again I would like to thank them for our visit to the museum.

Bernie Bond

Visit report, 14th April 2014
Middlehope old mine (upper adit)
Team (NMRS & CATMHS) Andy Turner, Mick Cooke, Gordon Hudson

Entrance not far from road, identified with a post sticking upright and two or three timbers bridging the stream emerging from the mine. Before I commence I would like to point out that due to reading various articles about this mine we had decided to use gas testing equipment for both flammable and non-flammable toxic gases. Drop down into the tunnel into deep water (approx waist deep), on the left hand side not far from the entrance a birds nest (probably a duck of some sort) can be seen on an upper side passage. Continue along straight passage for almost 300 yds, the water gradually becoming shallower as you progress until you reach an unstable looking cavernous area with the stream running along the middle of it. (Gas test.)
Continue along twisted passage with props and timbers resembling an assault course, some laid down flat and some upright and a lot at various angles, you have to clamber over or go under these obstacles.

This goes on for some time until you reach what looks like a 'Y' junction (but the passage to the right is very short). Just ahead of this is what looks like an old bread bin on a shelf on the left, the water so far is normal stream depth. From here the passage gets a bit easier but various sections with deeper water and various roof falls to clamber over. You also pass a rail cross section stacked on the right and what looks like a short shaft on the right. Continue along until you come to 3 steel arches with a roof fall at the immediate end of the arches. (Gas test.)
This roof fall can be negotiated on the left or right hand side, keeping to the right you squeeze up it and part way up turn round on your back to make this move much easier to overcome.. Continue along this pile of rocks and rubble for a short distance until you drop back down to the water passage. The water here is very (chest) deep but the passageway here looks more stable than previous; this deep water goes on for about 80 yds until you clamber out on another roof fall, continue along for a short distance passing some car wheels and tyres then back down into the water. From here the deep water becomes shallower and the rock changes for the better with really good solid rock, you pass a hopper on the left with a ladder attached to a platform above. With worked green fluorspar all around the stope. (Gas test.) I would like to point out here that the flood level is up on the roof so in bad weather these passages completely fill. Continue for about 50 yds until you come to a wider section with a short passage on the left. Here there is a pile of metal mining equipment packed like a raft on the left. The main passage angles to the right where there are two air receivers in the water. This area is a well worked gren fluorspar vein stoping up on the right. There are hundreds of pneumatic pick marks. The air here is good and a smoke test showed a slight air flow.
Continuing over the stope or along the passageway you will come to a partially worked area with green fluorspar all around but to go on any further could bring you into an area of bad air so it is not advisable to continue from here inbye (although a dig has been started).
The fluorspar from this mine turns blue but unlike Rogerley does not ever return to the shiny green when in situ in the mine. After a few days there is a hint of green but that is all. It is worth noting that the vein in this part of Middlehope appears to be the Sedling vein going straight to Burtree Pasture mine; I do believe the passage is connected (but flooded).
Overall a very challenging trip, very hard walking with underwater obstacles and for most of the route the roof looks extremely unstable, from the end of the straight entrance right up to the drop down into the deep water. I would describe it as the most dangerous mine I have ever been in. Even though I have done this five times I never feel safe until I have reached the straight entrance passageway. Because of the dangers I would grade it as extreme.
I would like to point out that ventilation in a mine can change with the weather – barometric and atmospheric pressures and mine moisture content and temperature can all play their part so the readings I have done on this trip can vary. Previously the air at the end is normally bad so I think something must have opened up somewhere to create the better air flow. (Possibly a blocked air shaft has been partially unblocked with all the extreme rain we have had.)

Mick Cooke

Ingleton, Post-AGM surface meet, 26 April 2014

Following the NMRS AGM at Mealbank in Ingleton, the visit to the two colliery sites began at Mr. Brian Hucks scrapyard on the nearby A65 near to the Coal Memorial to the Ingleton Miners, which had been well attended on its unveiling on 14th June 2004.
Various buildings at the New Ingleton Colliery do remain from 1914 but a recent loss was the near collapse of the brick built horse stables. The winters high winds brought its standing to an end during the first week of March 2014. Unaffected, next to the collapse, stand the office and First Aid office. When the opportunity arose in 2004 photos were taken of these then-intact buildings to record their standing.
Moving on to the second venue, parking had ben arranged near 1, Beech Terrace (brick row, 1952). The weather had much improved for the short walk from the 1874 miners cottages to the Wilson Wood Colliery site. The winters high winds had reversed damage by felling a once high tree, which had been understood to have covered the Upcast shaft. With the tree and roots felled, it has now uncovered the heavy concrete shaft capping.

Photo:- Group in front of concrete capping on upcast shaft with fallen tree behind

Wilson Wood Colliery, regularly visited, is the best example of the coal sites – abandoned in 1887. The afternoon walk, with nine members and two guests, returned to the double garage at 1, Beech Terrace, a

dated shop area for the selling of food and smokes to passing miners going to and from Wilson Wood and the nearby New Winnings Pit.
With the return of display boards from the AGM, members viewed the rapidly increasing collection of local mining artifacts, leather pit pony straps being the latest findings. Three 10ft lengths of narrow gauge tracks have now been listed as used at the nearby lime kiln at Mealbank, where the AGM had been held earlier.

Information for the surface meet
Ingleton Coalfield, starting point NGR SD 687722
Coal measures in the north west of Yorkshire cover an area of 20 to 30 miles around the villages of Ingleton and Burton-in-Lonsdale. Information available shows coal to have been worked as far back as 1646 with the colliery owned by Gerald Lowther of Ingleton and valued at £20.
The important coal seams to have been worked from the New Ingleton Colliery were:-

Seam	Depth from surf.	Quality
Ten foot	127yds	1st class House & Steam
Nine foot	134yds	Moderate Steam & House
Steam coal	160yds	Medium quality
Four foot	233yds	Excellent House & Gas coal (Cannel gas making coal)
Three foot	236yds	As above
Six foot	260yds	Fair Steam & House coal

Each seam produced coal for industrial and lime-burning purposes in addition to the uses given above.
At New Ingleton Colliery the Yard seam underlies the Four foot and was worked intermittently.
The family tree of G.J. Sergeantson, lessee of all the collieries in this coalfield, has shown a family involvement for a notable time during the history of mining in the area. Seergeantson was much involved at Clintsfield Colliery, Wennington. Family memoirs show 16,000 tons of coal were extracted per annum in the years 1835 to 1838 at an average cost of 6s 3d per ton.
1780 shows demand being mostly for the villages in the Craven District, Lune Valley and the eastern flanks of the Lake District.
1829-60. Textile mills were established in Bentham, Ingleton and Burton-in-Lonsdale. The known presence of coal was an obvious advantage with demand from one factory reaching 3,000 tons per year and employing 300 workers. Competition for such a market drove others to open pits. Clintsfield, in the millstone grit area, opened to work the 18" and 20" seams, much to the annoyance of Sergeantson. In 1845 he purchased the lease and the pit ceased operations.
The area containing coal is roughly triangular, with the vertices of the triangle at Austwick, Westhouse/Leck and Claughton. Trials have been taken by the NCB mainly in the area around Austwick during the last 29 years and the results show a larger untouched area of coal under Westhouse and Leck.

Further reference:-
Colliery Guardian 18-09-1958, pp347-352, T.D. Ford
The Ingleton Coalfield, pp313-352, A. Harris

Wilson Wood Colliery (Lady Pit)
Sunk 1842
Flooded 1865
Pumped out 1874
6' seam discovered June 1878
Serious shaft fire 1878
Abandoned 1887
130 yds in depth working 3', 4' and 6' seams
Two shafts plus a Cupola vent shaft
Brickworks debris still to be seen
Bracewell, a textile mill owner from Barnoldswick, bought the Ingleton royalty and mines from the Sergeantson family and their lessee for £15,000 in 1872.

Bernard Bond

Cononish Diary by a guest contributor

As a PhD Researcher working in the geology department of Leicester University, for the past three years I have been applying innovative research techniques to gold mineralisation in Scotland. Because I was anxious to obtain specialised analyses of some samples I had gathered near the Cononish gold mine, Tyndrum, I was delighted to receive a grant from Northern Mine Research Society which was used to finance work carried out on my behalf at the University of Durham.

I crushed the psammite host rock (that is, metamorphosed sandstone) collected during summer fieldwork to extract molybdenite (a molybdenum sulphide). Following separation and dissolution techniques, rhenium and osmium were separated from the molybdenite, where they were hosted as trace elements.

My aim is to work out the age of the molybdenite based on the ratio of rhenium to osmium. This is possible because only rhenium is trapped in the crystal structure at the point of mineralisation. (Any osmium that is present would have been formed from the radioactive decay of the rhenium.)

My results are nearly complete but there is still some work to be done, although I am confident that the molybdenite I collected in the Glen Orchy area is about 470 million years old, which is close to Scotland's mountain building period – the Caledonian Orogeny.

My grateful thanks go to the society's committee.

Nyree J Hill , Msci (Dunelm)

Request for information

Dear Sir
I have an enquiry concerning the mine trams at Kelly Mine in Devon.
Kelly Mine is a small mine located near Lustleigh on the northeastern side of Dartmoor. The mine worked micaceous haematite. This unusual form of iron was initially used as 'pounce' for drying ink before the advent of blotting paper. Subsequently it was used as additive in waterproof paints. Although only ever a small operation the mine had a long history. First records of mining date back to 1797. It was then worked intermittently until the 1880's. The last period of working was from 1900 when it was acquired by the Scottish Silvoid Company of Glasgow. Shortly after WW1 ownership passed to the Ferrubron Manufacturing Company also of Glasgow. In its final years, after underground extraction had ceased, the mill continued in use for processing ore from another small local mine with final closure in 1951. Kelly is unusual in that on closure the surface equipment was left intact, possibly in lieu of unpaid bills?
The remains were gradually overtaken by nature until discovered by enthusiasts in the 1980's and a preservation society formed who have restored the site through from 1986 to the present day.

Photo : Wooden bodied tram - timber chassis, replica body

The 20th Century operations included modernisation of the plant and installation of a tramway – restored as nominally 18" gauge (450mm). Some of the original trams have survived. These are unusual, and as far as we know are unique in the UK. There are three intact vehicles and the running gear of a fourth. They are unusual in that the tipping bodies are mounted on turntable pedestals, which allow tipping through 360 degrees. It is believed that the trams were used for transport of ore from the final adit to the dressing mill and also for moving processed ore from the mill to a drying/packing shed. The steel bodied tram is the most suitable for the latter.

Photo : Steel tram showing safety catch

The three survivors are all different. One has a steel chassis and a steel body which is a faithful replica utilising the original ironwork. The other two have timber bodies. One has a steel chassis and a body that is mainly original; the other a wooden chassis and has a replica body, with new timbers. The two steel chassis have different wheelbases (14" & 17") with wheel diameters of 9" & 10". The fourth tram has a timber chassis.

Photo: Original wooden body on steel chassis

It is possible that the timber bodies are locally built replacements for the steel originals, which like the replica would have been difficult/expensive to replace.

Photo : Steel bodied tram - replica body

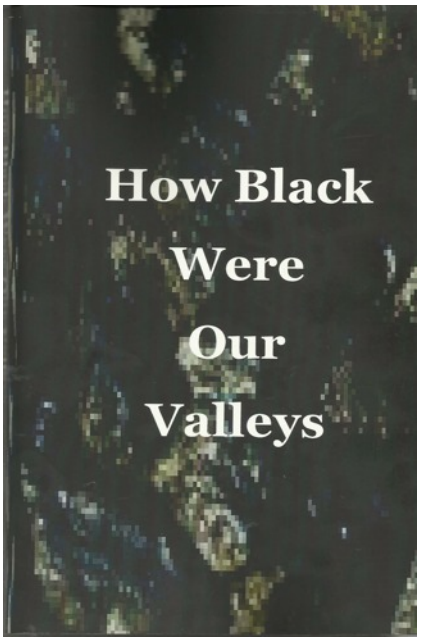
The turntable component dimensions are mainly metric which perhaps points to a continental origin.

Since the major source of micaceous haematite in Europe has been Austria there may be an Austrian or German connection? All are hand propelled and hence have no means of being coupled together, or any brakes!
We would be pleased to hear if anyone knows of any similar vehicles elsewhere or of any thoughts or details.

Photo : Steel chassis tram bases showing turn-tables

David Allen
Kelly Mine Preservation Society

Book Reviews



HOW BLACK WERE OUR VALLEYS / A 30 Year Commemoration of the 1984/85 Miners' Strike by Deborah Price and Natalie Butts-Thompson 2013 179 pp, illus, BBTS Publishers, Deri, Bargeod. ISBN 9-781495-399497 £7,27 from Amazon.

Writing books on the 1984/85 miners' strike is a cottage industry. I have lost count of how many I have read, and this one has a theme common to many regarding how the miners were hard done by the Thatcher government. They failed to see that that the mines were uneconomic and dangerous and that they would be better with safer employment on the surface.

I have yet to find a book that gives the other side of the story. For example, tax payers subsidising unproductive mines, open cast pits which produce coal much more safely and in greater quantities and coal which could be obtained from the other side of the world for a cheaper price.

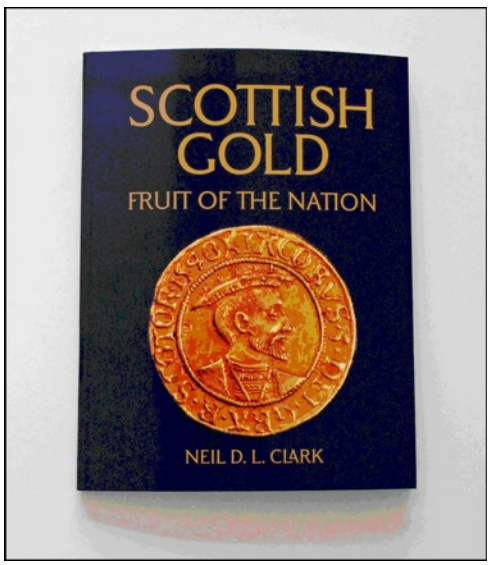
The inspiration for this book was a speech given by Roy Stoates at The Newbridge Hotel on the 17th April 2013. This inspired moved the authors to commemorate the 30th anniversary of the miners' strike by collecting a variety of anecdotes of events that happened during the strike. There are stories of hardship, police brutality and the secret use of solders adding to the adversity of the strikers. Lives of many miners wives changed completely. They supported the men with soup kitchens and stood on the picket line but after the strike this new found independence meant that many looked for more fulfilling careers outside the home.

Natalie and Deborah, the authors, were second year history students at University of South Wales, in Treforest when they wrote the book as a result of their work placement with the National Union of Miners in Pontypridd. Natalie's dad and grandfather both worked in the mines and her own story is included in the book.

The book is printed double spacing. Single spacing would have halved the price of this book. There is a lack of capital letters but this does not distract from the main topic of this book, the hardship the miners faced during the strike.

All profits from the sale of this book go to 'The South Wales Area - Miners' Beneficiary Fund,' which helps ex-miners and their families both socially and medically.

Tony Oldham

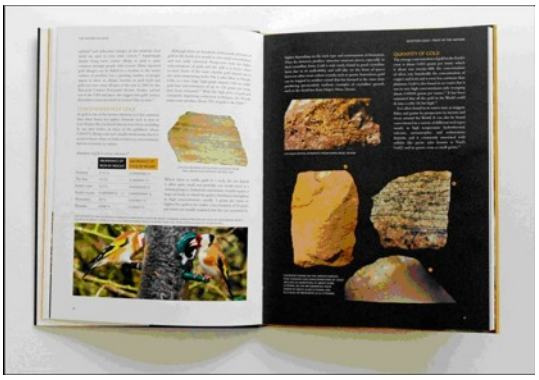


Scottish Gold : The fruit of the Nation,
Neil D L Clark, Neil Wilson Publishing Ltd., 112 pages : £14.99

A word of explanation …

… Neil Clark is a Curator of Geology in The Hunterian, the University of Glasgow's impressive and popular public museum. For the past three years, he has been working on an exhibition (with the same name) that runs until the 15th June and compiling this picture-packed book.

The book's cover sets the pace by reproducing one of the superb Scottish gold ducats, known as 'bonnet pieces' and issued by King James V in 1539. But inside, a chapter by a specialist author, called 'Gold returns', provides an illustrated account of all Scotland's gold coins. This is a wonderful portfolio and speaks well of The Hunterian's reputation as an institution.
Scotland's authority on prehistoric metalwork, Alison Sheridan, is also a guest writer. Over 18 pages she provides text and illustrations of early gold objects held by National Museums Scotland - from lunulae of 2500BC to Roman & Viking items.



Best of all were Neil's chapters on the history of gold mining and the Scottish gold rushes. He covers familiar ground, but in depth, and has managed to source photographs that ensure his narrative is authoritative and comprehensive.

But NMRS has the last word … endnote 367 cites a statement in BM84 by Callender & Reeson, and by applying his expertise in geology, Neil asserts there are still economical deposits to be found.
Ron Callender

In response to the review of the book Mine Claire in the last newsletter, David Allen writes:-
I have just read through the latest NMRS Newsletter and am intrigued by the comment attributed to Roger Burt that the technique of separating iron ore by washing is unknown in this country. I am guessing that this French industry was on a reasonably large scale and producing iron ore for conventional iron manufacture. However, the technique of iron ore mining/dressing – 'shallow mined and separated by washing' sounds exactly like the techniques used in the micaceous haematite mines of Devon. This industry was relatively small scale and produced the rather unusual form of iron for raw materials for paint manufacture. However, it included at least nine recorded mines and operated from the 1700's through to the 1960's. The techniques are demonstrated by the Kelly Mine Preservation Society at the Kelly Mine at Lustleigh.

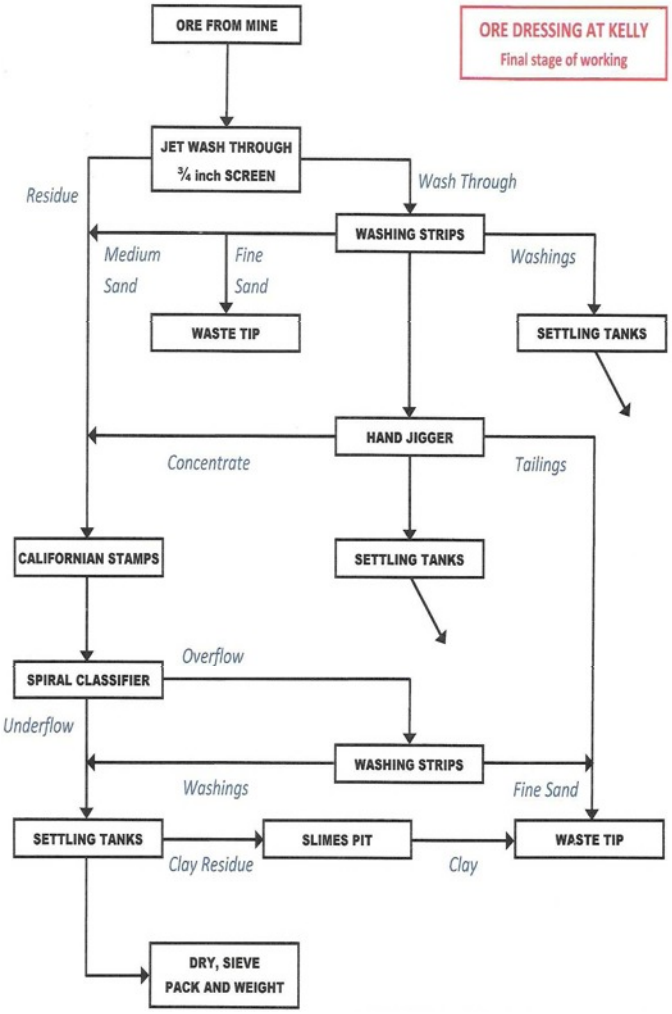


Figure:- Kelly Mine flow diagram - ore dressing

Photo:- Kelly Mine - Processing mill with Californian and Cornish stamps plus washing strips

Photo:- Kelly Mine - Jigger box for ore washing

Photo:- Kelly Mine - Primary washing strips

Photo:- Kelly Mine - Californian stamps

STOKING THE 1712 REPLICA NEWCOMEN ENGINE

INTRODUCTION

Like many of my contemporaries, I am difficult to buy presents for as I am fortunate to have all the material things I wish for. However my lovely clever wife Di really hit the jackpot last Christmas with a present of leather gloves and a tube of deep heat muscle relief to go with a days stoking the 1712 replica Newcomen Engine at the Black Country Living Museum (BCLM)! I had wanted to do this for some time but had not managed to organise it and when we were at the BCLM Newcomen Society event last November, (unknown to me) Di persuaded Janet Small, the curator to arrange my day as a stoker.

Photo:- The engine house

Despite my interest in how these early engines were built and worked, I had not had contact with the real thing and this was my opportunity to do so, and what a day it turned out to be! The less knowledgeable observer might be tempted to suggest that the BCLM engine is not comparable with the original – but in my opinion they would be wrong. This account is intended to describe what I learnt with a view to encouraging others to travel the same path.

THE 1712 REPLICA NEWCOMEN ENGINE

The idea of building a full scale replica of Thomas Newcomen's first successful Atmospheric Engine of 1712 was first mooted in the 1970s by John Allen and by the end of the decade a body set up for the purpose had the task in hand such that the engine started working in 1986. Whilst some compromises on the materials fronts were made, as far as anyone can tell, the engine is an accurate copy of Newcomen's 1712 engine, originally located less than a mile away. The

researches of John Allen and others to establish the engines origins and location is set out clearly and comprehensively in a useful and inexpensive book published in 2012 to coincide with the tercentenary of the 1712 Engine. ("The 1712 "Dudley Castle Newcomen Engine" -300 years of the world's first steam engine. With a forward by Adam Hart-Davis)

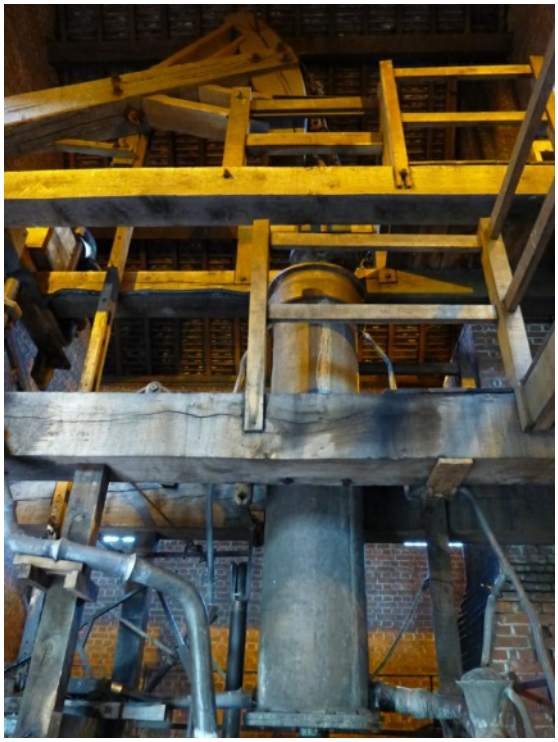


Photo:- The engine

STARTING STOKING

So on their September 21/22 steaming weekend, I made my way to the BCLM where an early arrival gave me another chance to wander around the Racecourse Colliery site and appreciate all the coalmining equipment and machinery that this superb museum (emphasis on the living) has collected over the years. Keen to get stoking, I introduced myself to Mike Dunn who had charge of the engine for the day and who was probably wondering what sort of idiot he had to look after. Mike was accompanies by Ray (in full period costume) whose task was to explain the workings of the engine to the visitors. For its regular steaming weekends, the engine is manned by experienced volunteers who have all been through a comprehensive on the job training process (starting as stokers) to ensure they can be entrusted with the care of this valuable, sensitive and unique machine. There is no instruction manual and no manufacturer's warranty! The engine has recently undergone a well-publicised programme of refurbishment managed by Geoff Wallis (currently Newcomen Society Chairman) and featured on "How Britain Worked" on Channel 4 earlier this year.

My first job was to rake out the remains of the warming fire that had been lit the previous day, taking care not to damage the firebrick sides of the 50 sq.ft. grate and then screw up lots of sheets of newspaper ready for the bed of wood and coal to start the fire. Like all boys with fires, I was pleased when Mike suggested I make a spill to light the paper balls and the kindling he had put on top and in a few minutes the fire was going well enough to put a couple of shovelfuls of coal on (carefully). We then checked the water level on the boiler via the gauge glasses (the water level on the original was checked via a "dipstick") and Mike emphasised that these were only reliable when the boiler was cold.

The replica engine does not lend itself fully to modern HSE practice and Mike was meticulous in ensuring that I was aware of all dangers, specifically insisting I opened the fire door slowly and from behind with an initial look to ensure I could see orange flames, which if absent could indicate a potential gas build up (which he briefed me how to deal with). Mike then spent time briefing me on the required "little and often" firing technique, highlighting that because the boiler was probably on the small size, it was very sensitive to careless stoking – I realised I had a lot to learn!

Within a few minutes the fire was going well enough to be gently spread out with the fire irons and a thin layer of coal placed on top and whilst this was burning up, we checked the water feeds to the cylinder top and the injector spray for its interior were working properly. It may not be obvious to everyone that the cylinder is kept airtight (to maintain its vacuum) by a covering of water fed from a running tap just above the cylinder top, the overflow from which provides the boiler feed water. When the engine is running the input rate of this feed water is adjusted to balance the water lost through evaporation in the boiler. The other water supply is that for the injector spray which whilst normally provided from a cistern at the top of the house, topped up by a pump worked by the plug rod suspended from the beam, requires priming when starting. The log that is maintained to record details of the engines performance had an entry noting that at the previous steaming in August, the pipe from this pump was leaking and this led to a further problem later in the day.

WORKING THE ENGINE

The fire was now burning well and I understood why leather gloves had been suggested as the fire door handle was getting quite warm. Mike showed me how to break up the clinker (with fire irons!) and how to fill the thin areas in the fire with shovelfuls of coal and within an hour or so of having been lit, the boiler was steaming well. It fulfils its function without pressurised steam and therefore has no safety valve and exhausts from a pipe on the outside wall which was visibly working.

So it was time to start the engine! Care is needed to make sure that there is no water in the cylinder and this is drained by opening the lightly loaded snifting

valve (kept covered with water to keep it air tight) set in the pipe via which the condensate from the cylinder bottom is drained after each stroke, the water ending up in the hotwell in the basement of the engine house. After a series of checks, including some gentle prompts to me to keep the stoking going, Mike "charged" the cylinder with steam by opening the valve between boiler and cylinder via a horizontal lever. After shutting this lever, Mike then threw the "F" lever over to inject the spray of cold water into the cylinder bottom – this had the desired effect of condensing the steam, creating the vacuum and drawing the piston and thus the indoor end of the beam down. Opening the steam valve again at the end of the downward stroke has the dual effect of destroying the vacuum and drawing steam into the cylinder, ready for the cycle to start again. After a few more strokes and being satisfied that all steam and liquid passages were working as intended, Mike was able to connect up the valve gear so that it worked automatically.

Whilst the automatic operation of the valve gear looks distinctly "Heath Robinson", it is designed with some care and is adjustable in every area. The valve gear, like the rest of the engine layout, was copied carefully from Barneys engraving of the original 1712 engine when the replica engine was built. This engraving is thought to show the engine in its original state and is significant as it indicates that by 1712 Newcomen had developed a tried and tested form of automatic valve gear. This supports the case for this engine having been preceded by others, alleged to be at Wheal Vor in Cornwall and subject of much debate by Newcomen aficionados!

BALANCING THE ENGINE

I was surprised how sensitive the engine was to variations in the heat of the fire, too much coal will suppress the fire and affect the steaming rate and too little means its heat was reduced and the stroke rate of the engine (between 12 and 13 a minute) slows quickly in both situations. One of the other areas that needs constant attention is the flow of water from the tap above the cylinder that keeps it airtight, too much and it sloshes over the cylinder top on the upstroke, showering any unwary spectators below, too little risking air leaking into the cylinder.

One of the regular checks needed is the water level in the boiler, if it's too high there is not enough space in which steam can accumulate, if it's too low then an excess of steam is produced. If the water runs out completely, the boiler will be damaged! So Mike suggested I took a look at the gauge glasses again and sure enough the water level was not visible even when they were drained a little and so a combination of judgement and experience was needed the get the levels absolutely right

After a couple of hours working successfully, the engine appeared to be struggling a little and following a series of checks to identify the cause, Mike was of the opinion that the water injection wasn't doing its job properly, possibly due to the leak in the pump worked by the plug rod. After some more checks Mike suggested lifting the piston to check! Now to a mechanical ignoramus like me, I had imagined a whole series of individuals being called on to do "stuff" over a few days to achieve this, Mike however is made of sterner stuff! I realised one of the reasons he has been working with the engine for over ten years is because he knows how to deal with most eventualities and lifting the piston was clearly one of these.

LIFTING THE PISTON

Photo :- Piston lifting

I was surprised how quickly and easily it was done – basically a simple ratchet based block and tackle carefully secured to the links from the arch head above the cylinder, lifting the hook which attached the piston rod to the chain links and in five minutes the piston was above the mouth of the cylinder. The (counterbalance) weights mounted above the piston plate were removed and the piston raised to a position where a torch could be shone inside the bore. Mike was concerned that I was not getting a full days stoking (which of course I had stopped) whereas I was delighted to be able to see both how this was done and get a chance to look at the piston and its seals.

The effectiveness of the seal between piston and cylinder wall is vital to maintaining the vacuum in the latter and all piston illustrations I had seen as well as the few I had examined, had a retaining ring above the piston, secured by bolts, the purpose of which was to retain the materials used to make the seals. The material include leather, rope, hemp and

other forms of continuous materials and these were often packed with addition materials (including cow dung) to make the seal effective. The one thing they all had in common was their high wear rate, hence the requirement to ensure that they could be quickly renewed or replaced.

When I first saw the seal as the piston emerged, I assumed it was made of some form of synthetic material as it fitted so snugly, but was assured it was simply leather and it seemed to have the texture of Chamois leather – to be expected I suppose after a while in that environment ! I omitted however to ask what sort of leather it was and what the wear rate was – one for my next visit. Even allowing for the fact that cylinder bore of the replica engine is very regular, I can see how the right mix of seal material, packed and retained properly coupled with the water covering would have made an effective seal for early engines. This form of seal continued to be used on Cornish engines well into the nineteenth century – basically until the invention of the first effective metal piston rings.

Photo:- Indoor Beam end and Archhead

The other feature I was fascinated to see at the base of the cylinder (once the steam had subsided) was the injector jet for the cold water spray and the reason for lifting the piston was to see how well this was working. To be effective this spray should reach up high into the cylinder, be as fine as possible and spread across the cylinder width – the three factors needed to maximise condensation of the steam – but obviously not something you can check without lifting the piston. One of Mike's potential diagnoses for the engines lethargy was that the spray might not be functioning properly. This was something that he thought may have been attributable to the leak in the feed pipe and also possibly because some debris may have got stuck in the nozzle. To my untrained eye the spray did not seem as uniform and vigorous as I would have expected it to be, and this was something that would need to be investigated fully once the leak in the feed pipe was fixed - but this was a job for another day. By this time it was around 16.00 and so I raked through the fire, swept up the firing aisle and left with a big thank you to Mike and Ray and a much deeper insight into and greater respect for everyone involved in the construction and operation of the replica engine.

CONCLUSIONS

Photo:- wire brushing the joints clean

I felt I learned more about how these engines worked and the challenges faced by their operators in this one day that I had picked up through all the text books I had read over the years. Routine operation and control of these engines must have been a delicate balance at all times and (as I suggested to Mike) more of an art than a science. Furthermore given the cost of these early engines and the vital role they performed, finding and training a suitably skilled engine man must have been quite a challenge and they would have probably started, as I did and stoker and dogsbody.

Having examined a number of accounts of the operation of these early engines in the eighteenth century, I also realised that each one would have needed a both a full time engine man and an assistant/stoker.

Finally I realised I last the true scale of the commitment of the team that built the engine and that of the BCLM and its volunteers to operate it – coal costs

over £200 per weekend and the team are all volunteers. I hope they let me come back and do more stoking and intend to produce a follow up to this account.

Steve Grudgings

Pahtavaara …

Photo below:- Montage of the open pit

… is a Finnish word describing a huge gold mine in Lapland; it is about 15 miles from the town of Sodankylä, which is 80 miles north of the Arctic Circle. When I received the opportunity to tour the mine, I accepted in view of an offer of transportation to the site. I knew that the Geological Survey of Finland had surveyed Central Lapland in 1985 and came on visible outcrops of gold in what is known as the Greenstone Belt region. It was ripe for mining. The rock here is described as Komatiite, (a type of volcanic rock first found along the Komati River in South Africa), and with encouragement from the Finnish government, a Swedish company Terra Mining Ltd opened the mine in 1996, but had to give up when the price of gold fell in 2000.

When I visited in 2006, my hosts, ScanMining Oy (also a Swedish company), had taken over when the price of gold rose in 2003 but severe financial losses in Sweden led to bankruptcy and the activities came to an end in 2007. Yet another Swedish company emerged in April 2008 with an undertaking to recommence mining at Pahtavaara. By this time a huge pit had been created, and it was a relatively simple matter to tunnel into the sides (at two levels) and recover gold-bearing rock and gravel, which was taken by trucks to a processing mill nearby.

Photo:- Exterior of the mill

When I arrived at Pahtavaara, my first port of call was to view this open pit. Unrestricted by red tape, it was possible to walk to the edge and watch the activity below. A major road, which was laid out for trucks and equipment, spiralled to the bottom of the pit, whilst the exposed working surface provided a perfect geological cross-section. Of course, I wanted to photograph the impressive scene facing me but, realising it would need a very wide-angle lens, I made two separate exposures which were easily stitched together (see photo above).

One of the Finnish supervisors, who spoke immaculate English, guided me to the processing mill. He explained that the gold occurred as free grains, and the company used a gravity method as well as a flotation method to recover the precious metal. The ore was crushed and ground until it had a grain size of 1.5mm.

Photo:- Slurry on its way to the concentration table

As slurry, it went through a cyclone; the heavier material continued into a cone separator, whilst the other material moved on to a magnetic separator, and then a spiral separator, before trickling slowly onto a concentrating table. By applying the three separation stages, it was possible to make recoveries from three different concentrates.

Inside the mill, there was a lot of noise and dirt in the area where the rocks were crushed; as the noise lessened, the working areas became very much cleaner.

The final stage was spotless and worth seeing. The concentration table was a spectacular sight - a clearly delineated stripe of gold emerged from black slurry and jogged its way along the rhythmically-shaking table before dropping into a collecting bucket. From time to time, decent-sized nuggets separated from the mixture and were picked out by hand … and dumped in the bucket.

Photo:- Interior of the mill and walk gangways

Photo:- Two nuggets to be picked by hand

To end the visit, I was shown into an office to note that every operation was under the careful control of a computer system, which displayed – as far as I could make out - statistics, data, values and daily returns. I concluded with a photograph of the good-natured Janne Seppälä, before accepting a lift into the nearby town of Sodankylä. After a Finnish snack, I caught a bus back to Tankavaara, where I was able to assure my host it had been a worthwhile experience … and not one easily forgotten.

Photo:- Gold evolving from the table

With the help of the internet, it has been easy to maintain a watching brief on the Pahtavaara mine subsequently and to learn that the present operator, a Swedish company Lappland Goldminers AB, had managed to produce 680 kilograms of gold in 2009 but improved on the figure the following year, with 740 kilograms. However, there was a price; over eight hundred thousand tonnes of ore had to be milled to secure the gold. In addition, many of the 500 reindeer herders in the municipality were protesting about the damage to the lichens and the disturbance to the environment (that is, the peace and quiet !) by the extensive sampling and test drillings being carried out.

Photo:- The friendly engineer

New deposits of nickel and copper are currently being found in this area, and preliminary explorations by Anglo American plc suggest the reserves will last for more than thirty years. Anticipating its role as an important ore mining centre, the municipality of Sodankylä has welcomed the growth and has formed a partnership with Anglo American. Already expansion is underway and the community is building more than forty residential apartments for mining families. This prompted me to remember that "Sodankyla" translates as "the village in the South".

Ron Callender

Following on from the report on our Boulby Visit.....

"Scientists hunt for Martians in Yorkshire" proclaimed the headlines to a recent "Daily Telegraph" article. Reading further I was informed scientists are searching for microbes which could show that humans are descended from alien life. All this is taking place at the bottom of Britain`s deepest mine, Boulby. There, salt-water pools provide conditions similar to those on Mars and anything that can survive such extreme conditions without oxygen, carbon or sunlight, could also be thriving on the red planet.

After the microbes have been collected the scientists will bombard them with huge levels of radiation which are present on Mars. The project , Mars Analogues for Space Exploration, which will run for four years is also searching for life which can inhabit permafrost in the polar regions as well as acidic and sulphurous environ-

ments. The "Daily Mail" adds that the £2 million project, is being co-ordinated by Professor Charles Cockell. He said, "If we want to successfully explore Mars, we need to go to Mars-like places on Earth. By looking at Boulby, we get an idea about the possibility of life on the planet." Other projects at the Boulby Underground Laboratory include the search for dark matter, the invisible "glue" that holds the universe together.

Barbara Sutcliffe

NEWS ITEMS

Poldark Mine - up for sale

Photo:- Poldark Mine in 1987 (photo from editor's collection - has anyone got a more recent photo?)

On a recent Cornish holiday we were greeted with headlines from the "Western Morning News" (25/3/14) "Iconic Cornish Mining Heritage Site up for sale after visitor downturn." After entering administration it has been valued at £350,00 and the sale is being handled by Christie & Co, Exeter branch. The tin mine includes the car park, museum, visitor`s centre, cafe and extensive living accommodation.

This sale is not unexpected. Once a vibrant attraction with beautifully kept grounds, a super museum and a good world wide mineral collection as well as the underground tour, in fact plenty to do and see. However over the years the site has become jaded with very little to see on the surface as people moved out. We usually visited each year to catch up with news from Richard Williams who did so much for the site and sadly died aged 66 on October 4th, 2012. . It is the underground tour that is the strength of Poldark and the envy of many and it is this that should help its possible future.

Originally it was called Wheal Roots which was worked 1720-1780. Little is known of the early workings and in 1856 became part of Wendron Consuls Mine. Later after its closure it became Wendron Forge. In 1972 a retired Royal Marine called Peter Young attended an auction at Trenear, intending to buy a wardrobe! Instead he submitted a winning bid of £100 for the local Wendron Forge. Initially he stored his collection of steam engines there and the site was opened as a tourist attraction. The business expanded and the quantity of salvaged industrial machinery grew. He required increased compressed air capacity to power it all and in response to complaints about the noise, decided to excavate a cutting into the hillside where the compressor could be placed to muffle the sound. It was by chance the cut broke into the forgotten workings of the Wheal Roots tin mine. According to Richard Williams in an article in "Cornwall Life" June 2010 Peter Young then began to provide public access under the new name of Halfpenny Park. The name was changed after its connection to the 1970s TV drama "Poldark" as it was the setting for a number of scenes. It was the author who sanctioned the name "Poldark". This link continued with events such as Winston Graham`s book signing of "The Twisted Sword" – his last novel and the Poldark Appreciation Society`s reunions. There is a possibility of further interest with a new condensed adaptation of "Poldark" due to be screened in 2015.

In 1999 Wendron Forge went into liquidation and the following year was rescued by local mining heritage enthusiasts, including Richard Williams who set up Transcroft Ltd to purchase the mine. Their enthusiasm resulted in the expansion of the underground mine which according to "The Packet" (26/3/14) is described as a "jewel in the Crown of the Cornish Mining World Heritage Site." The same article goes on to comment on the present interest being shown in the site from local residents as well as from investors throughout the UK. Enthusiasts are arguing the site should be kept as a heritage centre but in my opinion a great deal of money is needed on top of the suggested purchase price. It would be a shame if it turned into just another theme park! Education has been an important issue for Poldark Mine. Let`s hope that this is able to continue.

Barbara Sutcliffe

Reedley mining museum secures lottery grant

Lancashire Telegraph, 10 February 2014

3:00pm Sunday 9th February 2014 in Pendle

A MINING museum has secured lottery funding to help improve facilities.

Woodend Mining Museum, in Reedley Hallows, near Burnley, has been awarded £9,932, which will primarily help pay for a new roof.

They will also use the cash to tile the inside of the building.

Carole Johnson, who runs the museum with husband Harry, said: "We were delighted when we heard we had been successful. It's fantastic news.

"The roof has needed doing for quite a while. We've got a very thin and flimsy roof at the moment. We've been crossing our fingers that it will survive the winter with the gales we've been having.

"The new roof will be the main thing, but we can also have the inside of the building tiled throughout to make it a bit more appealing, and a new security system.

"The inside of the roof will also be white which will make it a lot brighter inside. By having a proper roof on it will also make the museum a lot warmer."

Mr and Mrs Johnson bought Smithson Farm in 2004 and, in 2012, opened the mining museum on part of the land.

They first came up with the idea of opening a mining museum when they began to redevelop the farm, which was once home to the head of the Woodend Pit.

As they redeveloped the farm the couple began to come across a number of old mining tools and oddments scattered around the site.

Mrs Johnson said: "We've had a great response to the museum, with lots of visitors and we've got more groups booked in. It's also become a meeting place for former miners, which is fantastic."

The museum will now be closed until the end of March for the refurbishment.

Obituaries

Douglas Turnbull Richardson 1919-2013

It is with regret that we announce the death of Douglas Turnbull Richardson, of Skipton, in December 2013 – just a few weeks before his 95th birthday. Although not many current members will have known Douglas, he was a founder member of the Northern Cavern & Mine Research Society and was a major influence on its development during the first ten years.

Born in Thornton, Bradford, in 1919, Douglas took an early interest in microscopy, encouraged by his father, a keen natural historian. He was apprenticed to the City of Bradford Public Analyst in 1936, and served as a Petty Office in a Royal Navy laboratory during the war. Returning to Bradford, he met Marion, his future wife, worked as a chemist in Bradford's woollen industry, and was elected an Associate of the Royal Institute of Chemistry.

In these early post-war years Douglas became an active caver with a group which went on to form the White Rose Pothole Club in 1954. Although Douglas was the only member of White Rose to be part of NCMRS from the start, quite a number of other members were active in the early NCMRS because it encouraged the scientific study of caves and mines.

On taking over as society Editor in 1962 Douglas began rationalising the production of publications into Memoirs and Occasional Publications. The latter appeared under the series title Individual Survey Series, later becoming known as monographs. The first ISS was a detailed study of Springs Wood Level at Starbotton, resulting from collaborative fieldwork headed by Douglas and Jean Dixon (our first woman President in 1970). They later established the level as a field station for continuing their work on underground flora and fauna. Their meticulous research and presentation set high standards which we've endeavoured to maintain ever since.

Although nowadays we are used to seeing highly magnified images of insects etc and can marvel at the iridescent colours of otherwise drab looking beetles, in the 1960s Douglas's transparencies of them were truly eye-opening when shown at society meetings. In 1963 he began analysing water samples as part of a systematic study of the hydrology of Upper Wharfedale and the results were published regularly in the Memoirs until 1969.

Douglas was President in 1965, and actively projected the society's name. In 1969, he was the prime-mover in organising a conference to mark the society's tenth year. It was attended by many of the then big names in cave-science and mining history.

As the society began to concentrate on mining, Douglas and other speleologists moved into mainstream biological studies. He had converted the loft space of the family home into a laboratory-workshop-study and concentrated on recording the distribution of invertebrates. For ten years he ran the National Millipede Recording Scheme, and was active within the Yorkshire Naturalists Union.

In 1994 he launched the Malham Tarn Field Centre microscopists' weekend and his work on the natural history of becks on that estate rejuvenated his interest in water analysis. He also founded the Cross Hills Naturalists' Society microscope group which ran for many years.

Following a downturn in his health in 2009 Douglas, who was a keen photographer, donated his collection of mining transparencies from the 1960s to the Society Records. The survival of his collections of over 1000 microscope slides, specimens, non-mining transparencies and photographic prints was ensured by his donating them to the Northampton Natural History Society.

Mike Gill

John Simpson Little

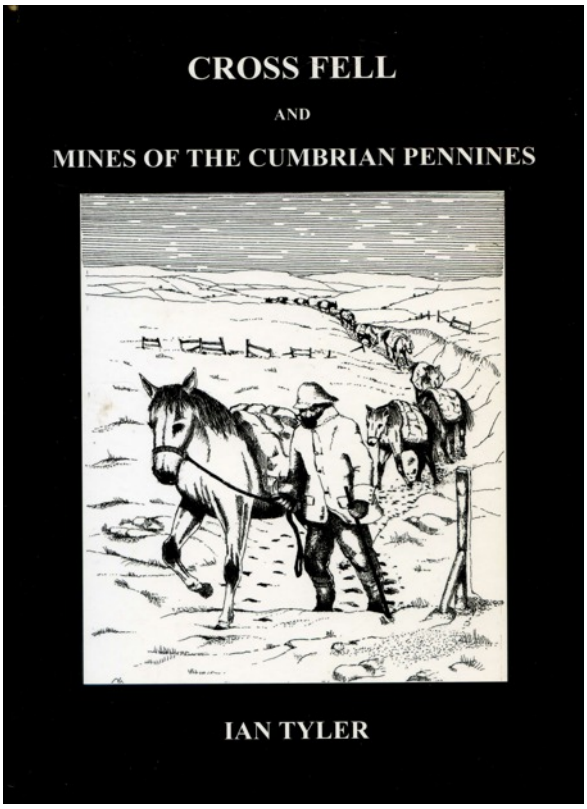
John Simpson Little passed away on the 9th Jan 2014 after a long illness. Mr Little was the owner of ten coal drift mines in Cliviger Nr Burnley lancs. He was aged 82 and was involved in mining for over sixty years on his own farm, Merriles Head farm of Long Causeway Cliviger. He drove six drifts into the famous Arley

seam and one into the Dandy seam which was abandoned by the NCB, Copy pit, in the nineteen sixtys. He also drove three drifts again into the Arley seam on the near by, Middle Pasture farm also of long causeway which was owned by Titus Thornber. His last venture was Green Clough colliery which was worked up till approximately 2004. A true mining entrepreneur in todays modern world.

I worked for him for roughly twenty years and have catalogued some of his exploits and I am in the process of cataloguing the remaining archaeology before it is lost. And maybe I could put together a field trip of my findings in the near future if the members would be interested.

Graham Topping

New book



Just received is the latest publication from Blue Rock, written by Ian Tyler. A hardback with well over 600 A4 size pages, this can only be a very brief notice, not a full review. On a 'quick' skim through, it looks to be a good solid read and is well illustrated. At £35, plus over £7 carriage due to its size and weight, it is not a giveaway, but does look to be good value. Is anyone prepared to do a review of it for the next newsletter?
It is available direct from Ian Tyler, tel. 01228 561883, email coppermaidkes@aol.com (I can't give you the details off the order form because I've used mine!)

Rob Needham

Speleology, Issue 19, December 2013

The latest issue of this BCRA publication contains one page of mining interest inside the front cover - four colour photographs taken underground in the Dinas Rock Silica mine, one of which won the Moore Books Competition at Hidden Earth 2013.

Rob Needham

Three news items that herald the almost complete cessation of deep mining in the UK, but hold out some future for coal as an energy source

Daily Telegraph 3 April 2014

UK down to its last coal mine as pits close, by Emily Gosden

Just one deep coal mine will be left in Britain by the end of next year after the UK's largest coal producer announced plans to close two of the last remaining three pits.
Workers at Kellingley Colliery in Yorkshire, which employs 700 people, and Thoresby Colliery in Nottinghamshire, which employs 600 people, were told yesterday that both pits will close within 18 months at the latest because they are no longer financially viable.
Owner UK Coal is in talks with Government and private sector to try to secure a bail-out, understood to be worth close to £20m, to fund a so-called 'managed' closure of the deep pits. If the talks fail, the pits will close imminently. A bail-out could also help save 700 jobs at UK Coal's six remaining surface coal mines through a possible sale.

The closures, announced on the 30th anniversary year of the miners' strike, will leave Hatfield Colliery in Ed Milliband's Doncaster North constituency as Britain's last remaining deep pit. The colliery, which featured in the film Brassed Off, is run by an employee benefit trust after it too ran into problems last year.

In coal's heyday in the first half of the 20th century the UK had more than 1,000 pits. That number had fallen to about 200 by the time of the miners' strikes.
The UK's handful of remaining pits have faced a series of challenges in recent years including the loss of Daw Mill in north Warwickshire last year following a devastating fire.
Coal has overtaken gas as the UK's main fuel for electricity generation over the last two years, surging to about 40% of power output because of low coal prices.

Sunday Telegraph 6 April 2014

Energy firm in new North Sea gas project
By Andrew Critchlow

Work on a revolutionary new energy project to produce gas from coal locked in seams under the seabed

off the coast of the north east of England could begin within months.
Newcastle-based Five Quarter is seeking Government support for the £1.2bn scheme – a hybrid between coal mining and gas drilling – which could eventually provide cheap energy and raw materials for the chemicals industry in Teesside.
Harry Bradbury, chief executive of Five Quarter, told The Sunday Telegraph that he was also in talks with potential backers for the project and large industrial customers, and expects the 'pre-commercialisation drilling' phase to begin later this year.
'Without competitive raw materials and gas we will lose our process industries', said Mr Bradbury.
Five Quarter is proposing drilling deep into coal seams off the north east coast to extract energy by using a sophisticated process known as 'Deep Gas Winning'. Oxygen and steam are then injected into the boreholes to react with the rocks and coal to release synthesis gas, or 'syngas', comprised of hydrogen and carbon monoxide, plus methane and carbon dioxide.
The gases would then be treated and purified at a processing plant onshore before being piped directly to the chemicals industry.
Mr Bradbury said that the Deep Gas Winning process is less risky to the environment than hydraulic fracturing, also known as fracking, for gas in shale.
The fracking process requires the injection of chemical liquids into shale formations at high pressure to unlock trapped gas.
The discovery and exploitation of new energy sources in the UK has become a Government priority amid public concern over higher utility bills and growing dependence on imports from the Middle East and Europe.
'Gas has become a global geopolitical issue as the supply and demand map has changed,' said Mr Bradbury. 'Accelerating the development of North Sea unconventional gas has never been more important.'

Daily Telegraph 11 April 2014

UK Coal secures £10m wind-down loan for pits

The Government will loan UK Coal £10m to help fund the closure of its two deep pits, which employ around 1,300 people. The loan is needed to prevent UK Coal from slipping into insolvency, which would lead to 'significant losses and liabilities' for taxpayers, minister of state for energy Michael Fallon said. The coal miner went into administration last year following rising costs, hefty pension liabilities and competition from cheaper imports.

And finally ……. a hole in the Forest of Dean

It was reported in the Forest of Dean and Wye Valley Review newspaper dated 25th April that during a survey of the wildlife in Cinderford's Northern Quarter*, a sink hole 15 metres wide has been found – just yards from Steam Mills Primary School.
The hole was examined by former Home Office mines surveyor Paul Morgan – who stated that he had 'real safety concerns' over the state of the stability of the ground in the area. Mr Morgan said 'This appears to be a substantial mine entry which is approximately 15 metres wide, funnelling down to the top of a shaft possibly 3 metres in diameter – the depth was too dangerous to ascertain.'

* an area including the site of the Northern United Colliery being cleared for development

Rob Needham

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