



The Northern Mine Research Society Newsletter

December 2003

Society Meets—2004

- People are needed to organise and lead field meetings for next year. If you are interested please contact the Secretary c/o 38 Main Street, Sutton-in-Craven, Keighley, Yorkshire, BD20 7HD.
- The NMRS Annual General Meeting, to be held in March 2004, will be held provisionally at the Wensleydale Heifer Inn, West Witton, Near Leyburn. Full details will be in the next newsletter.

Annual Subscriptions Due January 1st 2004

At the Autumn General meeting it was decided that Subscription charges would stay the same as last year and are due on January 1st 2004.

President's Message

This summer has seen changes in Society officers. Firstly, Ray Fairbairn, who has edited the Newsletter since standing in for John Hunter last year, has stepped down. I should like to thank Ray for all he had done and wish him well with his continuing researches into mines of the North Pennines.

Also going is Barry Sudell, who has been Treasurer for four years. Again, I should like to thank Barry for all he has done and to wish him and Ceyly well for their new life in Ireland.

The new Newsletter Editor is Anna Davies and I hope that you will give her your full support and overwhelm her with copy for the Newsletter.

Hazel Martell, is taking over temporarily as Treasurer. Hazel's writing and other commitments take up much of her time, however, and anyone interested in taking the Treasurer's job should please come forward as soon as possible.

Mike Gill

Inside this issue:

Headlines	1
Society News	2
Other News	3
Meets	9
Editors contact details	12

Society News continued....

Recorders report to autumn meeting

My Yorkshire Collieries Project has led to a large influx of information on coal, fireclay, ganister, ironstone, chert and whinstone mining. Members have also continued donating material to the records and I would like to thank: Bernard Bond, Roger Burt, Ken Makin, Martin Roe and Les Tyson.

Further to discussions on using a Geographical Information System for handling data generated by society projects, in September, Martin Roe and myself attended the 'first international summer school on GIS in the arts and humanities'. This was hosted by the university of Portsmouth's Department of Geography and lasted for four, very intensive days. Apart from being able to use GIS (ArcView) it was an ideal opportunity to discuss the nature of our data and the applicability of GIS to it with academics rather than sales staff. The special and temporal data which we are already generating for several areas in the Yorkshire dales are ideal.

Mike Gill

NMRS Library

Many thanks to all who have given items to the library, especially to Geoff Warrington for the Geological Survey of Britain's "Geology and hematite deposits of South Cumbria" and to Tony Fretwell for John Rowland's "Copper Mountain". Other recent acquisitions include Roger Burt's "The British Lead Mining Industry", Alistair Cameron's "Honister Slate" and Ian Tyler's books on Greenside and on gypsum mining in Cumbria. We continue to receive the Association for Industrial Archaeology's publications, the latest is "A Guide to the Industrial Archaeology of South-East Wales": this is in the form of a gazetteer sectioned according to locality and with brief descriptions of all sites and photographs of some of them. Issue 38 of "Archive" includes a fascinating article by David Blick on Bryngwyn Colliery - it includes several photographs.

There has been one loan since the AGM in March 2003. A member wanted photocopies of NMRS Newsletter items on Strontian and this led to a request to members of the Mining-History list

for further references. Additional copies were made of the information collected and this is now available to any other member interested in Strontian.

The library does not have a copy of Alan Young's "Railways in Northumberland" which was published this year; but I recommend it to anyone interested in railways and also to those who want to link work on Northumberland mines with railway transport. The rise and fall of stations such as the Allendale, Alston, Featherstone Park, Killingworth and Unthank are linked with the success and failure of associated mining ventures. Colliery tracks are mentioned and also the ironstone waggonways on Lindisfarne. It is a detailed and well-researched book with lots of nostalgic photographs.

Sally Bassham

NMRS Web Site

In response to the comment in the May newsletter about searching for the NMRS web site. It is true that if you just enter NMRS into a search engine you will get details of a host of other sites, however, try typing in Northern Mine Research Society and you will find the site straight away. Unfortunately we are not the only organisation to use the acronym NMRS and any problems finding the site in this way are nothing to do with the accuracy of the site.

Martin Roe NMRS Web Master

Namho Council meeting 16th March 2003.

The 2003 conference was held in Ireland and based at Avondale House in County Wicklow: about 100 people attended. A reception on the first evening was preceded by a lecture on the mining interests of Charles Stewart Parnell (also known to historians in connection with Home Rule and with Mrs Kitty O'shea), former owner of Avondale House. There was a full programme of lectures over the weekend and an excellent selection of surface and underground meets including Avoca, Glendassan, Glendalough and Glenmalur. In the following week there were organized visits to Tara Mine (the largest working lead/zinc mine in Europe), Castlecomer, Silvermines, Bunmahon and Allihies.

Our thanks to the Mining Heritage Trust of Ireland for all their hard work and congratulations on organizing an excellent conference. The 2004 conference will be held at Consiton and is being organized by the Cumbria Amenity Trust Mining History Society.

Sallie Bassham

Geoff Cox

We regret to announce that Geoff Cox, the owner of Ecton Mine, died on November 2nd. In recent years Geoff, who had trained at the Royal School of Mines, headed a group which ran the Ecton Educational Centre. This did much to foster an interest in metal mining amongst schoolteachers and, through them, their pupils.

Gift Aid and subscriptions

Many thanks to all who have signed Gift Aid forms. This year, we have been able to claim over £1000 from the Inland Revenue - a very worth-while addition to Society funds. If you have signed a Gift Aid form and no longer pay tax, please will you let me know so that I do not claim by mistake. With the 2004 subscription forms there will be the usual opportunity to sign for Gift Aid. If you want to help us claim Gift Aid on your subscription, and are not sure whether you have signed a form, please just sign again: although it is not necessary to sign another form, it does no harm - and it does make my job of form-filling and checking slightly easier.

Sallie Bassham

(sbassham@nildram.co.uk)

Other News...

NAMHO Underground Archaeology Seminar

Held at Grassington in October this event attracted delegates from as far as Cornwall and Wales. The aim of the event was to raise awareness of this important but often overlooked subject. It also proved to be an excellent opportunity to compare approaches and techniques.

Speakers covered topics from stone mines in south east England and near Bath to metal mines in Derbyshire, Cumbria and the Yorkshire Dales. Those attending included members of mining history groups, and local archaeology societies as well as seven local authority archaeologists. This all made for a very lively event with a lot of constructive discussion. Particularly useful was the input from the professional archaeologists who were able to tell us how important it is to deposit copies of surveys and information about underground sites in local Sites and Monuments Records (SMR's) which have now been renamed Historic Environment Records (HER's). By the end of the day we all had a clear idea of how this could help in the protection of sites and how the archaeologists could help mining history groups and contrary to what some people may think they are on our side!

Most of the survey work presented had been carried out on a voluntary basis and varied from simply mapping underground landscapes in both two and three dimensions, to very detailed surveys of

small underground sites. All different types of survey conducted for different purposes. A notable exception was the survey work underway at the Combe Down stone mines near Bath, which is been undertaken by Oxford Archaeology. This site is currently being stabilised to protect local housing, some of which is only a few feet above the mine workings, and before the tunnels are filled with concrete a detailed archaeological survey is taking place. This work demonstrated just how much more can be achieved with a full time funded project and showed how much the work carried out by members of societies like NMRS could be extended and enhanced if the resources were available.

I would like to thank all the speakers who entertained and educated us on the day and I hope that this event and future events like it will result in underground archaeology getting the attention it deserves.

Martin Roe

NAMHO Conservation Officer

Stublick Colliery, near Langley in Northumberland

Stublick Colliery, at NY833605, is a rare survival of a group of 19th century colliery buildings and its importance was recognised by a listing as grade II*. The engine house, which also held the boiler, still survives, as does a saw-mill building and two square chimneys. The site appears to

have acted as a pumping station for several shafts, which used horse gins to raise coal.

These buildings and the neighbouring farm were advertised for sale in early September, when this and other societies expressed their concerns over the colliery's future to English Heritage. The latter, it turned out, was already preparing to Schedule the site. The vendors were advised of that intention and the process is now complete.

The North Pennines Heritage Trust was amongst the bidders at the auction on Tuesday September 30th, but it was unable to match the highest bid and so did not obtain the property. The purchaser's intention is said to be to turn the site into craft workshops, but the Scheduling of the site will make it difficult.

Mike Gill

Thieveley Lead Mine

In a paper I wrote for BM.67 I described the archaeology of this little known 17th century lead mine near Burnley. I noted that trees had been planted near the site but appeared to have avoided the archaeology. When visiting the site earlier this year I was very disappointed to find more tree planting had taken place, including on a dressing floor and several shaft mounds. This is a very unusual site as it only worked between 1629 and 1635 and is very well documented. The site contains shafts, dressing areas and a small smelt mill, which was worked by foot-powered bellows. This work had been done without consulting the Lancashire County Archaeologist. The good news is that English Heritage has now agreed to make key parts of the site a scheduled ancient monument and is insisting that the trees are removed.

Martin Roe

Stabilising the Combe Down stone mines (The Environmentalist, Issue 18, August 2003, pp. 16-18)

An article in the August 2003 issue of the journal 'The Environmentalist' by Ross Singleton provides an informative description of the difficult situation now existing at the abandoned stone workings at Combe Down, located two miles south of Bath. An estimated underground void space of 400,000 m³, distributed over an area of 18 hectares beneath this village is unstable and some sections are in imminent danger of collapse. Access to the workings is restricted and is only allowed under controlled and protected conditions. Parsons Brinck-

erhoff Ltd were appointed by Bath & North East Somerset Council in 2000 to develop a stabilisation solution for the mines with a design life of 100 years. Permission to proceed was granted in June 2003 and it is hoped that construction work will commence in Spring 2004.

The Combe Down mines supplied the oolitic limestone that was used to construct many of the Georgian buildings at Bath and other well known structures, such as Buckingham Palace. The underground mines developed in the 18th century from surface quarries when the depth of overburden began to increase. Nevertheless, the underground workings are shallow, often only 2 – 8 metres below the ground surface. Mining was by room and pillar method, with an average extraction ratio of 85%, although some of the void space was partially filled with discarded waste rock. Large scale underground extraction had ceased by the 1860's due to depletion of resources and replacement by new sources.

Following closure, extensive robbing of stone occurred, which probably contributed to the subsequent instability of the mines. In more recent times, traffic vibration and climatic change may have exacerbated the problem. Many of the original pillars have lost their strength and will eventually fail. Failure of one pillar results in increased loads being placed on adjacent pillars.

The site presents several risks and challenges. These include: the workings overlie a grade 1 aquifer and any stabilisation materials used underground will have to be non-polluting; any stabilisation work will cause a significant impact on village life for several years; underground access is currently prohibited for safety reasons; the layout of the underground workings is poorly known; protected species (bats) live in the mines; the mines contain important archaeological resources and, not least, is the monetary and heritage value of the vulnerable surface structures situated in the village itself.

Various options for stabilisation of the mines have been considered, ranging from doing nothing, controlled collapse, abandonment of the village, removal of the mine roof, selective stabilisation of high risk underground areas and stabilisation from the surface. Stabilisation options include infilling with various materials, pillar wrapping, new supports (either concrete or steel) and pump packing. The final design solution for stabilisation of the mines will attempt to satisfy all of the stated concerns, although compromises will be required in many areas. We look forward to

reading the promised future articles describing the progress of this important project.

John Hunter

Greenhow Hill

The Greenhow Hill Survey is now completed. A copy of the report and site archive will shortly be deposited in the society records.

The survey covered an area of 1.7km² and recorded 1048 archaeological features including the position of over 485 shafts, 6 levels, 38 ore dressing areas, and 3 smelt mills. The archive includes over 5500 grid references and 300 photographs. One advantage to using a global positioning system to record these sites is that I can tell you that the survey involved walking more than 129km.

The results of the survey have been incorporated into a lead mining heritage trail, which has been produced by the Nidderdale AONB. I would like to formally thank the AONB for commissioning the survey, and also thank English Heritage who funded the work through the Aggregate Levy Sustainability Fund.

Martin Roe

Pinner Stone Mine in Rossendale, Lancashire

Thyssen Technical Services, as contractors to Rossendale BC, recently sealed seventeen entrances to the stone mine at Pinner near Rawtenstall. Work was completed within five weeks, and within budget, in order to comply with the terms of a DEFRA licence in respect of the bat habitat. Bats have now returned to the mine.

The mine entrances are in the Council's control and it is taking advice as to whether or not, and in what circumstances, access could be allowed to the mine. The Risk Management Group has advised that the mine entrances be inspected regularly to ensure that the seals remain secure. There is a detailed survey of the mine lodged at Rawtenstall Reference Library.

Mike Gill

Notes from the Southwest.

The news from Cornwall Base Results, which owns South Crofty Mine at Pool, is that they are now allowing underground access for visitors. The trips are £5 a head and presumably

there is a minimum number for each trip. The Rural Development Agency has said that it will compulsorily purchase the site if mining does not resume so if anyone is interested in a trip then it is best done quickly. Base Results can be contacted on 01209 715777. Access is through the decline in the Tuckingmill Valley.

In Camborne, the Trevithick Society is doing its best to save material from Compair UK. This company was set up in 1801 by Nicholas Holman and was known world-wide for its rock drills and air compressors as Holman Brothers or Holmans. The site will close next month and all production will transfer to Germany.

The Society has donated its largest single asset, the shrouds, axle, hubs and other metalwork of the 50-foot diameter Gawns water wheel, to the Laxey and Lonan Trust on the Isle of Man (A more in-depth look at this can be seen in Mike's article, p5). The wheel was built in 1865 for Snaefell Mine and will be re-erected on the washing floors below the Lady Isabella Wheel, the 150th anniversary of which is next year. Information on the project can be seen at

www.snaefellwheel.com

www.trevithick-society.org.uk

Pete Joseph

Trevithick Society Curator

A note from the Chairman of the International Stationary Steam Engine Society

I have been chairman of the International Stationary Steam Engine Society for many years. One of my particular interests is in developing registers of stationary and marine steam engines all over the world. I would be interested to learn of any known remaining steam driven machinery that readers have come across in their travels. Equally important is knowledge of individuals overseas who have interests in industrial history and again any addresses or e-mail addresses would be gratefully received.

Paul Stephens

Chairman, International Stationary Steam Engine Society

Rose Cottage

Down Road

ALVESTON

Bristol

BS35 3JQ

Paul.Stephens@ISSES.freemove.co.uk

Web site [Http://www.steamenginesociety.org](http://www.steamenginesociety.org)

International Mining History Congress 2006

Submissions are invited from those interested in organizing the 7th International Mining History Congress, scheduled for 2006.

The International Committee will vet all applications and the successful applicant will be chosen on merit. Interested parties should be aware of the need to propose a location that provides relatively easy access for International participants, that provides adequate accommodation, and that has a venue or venues suitable for a scholarly meeting. The Committee especially welcomes proposals from those close to a historically significant mining locality. The successful proposal will likely be one that has the backing of local authorities and/or an institution, as well as coming from a person or group that has prior experience in conference organising or from those who can call on people with the necessary expertise and skills to conduct a successful meeting. Applicants who believe that they can meet these criteria will be sent a document containing more comprehensive guidelines upon receipt of the submission.

Applications should be sent to reach the Secretary of the IMHC no later than 31st January 2004.

Mr Mel Davies
Secretary, IMHC
M251 Economics
University of Western Australia
Crawley, Western Australia 6009
Tel. +61-8-93802939
Fax. +61-8-93801016
mdavies@ecel.uwa.edu.au

A copy of the invitation is available as a Word file on
http://www.exeter.ac.uk/~pfclaugh/mhinf/imhc_inv.doc

The Snaefell Wheel Project

In October 2003 a 50 foot diameter waterwheel, built for the Isle of Man's Snaefell Mine, was returned to the island from the Llywernog Mining Museum in Mid Wales. Over the next few months, engineers will assess and repair the wheel, with the aim of rebuilding it at the Laxey Washing Floors over the next year.

The wheel was ordered in 1865 by the Snaefell Mining Company from Messrs Leigh and Gilbert Howell of the Hawarden iron works in Flintshire, and was one of two identical wheels made by the

company. The first wheel, christened Mary Ellen, went to the Van Mines at Llandiloos, whilst the second was delivered to the Isle of Man and was used for pumping.

In 1910 the latter was dismantled and sent to a china clay pit near Bodmin, in Cornwall, where it was known as the Gawns Wheel and drove a plunger pump. It was later modified to drive a generator, which powered a submersible pump, before falling into disuse in the 1950s.

During the summer of 1971, the Cornish Wheel Preservation Society, which later merged with the Trevithick Society, acquired the wheel and put it into storage. Five years later, the wheel was loaned to the Llywernog Mining Museum with a view to reconstructing it there, but this was never done.

Early in 2003 members of the Laxey Mines Research Group discovered that the Snaefell wheel, the fourth largest used on the Island, had survived and was lying in pieces on a Welsh hillside. Enquiries to the Trevithick Society and Llywernog Mining Museum met a positive response and a loan of the wheel to the Isle of Man was proposed.

On September 20th, therefore, members of the LMRG and the Trevithick Society met at the Llywernog, where a crane loaded the wheel's components onto a large waggon (organised by Manx Independent Carriers). The wheel arrived on Manx soil on September 21st after being away for around 95 years.

Or if you feel that you can assist in any way whatsoever (financial or practical) in rebuilding this Manx wheel at the Laxey Washing Floors, please contact Pete Geddes, the project leader via the contacts page on the website mentioned in Pete Joseph's article (or at 11 Western Avenue, Bal-labrooie, Douglas, IoM).

Mike Gill

Myers Wood Medieval Iron Smelting Site.

A one day symposium will be held on Saturday 6th March 2004 from 10am to 4.30pm at the University of Huddersfield when the initial results will be presented from the excavations of the Myers Wood iron-smelting site. The site is located on land owned by the University at Kirkheaton, Huddersfield and was discovered two years ago by members of the Huddersfield and District Archaeological Society (HDAS). Following a suc-

successful application for funding from the Local Heritage Initiative (LHI) a joint project was set up between the Society and the Department of Archaeological Sciences, University of Bradford to investigate the site.

Myers Wood iron-smelting site is unusual as it contains a charcoal platform, ore roasting hearths, at least five furnaces, and a bloom-smithy where the iron blooms were refined. Recent developments include finding evidence for ironstone mining, a short distance from the furnaces. Speakers include members of the HDAS who will explain how the site was discovered and how LHI funding was obtained. Researchers from Bradford will talk about the excavations, the results from geophysical surveys across the site, archaeo-magnetic dating of the furnaces, the slag chemistry and charcoal analysis.

The fee is £15 for the day and includes lunch and refreshments (£12.50 for over-60s and students). Further information can be obtained from: The Secretary (HDAS), 72, Moorside Road, Kirkheaton, Huddersfield HD5 0LP who can also be contacted on 01484 511400.

Rob Vernon

Yorkshire Lead Mining Museum

The Trustees of the museum, at Earby in Lancashire, recently announced their successful bid for phase two funding from The Heritage Lottery Fund to complete the internal restoration of the listed II* building. Out of phase two's estimated cost of £201,247, the Heritage Lottery Fund has allocated up to £181,000 or 91% of the total. This leaves the Trustees with £20,247 to raise, but it is hoped that work will begin early in 2004 and take around five months to complete. The stone-flagged ground floor was part of phase one, but phase two will include adding a first floor, stairs, lift, toilet, roof insulation, storage space, office space, plastering inside walls, electrics, heating and plumbing.

Phase one, the consolidation of the building's fabric, was completed twelve months ago, in partnership with English Heritage and others. Phase two will make the building more versatile and attractive to visitors, as well as allowing the better display of its unique collection of lead mining artefacts.

This Society has set aside money towards 'display and conservation of artefacts' under phase three of the project.

Mike Gill

Excavations in the Chalcolithic mines in the Timna Valley (Israel)

Mine T in the Timna Valley was partly excavated in 1976 by the 'Arabah Expedition', directed by Beno Rothenberg, in collaboration with the German Mining Museum Bochum (Conrad-Rothenberg, *Altes Kupfer im Timna-Tal*, Bochum 1980). In March-May 2001 further excavations were undertaken on behalf of the Institute for Archaeo-Metallurgical Studies (IAMS), London, directed by Beno Rothenberg, IAMS, and C. Tim Shaw, Imperial College London, with Alexandra Drenka as chief field supervisor. Further field work was undertaken during 2002. The survey of the mines was undertaken by A. Frumkin, G. Danon, R. Porat, A. Reikin, of the Israel Cave Research Centre, Hebrew University, Jerusalem.

Mine T (Fig.1), one of the ancient copper mines of the Timna Valley was discovered in 1976 by Beno Rothenberg during trial excavations in the Timna mining region (map ref. 14320-91150 – 14330-91170) and subsequently partly excavated. Two periods of mining could be distinguished, dated by archaeological finds inside the mine workings to the Chalcolithic Period, 5th-4th millennium BCE, as well as the Egyptian New Kingdom, late 14th to middle of 12th centuries BCE. There were two distinct types of tool-marks on the surface of the workings: shallow hammer marks, obviously made by the shafted stone hammers of the Chalcolithic period – many of which were actually found at the site and inside the mine – and deep, long chisel marks, obviously made by metal chisels (found in our survey of the mines) of the Egyptian New Kingdom. However, some technological problems could not be solved at the time: the ventilation of the underground workings and how were the shafts made – dug from the bottom up or dug down from the surface? – and, foremost, the overall organization of the mining systems of the two periods identified.

The excavations in 2001-2002 revealed new galleries and chambers, eight new shafts (T1000 - T1007), a large connecting tunnel between shaft T 42 and newly discovered shaft T 1002, and the most impressive part of Mine T1: the 'green chamber' (marked in Fig.1 as Room B). We started our excavation in the north wall of shaft T.40, where the excavators in 1976 stopped their work in this area. Continuing north, we cleared another 16.70 m. (the gallery was 1.70 m. wide, its height 1.72 m), but we did not reach

Mine T

(Shaw, after Frumkin et al 2002, Bochum1980)

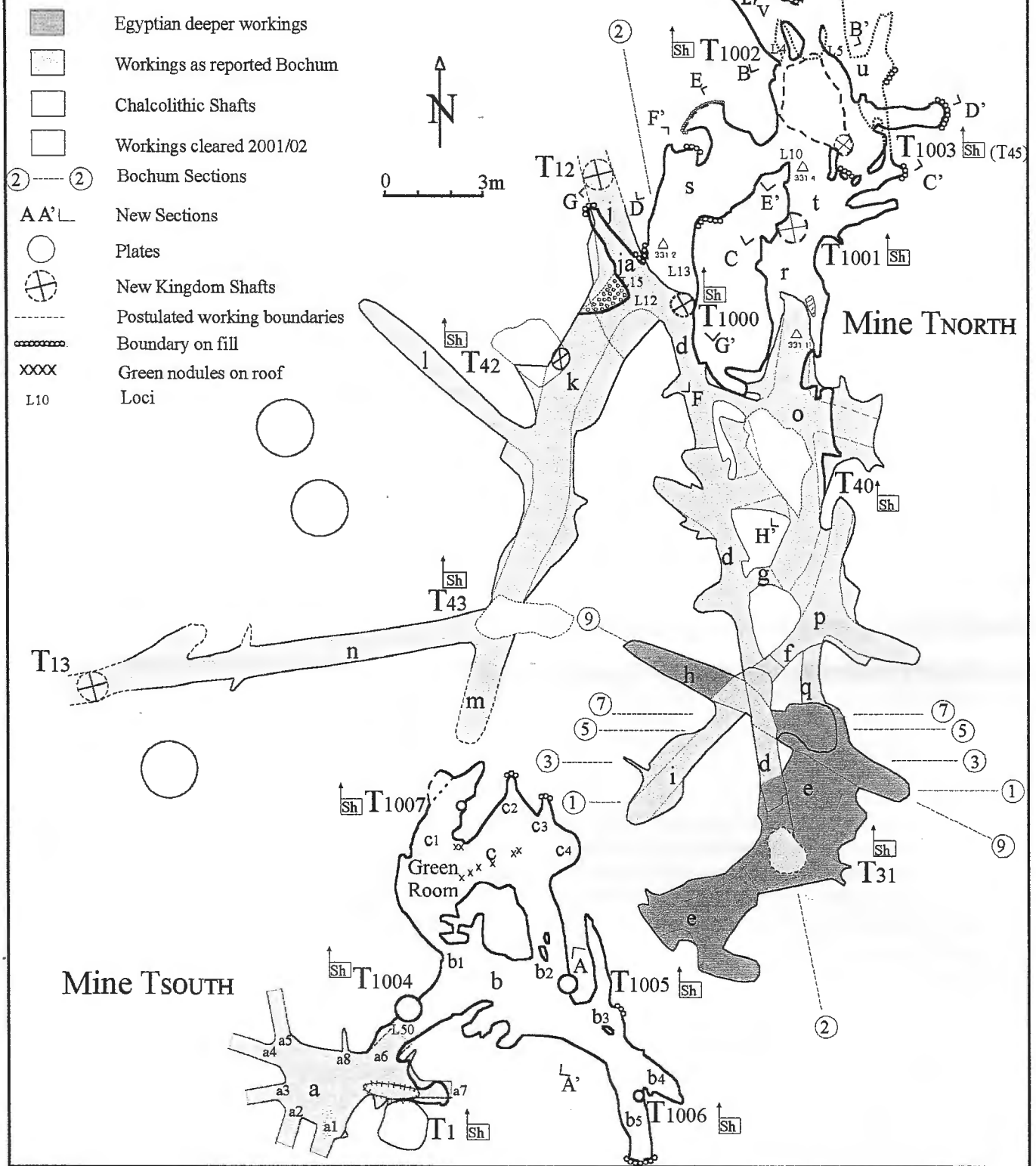


Fig. 1 Mine T at the end of the excavations in 2001-2002. The area marked "old survey" was excavated in 1976.

the end of these workings. Our survey in 2002 showed that the workings of Mine T seem to continue north for further 50m, where several galleries with typical Chalcolithic hammer marks have been found.

Supporting pillars were present at several locations in the galleries of Mine T, evidently these pillars played a very important role already in Chalcolithic mining, providing stability to the underground galleries and safety for the miners. On the surface of many of these pillars we found numerous long chisel-marks, associated with Egyptian New Kingdom mining. Besides the pillars, such Egyptian intrusive presence is attested by their typical tool-marks in many places of the Chalcolithic Mine T and also by the very regular Egyptian gallery workings in contrast to the irregular Chalcolithic mining spaces.

The enigmatic technology of the shafts could be established: The location of the gallery below was established by acoustic means and the shaft was sunk from the surface into the gallery below. During this season of our excavation, we opened six shafts, using the same method (shafts: T 1000- T 1005). We assume that all these shafts were used for ventilation and light, some probably also for the transport of copper

ore. These ventilation shafts are quite different from the shafts used for the movement of the miners, which show rough steps leading down into the underground workings, f.i. shaft T 31.

Mine T1 is also a Chalcolithic mine, partly reworked and extended by the New Kingdom miners. In its 'Green Chamber' we found large lumps of green copper ore sticking out of the white sandstone on the ceiling of the 'chamber'. We assume that this treasure of copper ore was not exposed in ancient times and was hidden by a layer of the local sandstone which eroded with time.

Further excavations will be needed to establish in detail the overall character of the mine workings of the different periods at Timna, but already at this point it is clear that already the Chalcolithic miners of Mine T had developed their own mining technology. Mine T, and the other mines of the same period in Timna, are the earliest underground copper mines so far discovered and excavated in the Levant.

*Beno Rothenberg
Institute for Archaeo-Metallurgical Studies
Institute of Archaeology
University College London*

Meet Reports

Not the Yewthwaite/Goldscope Meet

I was really looking forward to the Lake District meet - but not enough to allow enough travel time to get to Littleton by 10.30am. I wasn't that late, only 10 minutes, well 15 perhaps. I'd obviously got the place right, there were lots of cars and a very covetable Series I LandRover; but no sight of the group. So I set off for the tips I could see through the trees, and made the wrong decision. When I reached the level entrance, high above the stream, I could see a group walking purposefully up the other side of the valley. They were too far away and going too fast for me to catch up. So after a brief reconnaissance I spent the rest of the day doing other things, including visiting The Pencil Museum in Keswick. (Not a patch on a Northern Mines meet; but well worth a visit.) The first thing that caught my eye was a notice on a "Meer Stone". When a second "Meer Stone" was displayed I wanted to ask

questions and looked for a Museum Curator. Why were they called Meer Stones? Was the term being used in the Yorkshire or the Derbyshire sense? Did the term demonstrate a link with the German origins of some Lake District miners? ... ? None of the staff could answer any of my questions and their books couldn't help them.

On the way out through the Museum Shop I noticed Ian Tyler's book "Seathwaite Wad" and panic struck. Perhaps I hadn't read it properly? Did it contain full information about Lake District Meer Stones and I'd never noticed? A quick perusal of the Museum Shop's copy didn't help. However, a more thorough read when I got home at least reassured me that I hadn't missed the information before. Ian is careful to call the stones "Marker Stones".

So - what constitutes a Meer Stone? Why, and by whom, are the Keswick Museum stones called "Meer Stones"? Are there "Meer Stones" in areas other than North Pennines, Yorkshire and

Derbyshire?

P.S. Sorry to be late Ian, and really sorry I missed your meet.

Sallie Bassham

Fagnergill, Arkengarthdale

On Sunday 26th October five members were privileged to meet with David Carlisle and his colleague Alex Law, for a trip into Fagnergill. A lot of hard work by David and his colleagues in the Earby group has opened up this very interesting mine after nearly a century since it was last worked. The entrance is on private land and is

gated and locked to protect the workings, although ingress is not particularly easy involving a couple of crawls through falls and about 200 yards of wading through waist high, cold water. Five hours of exploring underground and we had hardly skimmed the surface. Sincere thanks to Dave and Alex for giving up their Sunday for us.

Alan Mills

Book reviews

Mining and Metal Production through the ages

P. Craddock & J. Lang (eds)

The British Museum Press. 296pp - £65

This generally very well produced and long-anticipated tome is a weld, being part conference proceedings and partly a re-exploration by Craddock of his 1995 book, 'Early Metal Mining and Production'.

There are 18 chapters of varying lengths. The majority of the conference papers are 7 – 22 pages long, the four Craddock authored or co-authored chapters are 15 – 27 pages and there is an anomalous, 52- page chapter. The shorter chapters are more accessible although the Craddock review chapters read well.

Copper, zinc, tin and their alloys, brass and bronze, dominate the volume although there are two chapters on iron and steel and one on silver. There are no golden chapters although the metal is mentioned quite often. Slightly more than half the chapters deal partly or exclusively with the Bronze Age and all but two chapters are geographically centred on Eurasia.

The conference, entitled 'The Prehistory of Mining and Metallurgy' was in 1995 and so many papers reflect the interests and cause célèbre of that time hence it is not surprising that there are two chapters dedicated to Feinan, one on Kestel and that the Zawar zinc and Welsh/Irish Bronze Age copper mines including Ross Island are discussed. Unexpectedly there is only one lead isotope chapter.

Some chapters have a broad geographical theme: these include an overview of Bronze Age Mining in the British Isles (Timberlake); an illuminating chapter on indigenous Pre-colonial copper-mining in Southern Africa to give a timely reminder that it was not all African iron smelting (Miller); a largely ethnographical chapter on tin placers in the Indian subcontinent (Babu); Mei and Li on Bronze Age copper technology in western China and a longish and scholarly chapter on iron and steel manufacture in ancient Eurasia by Craddock.

On a more focused scale the two Feinan chapters give a temporal overview of 5000 years of mining and smelting (Weisgerber) followed by a more metallurgically focussed chapter by Hauptmann. Yener *et al* write convincingly on the presence of tin at Kestel/Göltepe, particularly its presence at the industrial site of Göltepe. Having petrographically examined some of the haematite - trace amounts of cassiterite 'ores' from Kestel, I was not expecting to be won over but probably am. The second iron-steel chapter is Feuerbach *et al* who discuss early Islamic steel from Merv in Central Asia.

Other chapters deal with artefacts/raw materials. These include a resource chapter describing the mineralogy and economic geology of the fahlerz minerals (Ixer and Pattrick), a cautionary chapter on the problems in trying to produce useful environmental geochemistry (Mighall) and a short chapter describing, in detail, copper smelting furnaces from Austria (Herdits). The only precious metal chapter concerns the Phoenician extraction

of silver from polymetallic sulphide ores using baryte (Kassianidou), however, both gold and silver smelting are discussed in an excellent review of crucibles by Rehren. Craddock (B) *et al* write exhaustively on hafted Andean mining hammers from perhaps the most famous porphyry copper mine in the world Chuquibambilla and Craddock and Eckstein and Craddock and Zhou respectively expound on brass in antiquity and modern country-style zinc production in China. Although in some chapters the geology is dated and probably unnecessary, overwhelmingly these chapters have been well-written/scientifically edited without too much padding.

However, the 52 page Gales' Bulgarian lead isotope chapter could and should have been edited to half its length, removing the repetitions, many of the data tables and softening the intrusively polemical style, so as to bring the science to the forefront rather than the authors. Fortunately for the reader the 'principle conclusions' at the end of the chapter encapsulate the data and main scientific arguments so all is not lost.

As for the volume itself the production values are excellent, the text is free of typographical errors (I only found one!), the English is free-flowing and there is an abundance of illustrations. Some of the black and white diagrams/maps remain in their original German or Pre-Revolutionary Bulgarian, some have not reproduced as well as could be expected and in Craddock and Zhou it is difficult to match some photographs to their captions – but all these are very minor points. The almost 25 pages of colour-plates in the middle of the book are a huge bonus; the colour is good in both the photomicrographs and the scenic views but it is a pity that 'the characteristic blue-green flame' in Plate 18.13 has not reproduced well-enough in my copy to see it.

The book, at £65, is not a whimsical buy. There is more metal manufacture than mining, more Bronze Age than later but it is filled with some splendid, approachable review chapters and good ethnography in exotic locations. Although the delay of almost a decade means that a number of chapters and their concerns are a little dated (and other potential chapters were lost), the addition of the Craddock chapters lift this volume from being a conference proceedings to something less ephemeral (and so perhaps justifies the wait). To my mind this volume makes a better undergraduate/postgraduate text than Craddock's solo 'Early Metal Mining and Production'.

Finally, my favourite bit of text is right at the end

(page 285) where the use of old plastic bags/shoes as raw materials in Chinese zinc refining is discussed – a convincing example of the value of ethnography – it's not just site- (sic) seeing but truly illustrates the old geological saw 'the present is the key to the past'. There is a lot of both in this book melded together to give it its strength.

Exploring the Limestone Landscapes of Upper Wharfedale

(Cave Studies Series: 13)

Phillip J. Murphy

Earlier volumes in the Cave Studies Series were regional guides covering large areas of limestone karst terrain. This was necessarily at the expense of detail, and the Yorkshire Dales volume concentrated on the classic caving area in the north-west corner of the county without mentioning Wharfedale. This volume is, therefore, intended to be the start of a new approach, with local guides featuring the best and most interesting cave and karst features of smaller areas.

It features seven excursions, varying in length between nine and sixteen kilometres, to parts of Wharfedale between Appletreewick and upper Littondale. Each walk has a route map, marking salient points, and is copiously illustrated with photographs of interesting features. This is not a highly specialised book and so is ideal for the general reader wanting a better understanding of the landscape.

Published by the British Cave Research Association in October 2003 (ISBN 0 900 265 27 2). Paperback 48pp.

Rob Ixler



DYSERTH, NEAR PRESTATYN
Of interest to developers, householders and farmers alike.

THE CLIVE ENGINE HOUSE & 20 ACRES AT DYSERTH HALL, DYSERTH

A unique listed building of historical importance offering subject to planning permission, very real development prospects within the holiday, commercial or residential sphere. Together with 20 acres of excellent agricultural land which has lengthy boundaries abutting the residential development of the village of Dyserth, the Graig Park Holiday Complex and thirdly the A547 Prestatyn to Rhuddlan Road. Seldom does such an interesting parcel with so much future potential come to the market place.

For sale by formal tender

Denbigh office

Thanks to all who contributed to this newsletter, my first as Editor. Please continue to send material for the newsletter. Contributions can either be sent by email via the website or direct to me. Alternatively, you can post contributions either as text, or on disc, all are welcome. If you require anything returning, it will be returned with the newsletter unless instructed otherwise. In particular, photo's, plans, and pictures are welcome as long as they can be reproduced well in black and white. Contributions for the February newsletter should be with me by mid January please to:

Anna Davies, 1 Ashleigh Street, Ovenden, Halifax, HX3 6QZ

davies_al@hotmail.com

The views expressed in this newsletter are those of its correspondents and are not necessarily agreed with or shared by the Northern Mine Research Society, it's officers or the Newsletter Editor. The accuracy of statements made in articles submitted for publication will not normally be checked by the Newsletter Editor for validity. The responsibility for the contents of articles submitted by individual members, or groups, remains with the authors and cannot be accepted by the Society, it's Officers or the Newsletter editor.

Visit our website www.nmrs.co.uk