Library Additions
A number of publications have been received and are to be added to the Club Library:


North Wales C.C. Newsletter: No. 273, November 2000,

Caves & Caving (Bulletin of the BCRA), No. 88, Autumn 2000 - most of this issue is given over to reports from ‘Hidden Earth’ 2000 (Bristol), other articles include a “Tribute to Graham Balcombe” (a ground breaking climber and cave diver, who sadly died in March 2000), and “Discovering Carboniferous Limestone”, by Trevor Ford.

Subterranea Britannica: Secretary’s Newsletter No. 23, 2001 - subject include; Hastings Caves, Belsize Park Deep Level Shelter, Llanberis bomb store, the Maginot Line, Tower Colliery, Dover tunnels.

Subterranea Britannica (RSG): ‘Siren’, Newsletter of RSG, Issue 8, Spring 2001, cover visits to RAF, ROC and similar underground sites.

Library Loans
Alan Robinson has been working hard on the Library, sorting it out and checking for missing items- if you have any Library items please contact him.

New Members
Jon Knowles, had his second reading at the February meeting and is now a member.

Gone Dutch
Following the broadcasting, by Dutch TV company VARA on the 12th of December 2000 of the ‘Jules Unlimited’ item recorded at Snailbeach the company have sent us a video tape copy of the programme. This was shown at the February Club meeting and is now in the Club Library and available for loan. It was felt that the item worked well, and gave a good impression of the Club’s exploration activities as well as the preservation side of things - luckily the material was recorded on the day that the Trust fitted the sheave wheel at Snailbeach so this was also featured in the programme.

Radios Stolen
Two of the Club walkie-talkies have been stolen from Mike Worsfold’s car. When you are transporting Club equipment please keep it out of sight - be vigilant, not everyone is as honest as we are.

Recent Trips
Llanymynech, Penarth, Highfield Shaft, Stirchley Tunnel (Rescue), Snailbeach, Burgham, Neal’s Shed (SRT practice), Scott Level

Perkins Level
The token system has been changed, please ‘check’ with Steve Holding for details.

Future Trip
Stuart Tomlins has details of a possible Shropshire Mines Trust trip to Romania, you will have to do some work, but there is a chance to explore a Romanian Gold Mine. Estimated cost about £300.

Holman Bicentenary
The famous mining equipment firm of Holman Brothers (more recently known as Compair UK Ltd.) is celebrating 200 years of trading this year. Established in 1801 at Cambourne, by Nicholas Holman, it listed Richard Trevithick amongst some of its first customers.

Mining Jobs
The first advertising campaign to recruit miners in Scotland in 20 years started at the end of January.

Longannet Mine in Fife is looking for 130 staff after a government cash injection of £17.7m

Foot and Mouth Restrictions
Cavers and mine explorers are being asked to avoid visiting sites where livestock are present and grazing takes place, during the current outbreak of the disease.

At the time of writing this, the whole of Dartmoor and Exmoor has been closed to the public, with legal powers to support the ban.

See page 3 for more details of the initial NCA request.
Never on a Sunday
The launching of ‘Never on a Sunday’ book on November 30th, 2000 was very well attended (over 60). The six ‘editors’ put on an excellent ‘Reading’ of selected sections which was well received. The book is an excellent piece of work, containing the memories of ‘old timers’ including some who worked the mines. Several well known ‘characters’ were present and their reminiscences kept members entertained to nearly midnight. [Sadly ‘Never on a Sunday’ is now out of print, and it seems unlikely to be reprinted, which is a shame for such an interesting and well produced book. Kelvin]

Crops Up!
The whinberry crop was excellent last summer, the miner’s ‘Whinberry pies’ available at the Stiperstones Inn reflect this.

Mines Inspector Book
Tony Oldham (bookseller) is advertising his new book “The Life and Times of Sir Clement Le Neve Foster, 1841-1904”, privately published, 98 pages, 14 plates. It costs £3. Le Neve Foster was involved in Shropshire mines as an inspector - see “Mining Characters” in ‘Below’ 95.2.

Bath Arms Reflections
Rather than rush through Minsterley, stop and stand on the pavement outside the old Bath Arms. Imagine the roads by the bridge filled with livestock pens and visitors on market day. The scene surrounded by 4 pubs (Bath Arms, now closed, Crown and Sceptre, The Bull - now houses, and the Miners Arms - now the Bridge Inn) and two churches, Holy Trinity (C. of E.) and Congregational. Opposite the iron-urinal, through the hole in the wall (notice the iron lion on the top) and behind the Bath Arms carpark and over a couple of fields the reconstructed 4 vane windmill. What a picture!

Colliery Ventilation
A new book, “The History & Development of Colliery Ventilation” by Alan Hill (ISBN 0904334 198) contains a chapter on the Lloyd Fan, which was developed in Shropshire (see SCMC Journal No.4 1996). It is an excellent, well prepared book on its subject, but does seem to have overlooked the ventilation ‘survey’ done by the Mines Inspectorate (3 fans in Shropshire in 1891 and 8 fans in 1900 - 4 Guibal, 2 Schiele, 1 Chandler and 1 Blowing). Some of the colliery locations surprised the writer (ignoring the fact that Woodhouse is put in Shropshire, with Granville in Salop, Billingsley is given to Lancashire (maybe there was a colliery of this name there too) and Bangup Colliery is put in Shropshire, although it is a Staffordshire Pit.

Mine Pictures
Two excellent photos of Woodhouse Colliery, St. Georges have appeared in the Shropshire Star recently, both taken in its 1920’s/30’s heyday. This was Shropshire’s largest colliery at this time (742 employees in 1922), when Granville employed only 331, Kemberton 678 and Highly 495.

Shropshire Books
Two recent Shropshire books provide some interesting mining details:

a. “The Gale of Life, Editor J. Leonard et al(ISBN 1-873827-36-9, pub. 2000), has a chapter on the Roman Lead workings at Linley, which says that there are 3 lead pigs definitely known from Shropshire (from Acton, Snailbeach Farm and Snead). This compares with 4 in 1931 (Whittick said there was one in the British Museum, Liverpool Museum and Birmingham Museum, another was ‘lost’). In the 19th Century it was said that there were 5 in total. The recent book implies that none were found at Gravels but this goes against several contemporary reports.

b. “Albrighton & Shifnal” by A.Brew(ISBN 0-75240384-2) contains a photograph of the Albrighton Band resplendent in uniforms which “came second-hand from the Lilleshall Colliery Band” about 1935. These seem to be the uniforms for which a grant was given to Lilleshall Miners Welfare in the 1920’s (see ‘Below’ 1996.4).

Watercourse Survey
The local council is, at present employing contractors to do a full survey of the “Coalbrookdale Watercourses”, including the culverts. The report should be available in early 2001 (see ‘Below’ issue 2000.2 for information on the Culverts). The Coalbrookdale Museum was seriously flooded during the recent wet period.

New Publications
1. ‘Never on a Sunday’ - see above, well worth getting if you can track down a copy. £12.95
3. GenFind (Telford) a PC database of 70,000 genealogical records, mainly pre-1850 and few from the Southern part of the Coalfield. £25 or pay for a search, contact GenFind, 18 Jay Drive, Leegomery, Telford, TF1 6FU.
5. “Stone Quarry Landscapes” by Peter Stanier contains a chapter on the Clee Hill Quarries, and includes 9 historic quarry photographs.
Having spoken to the farmer (who I know very well), who owns the site, he is getting, shall we say, rather irritated at the number of people who are firstly visiting the site without permission, and secondly, those who ‘just turn up’ asking to visit. The farmer is Mr. Steven Evans of Cefyn Gweriog Farm (01654 781260). He is amenable to people visiting, but if they are in groups rather than one’s and two’s I think he would appreciate this better since it means less telephone calls.

Those ringing only have to say “Bernard Moore from Bryn-yr-Eithin Farm (nr Henllans Farm), has said this is his preferred route, that we will shut any gates, respect his land, take all precautions, are insured for any mishaps, and would he like them to go to his farm first before going onto his land”. In this way he will be happy.

The matter has been placed into my hands, and what concerns me most, is that he is threatening to bulldoze the Dressing Shed since it is becoming unsafe, and he doesn’t want anyone hurt for the obvious reasons. This building could be easily made safe, and I am certain, with the right approach, that an agreement could be made whereby the structure could be secured, and all would be happy.

from Bernard Moore via Roger Gosling, NAMHO Treasurer.

Foot and Mouth Restrictions

During the current foot and mouth crisis in the UK the authorities have asked the public to restrict their movements on foot across farmland and open country and to stay away from all areas containing livestock. This is a precautionary measure to prevent the spread of the disease amongst animals, it has only minimal effect on humans.

Fresh outbreaks are being reported on a daily basis, throughout the country, so it is not possible to say which areas are ‘safe’ and which aren’t. Given that the majority of British mine and cave sites are on farmland or open country it is only sensible to curtail visits to such sites during the crisis.

Cavers (and mine explorers) are being asked to follow this advice and limit their activities until all restrictions are lifted.

It is very important that everyone cooperates in this matter which poses a severe threat to the farming community and others. If there is any doubt whether a cave is situated on land that may be affected please contact the regional Conservation and Access Officer; contact details for which can be found on the NCA web site at: www.nca.org.uk.

The basic rule to follow is DO NOT go onto any land if there is any doubt, or without first obtaining permission from the landowner.

Currently there is no access to many caves on Mendip, in the Peak District and the North, however some local Wildlife Trusts and other organisations are continuing to allow access onto some of their land and access to some other non-grazing land may be permissible, but it is essential to check first.

General information on the disease and restricted areas is available on the MAFF web site at: www.maff.gov.uk

Please co-operate - those who remember the 1967 outbreak will know how bad this disease can be for all involved, not just the farmers.

Graham Price
Conservation Officer
National Caving Association

Log Washer?

In the 99.1 issue of ‘Below’ George Hall put forward his theory that the Snailbeach ‘spiral classifier’ was in fact a ‘log washer’ used to clean mud and clay off barytes.

I agree that it was probably used to clean the barytes, but I disagree about it being a log washer. George gave a very good description of a log washer in his article. Basically a log washer is a shaft or ‘log’ with blades, rotating in a trough. (see ‘Below’ 99.1 page 18 for the full description).

The Snailbeach classifier (which is being stored in the loco shed at Snailbeach) has no log, and had no provision for a shaft to rotate separately inside. The central shaft is firmly attached to, and supports, the sides. It is a 7ft long wooden cylinder, tapering from about 2ft to 18in, with a wooden spiral fixed to the inner surface. The whole thing rotated with the central shaft.

Therefore I suggest that the ‘spiral classifier’ is a type of ‘spiral drum washer’ used to break up and separate the mud and clay from the ore prior to jigging. If this can be classed as separation by size then it could be called classification, and therefore the washer could be called a ‘spiral classifier’, although personally I would still prefer the term ‘washer’. A photograph of the spiral classifier in place is on page 87 of Ivor Brown’s ‘The Mines of Shropshire’.

Richard Amies
The Midland Mining Commission First Report (South Staffordshire) 1843, contains two engravings of a similar style to the ‘Mystery Print’ (Figure 2, on the next page).

Engraving 1
The first engraving (Figure 1, this page) shows an engine house and two shafts almost exactly the same as the ‘mystery’ one, but the other way round ie: headframes to the right of the engine house. It is described as “Whimsey or Engine drawing coal”. No artist is given but the lithographer was ‘Standidge’ of London. Looking at the drawing, it appears that the engine house had two beehive boilers, but it is not possible to see the position of the reel in relationship to the flywheel.

Engraving 2
The second illustration is of an underground view in a ‘Thick Coal’ mine with exactly the same type of wagon and rails. It is described as “A section of Bradley Mine near Bilston, showing the various strata and the several operations of the miners in getting the Ten yard Coal in the Staffordshire Coalfield”, [unfortunately a copy of this illustration, suitable for printing here, was unavailable when ‘Below’ went to press, Kelvin].

There must be a good chance that the mine shown in ‘Below’ is Bradley Mine near Bilston about 1843.

There is also an illustration “Working the ten yard coal seam Bradley Mine, South Staffordshire” in C.Tomlinson’s, ‘Cyclopaedia of Useful Arts’, Vol. 1 Part ii (1852), facing page 393 (Figure 3, on next page), which is most interesting.

Ivor Brown

To muddy the waters even further Figure 4, on the next page also appears to be a South Staffordshire mine, engraved around the 1850’s - 60’s. There must have been quite a crush underground at that time with all these illustrators down there!

Kelvin
Figure 2, right: Mike Munro’s original mystery picture.

Source most probably:  

Figure 3, below: “Working the ten yard coal seam Bradley Mine, South Staffordshire”

From:  
C. Tomlinson, ‘Cyclopaedia of Useful Arts’, Vol. I Part ii (1852), facing page 393

Figure 4, below: “Working Coal in the thick coal of South Staffordshire”

From:  
Mines and Miners or Underground Life (“La Vie Souterraine”) by L. Simonin, English translation: Henry W. Bristow, 1868, Fig. 58, facing page 129.
Rough Park Mine was situated at about NGR SJ 681 050, about half a mile north of Brickkiln Leasows Mine on the border of Madeley Parish with Dawley (see Map 1, page 8). It is in a valley which leads down to the ‘Dale Valley’ and then to the Gorge. This valley has been a route for mineral transport for at least 200 years, by horse and pannier, cart track then tram road (locally called the ‘Ginny Rails’) and from the 1860’s, by standard gauge railway.

The tramway from the Lightmoor area to the Coalbrookdale Works continued alongside the railway until the 1930’s (see the photograph on page 25 in ‘The Wenlock Branch’ by K.Jones), the railway is still in use leading to the Power Station.

Very few references to mining at Rough Park have been found. Trinder refers to three new steam engines, with parts made at the Madeley Wood Ironworks, being erected here between 1794 and 1797 and that, at about this time, the Madeley Wood Company were selling coal from the mine.

The Victoria County History mentions that in 1795 John Davies made 6,425 bricks for the Rough Park Mines. These references and the fact that William Reynolds owned shaft strata sections of the mine (see later) would indicate that a shaft, or shafts were put down or refurbished at this time.

In addition to the above, there is some evidence for an older mine in this location, close to the railway as SCMC Member, Ken Jones has reported that an ‘engine’ is shown in this position, known as the ‘Vallings Leasow’, on the Earl of Cravens Map of 1772. However the later plans submitted for the railway which goes through this ‘Leasow’ did not show the engine.

The shafts are not indicated on any known early published map but the 1847 Tithe Map does show, close to the line of the later railway, as Plot 229, “Engine House, Pit Mount and Road”. The owner was the “trustees of the late Robert Ferriday” and the occupier was Richard Williams. The Ferridays were important landowners and mine operators at this time.

There are at least three, possibly four, shaft strata sections available for the Rough Park Mine, but precisely which section applies to a particular shaft is not known. The British Geological Survey has however named the shaft nearest the farm as ‘New Engine’ but the strata section given is similar to Prestwich’s Old Water Pit Section, published in “Geological Coalbrookdale” 1840.

The depth to the Little Flint Coal Seam is given as 74 yards in the former and 73 yards in the latter. ‘New Engine’ shaft is shown on the 1884 OS Map and is at the southern tip of Plot 229 on the Tithe Map, between the two ‘Three Cornered Fields’.

The other shaft, believed to be nearer the railway, is probably the Rough Park Engine Pit as referred to by Prestwich in 1840. It is given as 58.5 yards deep on the shaft section, the lowest seam being the Little Flint Coal. This seam is shown as being at 60 yards deep on Plymley’s earlier section which is probably from this area.

It is described in Plymley’s “Agriculture of Shropshire”, in 1803, as being “in Madeley Field” and the section was given to Plymley by William Reynolds. There is a problem with this section however as it mentions the Top Coal Seam (with a Blackstone Ironstone beneath, when it should have been found above that seam) which is likely to be missing in this area. Near the Gorge the strata of

<table>
<thead>
<tr>
<th>Shaft Sections</th>
<th>yd</th>
<th>ft</th>
<th>in</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Engine Pit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Level ........................................</td>
<td>c110</td>
<td>m</td>
<td>0 0</td>
</tr>
<tr>
<td>New Mine Seam ..........................................</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little Flint ..........................................</td>
<td>68</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td><strong>Old Water Pit in the Rough Park</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Surface to the sulphur coal .......................</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. Sulphur coal .......................................</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3. To the rock ........................................</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4. Rough rock .........................................</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>5. Calaminker .........................................</td>
<td>0</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>6. Brown rock .........................................</td>
<td>11</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Lower coals - not given</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to the little flint coal .......................</td>
<td>42</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>73</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Rough Park Engine Pit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to little flint coal ................................</td>
<td>57</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Flint coal .............................................</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>
Shaft Sections

<table>
<thead>
<tr>
<th>Strata in Madeley-Field</th>
<th>yd</th>
<th>ft</th>
<th>in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppose the soil, clay, or sand, may be, in general, about</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stinking-coal rock</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ditto clod, blueish-grey</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>First stinking-clod</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A tough pricking</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Second stinking-coal</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>A strong clod, darker than the first</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Freestone-rock, containing plum puddingstone</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A clod, much like the first</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Top-coal (or 'uppermost' workable coal, IJB)</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Basses, or blacks</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blackstone, earth and ironstone</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bottom-coal</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Great-flint and ironstone</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Penny-measure and ditto</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Third stinking-coal</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Pricking</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Upper clunches</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sill-coal, or big coal</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Two-foot rock</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two-foot coal</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Lower clunches</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Little ganey-coal</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Pricking</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Ganey-stone</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Ganey-coal</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>A clunch</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Best coal</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A bass</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Middle-coal, or randles</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>A clod</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Clod-coal</td>
<td>0</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Pricking</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Clod-coal, poundstone</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>The hard-man, with little flint-coal</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>-- ironstone in it</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Little flint-coal</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Little flint, coal, rock with crawstone in it, and its measures a little coal for a pricking, half inch thick</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Underneath is a clayey earth, called die-earth, of an unknown thickness.
N.B. This measure is found to consist of stratification, and appears to have been lifted up like the upper measures, and though this circumstance is not perceived at first, or when it is exposed to the day, yet, on sinking some yards into it, it is very perceptible.

[Plumley, J. 1803]

the Middle Coal Measures (ie: Fungons to Big Flint coals) is absent. The other sections show the presence of the Upper Coal Measures (including the Main Sulphur Coal and probably the brick and tile clays) with the Lower Coal Measures and below only. It is possible that this ‘Top’ Coal merely referred to a seam being the ‘uppermost’ economic coal seam and could well have been the Main Sulphur Coal Seam.

No recent evidence of any mining has been recorded in the vicinity of Rough Park Mine and it does not seem to have been a long-lived or very successful operation although, as it had at least three 18th Century steam engines there must have been high hopes for it.

The mine would have had an easy connection to both the early Coalbrookdale and Madeley Wood tramroad systems. The latter followed part of Rough Park Lane more recently called just ‘Park Lane’ and which is now severed by Woodside Avenue.

The writer did not find any evidence of this mine in the 1950’s or since, the general area having been used as a private golf course early last century (for the management of the Coalbrookdale Company) and the position of the lower shaft was probably affected by the construction of Lightmoor Junction.

References
1. Trinder, B.S. The Industrial Revolution in Shropshire, 1973
Final Note
There is also a mention of a ‘Swan Mine, Madeley’ in the official records for the early 1940’s. This mine employed about 15 persons and worked the Double and Big Flint Seams.

A plan in the writers possession (without any locational features) shows a number of shallow shafts, the deepest being 19ft. 6ins. with a pit top surface of about 640 ft. aod. This mine could only have been in two possible areas, near Rough Park, possibly adjoining Little Dawley Parish or near the Moor Farm, Little Wenlock, which, in view of the surface level given, is the most likely.

Further support for this is that an opencast site called ‘Swan Farm Site’ began near The Moors, Little Wenlock, just as the Swan Mine closed. Why this mine should however have been listed as “Madeley” is not known.

Map 1

Key
GL = Gravel Leasow
JL = Jubbs Leasow
Nos 1 & 2

Tramroads
1. to 1930’s
2. from Greenwood (1826/7) & others
3. New Pool
4. Mouth of 1847 level
5. Woodside Mine
(levels) c 1920-48
6. Air shaft
7. Limits of Woodside Opencast c1950-70
8. T = Temple
9. Castle Green Shaft
Limit of possible coal working
The Great Sale of 1926
On Saturday March 20th, 1926 at the Ansticce Hall, Madeley, the Trustees of John Anstice and the Madeley Wood Company, jointly held a sale at which many of the pit sites referred to in this series of articles were sold.

The details of this sale provide some interesting information, selected sites are given below:

“Sale notes - 1. Mines and Minerals are the Property of the Lord of the Manor of Madeley and are excluded from the sale.
2. The pitmounds provide enormous supplies of Clay suitable for bricks and some suitable for tiles, also slag, iron and ironstone, cinder, etc.

Shawfield Colliery

Pitmound with buildings and tramway: 2 acres, 2 roods, 5 poles - the mounts are composed of Penistone and Pit Shale suitable for manufacture of bricks (Sold to Dyas for £5).

Blist Hills

Cinder Tip, Edges Rough and Coppice: 17 acres, 1 rood, 0 poles - lessees The Madeley Wood Cold Blast Co. (part).

Blast furnace slag, ash and cinder tip: 7 acres, 3 roods, 14 poles - Edges Rough and Coppice, mainly woodland, comprising trees, mainly Oak, Sycamore, Ash and Willow of about 30 years growth, though some Oaks fully matured (no prices given).

Styche

Mount, Land and Pitmount: 15 acres, 1 rood, 31 poles. The soil is mainly Penistone and Pit Shale suitable for bricks. This area has recently been planted under the Re-afforestation Scheme with young trees, mainly Spruce, Larch, Oak, at a cost of £96.6.6d (Sold to Leeke for £10).

Woodlands Pitmount

Adjoining the Woodlands Brick and Tile Works: 2 acres, 3 roods, 9 poles. Mainly Penistone and Pit Shale suitable for bricks (Sold to Derry for £10).

Brickkiln Leasow Mount

The grazing is let to Mr. M.H.Owen. 9 acres, 0 roods, 25 poles, soil is mainly Penistone and Clay - suitable for Bricks. (Sold to Legge for £13).

Meadowpit Mount

Pitmound with tramway and buildings: 17 acres, 0 roods, 0 poles. The mount comprises quantities of Penistone, Clay, Cinders, Bricks and Stone with rough grazing. The tramway runs from the Mount to the Coalport Road Bridge and has old stabling alongside its route, it is mainly, brick-paved. (Sold to Legge for £30).

Hills Lane

Small holding and pitmount.

Smallholding: 7 acres, 3 roods, 24 poles. Buildings are brick built and tiled (description). The land was formerly the surface workings of Hills Lane Coal and Ironstone Mines, the surface provides rough grazing and the mounts are composed of Clay, Cinders and Coal-dust. A sandpit is included.

Sketch showing location of Principal Mines in the Ironbridge Gorge Area, in relationship to present day roads
The pitmount: 6 acres, 3 roods, 34 poles, provides rough grazing and is composed of a vast quantity of Ironworks and Colliery Refuse, in the shape of red and blue clay suitable for tiles and brick, cinders, ashes, fillings, iron and other materials.

The sale also included Springhill Farm (83 acres), Cottage Farm (73 acres), Cuckoo Oak Farm (75 acres), much ‘Accommodation Land’, many cottages, a few larger ‘Residences’, various areas of Woodland near The Lloyds, a Smithy, an Old Corn Mill (with overshot water-wheel) and a Canal Wharf at Tweedale.

Index for Mines & Tunnels of the Ironbridge Gorge
Part 1 to 15 (Northern bank Only)

 Pennystone Adit ............................ 97.3
 Walkers Earth Mine ....................... 97.3
 Wesley Road Tunnel ...................... 97.4
 Tramway Tunnel ........................... 97.4
 Stone Pit Tunnel .......................... 97.4
 Lower Stone Pit Tunnel ................... 97.4
 Stilehouse ................................... 98.1, 2
 Baugh’s ...................................... 98.1, 2
 Middle ....................................... 98.1, 2
 Dales .......................................... 98.1, 2
 Clay (Lloyds) ................................ 98.1, 2
 Lloyds ......................................... 98.1, 2
 New Coppice ................................ 98.1, 2
 Union ......................................... 98.1, 2
 Wharf ......................................... 98.1, 2
 Old Coppice .................................. 98.1, 2
 Water Engine Air Pit ..................... 98.1, 3
 Walllets ....................................... 98.1, 3
 New Hill or Dingle ......................... 98.1, 3, 4
 Blists Hill .................................... 98.1, 3, 4
 Paddock Hill ................................ 98.2
 Bedlam ........................................ 98.2
 Cumberland .................................. 98.2
 Cape .......................................... 98.3
 Tar Tunnel .................................... 98.4
 (Old) New Hill Pit ......................... 98.4
 Dog Kennel House (Hay Farm) ........ 98.4
 Shawfield (Shaws) ......................... 99.1
 Wash Brook Culvert ...................... 99.1
 Lakehead Footrid .......................... 99.2
 Old Jacobite Footroad .................... 99.2
 Paddock Pit ................................ 99.2

(Old) Lane Pit ............................... 99.2
 Hollands Pit ................................. 99.2
 Old Lane Pit ................................ 99.2
 Styches (Stone) Pit ....................... 99.2
 Crawstone (Crostan) Pit ................ 99.2
 Woodlands Pit .............................. 99.3
 Woodlands level ............................ 99.3
 Woodlands Trial Pit ...................... 99.3
 Lodge Pit .................................... 99.3
 Imperial Clay Mine ........................ 99.3
 Brickkiln Leasow (Lane) Pit .......... 99.4
 Brickkiln Leasow (Crostan) Pit ...... 99.4
 Woodside Mine ............................. 2000.1
 Woodside Tunnel .......................... 2000.1
 Yew Tree Pit ............................... 2000.1
 Little Coal Pit ............................. 2000.1
 Woodside Tunnel ......................... 2000.1, 2
 Castle Green Trial Pit ................. 2000.1
 Calde Brook Culverts .................... 2000.2
 Brierley Hill Tunnels .................... 2000.2
 Half-mile Tunnel .......................... 2000.2
 Loamholme Tunnels ...................... 2000.2
 Lincoln Hill Shaft Mines .............. 2000.3
 Limestone Adit A .......................... 2000.3
 Limestone Adit B .......................... 2000.3
 ‘1800’ Tunnel (Adit C) .................. 2000.3, 4
 Lincoln Hill Drains ...................... 2000.3, 4
 Limestone Adit D .......................... 2000.3, 4
 River ‘Tunnel’ ............................. 2000.4
 Crawstone Ironstone Mine .......... 2000.4
 Rough Park Mines ....................... 2001.1
 Swan Mine ................................... 2001.1

To complete the list of known mines in the old (pre 1850’s) Madeley Parish the following must be added (for further information see the references given):

Hills Lane Pit, Telford Historical & Archaeological Society Journal No.2 1998.

Meadow Pit, SCMCA Annual Journal, No.6 1998

Old Halesfield Pit, Shropshire Magazine, Feb. & March 1967

New Halesfield Pit, as above

Kemberton Pit, as above

Madeley Court Pits Nos. 1 to 17, Shropshire Archaeological Newsletter, No.38 June 1970.

Revised versions of some of these will be given in later issues of ‘Below’.

There is also a general history of Styches, Brickkiln Leasow, Meadow and Madewley Court Pits in ‘Some Mines of the Madeley Area’ Vol. 1 by A.J. Mugridge, October 1998.

The ‘Marble’ mines of Mallorca (Majorca)

Having just returned from Mallorca where I failed to find any mines (but the caves there are remarkable) I had another look at a leaflet I had been given. The leaflet is about La Trapa, a proposed National Park/World Heritage Site and this mentions ‘three mines’. La Trapa is near Andratx in the south-west part of the Island.

The passage read: ‘Without doubt La Trapa attracts people’s attention - the buildings of the old monastery with the remains of a chapel, the mill, the circular

threshing area, the devices for making charcoal and an oven for the production of lime. But the most spectacular of all are the dry-stone walls - and the system for the collection of water, together with the three mines which are a real masterpiece of dry masonry’.

I understand the only mineral to be exported form the island was ‘marble’ so are these marble quarries or underground workings? Can anyone help please.

Ivor Brown

Elmore Process Update

References
(to go with item on page 11)

1. The Dressing of Minerals by Henry Louis
2. Ore Dressing by R.A. Richards
3. Concentrating Ores by Flotation by T.J. Hoover
4. Flotation by T.A. Rickard and O.C. Ralston
Since I wrote the original article on the Elmore Flotation Process some more information has become available, mainly due to the purchase of two old books on flotation.3,4

The first patent using oil to separate ore was that of William Haynes in 1860. This was not a flotation process but it was the first recognising the selective action of oils on sulphide ores.

The first patent for oil flotation was that of Carrie Everson in the USA., dated Aug. 29 1885. Oil, acid and water were added to the crushed ore and agitated, the oil floating on the liquid with the sulphides, and the gangue sinking. This process could well have been successful, it was just too far ahead of its time. (The Elmore process was patented on Oct. 18 1898.)3

On Jan 8th 1894 George Robson and Samuel Crowder patented a process for separating ore using large quantities of oil to float the sulphides. They built a plant at Glasdir mine, near Dolgellau. This plant was, according to Samuel Crowder, still in place when the Elmores purchased the mine a couple of years later. Mr. Crowder also stated that he wrote to the Elmores in 1897 advising them to use oil as a means of ore concentration.3

After the Elmore brothers had purchased the mine and erected their plant, tests were carried out to compare the new Elmore process with existing ore processing methods. The table (above) gives the results obtained.2

The important figures are the last ones in each column. Using traditional methods less than 15% of the value of the ore was recovered, but this rose to 80% with the Elmore Process.

At Glasdir the plant consisted of a Comet breaker for initial crushing. The Comet breaker was a gyraotory breaker manufactured by Fraser and Chalmers. A gyraotory breaker is a steel funnel with a gyraotory steel cone in it. The cone has the ‘point’ upwards, giving a circular vase shape.

The ore is crushed by the gyraotory cone as it moves down the vase. The material then went to a trommel, oversize going to a jaw breaker then rolls. All material then passed to three 5ft Huntington Mills for fine crushing to 30 mesh. A Huntington mill is a steel tub about 5ft in diameter with 4 rollers which roll against the inner edge of the sides of the tube. After crushing in the Huntington mill the material went to the Elmore plant for separation.1,2

Elmore plants were also installed at Tywarnhaile mine in Cornwall, Le Roi mine in British Columbia, Namaqua in South Africa and the Mamouth Mining Co., Utah, amongst others. However, the process had virtually past out of use by 1905, due to further advances in flotation technology.3,4

For References see page 10.
The recent floods may have been the worst in recent memory, but they do not seem to have affected underground water levels too much.

However, despite the media coverage they didn’t quite match the floods of 1795, as the following extract from the Salopian Journal, 18th February 1795, shows:

Sir William Pultney, in addition to the hundred ton of coals he gave our Poor during the late frost, has subscribed 30 guineas for the relief of those who have suffered by the flood.

Buttington and Buildwas Bridges across the Severn, have been swept away. Bewdley and Stourport Bridges are much damaged. Two at Longden, High-Ercal, Rodington, Bolas, three at Cound, Coleham, and Meole Bridges, are destroyed in whole or in part; as are Wolseley and Wichnor Bridges in Staffordshire, Winsford, Sheepbrook, and Winnington Bridges in Cheshire, Fazeley, Hopwas and Tamworth Bridges in Staffordshire.

Mr. Thomas, of Llandisilio, had 7 cows drowned in his cow-house, and a family at Melverley were obliged to get on the roof of the house.

[You may remember on the news a farmer at Melverley had to get their livestock into the kitchen - the only part of the farm that wasn’t flooded]

Extract of a Letter from a Correspondent at Coalbrook-Dale

On the 12th inst. about 20 minutes before two in the morning, the river Severn at this place was 25 inches and a quarter higher than in November 1770. The rise was so prodigiously rapid on the evening of the 11th, that a vast number of the inhabitants were obliged to fly from their tenements, and seek shelter in the neighbouring houses; many had not time sufficient to remove their goods, and were forced to leave them to the mercy of the flood, which has done considerable damage. The publicans have been great sufferers by the shedding of their beer, the barrels being floated, and the bungs giving way. In the Swan and White Hart the water was several feet deep. In the afternoon of the 11th, about 3 o’clock, two of the arches of Buildwas Bridge were blown up; whilst the noble arch a little lower down the river, (the Iron Bridge) exulting as it were in the strength of its connected massy ribs, reared its lofty head triumphantly above the might torrent, and would have given an undaunted and generous reception to double the quantity; neither huge logs of timber, or parts of houses, which came with such mighty force, made an impression;

“It firmly stood, and dauntless brav’d the storm.”

However two houses were washed away just below it, and the water was several feet deep in Madeley-wood Furnace; but, by proper exertions and timely precautions, it was saved from being blown up.

The chambers in the Meadow-house were three feet deep; the canal at Coalport and the river were united, but we hope the banks are safe.
On the night of November 23rd, 1950, all 36 miners at Littleburn Colliery near Durham were saved by the extraordinary heroism of George Robert Glasgow, pit deputy, who won the BEM for his work that night when the River Browney suddenly entered the Littleburn drift (the colliery hasn’t been worked since).

‘Geordie’ was also awarded a citation from the Carnegie Hero Trust Fund, a dance at the British legion Hall in Meadowfield and a gold watch and (he says) “eight pounds and odds” from the grateful mining community.

Littleburn drift mine, and the village of that name which straggled around it, were three miles south-west of Durham (they were demolished during ‘slum’ clearances in the 1960’s and the site is now a business park).

Geordie, who still lives in the same house at Brandon as then, was in charge that night, and glad just to be out of the downpour.

“It had rained that hard and that long, you thought it was never going to stop,” says Geordie. “It’s funny how it’s all happening again.”

Darlington had 2.3 inches in two days. West Hartlepool firemen had pumped 150,000 gallons from Brighton Lane quarry, the Coldstream railway had been washed away, not for the first time, and the harbour front “Cod and Lobster” pub at Staithes was in danger of being swept into the sea.

On the night shift in Littleburn pit the pumps were still working, the men had adopted Kenneth Grahame’s attitude - “what’s a little wet to a water rat?” At one o’clock in the morning Geordie reported to the surface that all was well underground. It didn’t last!

On the surface the river Browney had burst its banks, uprooting a large tree. Water then poured through the crater, into the mine workings below, over-whelming the pumps.

“I phoned back to the surface,” says Geordie. “They said it wasn’t just water, it was the bloody river. I took a pony and went towards the watter, knee high at first and then chest high. There was no way we’d get back the way we’d come in.”

Luckily he had been involved in sinking an escape shaft, about a mile from the pit head. This shaft was 50 feet deep, with a 9 ft. ladder (!) and had insets from which the men could haul the ladder up, to climb the next stage - difficult enough for miners, but impossible for a pit pony!

Rather than see the pony drown, Geordie and Mattie Drennan decided to kill it as humanely as possible.

“We had a mell hammer and a great big bolt like that, which we used to get the shaft cover off. The idea was that I’d hold the bolt against the middle of Tommy’s forehead and Matty would bray the bolt with the hammer. I’d turned me head away. Then Matty says he’d have the bolt and I could have the hammer - I swear to this day I saw a tear in that pony’s eye.

“We couldn’t do it. The poor thing just had to be left.”

When the first men reached the surface, Geordie and his mate returned through the rapidly rising waters to search for those in the furthest districts.

“We could hear them shouting, but there was a bit of a panic, especially one chap big enough to take size 12 boots.”

Geordie’s knowledge and composure led the frightened miners through a passage known as the back airway to the escape shaft. They emerged, fastened by their belts to the slippery ladder, to find the colliery manager - “and all the big noises” - at the top.

Geordie immediately proposed going back with a humane killer to put the pony out of its misery. However, by this time the water was within three rungs of the shaft top and sadly the pony perished.

The front page of the following day’s Northern Echo reported special praise for Geordie (27) and for Mattie Drennan, (28). “They had returned to the point of danger after reaching safety to succour the remaining men.”

For months afterwards, his former friends would have their ‘baits’ in one corner, Geordie in another. “It was I’d been on the wireless and got me name in the papers. I was involved in one or two things after that, but swore I’d never talk to the papers again”.

George VI regretted that he couldn’t present the medal personally (“he wasn’t in very good health” explains Geordie) but sent a letter which he still treasures. Matty Drennan received the King’s commendation, they and Tom Burke and Matt Kaine were feted at a variety show at Langley Moor Empire, given watches and received eight pounds and odds apiece from the balance of the collection.

George Glasgow went back down the pit at Bowburn and at Spennymoor, became an insurance man, school caretaker and chairman of the old folks’ club.

“It was just a job and it was all that there was but sometimes when it’s raining again I think of that devastating night down Littleburn, the watter deluging through the pit, and I know there were 36 of us damn lucky to be alive.”

Littleburn colliery had been sunk in 1870. Railway Street, Office Street and Princess Street - long, ill-equipped miners’ terraces - built around it.

Based on reports from: The Northern Echo, 24th November 1950 and Thursday 23rd November 2000 (the latter by Mike Amos)
Further to the article on Adam Heslop (Below 99.4), I am writing with a few observations, including expanded notes on the working of the engine which differ slightly from those on pages 6 and 7 in Below 99.4. All references to components use the letters as given in the Patent Specification and are shown on Figures 1 and 2.

The Explanation (see next page) is taken from the specification drawings accompanying the patent itself, which is entitled “Saving Fuel in Steam Engines.”

Observations on the Patent Drawing & Explanation

The Heslop engine is indeed a variant of the Newcomen, or as it is called here, the Common Engine, and as such requires a deliberate imbalance favouring the outdoor end of the beam, i.e. that connected to the pump rods. This ensures that the piston F is always drawn to the top of its stroke to complete the cycle, since steam “pressure” merely serves to break the vacuum. Without quoting their authority, Rolt & Allen (“The Steam Engine of Thomas Newcomen”) describe how a new engine was balanced by bringing the beam to equipoise using weights on the piston itself and indoor beam behind the arch head, and then removing sufficient weight equivalent to 1 lb per square inch of piston area to give the pump end of the beam the necessary advantage.

Clearly this balancing had to take into account the resistance of the pump bucket moving downwards through the water, together with the upthrust experienced by the pump rods being submerged within the rising main. I suspect that engines were roughly balanced when new, perhaps by filling the pipework with water from the surface to simulate working conditions, and then fine tuned once in correct operation.

continued ..

Explanation

A Receiving Cylinder A is placed under the beam of the Engine B between the center [sic] of the Beam and the end opposite to that which is moved by and connected with the working Cylinder C used in the Common Fire Engine.

The aforesaid Receiving Cylinder is filled with Steam from the Boiler D (fig. 2) sufficient to produce a vacuum in the working Cylinder for the next stroke of the Engine and which Steam so received in reserve is made to assist in raising a piston E which must be loaded with so much weight upon every square inch as the Steam shall be stronger than the pressure of the Atmosphere and which will consequently assist the Engine in its effect by giving an opportunity of loading the working piston F with the same weight. - Near the middle of the said working piston F is placed a Valve L which admits the discharge of a small portion of Water which arises on the descending stroke of the said Piston F and supplies the same with Water.

The Steam Valve marked G which opens the communication between the Boiler and the Receiving Cylinder is similar to that in the Common Engine and worked in the same way. The passage for the Steam from the Receiving Cylinder to the working Cylinder is by a connecting pipe H which is opened and shut alternately by Valves marked I and K and the motion is communicated to those Valves by working gears nearly similar to that of the Common Engine.

The working Cylinder C together with the connecting pipe H to be constantly immersed in cold water. - The Injection and sinking pipes of the working Cylinder are all similar to those in common use.
Note 1
Since the connection between piston E and beam B is by chain, and not a solid thrust connecting rod, there can be no upthrust exerted by the piston directly on the beam.

The additional weights placed upon this piston obviate its ejection from the open mouth of the cylinder A due to the particular steam pressure in use, E being loaded with extra weight in proportion to the pressure of the steam, i.e. for every 1 psi (pound per square inch) steam pressure above atmospheric, the piston is similarly loaded with 1 lb (weight) per square inch, thus exactly balancing out this steam pressure. (Note for the purpose of this exercise, steam pressure is measured in pounds per square inch, where zero (0) represents atmospheric pressure, (more correctly pounds per square inch gauge or psig).

A similar weight is also placed on piston F which more than balances that on E (ignoring the actual weights of the two pistons, rods and chains), due to their different distances from the pivot, or fulcrum, of the respective chains, in this case the ratio being F:E = 1:2/3 or 3:2.

Like the common engine, i.e. conventional Newcomen engine so called because at this date they were indeed common, the steam valve G opens when E is around bottom dead centre (bdc) and closes more or less at top dead centre (tdc). The effect of the correct steam pressure is to negate the weights on piston E, but not of course the actual weight of the piston, and allows it to ascend without any great effort during the working stroke, i.e. when there is a vacuum under piston F.

Here it must be assumed that the desired steam pressure is actually achieved within cylinder A. Many Newcomen engine indicator diagrams (a plot of varying pressure within the cylinder against stroke) show how inadequate the boiler and steam pipe were in supplying steam above atmospheric pressure for the entire stroke, with the pressure dropping as the piston approached tdc, sometimes to sub-atmospheric.

This suggests that the steam feed arrangements were unable to cope with the demands of the cylinder filling requirements, probably caused by relatively small diameter pipes between boiler and cylinder, often rather long and completely unlagged, and the fact that the steam capacity of the boiler may have been insufficient to completely fill the cylinder at any one moment.

Example
Let us assume that the boiler is capable of delivering say 5 psi into cylinder A, of say diameter 34”, for the complete stroke. The weights placed above piston E would be around 4,540 lbs (some 2 tons) according to Heslop’s Explanation. Not only of course does the boiler have to provide sufficient steam at that pressure to fill the entire void by tdc, but it also has to make up the losses due to condensation, bearing in mind that the upper parts of the cylinder A will have been exposed to the atmosphere for varying amounts of time since the previous filling by steam, the top being the coldest was also cooled by air on both sides (just as in the common engine).

Note 2
When A is full of steam, i.e. at tdc, piston F is at bdc, and cylinder C at its coldest due to the injection of cold water causing condensation and its immersion in a tank of cold water. At this point valve G is closed, and valves I and K open, presumably together. The subsequent combined action of E descending and F ascending, caused by the designed imbalance of the beam which brings piston F to the top of its cylinder, forces the steam to flow from A and into C by virtue of both pistons acting as pumps, (one pushing the other pulling) and the pressure difference between in the space under the pistons. Valve K appears to be a simple hinged flap valve, used as a non-return valve, which may work automatically since steam condensation in H possibly provides a sufficiently high vacuum ensuring its closure even during the power stroke, although the Explanation infers that it is mechanically operated.

Note 3
Because H and C are both surrounded by cold water, the steam will rapidly cool and start condensing. What is not wanted is for excess condensation to have occurred before piston F reaches tdc. Sufficient pressure is required to force out any air (arising from dissolved gases in the boiler water, and any slight leaks in the pipework or valves, etc.) and remaining water through the eduction (sinking) pipe and flap valve J into the hot well.

The steam on entry into cylinder C must be above atmospheric pressure; condensate plus injection water and air will then be ejected through J. Air, which is heavier than steam under the prevailing conditions, will be blown out at the same time provided this pressure differential is sufficient; any water present will find its own way out mainly by gravity depending on the head of water, and pressure at which valve J opens.

Any negative pressure before F has reached tdc is detrimental to the efficient working of the engine, although several Newcomen engines did in fact operate under such conditions, e.g. the Westfield engine near Rawmarsh, South Yorkshire, which worked into the 1920s.

Note 4
At this point (tdc of F) valves I and K (presumably) closed, the injection water enters cylinder C from the base through a suitable nozzle (none is shown, but the description makes it clear that injection follows the normal Newcomen engine cycle).
Is the injection water taken from the cold water tank surrounding the cylinder?

This would remove the need for an overhead cistern (which is also not shown). Clearly relatively little injection water would be needed since the cylinder is already well cooled and cannot reheat the condensate as the pressure falls causing secondary boiling (water boils at decreasing temperature as pressure falls below atmospheric, e.g. at half atmospheric pressure, a value easily met within the cylinder of a Newcomen engine, water boils at only 82°C).

The mixing of a cold water spray with steam removes the latent heat of evaporation from the latter causing it to condense. It is this condensation that leads to the formation of a partial vacuum due to the reduction in volume during the phase change from steam to water (at atmospheric pressure and 100°C, steam has a specific volume of 26.8 cubic feet per lb, while that of water is only 0.0167).

Note 5

Valve L appears to be an automatic non-return poppet valve to let water out, not in. In any event it would be extremely difficult to operate this valve mechanically, bearing in mind that pumping engines were variable stroke devices, making it hard to link to a valve mechanism in the piston. Since the Newcomen piston needs a water seal to contain the vacuum properly, the purpose of this valve to “discharge…a small portion of the water which arises on the descending stroke of the piston…and supplies the same with Water” - gives a good seal above the piston without the usual paraphernalia of pump, overhead cistern and associated pipework.

Quite how it operated however must remain something of a mystery at present since the piston should never come into contact with water at the base of the cylinder, and indeed during this power stroke (F descending), the pressure within is negative!

Any ideas?

Note 6

Starting the engine would be similar to a conventional Newcomen engine by filling the working cylinder with steam by opening valves G, I and K since piston F automatically rises to the top of its cylinder due to the imbalance of the beam, then closing these valves when equilibrium was reached and opening the injection valve. The cycle would then commence as given above.

Interestingly the drawing on page 12 which is based on the Patent Specification, shows the cold cylinder with a sniffing valve, originally adopted by Newcomen for the express purpose of removing air from the cylinder (hence its name, c.f. our modern day “sniffing”), and fitted just above the base flange of the cylinder. The valve L is drawn as a flap valve opening outwards, again suggesting that it provided water for the seal rather than for injection purposes, and the connection for a pipe at the centre of the cylinder base is also shown, presumably the cold water injection feed. Neither cold cylinder nor connecting pipe are apparently water jacketed, which would of course prevent much premature condensation, and the steam valve G is not drawn.

Watts Patent Infringements

Clearly this engine of Heslop did not infringe the Watt patent in any way since it did not use a separate condenser with air pump (considered to be the main deciding factor by Watt when contemplating litigation), which actually removed both hot water and air, enclosed cylinders, or indeed any other of his inventions. It is not really a true compound engine, in which steam is used expansively at ever lower temperatures and pressures in ever larger diameter cylinders. There are two cylinders, but the working one is smaller in diameter than the hot cylinder, and the steam is not used expansively.

For the extra degree of mechanical complexity and hence cost of providing two cylinders, the most expensive items, not to mention a (slightly) higher pressure boiler, the overall efficiency of the Heslop engine was not vastly more than that of a well designed Newcomen engine and certainly did not approach the competent designs of Watt, which would explain why relatively few were built, and those only in areas where Heslop’s direct influence was at work, despite the interest and hopes of William Reynolds. An auxiliary pump driven from the beam would have been required to maintain correct water level in the cooling jackets (if fitted), unless a natural source of running water was obtained, and the hot water from the hot well would normally be recycled to the boiler using a feed pump, thus conserving energy.

Next issue: Comparison between Heslop engine and a similar sized Newcomen engine.
Without doubt the worst incident in 1856 was the Jackfield Pit Disaster which cost 4 lives, but while looking this up the opportunity was taken to browse through other papers. Mining incidents were in fact common place at this time, on the same page as above are the reports of two non-fatal explosions, at Mill Pit near Aqueduct and Grange Pit, Stichley, both of which resulted in seriously burnt casualties.

The Pontesbury Pit Disaster also occurred in this year in which three miners were drowned when water broke into their mine from “old works”.

In Madeley News, June 28th, there is the following: “On Tuesday evening last some venturesome youths descended a shaft of considerable depth by means of the rope suspended from the top, furnished only with matches and a candle they then proceeded about half-mile along a tunnel to an outlet by the Severn”. (Was this an earlier SCMC through trip, Blists Hill to Tar Tunnel?)

The same issue gives a report of the Annual Distribution of the Shropshire Coal and Iron Masters Prizes - chiefly books - with a full list of all the Rules and Regulations for future competitions.

Other reports include:

**July:** A poor girl separating iron from the accumulated mass called the Bank (‘heap’ IJB), was buried alive with her mother when, at a trifling depth, a passage from a nearby shaft collapsed causing the superincumbent mass to fall (The passage roof had collapsed under the weight of the heap, fatally burying the girl, but the mother was rescued). A collection of 1 penny was made from all the other children at her Sunday School (about 300) to pay funeral costs.

**Sept:** A girl named Elizabeth Bagster was working near a shunt (the tip and back of the pit top) at a pit at Lawley owned by Mr. Garbutt; she was killed when a large quantity of earth gave way, “her body presented a terrible appearance from its mutilated state” (Recorded as accidental death).

**Dec.**: Elizabeth Williams, alias Potter, employed as a banks-woman at John Ferriday’s Pit under Lilleshall Co. while “striking a draught” (taking a container form the chain) fell into the pit which is about 60 yard deep. “She was killed on the spot”. “An inquest has been held”. “Some 5 years ago a similar accident happened to a girl named Potter while working with the above unfortunate girl at the same pit”.

The Mines Inspectors report does not mention the following deaths, from the same newspaper in the same year:

John Fletcher; age 12, a pitcher (pulling sledges by chain) at Bevely.

J. Lowe; age 12 “caught in the chains”

J. Deakin killed at Old Park (fall of roof)

Lloyd, a boy “caught in the tackles” B. Parton, fall of roof at Ketley “a man” sinking a well at Shrewsbury Cemetery

But the Inspector did record 11 other deaths. This shows clearly that the inspectors reports are far from complete (it is known that at least 22 died in mining accidents this year, but the inspector only lists 13).

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**40 Years ago - the Club in 1961**

A glance through the Club Journal for 1961-2 shows that the Clubs members had been active in several parts of Britain that year and before.

Sales of the Club Account No.1, on the Lilleshall Limestone Mine, published Oct. 1960, continued, as did further study of the mine. One report in Nov. 1961, states that the water had dropped approximately 3 ft. “since the first visit in 1958”. Work was also continuing on an account for the South Shropshire Mines “which had been underway since 1959”. A visit to Ritton Castle and Nipstone Adit on April 19 found the adit flooded ‘as on our first visit in 1959”, it was also flooded on a visit in October. Several visits were made to the Eglwyseg Escarpment, a visit on 27 Aug. had hopes of great finds, but a couple of failures in December left the Club wondering whether they should look somewhere else. At Llanyymynech Ogof, another regular trip, a pit was “discovered by the Club” which by Sept. had been pushed by the Hereford Caving Club into a passage 300 feet long, the Club persisted at other locations nearby.

On Sept. 6, a meeting was held “to officially ‘found’ the Shropshire Mining Club”. Eleven persons were present, DRA gave a “history of the Club to date” and was appointed Leader and Secretary, with M. Gaut as Treasurer, D.B. Corryn - President. Subs. to be £1 per year, equipment consisted of 8 lamps, 10 helmets, 2 x 30ft. rope ladder, 50ft. nylon rope, “stakes, crowbars and hammers”. Later that year the Grindon area in North Staffordshire was revisited to explore its caves. The Boxing Day meet was to the Afon Meirchion Valley Caves.

The years final meeting considered; reports that the Club now had 12 members, a Code of Discipline had been agreed for mine exploration and it was decided to ‘purchase a duplicator’. M. J. Bolderston was elected in charge of social activities, C. Lears photography, and G. Henderson was ‘choral leader’!

According to David Adams (SCMC Journal 1972-3, p28), the change from a closed group of friends to an ‘open’ Club took place after a heated argument at the groups Easter Camp in 1961 at Gwynfynedd which finished up with those for and against, camping 50 metres apart! Those “for” openness broke away taking the Club name with them, hence the new start on Sept. 6, 1961.
On the 9th of December the body of a man who had been missing for several days was discovered in the Hinkshay or Stirchley tramway tunnel. Following an inspection by Council Engineers, who declared the tunnel structurally unstable, the Emergency Services were unable to enter the site due to Health and Safety considerations.

At 19:15 on Saturday the 9th the Police decided to call out the MCRO with effect from 09:00 the following morning to create a ‘safe route’ into the tunnel for Scenes of Crime (SOCO) and Police Officers.

Neal Rushton and Alan Robinson made an initial visit on Saturday evening to assess the position and determine what materials would be required for stabilising the damaged section of the tunnel (an area of the roof, 10m into the tunnel and several metres long had lost a couple of rings of brickwork).

Sunday 10th
Due to the narrowness of the tunnel and the relatively short distance to ‘surface’ a small team of members assembled at the Fisherman’s car-park by Stirchley Pools at 9am on the 10th.

Members present: Neal Rushton, Alan Robinson, Vicky Robinson, Alan, Moseley, John Priest, Peter Eggleston, Kelvin Lake, Andy Harris, Mike Worsfold, Eileen Bowen, Ian Davies, Mike Davies.

The materials (assorted timbers and slabs) requested by Neal the previous night had already been delivered to the site by TAFS of Oakengates. So after the initial briefing it was moved closer to the tunnel and an area established for Andy to use as a ‘workshop’ for cutting the timber to size with his chain saws.

The Fire Brigade also attended the scene to lower the water level in the first section of the tunnel (the previous night it had been about knee depth). They also rigged a 500W lamp in the tunnel entrance to illuminate the working area during the early stages of the timbering. However, after a couple of hours it was decided that we could cope with the dark and the Fire Brigade left, as the water was only slowly rising up the level.

A flame safety lamp was placed just beyond the unstable section, to both act as a gas detector and to mark the boundary of our working zone (to preserve the scene for later examination by the SOCO’s).

The plan was to construct a sort of gazebo structure with 4 up-rights and cross timbers, wedged against the surviving stable roof sections. This was the first outing for the Dowty props, and they proved very useful. Although we had a slight problem with the first one when trying to release it - this was really a case of ‘unfamiliarity’, since its release mechanism did not quite match that of standard NCB/British Coal props.

The Tunnel portal in January with a new grill fitted.

A quick break-down of the activities, shows:
09:00 - 10:00 Briefing, kitting-up, site preparation and moving of materials to entrance.
10:00 - 12:46 Stabilisation work on tunnel.

Once the timbering was complete the SOCO’s then went into the tunnel, with team members shadowing them incase of problems. Our Neal Rob. stretcher fixed on the ladder was also used for the final recovery, after a lunch break.

MCRO was stood down at 14:58. Andy’s Land Rover was then ‘loaded’ with spare timber to help ‘clean-up’ the woodland. The team worked well and efficiently and made a very good impression on the other agencies present, thanks to everyone involved, well done.

Rescue Call-out
December 10th 2000


View into tunnel towards unstable section (in distance), from tunnel portal.
If you think of mining in Germany you tend to think of the Hartz mountains or the coal mines of the Ruhr valley, however there is a very old mining region situated on the southern end of the Hunsrück.

The Hunsrück is a large plateau bounded on the North and West by the River Moselle, on the East by the Rhine and to the South by the River Nahe. As you drive across the Hunsrück and get near to the South-eastern corner, you start seeing small mine trucks mounted on plinths in the center of various villages, and houses with signs proclaiming “Mineralien und Schmuck” (Minerals and Jewels), and road signs with a crystal symbol and the words “Edelsteinstrasse” (gemstone route).

As you approach the Nahe valley and start dropping down towards the twin towns of Idar and Oberstein virtually every other house is advertising diamond polishing, gem cutting, and jewellery!

The local basalt-like volcanic rocks (formed during the Permian period) contain a variety of minerals, largely associated with quartz, such as agates, jasper and chalcedony. These minerals have been worked and processed in and around Idar-Oberstein since the Middle Ages. Organised mining of agate is documented as early as 1454, with the first mention of an agate grinding mill (a water driven device with large sandstone grinding wheels) in a document of 1530.

One of the main areas of gem stone mining was around the Galgenburg (Gallows Hill) on the outskirts of Idar-Oberstein in an area known as the ‘Steinkaulenberg’. Until recently you had to drive through part of a US Military base to reach the mine sites, but the base has now been given to the German armed forces and the main part of the barracks (through which you have to pass) are a social housing project.

By the early 1800’s the underground resources were becoming exhausted, so miners and agate grinders started leaving the area in search of fortunes overseas. In Brazil they found huge mineral deposits, and their first shipment arrived in Idar-Oberstein in 1834. Although mining continued locally until the 1870’s, by 1840 Brazil was the main supplier of agates.

The Show Mines
The mines on the Galgenburg have been re-opened as show mines, the “Eugen Morschhäuser Gallery” is open on a daily basis (9am to 5pm) mid March to mid November. If you turn up at a busy time you may need to wait for a couple of trips to go through, the gallery is not too large and the tour takes about 45 minutes or so (it cost 5 DM ~ £2 per adult, in October 2000). If you want a trip into the exploration gallery “Richard Märker” and the prospecting gallery, where you get a chance to work the mine - or at least break rock, then you need to book at least a week ahead (they are only open Monday, Tuesday, Thursday and Friday, 9am to 4pm, on a reservation basis only).

Surface Remains
Around the hillside there are a number of adit entrances, some have been restored for the show mine (“Schaubergwerk”) others are derelict or run-in. Some of the surface remains also include a ventilation chimney, a “Huthaus” - a building that houses a hand windlass and a geological trail (from the car park to the mine - its a 500m walk over the hill)
Gem Grinding
Along-side the mines there developed a thriving gem stone grinding industry. By the late 19th century, there were more than 180 water-powered grinding mills in use along the Nahe River and its tributaries. The introduction of electricity around 1900 allowed the grinders to build their workshops onto the back of their houses, they also switched to carborundum grinding wheels, as a result the old water powered sandstone mills disappeared. One mill (The Kallwies-pond cutting mill) has been preserved in Idar-Oberstein and was opened to the public in 1997.

Gem stones harder than quartz cannot be ground on sandstone grinding wheels. A lapidary (horizontally spinning) disc is used instead. The lapidary grinders process stones which are usually transparent and they grind facets to the gems. Agate grinders, do not work with stones harder than quartz, their products (beads, cabochons etc.) are opaque or semi-opaque.

Engraving
Industry
Another industry based on gems to develop in the area is that of engraving - some of the minuscule engraving in the local Museum are amazing, you have to use microscopes to see them! It is claimed that nowhere in the world except at Idar-Oberstein can you learn the craft of a traditional engraver. The Museum is a day’s visit on its own! It covers 4 floors, with several rooms on each floor. Every mineral you can think of seems to be there.

The Museums
The Steinkaulenberg gemstone mines are open mid-March to mid-November (9am to 5pm), for more information or to book ahead for the “Richard Märker” Gallery, telephone (+49) 6781-47400

from numerous countries. Britain is well represented, I found several specimens from Derbyshire, Cumbria and Cornwall, but didn’t find any from Shropshire (perhaps we should send them some galena from Snailbeach). Until I went to Idar-Oberstein the largest crystal I had ever seen was the one at Chatsworth House in the Duchess of Devonshire’s collection (a quartz crystal found in the Simplon Tunnel and about 1m tall). However, in the Idar-Oberstein Museum was a ‘smoky’ quartz crystal which weighed over 2 tonnes and was about 2m high! Alongside this in the same gallery were some amazing Amethyst geodes of all sorts of shapes, and all of incredible size - the Severn Dwarves was the best.
The Kallwies-pond cutting mill (‘Weiherschleife’) is open Mid-March to Mid November 9am to 5pm and 10am to 4pm Mid February to Mid March and Mid November to Mid December. Telephone: (+49) 6781-31513 and 90198.

Idar-Oberstein Museum, is open most days, telephone: (+49) 6781-24619

There are several other Show mines, fossil and gem sites worth seeing in the region including a Copper Mine at Fischbach (Kupferbergwerk Fischbach). In addition the ‘Gemstone route’ is worth following if time allows - assuming you don’t get side tracked into all the vineyards and wine tasting!

Kelvin Lake

The Great War (1914-1918) was mostly fought along a narrow strip of land between the North Sea and the Swiss Frontier, during this campaign soldier-miners on both sides dug hundreds of kilometres of tunnels and underground complexes. Over the past 80 years their locations have been largely forgotten.

Subsidence in 1999, in the Belgian town of Nieuwpoort, (which was of strategic importance as the hub of five waterways serving the whole of Flanders) is believed to be due to tunnels dug by British and Australian Tunnelling Companies in June to November of 1917.

These workings were intended to provide safe access for troops moving around the town. Two methods were used to construct them: cut-and-cover trenches (boyaux) and deeper mined tunnels. The underground structures were intended to be used as dug-outs, machine gun positions, dressing stations, barracks (for up to 3,000 men), etc.

The tunnels were built in polder clays and sands, and extended into the coastal dune fields, all with relatively low shearing strengths. The high water table in the Flanders area is thought to contribute to some underground stability - providing hydrostatic support and effectively preserving timber props. However through-out the region crown-hole failures are becoming common, while this is annoying in farmland in the rapidly expanding and developing towns like Nieuwpoort, this is causing serious structural problems. One of the problems is establishing the scale and extent of the problem, this looks like a problem that is going to take a long time to fix.

submitted by Alan Robinson

Based on:

Note: Geohazards are hazards of geological, hydrogeological or geomorphological nature that pose a threat to humans and their activities.
Christmas Puzzles - Solutions

How well do you know your Caves and Mines?

Here are the solutions to the two Christmas word squares:

The 22 Caves:
Agen Allwedd, Carlswark, Daren Cilau, Ease Gill, Gaping Gill, Grand Turk, Jack Pot, Knotlow, Lancaster, Lascaux, Mulu, Ogof Draenen, Ogof Ffynnon Ddu, Otter, Oxlow, Peak, Pooles, Poulawillin, Poulagnollum, Swildons, Swinsto, Waitomo

The 22 Mines:
Allenheads, Boulby, Box, Caphouse, Clive, Crawstone, Criecieth, Cwmystwyth, Dirtlow, Dolcoath, Florence, Grimes Grave, Laxey, Levant, Llanymynech, Magpie, Minera, Nenthead, Pandora, Pennerley, Smallcleugh, Wigpool

Mining Heritage Society of Ireland - Cummann Oidhreacht na Mianadoireachta

The 2001 NAMHO conference - Ireland
Saturday-Sunday, 22nd-23rd September with associated events the following week, Monday 24th to Friday 28th September.

At Avondale, Co. Wicklow, about 50km south of Dublin. There is some limited accommodation and camping facilities on the site, plus excellent accommodation in a newly renovated Youth Hostel (rooms from 4 beds upwards).

Space will also be available in the nearby hotel and local B&B’s.

A wide variety events are planned including surface and underground trips as well as underground visits to working mines. A one-day lecture programme is planned for the Saturday, with a meal on the Saturday evening. Because of the remoteness of some of the mine sites in Ireland, we plan to offer more extended visits to other parts of Ireland (eg. Silvermines, Bunnahon, Allihies, Sligo, N. Ireland) during the week after the main event.

One of the highlights will be the trip to Tara Mine, Navan on Tuesday 25th. This is the largest working lead-zinc mine in Europe and involves a driven underground tour of the mine. We can only take 15 persons on this trip and space is reserved for overseas visitors who have not previously visited the mine.

A booking form will be available in late March and further details will be posted on the Mining Heritage Society of Ireland’s web site: www.gsi.ie/mhsi or contact: Dr. Matthew Parkes, Mining Heritage Society of Ireland, c/o Geological Survey of Ireland, Beggars Bush, Haddington Road, Dublin 4, IRELAND. Tel. +353-1-6041493, Fax. +353-1-6681782. Email: matthewparkes@gsi.ie
British Mining Memoirs
No 67
The third volume during 2000 from the Northern Mines Research Society, 119pp 13 plates, 23 figures A5. This book consists of individual chapters based on individual papers too short to feature in a volume of their own written by various Authors £9.00 inc post

Its contents are as follows:-

Smelt mills of the Yorkshire Dales - Surrender Smelt Mill Flue and the Wilson & French Condenser by R. Smith and R. Lamb
Leighs Wood Colliery, Aldridge, 1874-1882 by N.A. Chapman
In Minute Detail: The development of the coal mines of the Cannock & Rugeley Colliery Company by J. Goodchild
Recreating Mining Landscapes by M.C. Gill
Gold Mining in Scotland in the late 16th Century and early 17th Century by T.K. Meikle
A Water Collection System in Buckden Gavel Lead Mine by M. Roe
Steam and Water Pressure Engines on Yorkshire Dales Mines by M.C. Gill
The Archaeology of Thieveley Lead Mine by M. Roe
Yorkshire Smelting Mills, Part 3: Corrigenda by M.C. Gill

20 Years Down The Mines
Ian Terris, A5 128pp Ian worked from the 1950’s until the late 70’s in Cardowan, Rothes, Seafield, Collieries in Scotland, this is an account of working conditions and comment and technological change that took place whilst he worked in these pits £6.99

The Ecology of Old Mine Sites
Royal Irish Academy, Dublin, Special issue of Biology and the Environment proceedings of a Workshop. A4 77pp this is a case of do not judge a book by its cover there is a lot of very useful information in this book.

A whole chapter is dedicated to Avoca Mine, listing remains, adits and shafts. Also included a chapter on Roosting bats in Mines and their protection, heavy metals in Shalee Mine, Silvermines and indeed many other sites are identified with useful information for those involved in Mine site preservation.

There is also a discussion chapter re the aesthetics of restoring old mine workings. The workshop had been organised by the Mining History Society of Ireland as a way forward to preserve some valuable sites in Eire £9.95

Mining from Kirkintilloch to Clackmannan & Stirling to Slamnman
Guthrie Hutton A4, 112pp, you wonder when he will run out of subject matter again a superb book lots of Black and white photos includes Longannet which is the last working deep coal Mine in Scotland £12.95

The Miners of Staffordshire, 1840 - 1914 edited by John Benson, A5 117pp the book is a social and cultural studies of the Staffordshire Miners looking at different influences of the Black Country and the development of the North Staffs Coalfield £7.50

Colliery Ventilation
Alan Hill, p/b 212pp never has a book taken so long to come out, this volume is packed full of information and is worth every penny and is the result of 10 years + research by the Author and must become a standard text on the subject.

Alan describes various means of Ventilation each supported with diagrams and information starts with Furnace Ventilation and goes on to describe different fan systems such as the Barclay Fan, Axial ventilating Fans etc etc,

The book is packed full of information and well supported illustrations and numerous references £16.50 post free

[See the additional review of the book on page 2, by Ivor Brown]

Congress of the Société Francaise d’Etude des Souterrains
(French Society for Souterrains Study)
This congress will be held in Laon (Department of Aisne in France) from 7th to 9th September 2001.

The program of the congress has not yet been determined but more information will be soon available on the Internet site of the Société Francaise d’Etude des Souterrains at the following address:
http://www.chez.com/sfes/index.html

Luc Stevens
SFES

Photos Wanted
Rob Vernon would like more (recent) pictures of interesting mining sites for the next edition of the NAMHO Heritage Guide. Rob can be contacted:
c/o Peak District Mining Museum
The Pavilion, Matlock Bath, Derbyshire, DE4 3NR
Copies of the current NAMHO guide are available from the Museum, £4.60
Memories of a Durham Mining Community
Members of Leadgate Historical Association have released 40 photographs of the former mining community, near Consett, dating from the 1890s to the 1970s. Including some scenes of the former Eden colliery.

It is the first time the association has published a book. Association President and Leadgate District Councillor, Bill Stockdale, said he hoped the book would be of interest to the whole community.

The booklet costs £1.99 and can be purchased from Mr. Stockdale, telephone: 01207 502678.

Underground Clwyd
by Chris Ebbs, p/b A4 landscape, 72pp Described as the armchair explorers guide, takes a tour into the mines and caverns of North East Wales, includes colour photos on the Cover and black and white inside.

The book is broken into chapters to include, Stone, Slate, Coal and Lead Mines, Bone Caves and Sporting Cave. There are nice underground photos of Gresford and Point of Ayr Colliery. There is also a neat photo story of the Grosvenor Caving Club getting blocked into Moel Ferna Slate Mine - be this a warning to inexperienced explorers even the ones that should know better make mistakes!

The book is well produced and is a reasonable study many of the mines and Cave Systems in the area, although each site is probably worthy of its own photographic survey and study £9.95

Book Source
Unless otherwise stated, all books mentioned here are obtainable from Mike Moore at Club meetings or

www.moorebooks.co.uk
Mike@moorebooks.co.uk

The Great County Adit
by J A Buckley, 143pp A5 p/b once described as 'the most extensive, valuable, and systematic undertaking of the kind in Cornwall' - started in 1748 in the Carnon Valley within fifty years it drained the largest number of mines in the world (over 60 mine), it reached about 40 miles in length. Alan’s narrative is informative and well researched. It includes a number of photographs and is well worth adding to your collection £9.99

Mines of the Sixties
Collected and Annotated by George Hall, h/b 283pp. He means 1866’s and is a selection from the contributions of the Truro Correspondent to the Mining Journal between 1860 and 1864.

As ever from George this is very readable and at the same time, proving an insight into the mid 19th century mining industry. Price: £16.99

<table>
<thead>
<tr>
<th>Mining Videos</th>
<th>all available from the Club at a discount, see Alan Robinson</th>
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<tbody>
<tr>
<td>A Tour of Clive Copper Mine, £14.95</td>
<td>If you are interested in doing a bit of armchair mine exploration the following videos, produced by I.A. Recordings with help from Club members, may be of interest to you.</td>
</tr>
<tr>
<td>Clive Rescue Practice, £9.95</td>
<td>A comprehensive guided tour of Clive, with Edwin Thorpe acting the ‘experienced’ expert and Kelvin Lake the ‘novice’. The tour covers both the upper and lower levels, plus the Northern stope (the access to which is now a bit dodgy).</td>
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<tr>
<td>Snailbeach, £14.95</td>
<td>An action packed ‘head banging’ record of a Club rescue practice, featuring the ‘infamous’ maypole winze traverse!</td>
</tr>
<tr>
<td>Glengowa, £6.58</td>
<td>The rise and fall of Snailbeach, once renowned as the “richest per acre of ground in Europe”, is traced in this production through the use of historic photographs, animated plans and sections, and unique underground video footage.</td>
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| Collections from the Archives |
|---|---|
| C.15: Dudley Tunnel ’88 to ’89, £14.10 | The following tapes contain almost all the footage recorded on the given mine, and are intended as a resource base, not a finished production: |
| C.18: Donisthorpe Colliery, £11.75 | C.15: Dudley Tunnel ’88 to ’89, £14.10 |
| C.20a: Snailbeach - Final Frontier, £9.87 | C.18: Donisthorpe Colliery, £11.75 |
| C.23: Bagworth Colliery, £11.75 | C.20a: Snailbeach - Final Frontier, £9.87 |
| C.28: Morse’s Level, £9.87 | C.23: Bagworth Colliery, £11.75 |
| C.29: SCMC in Cornwall, £16.45 | C.28: Morse’s Level, £9.87 |
| C.32: Dudley Tunnel - Wrens Nest East Mine, a rare trip into the workings during stabilisation works. £9.87 | C.29: SCMC in Cornwall, £16.45 |
| C.41: Hem Heath Winders, £9.87 | C.37: Dudley Tunnel - Wrens Nest East Mine, a rare trip into the workings during stabilisation works. £9.87 |
| C.42: The SCMC at Onslow Park - a record of the 1998 Club and Trust display. £9.87 | C.47: Dudley Tunnel - Wrens Nest East Mine, a rare trip into the workings during stabilisation works. £9.87 |
| C.45 Twelve Mines of Ireland - made for the first AGM of the MHSI it contains excerpts of C.32 with added commentary. £11.75 | C.47: Dudley Tunnel - Wrens Nest East Mine, a rare trip into the workings during stabilisation works. £9.87 |
| C.46: Snailbeach, £14.95 | C.47: Dudley Tunnel - Wrens Nest East Mine, a rare trip into the workings during stabilisation works. £9.87 |
| C.47: Dudley Tunnel - Wrens Nest East Mine, a rare trip into the workings during stabilisation works. £9.87 | C.48: Draglines - features the moving of “Oddball” at St.Aidans Open cast site, plus bigger draglines at work in the North East of England. £14.10 |

For more details about videos contact: I.A. Recordings, PO Box 476, Telford, TF8 7RH e-mail: info@iarecordings.org or visit their web site at: http://www.iarecordings.org/
For organised Club trips please refer to the Monthly Meets lists.

24th March: Cave Photography Group Field Meeting, Yorkshire Dales.

11th-13th May: Cave Surveying Group field meeting, Orpheus CC hut, Derbyshire

19th-20th May: CREG Field Meeting, Cornwall.

1 July-6 Aug.: International Speleological Congress, Brazil. Website: www.speleobrazil2001.org.br

24th-27th Aug.: Sustainable Development in Karst Regions, Beijing, China

6th Sept.: 40th ’Birthday’ of the Club and the 39th AGM

22nd-24th Sept.: NAMHO Conference, Avondale House, Avoca, Ireland


2002

July: The Application of Water Power in Mining, University of Wales, Aberystwyth.