

THE NORTHERN MINE RESEARCH SOCIETY



Newsletter

DECEMBER 1995

1996 AGM & Dinner President to Retire

The Annual General Meeting of the Society will be held at the White Bear (Laughing House) in Crosshills, Keighley, on 23rd March, 1996, followed by the Annual Dinner which will be held at the same venue as last year, the Dog and Gun, Glusburn, Keighley, West Yorkshire. (NGR SD993444).

The cost of the dinner is expected to be in the region of £10.95 per person. Further details including the menu and a booking form will appear with the February newsletter.

Diary Dates

Friday, 12th to Sunday, 14th April, 1996.

The Archaeology of Mining in South West Britain.

A conference will be held at Seale-Hayle College, Newton Abbot, Devon, sponsored by The Historic Metallurgy Society and Peak District Mines Historical Society. For further details send S.A.E. to P. Newman (Mining Conference), 6, Burnley Close, Newton Abbot, Devon, TQ12 1YB.

Sunday, 28th April, 1996.

Florence Mine, Egremont, Cumbria.

See the item on page 8 of this newsletter. Further information will appear in the February, 1996 newsletter.

Saturday, 8th & Sunday, 9th June, 1996.

Weardale Tour.

Leader: Roger Bade. No long walks this time, but plenty of interesting sites. Start from Rookhope Arch (NY 925430) at 10.00. Watch this space for further details.

John Hopkinson has decided to stand down as President of the Society at the 1996 Annual General Meeting. John writes "Although the duties of President are not very onerous, I feel that it is time to stand down and create a genuine vacancy on the committee next March so that we can pull in some new (and younger?) talent. So please do consider nominating yourself by dropping a line to the Secretary. I would suggest that either Vice-President or Junior Vice-President is a good starting point. Committee meetings are held about three times a year."

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Don't Forget - 1996 Subscriptions Due On 1st January!

Meet Report

Sunday, 30th September, 1995.

Grimebridge Colliery.

Water was the venue, although I was hoping that the water from above would keep at bay! This trip will be talked about for generations by the inhabitants of the village of Dean and shall henceforth be known as "the day the cars came". There were cars a-plenty and flapping net curtains, but alas, not many parking spaces. However, the locals were very accommodating and understanding towards an ex-pat and numerous incomers.

Our first stop was before we even started, when the concise history of the Rossendale valley and coalfield was outlined and I finally learned what "white coal" actually was. It was then onwards and upwards towards Nabb Colliery, the buildings of which I had been led to believe were to be full of stirks, which is why I was wearing trainers. We were guided up to the pit by the farmer's daughter, who commented that I may find things a little smellier here in the countryside. I was quick to admit that we seldom see more than 100 million blades of grass during any one week on Alston Moor.

Nabb Colliery (SD 653261) was still standing proud although it had a new use. The first pithead baths in Rossendale (1939) were full of hay and silage, as was the old pit top, but you did not need too vivid an imagination to see how things used to be, especially when Big John Davies produced some photographs of the colliery, ranging from a motley crew of drawers at the turn of the century to photos showing the haulage system. Nabb Colliery was the first large colliery in the Lumb Valley and was driven in 1840 by George Pike for George Hargreaves. A surface tramway was installed shortly after, worked by the endless chain method. The tram road or "Ginney" was ½ mile in length to the coal staithe on Dean Lane. The underground haulage was a continuation of the endless chain. We could just see the walled-up arched drift behind a pile of hay, the Lower Mountain and Union mines being worked. The pit was forecast to have the longest lifespan of all the Rossendale collieries, which is one reason the pithead baths were built in 1939. In the event, the forecast was way out. The number of face workers was increased from 20 to 30 and by 1954, the pit was all but worked out. Nabb was the second Rossendale colliery to be closed by the NCB. Three of the old pits remained, a new one had been opened, and great changes were about to fall upon the biggest.

After leaving Nabb, we passed the small Turn Hill Colliery (SD 852258). All that remains of this little pit is the old engine bed of the small haulage engine, a lot of scree which marked the crop edge of the Lower Mountain mine and a possible way into the haulage drift. Turn Hill was opened in the late 1950's by a family of miners who had been made redundant from Nabb Colliery, a small patch of Lower Mountain being worked. There was very little cover over the coal and it is a wonder they were allowed to work it in the first place. The pit only worked for a couple of years, the main workings of this small colliery company lay 500 yards across the valley.

A small brick cabin is all that remains of Carr Drift (SD 851255). The Carr Drift Colliery Company re-opened the Dean pit in 1954. Modernised to the extent of a compressor, the men still wore flat caps and lit the workings with candles. In its hey-day Carr Drift employed 30 men and boys, mostly from the Water area and mostly related. Jimmy Cropper was the proprietor and started to buy up as many farms in Rossendale as he could. Each farm had coal on the land and different members of the family occupied them. Besides Carr Drift and Turn Hill the company opened up Doles pit in Weir. The screens were hidden in the buildings of Doles farm, coal was emptied below ground and then wound up a small elevator into the hoppers. Doles shut at the bidding of HM Inspector of mines after coal around the air shaft had been robbed. The Carr drift worked on successfully until 1966.

By the side of Carr drift is the old Dean pit which was driven by George Pike around 1833. The drift is stone-arched and driven through the fireclay under the Lower Mountain coal so as to drain the workings naturally. In 1939 there occurred an as yet unsolved mystery at the Dean pit. John Hitchen and Fred Williams, both 13 years old, set off towards the pit, with a candle apiece to look for an air-raid shelter. Neither were ever seen again.

Leaving Dean pit we climbed towards the ruins of what was once the largest pit in Rossendale, employing 140 men. Grimebridge No.1 (SD 850250) was sunk in 1851, probably by Andrew Taylor who had moved from Derbyshire to work for George Hargreaves. As well as being a shaft sinker and manager, Andrew had 37 children and ran a pub in his spare time. Andrew died aged 76, a good advertisement for the hard life!

Grimebridge flourished. The shaft was 33 yards deep and 10 feet in diameter. From the pit bottom roads connected to Stacksteds Colliery to the south-east, which in turn connected up with Old Broadclough Colliery. Coal could be sent to bank at each of the three pits depending on demand, although the bulk of Grimebridge coal was wound at its own shaft and drift and sent by surface ginney to Whitewell bottom coal staithe, 1½ miles distant.

The Upper Mountain Mine started to be developed at about the time of the Great War. Grimebridge No. 2 drift was put into the Upper Mountain in 1940. Changes occurred in 1954. Grimebridge No. 1 was closed and the shaft filled. Grimebridge No. 3 was driven a short distance away to work crop edge coal which was drawn to the surface via the new drift, along the surface to Grimebridge pit top and then underground via No. 1 drift to a drift which had been opened up for coal traffic at Broadclough New Colliery. Bacup No. 2 drift closed around 1957. A young Grimebridge worker, Billy Clayton, hewed and filled 90 3½ cwt. tubs during a shift while working under Smallclough. Billy went on to own the mine.

A short walk from No. 1 pit is the now privately owned Grimebridge Top Bed Colliery, opened up by Billy Clayton and Rodney Mitchell during 1978. The pit worked a large block of Upper Mountain 18-22 inch which had been left by the old No. 2 pit. At its peak, in the early 1980's the pit employed 30 men, 2 deputies and a colliery manager. Worsening coal prices forced closure in 1990. Happily, the pit is alive and well again today and employs 5 men. All credit is due to the 20 members who partook of the 150 yard walk along the 3'-6" main road to the face. I have seen pitmen cry about walking in that height. At last the party returned to the surface and the rains came. Not too bad for a September day in East Lancashire!

Many thanks to all who came to support the meet and for being so patient with the parking facilities. My thanks to the two ancient miners who helped me out, viz, Big John and Derek. John's appetite was well and truly whetted and he has arranged to do another walk (surface only) in the spring. We may also get an underground trip in Alston too, this time with a nice 15" high crawl along an anthracite face. Again, thanks to all.

Clive Seal

Coal Mining Museum in the Forest of Dean.

Work is currently under way to open part of Hopewell Colliery, a "Free Mine" in the Forest of Dean as a mining museum. One of the main features will be a cap lamp guided tour down New Road Adit to a previously worked coal seam, returning to the surface by a drainage adit driven in the 1800's by Mushet. In addition, surface buildings are being sympathetically converted into tearooms and an exhibition area.

The proprietor, Mr. Morgan, a "Free Miner" himself, hopes that work will be sufficiently complete for an opening to visitors in April, 1996. The mine is located next to the B4226, approximately 1½ miles east of Coleford. NGR SO 60351140.

Michael P. Munro

Books

Early Mining and Production - Paul T. Craddock

In the last fifteen years a very substantial amount of information has been painstakingly gathered on the archaeology of early mining and metallurgy, often by relatively small groups of German, French and British workers. Much is still only available, almost hidden, within a wide variety of serial publications, or is still in the publications queue. The virtual sum of knowledge about mining at the beginning of this time was listed by Healey in his (1978) *Mining and Metallurgy in the Greek and Roman World*, and the only substantial general account since then has been the disappointing work by Shepherd (1993) *Ancient Mining*, which included only a tiny fraction of recent work, and manifestly was not by someone who had actually experienced a wide range of early sites. An up to date general book, including early mining, is thus especially welcome. Metallurgy, thanks largely to the late Professor Tylecote, has had better treatment generally, but the present work marks a number of considerable advances in this area too.

Craddock, as a senior research metallurgist at the British Museum, has travelled widely looking at early mines, sometimes accompanied by the present writer, and has examined an even greater number of metallurgical sites. He has also facilitated the work of others by providing advice and laboratory back-up, and there is probably no-one better placed to produce a book on this topic. It is firmly based on his own examination of sites, and indeed one criticism, minor within such a wealth of material, is that significant sites which he has not directly seen, but which are published, are underplayed; one would include the Roman gold mines of north west Spain in this (well described by Domergue), and those in Israel, although both receive a mention.

It is a considerable piece of work, wide ranging both in the variety of metals (including zinc, mercury and silver) and in time - ranging from Early Bronze Age tin and copper production to discussion of Champion's brass process used at Bristol in the eighteenth century, though, to be fair, such late items are usually used for comparative purposes or to reflect the late introduction of a metal such as metallic zinc. It is also better for metallurgy than for mining, but though this partially reflects his own specialism, it also indicates the comparative amounts of research being carried out.

It is a well produced book of 363 + xix pp, with copious illustrations and a wide bibliography, but it is undeniably expensive, being at a price level above that which I have rejected for several other very desirable works of similar size. My copy was complimentary thus avoiding a difficult decision. For general readers of mining and metallurgical history and archaeology, in terms of, say, three years subscription to your favourite society, it certainly does offer reasonable value. For those with an interest in early mining, metallurgy and metal working it is indispensable. At least, order it from your library and hope for a paperback edition before long. For those who may wish to buy, it is published by Edinburgh University Press at £45.00.

Lynn Willies

Discovering Geology - British Geological Survey

Although not strictly a book, this seems a good place to mention that the British Geological Survey are planning a series of cards entitled *Discovering Geology - Fossil Focus*, aimed at the information/education market. The first card in the series deals with Ammonites and answers such questions as: What are they? How did they live? How can they be used in geology? etc. Further cards in the series are planned for other fossils (Belemnites) and other themes.

The cards are in A3 size format, printed in colour throughout, laminated and folded twice. The cost is £1.95 + p&p £0.50. They are available to the retail trade in packs of 10 at 35% discount. They may be ordered from the Sales Desk, British Geological Survey, Keyworth, Nottingham, NG12 5GG. Telephone 0115 936 3241. Fax 0115 936 3488.

Mines of the Gwydyr Forest. Part 6. Pandora and other Mines in North West Gwydyr - John Bennett and Robert W. Vernon

This is the sixth and penultimate in the series *Mines of the Gwydyr Forest*. The authors have continued with their now recognisable style to produce a very readable book. The workings described cover a period of activity from the mid-16th century to the early decades of the 20th century. These were largely concerned with lead mining, with a revival for zinc in the latter part of the 1800's, and the area includes one of the last lead ventures in Gwydyr in the early part of the 20th century. As the title suggests, the mine which dominates the north and west of the chosen area is the one which has become generally known as the Pandora Mine, although it has, in its time, been known by at least a dozen different names. The main workings discussed are all based around Llyn Geronedd, mainly to the south, with some very small ventures to the north of Llyn Crafnant.

The book is laid out as in the earlier volumes and the lesser ventures are described first, which takes up some 17 pages out of the total of 116. There are three fold-out plans of the Eagle Lead Mine (Pandora) Oil Flotation Mill of c.1930. It is difficult to see how anyone other than the promoters of the various ventures described managed to make any sort of return on their investment; it certainly did not take the mineral owners long to realise that receiving royalties was a much safer bet than actually getting involved in the digging. There are some fascinating stories of the promotion of the Pandora sett over the years and one in particular based on the disused New Pandora Lead Mill which became known as the Klondyke Mine. This needs to be read to be believed. The authors have in this case managed to get first-hand information on this classic confidence trick concerning a "mountain" of silver.

There are 10 fairly recent photographs of the Pandora Mine together with 21 maps and diagrams, all well presented. Unfortunately, as in previous volumes, there is a scarcity of photographs taken at the time of mining activity. This volume maintains the standard already achieved and readers will, I am sure, be looking forward to the final edition, Volume 7. Cae Coch - Coed Gwydyr - Trecastell, to complete the series.

The book is available from Gwydyr Publications, c/o John Bennett, 7, St. John's Way, Cuddington Cheshire, CW8 2LX. The price is £6.50. Post free. ISBN 09514798 5 7.

Damian McCurdy

Very few books have been written about East Lancashire mining history. Two massive volumes do exist: George Hey's *History of the Burnley Coalfield* and John Davies' *Coalmining in Rossendale*, neither of which has been published.

However, two other historians have recently released material on the Burnley area. **Jack Nadin**, who has written articles for CAT Publications has written a small book on the history of East Lancashire's last nationally owned pit, **Hapton Valley**, which closed in 1982. Jack worked at the pit in his younger days as did others of his family. The book outlines the history of the pit from 1850, including the disaster of 1962. The price is £1.50 and the book is available from Burnley Central Library, Burnley, Lancashire.

Another local historian, **Titus Thornbur**, has written a fascinating account of a blast furnace and ironstone mine at Cliviger, near Burnley. The book, entitled **A Pre-Industrial Blast Furnace in the Lancashire Pennines** is also available from Burnley central Library, price £3.50. Titus is an eminent local historian, who has not received the recognition he deserves, which comment also applies to the other three historians mentioned.

Clive Seal

Cwmorthin Slate Quarry - Graham Isherwood

This is a new edition of the book first published in 1982 and which has been out of print for many years. It has been completely re-set in a style similar to the reprint of Lewis and Denton's *Rhosydd Slate Quarry*†. It has a selectively revised text, many new diagrams and underground plans, line drawings and 15 colour photographs. It contains 107 pages, size 202 mm x 254 mm, printed on art paper with a laminated soft cover.

Cwmorthin is a medium sized quarry, which began work in the 1800's and whose fortunes have ebbed and flowed ever since. In recent years it has been worked sporadically by 2 men, when in its hey-day, nearly 600 were employed. The book describes a little of Cwmorthin's history and attempts to explain the physical features which remain on the surface as well as describing some of its underground ramifications. Cwmorthin, in common with most of the slate workings around Blaenau Ffestiniog is much more a mine than a quarry. Like an iceberg, two-thirds of the quarry is invisible beneath the surface of the mountain. The surface workings can easily be seen from the public footpaths which thread the site, but the underground is much less accessible. It is treacherous in the extreme and only accessible with care by the experienced and properly equipped; furthermore, it is private property and still being worked, entry only being allowed with the permission of the owners. Falls and chasms abound, supporting walls have collapsed and the continued working, although on a small scale, makes the whole complex exceptionally dangerous.

The book is available from Adit Publications, c/o Jon Knowles, 6, Ferncroft, Hightown, Liversedge, West Yorkshire, WF15 8DT. Telephone 01274 871012. for £11.00 + £1.00 p&p.

† A few copies available from Adit Publications at £9.95 + £1.00 p&p.

Exploring Cornish Mines (Volume 2) - Kenneth Brown and Bob Acton

What a pleasant change to read a book on Cornish mining which is not an endless list of references to the Mining Journal. This is Ken and Bob's second book of walks around the county's mining sites, and let's hope there are more. Volume one was reviewed by Colin Lansdell in the November 1994 Newsletter. This latest one has seven guided tours to: South and East Caradon, Wheal Busy, Killifreth and Wheal Unity Wood, Carn Brea Mines and East Pool, Tincroft and Cook's Kitchen, The Grenvilles and Condurrows, Wheal Prosper and Wheal Trewavas, and Ding Dong.

The long footnotes, running in parallel with the chatty style of writing for the guide, make it two books in one. They were a little disconcerting at first, but they add so much that would have been out of place in the main text and serve to bring the remains alive. Having been written by acknowledged experts in their field, the two volumes stand well clear of much of the history of mines currently pushed out by private publishers which is, quite frankly, weak.

The A5 book has a laminated full colour cover and includes 92 (yes, I counted) half-tones, mainly of recent views. It also has 13 figures, including maps and site plans. It is well worth the modest £7.50 asked and can be bought direct from the publisher - Landfall Publications, Landfall, Penpol, Devoran, Truro, Cornwall, TR3 6NW, by adding £1.50 for p&p.

Mike Gill

The Mines of Calstock & Callington - Ann Eade

This little book consists of 17 pages packed full of information on the mines in the area and is illustrated with a grid map and various drawings. It contains an alphabetical list of mine/company names, together with the page number for each and grid references. It costs £1.99 and is obtainable from local bookshops or direct from: Callington Museum, Liskeard Road, Callington, Cornwall, PL17 9EU. Tel: 01822 832898. The museum, which opened in June, 1994, is open on Fridays, Saturdays and Sundays from the end of April to October and concerned with all things local. If you are interested in local history, then it is definitely a place to visit.

W. A. R. Wright

The Hoffman Lime Kiln

The kiln, at Langcliffe, near Settle, North Yorkshire, was built in 1873 and worked until 1931. Its chimney and superstructure have gone, but it is otherwise largely undamaged and it was scheduled as an ancient monument in 1985. Growing interest in this structure and its associated quarry, railways and other kilns led to studies of ways to develop it.

A number of surveys, looking at the site's tourist and archaeological potential, led to proposals ranging from "basic preservation", seen as likely to attract around 5000 visitors annually, to "a major (all weather) visitor attraction" for in excess of 50,000 people! The latter would have accommodation, craft shops and a visitor centre to explain the site and the quarrying industry. A commercial developer has even proposed a "Victorian" tourist village.

At present visitors enjoy a *de facto* right of access to the site, from a footpath which runs alongside it, and they can inspect the kiln and its flora and fauna at leisure. The more ambitious of the proposals lose sight of the kiln's archaeology and its surrounding habitat and concentrate on drawing in cash from all possible sources. For example, Langcliffe is in the Settle-Carlisle railway corridor and is eligible for cash towards a proposed new railway halt. Nevertheless, the site would still need major car parks and a one-way traffic system.

The idea of a major visitor centre in this part of the dales is reasonable, especially if it were alongside the railway, but Langcliffe does not seem the right place. Great sums have already been spent on restoring Hellifield station - why not use this? It has the advantage of being in a small town, with good road and rail links. It is on the edge of the park and may help to spread the tourist load. The Langcliffe site should be consolidated and a low-key trail, with notices and a main display board, established. For example, the Yorkshire Dales National Park Authority used this approach with success at the Grassington Moor Mineral Trail, and it has also been used at the Cononley Lead Mine, near Skipton.

Mike Gill

Change of Address

Please note a change of address of Lancaster University Archaeological Unit (Newcastle Office) to Bolbec Hall, Westgate Road, Newcastle-upon-Tyne, NE1 1SE. Telephone 0191 221 0772, Fax 0191 221 0739. Staff currently at the Newcastle office are David Cranstone, Chris Howard-Davies, Iain Hedley and Eric Instone. All new correspondence and all contractual matters (such as invoices, invitations to tender, etc.) should be sent to Lancaster. Only ongoing correspondence with the Newcastle members of the team should be sent to them.

Society Poster

A poster (A4 size) has been produced, designed to attract new members to the NMRS. If you wish to have copies to display in a suitable place, then please contact Bob Burns, 3, Queen Elizabeth Way, Barton-upon-Humber, South Humberside, DN18 6AJ. Tel: 01652 635523.

Attention - Important Auction

Mike Gill has two mint copies of British Mining No.1, which he will sell to the highest bidders, with proceeds going to the Society. All bids must be received by post on or before January 8th 1996. Please send your bids to Mike at 38 Main Street, Sutton in Craven, Keighley, West Yorkshire, BD20 7HD.

Nominations for the Election of Officers

Please note that any nominations for the election of officers must be sent in writing, with a proposer and seconder, to the Secretary, Clive Torrens, Jubilee House, Preston under Scar, Leyburn, North Yorkshire, DL8 4AH, at least twenty eight clear days before the date of the AGM.

South Crofty Mine

The owners of Cornwall's last surviving, working tin mine are to pour over £5 million into a major improvement programme over the next five years. The mine will be deepened as part of a capital investment programme to increase productivity and improve efficiency. Readers may remember that closure last year was only averted at the last minute by local support, some spending their savings on buying up share options.

Crew Natural Resources, a Canadian Company, own 70% and this is being increased to 86% by investing an additional £3½ million now. This is required to cover an operating loss of £1¼ million for the past year, although the company presented figures showing a profit of £4½ million after the inclusion of fixed assets. The injection of capital will mean that the project to deepen the mine, to get at reserves in the lower levels and replace machinery, can start now without having to await the rise of the price of tin.

Forecasts by the International Tin Research Institute anticipate a rise of more than 15% in the demand for tin by the end of 1996. The Managing Director, Kevin Ross, believes that the price is going to improve but he expects the market to remain volatile, and therefore requires the extra money to maintain the business in the best operating condition.

South Crofty has a total workforce of over 300 at present and increased production would not be matched by additional jobs. Because the mine has significant ore reserves, there is little chance of other now-closed mines in the vicinity being re-opened (i.e. Wheal Jane, Pendarves, Geevor, Wheal Concord, etc.).

W. A. R. Wright

Winding House For Sale

Now's your chance to have your own engine house!

Lloc, North Wales. Building plot including former winding house, Grade II listed, with planning permission for conversion to 3 bed dwelling. £60,000 to £35,000. Tel: 01352 754142.

From "Deeside Chronicle", 18th August, 1995.

A. S. Mousdale

Florence Mine Heritage Centre

The West Cumbria Mines Research Group have now opened an excellent Heritage Centre on the site of Florence Mine at Egremont, Cumbria, the last deep working iron ore mine in Europe. The Heritage Centre is open to the public every day, 10am to 4pm, 1st April to 1st October with underground tours of the still working Ullcoats Mine at 10.30 and 13.30 each Saturday, Sunday and bank holidays. This is well worth a visit; there is plenty of kidney ore and specularite to be seen. There are wheel chair facilities at the Heritage Centre and children are welcome. Old clothes and wellies are recommended, (it is easy to turn children into Red Indians in a hæmatite mine). Tours are also available all year by prior arrangement, including weekdays while the mine is working. Please telephone 01946 820 683 for details. The address is Florence Mine Heritage Centre, Egremont, Cumbria, CA22 2NR. The Florence Mine is situated on the A595, just south of Egremont at the Wilton turning.

Stop Press - A visit has been arranged for 28th April, 1996. - See Diary Dates.

Shirley Everett & Derek Eilbeck

Gold Panning

Eric Gray-Thomas came second in the Scottish Veteran Open Gold Panning Championships and fourth in the British Veteran Open. Eric is competing in the World Championships in France this year. Congratulations Eric, and the best of luck.

Water from Abandoned Mines

As a result of the summer drought, South West Water are investigating the possibilities of drawing water from long abandoned mines in Cornwall in a bid to avoid further restrictions on water use. The company is expected to submit another drought order (late August) to allow pumping to start and also to explore ways of drawing on the vast quantities of underground water. Over forty sites have been earmarked and South West Water experts are working with South Crofty Mine to test the viability of such a move.

Quantity, quality and reliability will be the main criteria during the testing period. The Camborne area already has a number of pump stations from the days when water was regularly taken from mines. In fact, extracting water from mines has been very much a feature over the past hundred years in many mining districts, before piped supplies became a regular feature in Cornwall.

W. A. R. Wright

Ecological Disaster in Guyana

A major ecological disaster could be about to unfold in Guyana (formerly British Guyana) because cyanide-saturated waste from their largest gold mine opened in 1993 at Omai, situated 100 miles south-west of the capital, Georgetown, is flooding into their largest river.

The accident could close the second largest mine in South America for up to a year because of the threat to the loggers, native Indians, wildlife and fish in the River Essequibo, which also supplies drinking water to those living along its banks.

Cyanide is used to extract gold from the ore and the highly poisonous residue had been stored in a reservoir where three million cubic metres was held behind a dam separating it from the River Omai, a tributary of the Essequibo. Cracks began to appear in the dam and this waste gushed down the Omai into the Essequibo, which flows into the Atlantic Ocean.

Canadian mining engineers from the Quebec based company, Cambior, half-owners of the mine, were trying to build a new dam on the Omai to stem the flow. However, it is estimated that 1¼ million cubic metres have already escaped.

Government authorities have sent out helicopters and foot patrols to distribute drinking water and to warn people living along the banks of the river not to drink, fish or bathe in the affected area. Local environmentalists have called on the government to declare an ecological disaster and to close down the mine completely and prosecute the owners.

This disaster contains similarities to that which occurred when the Carnon River in Cornwall was flooded with toxic waste from the Wheal Jane tin mine in January, 1992, resulting in the pollution of Falmouth Bay and associated rivers.

So much for the "feel good" factor generated by local and national governments in regard to the safety of mining techniques!

W. A. R. Wright

Nice Work If You Can Get It!

A new quango, The Coal Authority, has been set up to spend £50 million on subsidence claims. The Chairman, Sir David White, will get £18,000 per year for one days work per week.

NAMHO Newsletter - Summer, 1995.

Perhaps Sir David, who because of his position, surely reads this newsletter, will enlighten us as to his qualifications in and knowledge and experience of mining. Watch this space, but don't hold your breath - *Ed*.

Medieval Copper Working

Apropos the piece in the August newsletter from Peter Claughton, Albyn Austin writes:

In the Lake District all the principal copper veins at Coniston, Goldscope and Silver Gill in Caldbeck were worked before the arrival of the German miners in the 1560's. For instance, by 1602 Goldscope was being worked at a level in the valley bottom from a waterwheel inside the mine exhausting through the German-built adit and fed from an older adit higher up in the mine workings. The remains of another adit above the latter can also be discerned, but the top has been quarried away. The amount of ore raised by the Germans was much less than that extracted even from above their adit, without considering what was taken from below on what was quite a rich copper vein.

In Silver Gill the inspection report by Needham and Bowes for the London directors in 1602 states: "*that in ould tyme before theis Germanes comminge to Keswicke, it hath been wrought about fowerscore ffathome under the topp of the mountayne*".† This vein, however, contained both silver rich copper and lead ore. Thus, we cannot be sure that the old workings were not just for the silver lead ore. Certainly, by 1602 the works were run-in and never seem to have yielded any copper ore to the Germans, although they did get some rich silver/copper ore from their own workings lower down the gill.

The church was certainly a big consumer of copper and copper alloys in the Middle Ages. Most churches had at least one bell (even in remote, poor Cumberland) and bell metal is mainly copper with a little tin. In addition, ornamental brasses were to be found in many churches. Although the best quality was "Flemish brass", this does suggest other sources, e.g. from the UK or Ireland which provided copper or even calamine to produce the brass.

Northumbrian coins of the 800's are basically brass with varying amounts of silver, which declines with time. This suggests that the technology to produce brass and to desilver copper was around, even in the Dark Ages. The name of the moneyer is marked on these coins and fairly consistent variation in the zinc content of the brass between each moneyer suggest that they were probably producing their own brass. This tends to support local production, rather than the buying-in of imported brass/silver alloys which were simply coined in Northumbria.

† Copper Works and Life in Cumbria - G Hammersley, Editor. Stuttgart, 1988.

Subscriptions for 1996

Annual Subscriptions for 1996 are due on January 1st. You will be pleased to hear that the rates have been held at 1995 levels. If you have not already done so, please complete the deed of covenant if you pay income tax. It costs you no more but it helps the Society.

Finally

A Merry Christmas and a Happy New Year to all readers. Thanks to all who contributed to this newsletter. Please, keep the contributions rolling in - they are very much appreciated. Contributions on 3½" discs are welcomed. ASCII text format only please. Discs will normally be returned with the following newsletter unless otherwise requested.

Contributions for the February newsletter by 6th January, please, to: **Keith Nolan, West End Cottage, Woodhall, South Duffield, Selby, North Yorkshire, YO8 7TG. Telephone or Fax: 01757 638503.**

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