



# Welsh Mines Society

(Member of the National Association of Mining History Organisations)

NEWSLETTER 46

April 2002

## Editorial Thoughts

1. As always, a big thankyou to all those who continue to contribute to this little publication. If you don't see your item in this issue, don't worry, it will be in the next one !

Oh, and finally, a little reminder; if you're lucky enough to get to one of our field meets this year, please don't forget to let me know that you'd like write up a meet report for the next newsletter ! Special thanks to our President, Mr. David Bick, who has already responded to my pleas on this issue.

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## Events - Dates for Your Diary

*(Note that details of forthcoming WMS meets are always posted on the WMS web pages as soon as they are confirmed - see Item 45)*

## 2. WMSoc. 2002 Programme

**Summer Meet** – Weekend 8<sup>th</sup>-9<sup>th</sup> June. Location; **Dolgellau Gold Belt, Merionethshire**. Leaders; **David Seabourne** Tel. (work) (01341) 424 439 & **George Hall** Tel./Fax. (01584) 877 521. Headquarters; **The Fairbourne Hotel**, Fairbourne, Nr. Dolgellau, LL38 2HQ. Tel. (01341) 250 203. Fairbourne can be found off the A493 half way between Dolgellau and Tywyn. The Fairbourne Hotel being ~200 yards on the left from the junction with the A493 along the road to the railway station, at NGR SH 617 126. It has 22 twin/double rooms and offers B&B for £25 per head per couple/2 sharing with a £5.00 surcharge for single room use. Adjacent to the hotel is a campsite, also two guesthouses are to be found nearby at Friog on the A493 Dolgellau to Tywyn road, these being Einion House, Tel. (01341) 250 644 and Sea View, Tel. (01341) 250 388, the latter property even boasting a small solar heated outdoor pool.

**Saturday** - Meet at **11 a.m.** at the bridge in **Bontddu (NGR SH 669 186)**. Limited parking is available alongside the A496 between the Halfway House pub and the bridge, with overspill parking available in lay-bys situated before and after the village. We will walk to

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WMS Home Page [http://www.mike.munro.cwc.net/mining/wms/wmsoc\\_hp.htm](http://www.mike.munro.cwc.net/mining/wms/wmsoc_hp.htm)

the Vigma mine and packed lunches should be brought. In the afternoon a surface visit will be made to Clogau/Old Clogau or alternatively people can visit the dressing floors located on the west bank of the Afon Cwm-Mynach, opposite Capel Soar. This processed the ore from the upper workings of the Voel Ispri mine, and was connected to them by an aerial ropeway.

**Saturday Evening** - Dinner at **The Fairbourne Hotel** £11.50 per head, **6:30 for 7pm**. Please mark your selections on the menu enclosed with this Newsletter, and post to George Hall, at least a week before the meet. If members wish to give a short presentation please contact George who will ensure a slide projector is available.

**Sunday** - Meet at **10 a.m.** at forestry lay-by above Tyn y groes Hotel, **Ganllwyd, (NGR SH 716 236)** for a visit to Cefn Coch Mine - packed lunches should be brought. After lunch members can either visit Glasdir Copper Mine or take part in a guided walk courtesy of geologist John Mason, on a new geology trail he has devised in Coed y Brenin.

As per usual, will members who wish to stay at the Fairbourne Hotel make their own bookings direct, mentioning the W.M.S., as soon as convenient.

*[An excellent aerial photograph of the Cefn Coch mine site, accompanied by a diagram indicating the main features, can be found on page 52 of 'Snowdonia from the Air' - Ed']*.

### **NAMHO 2002 - Weekend Conference. "The Application of Water Power in Mining"**

Hosted by the **Welsh Mines Society** and held at the University of Wales, Aberystwyth, UK. Friday - Monday, 5<sup>th</sup>-8<sup>th</sup> July 2002. The conference papers are to be published as a set of proceedings. Booking forms can be obtained from: Mr Mole, Conference Secretary, The Grottage, 2 Cullis Lane, Mile End, Coleford, Gloucestershire, GL16 7FQ. Please don't forget to enclose an A4 S.A.E.

This is obviously an ideal opportunity for the WMS to pick up new members, so a display for the Society is planned. If you have any material you feel may be suitable, such as photos of previous meets etc., please contact your editor.

**Autumn Meet - Weekend 21<sup>st</sup>-22<sup>nd</sup> September.** Location; **Forest of Dean**. Organisers; 'Mole' (aka John Hine), Tel. (01594) 833 217 & **David Bick**, Tel. (01531) 820 650. Headquarters; **Victoria Hotel**, (top of main street), Newnham on Severn, GL14 1AD. Tel. (01594) 516 221. B&B's nearby at Swan House, Tel. (01594) 516 504, and Hayden Lea, Tel. (01594) 516 626. Camping etc., near Elton Corner, a mile or two up the A48. Contact Mole for more details.

**Saturday** - Meet at **12 noon** at **The Rising Sun**, Mosely Green, for lunch. Located in the heart of the forest at **NGR SO 631 086**. After lunch there will be the following options:

- Underground Trips: **Old Ham Iron Mine**, courtesy of Clearwell Caves. Fairly easy going, 3-4 hrs, leader Mole, or visit **Hopewell Museum**, a walk-in trip, apparently suitable for your best suit ! **NGR SO 603 104**

- Surface Walk: **Bixslade valley** to see coal and stone (both active) and iron workings. Meet at Cannop Ponds **NGR SO 608 100**.

**Saturday Evening** - Dinner at the **Victoria Hotel**, £10.00 per head, **6:30 for 7pm**. Please mark your selections on the menu enclosed with this Newsletter, and post to the Victoria Hotel before 14<sup>th</sup> September. If members wish to bring slides etc., please contact David who will ensure a projector is available.

**Sunday** - Meet at **10 a.m.** at **the Rising Sun**. Bring packed lunch. Again there is a choice.

- Underground Trip: **Wigpool Iron Mine**, fairly rough and steep workings, leader Mole. Expect to finish 3-4 pm.

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- Surface Walk: No details as yet, leader Maurice Febry.

As per usual, will members who wish to stay at the Victoria Hotel make their own bookings direct, mentioning the W.M.S., as soon as convenient.

### **Other Societies & Organisations**

If you're aware of events or trips which other organisations are holding or making to/into Welsh mines, please let me know and I'll include them in the next Newsletter.

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## **Important Announcements**

**3. Obituaries** - Sadly we have to report the death of Harry Woolgar from Shoreham by Sea. He was one of our members from the early eighties but like many other of our members he was rarely able to get to field trips.

We must also report the loss of Malcolm Elston, Burntwood, Staffordshire, known as 'Mac' to many of our members.

We offer our sympathies to their respective families.

**4. Welsh Mines Society sweatshirts** - John Alder asks; 'If enough people are interested in obtaining a WMS sweatshirt, (Gold WMS logo on blue sweatshirt) I will order a re-run. Anticipated cost is £16.00 each, inc. p&p.' Please let Daveleen Alder know your requirements, (i.e. number and size), at 43 Rowlands Crescent, Solihull, West Midlands, B91 2JE, or Tel. (0121) 711 1049, or by e-mail [aggie@1ststoponline.co.uk](mailto:aggie@1ststoponline.co.uk)

(**Note:** This is not to be confused with the special edition for NAMHO 2002)

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## **New Members**

**5. The Welsh Mines Society** says '**a croeso**' (hello and welcome) to the following new members: (*David Roe apologises if any are missed - the membership database is apparently still not coping with this task !*)

Mr J. Roberts                      34 Tanhouse, Halton Brow, Runcorn, WA7 2HE.

Mr Byron Rowlands              50 Beaumaris Drive, Llanyravon, Cwmbran, Gwent, NP44 8HY.

Ms Caroline Larman              1 Maes Gerddi, Porthmadog, Gwynedd, LL49 9LE.

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## **Field Reports**

**6. WMS Autumn Field Meet** - Weekend 8<sup>th</sup>-9<sup>th</sup> September 2001.

### **Parys Mountain**

Having gathered ourselves on the side of Parys Mountain, Dr. David Jenkins of the Amlwch Industrial Heritage Trust, and our host for the Saturday morning, led us to the Parys Mountain opencast, where he explained its features, geology and history. We were blessed with a clear and bright day, ensuring that the colours and textures of this visually unique site were at their photographic best. A walk down into the 'Great Opencast', containing a rather acidic (pH 2) pool of dark orange-brown water, (apparently due to the high levels of dissolved ferric iron, amongst other metals such as Cu, Mn, Pb etc.) which, it is anticipated, will disappear once the Dyffryn Adda adit is fully opened. (This drainage adit has been accessed by members of the Parys Underground Group, who have reached an internal dam containing some valves. The valves can be opened but they appear to be blocked with ochre,

which until disturbed, with potentially dramatic results (!), prevents the remainder of the adit and a large section of underground workings from being drained, and hence accessed.)

We then took a look at the remains of the Mona mineyard, followed by the precipitation pits. Here scrap iron was thrown into shallow pools of water from the mine workings which contained copper in solution. Over time, the iron is dissolved by the acidic water, a copper compound being precipitated in its place. This deposit was periodically removed and sent to the smelters. We continued to the Pearl Engine House where we were given the option of continuing the surface walk, and in the afternoon visiting Amlwch harbour, where much of the ore from the Parys Mountain mines was shipped, or go underground, with members of the Parys Underground Group.

Those of us who selected to look under the mountain, were split into groups of three or four, each being guided by a couple of members of the Parys Underground Group, and descended into the Parys Mine, via the Incline shaft, access to which was only gained in 1995. After a crawl through a short length of Armco drainage pipe, a series of ladders took us down to the 20fm. Level. A further pitch down took us to some stone steps, part of the original 'Parys Footway' shaft into the mine, but progress is soon limited by the water level at around 25fms. We were shown various features underground, such as pools of low pH dark red/brown water high acidity, bright blue crystals of 'Pisanite' -  $(\text{Fe,Cu})\text{SO}_4 \cdot 7\text{H}_2\text{O}$  - formed by the oxidation of Chalcopyrite in Quartz, and an unexplained feature of a horizontal channel cut into each side of a level at around shoulder height - answers on a postcard please!

Finally we were taken to view the Bronze Age workings, which have been penetrated by the nineteenth century workings on the 16fm Levels. Archaeological surveys were in progress, and apparently remains from this area have been carbon dated to 3,500 BP.

All in all, it made for a very interesting day, the only complaint being that it was simply not long enough !

### **Llandudno/Great Orme**

After our evening meal in the Warwick Hotel, Llandudno, (for which some of us were a tad late, having reluctantly left the confines of the Parys Mine, and even more reluctantly departed the evening sun...) Edric Roberts (G.O.E.S.) gave an excellent slide show detailing the excavation & subsequent creation of the Bronze Age visitors centre on the Great Orme.

On Sunday, in the morning we had the opportunity of an SRT trip down Romans Shaft, a wet trip along the Penmorfa Adit, or a wander around the Bronze Age workings, still currently the focus of an ongoing excavation. For those who still hadn't had enough, in the afternoon there was a (relatively) easy underground trip into the Ty Gwyn Mine.

I took the option of the Penmorfa Adit, and very good it was too ! Having donned wet suits, and other appropriate underground gear, we were presented with a selection of trolleys, from which we took our pick. These were then carried to the entrance of the Adit, which in the mid 1990's was lined with ~3ft diameter concrete pipes for the first 300 yards, to clear some of the not-so-sound stone arching. All suddenly became quite clear as the first member of GOES put the trolley into the pipe in the entrance, and lying with his back on the trolley, pushed himself off along the pipe with his feet. Fellow WMS members Roy & Bryan were soon whizzing along ahead of me, the former producing hoots of laughter with the fun of it all !

Leaving our trolleys behind, we waded a further 600 yards to the workings at the foot of Vivian's shaft, then continued along the adit to take a look at the foot of Higher shaft and

Treweek's shaft. We returned to the foot of Vivian's shaft and slowly clambered our way up a few hundred feet through the Penmorfa workings before descending back to the adit level. Finally a look was taken at a short length of adit which still retained some of the timber boarding close to its roof, to assist with the ventilation of fumes from blasting. The long slog back out was then started - wading through knee deep water for 600 yards when you can't stand up properly can be rather tiring !

Now running a bit late, I peeled off my wet suit, donned dry clothes & drove across town to the get to the Ty Gwyn Mine, which is accessed through a short vertical manway on a piece of grass at the west end of the Llandudno promenade. Walking through the streets of Llandudno on a warm sunny September Sunday afternoon wearing wellies, boilersuit, helmet/lamp and carrying my camera 'case' (the obligatory ex' WD ammo box), not surprisingly, produced the odd funny look !

The Ty Gwyn Adit was surprisingly spacious and contains remains of rails along much of its length, which are made from square iron bar mounted on top of timbers. There was some very nice stone work lining the first part of the adit, the rest generally needing no support. We were shown where clog prints in the mud have been carefully preserved, and also the pump rod protruding from the waters of the now flooded Ty Gwyn shaft. Again, another interesting trip.

Having emerged from the Ty Gwyn Mine, George informed me that my friends awaited my presence in the tea rooms of the Great Orme copper mines. Having got myself there, (it's a fine hill-climb out of the town) I was then told we were going to take a look at the Cae Coch Pyrite mine - which we promptly did, but then that's another story...!

Yet again, our thanks go to George Hall for organising a most splendid weekend in this northern most part of Wales. Professional support was generously supplied by the following local groups, all very active in exploration and research of their locale, Amlwch Industrial Heritage Trust, Parys Underground Group & Great Orme Exploration Society. Thanks in particular must go to Dr. David Jenkins and Bryan Hope of AIHT and Stephen Lea of GOES.

(To access the informative web sites of these groups and go for an armchair tour of the mines they explore and help preserve, go to the 'Societies' section of the links page on the WMS web site.)

*M.P.Munro & B.D.*

**7. WMS Winter Social Meet** - Sunday 17<sup>th</sup> March 2002. Host; George Hall.

This is just a short note to express our fulsome thanks to George for opening his home and library to us - some 30 members - and providing endless cups of tea and coffee. These meetings, so informal like all WMS events, are very much appreciated in the long hiatus between our Autumn and Summer gatherings, and long may they continue. Our thanks are also due to Ivor Richards of Aberystwyth for showing his splendid underground photos of Cwmystwyth, etc. - I think they should be published !

*David E. Bick*

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## **News & Developments**

**8. Comet Lode Opencast, Copa Hill, Cwmystwyth**

After more than ten years of excavation by the Early Mines Research Group the final report on this site has been written up and is expected to be published within one to two years.

Along with the main excavation account and archaeological survey of Copa Hill, this includes up to ten other specialist reports on a range diverse topics ranging from ore mineralogy to the palaeoenvironmental evidence of beetle faunas found within the sediment infill of the mine, and an analysis of woodworking technology used in the construction of drainage launders, withy baskets and hammerstone handles some 4000 years ago.

Dating evidence from this site which includes some 32 radiocarbon dates obtained from tools, fuel, as well as mining and post-mining sediments have conclusively shown that work here commenced some time prior to 2000 BC, and then continued intermittently (perhaps seasonally by pastoralists also engaged in mining) up until about 1600 BC, after which the mine was abandoned and became rapidly infilled during the Middle-Late Bronze Age. Evidently the mine was already experiencing water problems c. 1900 BC and the bottoms (probably in excess of 10 m. deep, though perhaps a good deal deeper than that) appear to have been abandoned, and thereafter upper western and northern sections of the 50 m. long openworks which exploited a stockwork of some four or five Ankerite-Chalcopyrite-Pyrite-Galena veins continued to be worked as the bottoms became flooded and partly backfilled with minewaste and discarded timbers. Lead ore was clearly being extracted in small amounts following the gradual exhaustion of easily accessible copper, although much of that extracted was apparently discarded in situ, some of it coarsely crushed. Little evidence of associated processing areas were found outside the mine, and it is clear that much of the crushing was carried out re-using hammerstones as hand crushing implements upon the flat or broken surfaces of other implements (used as anvils). This activity mostly took place on the tips or within the entrance cutting to the mine where many of the other artefacts such as antler picks/hammers and the several wooden drainage launders were found. Perhaps the most exciting evidence yet from the site has come from the very earliest tips deposited outside the mine. These suggest that prospection/mining here may have commenced well before 2000 BC. Confirmation of this is required, and further work is envisaged.

Palaeoenvironmental and dating evidence from the excavation and its hinterland point to some activity during the Roman period (as yet unspecified), but certainly the re-commencing of mining activity on the hill, including hushing on the Comet Lode, dates from Medieval times. The ancient leat from the Nant-yr-onnen is most likely to date from this time, as does the lead roasting/smelting site discovered at the foot of the hill at Penguelan. The dating of the latter site (12/13<sup>th</sup> C AD) is suggestive of work under the jurisdiction of the Cistercian monks of Strata Florida Abbey. Further details are awaited.

*Simon Timberlake - Early Mines Research Group*

**9. Cwmystwyth Leats** - At about SN 8093 7548 there is a catch pit cut into Nant yr Onnen and another at SN 8095 7563. On aerial photographs, trace lines can be seen to follow the contour towards Nant Watcyn, or visa versa. These are not sheep tracks and the upper-most leat is at the head of a rocky hush gutter which cuts the lower leat. A stream has followed this gutter and now runs into Herbert's Stope. These are not 17<sup>th</sup> or 18<sup>th</sup> century features, the upper-most leat must be the younger of the two, and as Herbert's Stope is a relic of the mid 17<sup>th</sup> century, it would appear to pre-date it. The lower leat must pre-date the upper one.

The leats appear to have been constructed either to bring water to Copper Hill or to take water to Nant Watcyn, which I am beginning to think is also a relic of early hushing.

Unfortunately, my eyes are in a better state than my legs and I have not been able to get up Copper Hill, or Graigfawr, for some years. Could someone report upon this matter ?

*Simon J. S. Hughes*

*[Simon has passed me a copy of the aerial photograph on which this feature can be identified. I doubt however that it will remain visible during reproduction of the N/L - I have therefore made a copy available on the web-site. M.P.M.]*

**10. 'Gold Shaft Bid Blocked'** - 'Snowdonia planners have blocked a plan for a new shaft in the Dolgellau Gold Belt at Maestryfer Woods...' (See also Item 19, last N/L) People living nearby the proposed application to drive 'a 250-metre deep shaft' (!) by Stoic Mining and Exploration Co. were concerned about 'the possible effect on the nearby river,...noise and likely damage to the environment.' 'Planners turned down the application on the grounds that what was proposed went further than actual exploration and was therefore contrary to planning policies'. *Meirionnydd & Cambrian News, 7th March 2002.*

*Submitted by Dave Seabourne*

**11. Welsh Mines Preservation Trust - New Secretary.** Graham Levins informs me that he has taken over from Christopher Williams as the secretary for the WMPT. Graham can be contacted at: 1 Stonecrop Close, Broadfield, Crawley, West Sussex, RH11 9EP, Tel. (01293) 510 567, e-mail [Graham.Levins@btinternet.com](mailto:Graham.Levins@btinternet.com)

**12. Industrial Gwynedd** - Volume 5 of this publication was about to go to print when Plateway, the publishers, announced that they couldn't continue. Sales have not been high and they were making a loss. It is hoped that interest can be re-kindled via other avenues. Features on Penrhyn Slate Quarry and Pen-yr-Orsedd Slate Quarry were to be included.

*John A. Knight*

**13. Fairchance, Cwmmawr, Cole's Water-pressure Engine, and a Blunder !**

In Old Metal Mines Part 1, I referred to the Fairchance mine, near Ffair-rhos, where an 18<sup>th</sup> Century pioneer water-pressure engine for pumping was installed but in the end proved a failure. This early experiment is intriguing, and I even speculated that remains of the machinery may still survive - a dream which now seems very unlikely. But the main purpose of this note is by way of an apology, because for some reason, long since forgotten, I equated the mine with Llwyn Llwyd, on the Esgairmwyn lode. However, thanks to many hours amongst the archives in the National Library of Wales, Roger Bird has come up with conclusive evidence that Fairchance was not Llwyn Llwyd, but Cwmmawr, a mile or so to the south-west. He has also found more about the engine; no drawings appear to survive, but it seems to have been rotative or at least oscillating, with an arch-head and some kind of flywheel, perhaps to iron out an erratic motion. We look forward to hearing more about the machine and the very neglected workings in the area, which George Hall has also been investigating.

**14. Blaencwmsymlog and its potential** - Further to Simon Hughes' comments in N/L 45, (Item 15), when I went to the site, soon after the Forestry Commission got their hands on it, there was a long line of ancient and deep openworkings with apparent access to underground levels, on the lode near the New Shaft parallel with the road and just below it. Some time later, these workings were filled in and lost under a mass of dead scrub and treetops, but it should not be too difficult to locate the spot and open them up again. Let us hope it will be done.

**15. Review of the Royal Commission on Historical Monuments in Wales.**

An in-depth review of the above body is being carried out by the National Assembly for Wales. Comments are sought, and Terry Evans (Chairman of the Welsh Mines Preservation Trust) and I have requested a meeting to discuss our concerns, also involving the role of Cadw. This request has been granted, and as regards conservation, we shall have plenty to say about the ponderous and bureaucratic nature of the present systems, the reactive as opposed to proactive responses, and the endless delay in getting results. Let us hope a long-overdue reform is at last in the offing.

*David E. Bick (Above three items.)*

**16. Globwll** - Simon Hughes reports having noted a reference to Globwll near Llanfyllin. He states the name suggests a coal mine but knows of no such workings west of Four Crosses and Llanymynech, where ironstone also appears to have been worked.

**17. Activity at Aberllefenni** - Adrian Barrell has provided some extracts from the News Bulletin of Wincilate Limited, (who operate the quarry at Aberllefenni, above Corris), and comments as follows; 'Some members will remember an excellent visit there some years ago. It is good to see that one quarry is thriving at a time when others are feeling the pinch.

Members in need of a new name-plate for their house make like to know that excellent plates of Aberllefenni slate are available at a very reasonable price through Inigo Jones of Groeslon, near Caernarfon.'

*"Demand has again overwhelmed our capacity and this has been frustrating for us and of course our customers. The fact is that we cannot substantially increase production because of the nature of our mining operation. We are confident that we could sell twice as much in 2002 as we can produce but restraints on quantity of block available make it impossible.*

*During 2001 we spent some £20,000 carrying out test core holes to enable us to decide where we were going to open our new chamber. This was more than anticipated as the original holes showed a slant/fault that would have made it totally uneconomic to open a chamber where we had originally hoped. Two more holes were carried out, but this again did not give the results we required as there were too many joints in the slate.*

*The problem with opening any brand new chamber is that there is an initial cost of driving a new tunnel and a new roof before any production can commence.*

*The cost of opening a new chamber is estimated to be a minimum of £ ¼ million and with the help of core drilling the risks are not as big as they used to be. With unlimited cheap labour in the old days tunnels were driven which could well take over a year and often proved futile because of faults and other problems.*

*Owing to the costs involved today and because of the results of the core drilling we have now decided to reopen an old chamber where the risks are somewhat less in that it will not be necessary to drive a new tunnel to gain access. We are currently pumping out this chamber and the next step will be a risk assessment of the roof above before we can commence the new chamber.*

*It is anticipated that production can commence in the new chamber, if all goes well, by the end of 2002."*

**18. Cwmystwyth Mine & Proposed Safety Works** - With reference to Item 11, N/L 44, Simon J.S.Hughes has the following to say... 'Ceredigion County Council have not yet responded to the many points of objection that I have raised about their proposed scheme.'

'I strongly suspect that we are being ignored en masse and would now be very interested to hear from any other objectors as to if they received a reply. Most of the objections which I saw had been written by people who had sufficient expertise to be called as expert witnesses in a court of law. Now, if we can prove that we are being ignored, then the fundamentals of our beloved democracy are being undermined which is quite a serious matter and allows us to complain elsewhere where we will be heard. Preferably e-mail me at **mining.man@amserve.net** or 'phone me on (01970) 832 324 and I'll see what sort of case I can put together.'

Simon has since stated that the Council are being refused Planning permission by the Environment Agency & CADW, but has yet to see confirmation of the project being officially cancelled.

**19. Cwmystwyth (Again !)** - I recently purchased sheets 214 & 215 of the new Explorer 1:25,000 Ordnance Survey maps. Clear, concise, up to date and revised ? Looking at the Cwmystwyth area, I find that Copper Hill has now passed from Copa Hill into Bryn Copa which is something entirely different. 'Bryn Coppor' would have been more appropriate.

Examine the primary plots of circa 1835, used to produce the first series of the 1" maps after 1840, and you will note that the OS clearly record 'Copper Hill Mine', as does Smythe on his 1846 map, but by 1905 this name had become 'Welshified' to 'Copa Hill'.

When the Ordnance Survey was under the direction of The Ministry of Fisheries, Agriculture & Food in 1948, before the advent of the SN prefix, GPS and electronic cartography, it was possible for them to get most of the names of the mines printed upon the 1:25,000, 6" and larger sheets, but not the 1" maps.

Sheet 215 fails to show Hyddgen Mine and I suspect that if I was to sit down and do a thorough examination, there are other points of detail which have been removed from the older series in order to produce a clearer interpretation.

Could the WMS not make an offer to provide this information for fear of the situation progressing to Gwaith Bryn Copa for the Copper Hill Mine, which is as old, if not older than most of the field monuments and antiquities shown on these maps.

**20. Cwmsymlog** - On the 9<sup>th</sup> of January 2002, contractors for Ceredigion County Council commenced erecting a 500 metre long safety fence around the East Darren section of the Cwmsymlog Mine. It is not at all pretty but appears not to have done any significant damage to the Industrial Archaeology of the site but has exposed a culvert or rod conduit. However, despite being warned several times about disturbing the SSSI and SAM, immediately after the completion of the Ceredigion contract they assisted a farmer in carrying away part of the development dump from Skinner's shaft and were caught in the act by some CCW field officers.

**21. Bwlchgwyn** - I noticed recently at Bwlchgwyn mine, an agricultural access road has been constructed along the southern side of the valley from beside the Engine shaft onto the fields about 200 metres to the east. Unfortunately a considerable quantity of dump material was robbed for topping and some open cuts on the back of the lode have been filled in.

**22. Llanerchelwydau Mine**, above Bontgoch has receded a little further into obscurity following some recent agricultural improvements and a liberal application of ammonium nitrate.

**23. The Environment Agency in Wales** commissioned their Metal Mines Strategy for Wales last September (see last N/L, Item 13) and I was most cynical that it would only repeat what was already known. However, when the draft arrived in February I was pleasantly surprised and think that it will do much to preserve and manage these sites by integrating our (WMS & WMPT) interests with those of CADW, the CCW and other interested parties deemed to be 'Stakeholders'.

All applications for Planning consent must be submitted to the Environment Agency for their approval. I have no doubt that their findings will enable the Agency to apply stringent conditions to the granting of Planning Consent for major reclamation works; it is unlikely to stop fly dumping or stone robbing. In many ways, the recent incident at Cwmsymlog could not have happened at a better time - see Item 20. I expect that a conflict will arise when a Ministry of Agriculture (now DEFRA) grant is used to re-seed and improve a mine with agricultural exemption being cited as a reason for not informing the planning authorities - see items 21 & 22 above and my note on the Vaughan Mine about two years ago.

*Simon J. S. Hughes (Above six items)*

**24. Welsh IA Panel** - Peter Cloughton informs us : 'I am now representing the society on the Welsh Industrial Archaeology Panel, replacing David Bick who held the post since the inception of the panel in 1987. My task is to put forward the interests of mining history / archaeology in Wales with the same enthusiasm and determination as David has done over the last 15 years.'

'My introduction to the panel was last November when we heard a presentation by Greg Howarth, of the Environment Agency (EA), on their plans for remedial work on a list of 50 metal mines. In April I had the opportunity to comment on the EA's plans, as incorporated in their draft strategy document, with a brief presentation to the panel on 'The Future of Metal Mining Sites in Wales'.'

'The panel allows interaction between government agencies, public and non-public bodies with IA interests. Mining inevitably features on the agenda. In November David Gwyn, of the Gwynedd Archaeological Trust, updated us on their Anglesey collieries project. Details are available on their website;

**[http://www.heneb.co.uk/GAT\\_site/Projects\\_99-00/anglesey\\_coal/anglesey\\_coal.htm](http://www.heneb.co.uk/GAT_site/Projects_99-00/anglesey_coal/anglesey_coal.htm)**

In April the National Trust outlined the work being carried out on various sites - the consolidation of structures, including the barracks, at the Cefn Goch gold mine and an assessment of copper mining on their new estates around Snowdon. The Brecon Beacons National Park reported on the establishment of a trail along the Brynoer Tramway (iron mining and smelting) and their assessment of the Caesara Mine, particularly the engine house, with a view to carrying out consolidation work if and when funding is available. On a more general note, the Countryside Council for Wales (CCW) reported that inclusion of areas like Upland Ceredigion and Halkyn Mountain, with their important mining components, on the Register of Landscapes of Outstanding Historical Interest, despite having no statutory conditions, is being taken as a material consideration in planning decisions.'

**25. The Environment Agency's priority list of 50 metal mines.** *Another perspective.*

We've now had sight of the Agency's draft metal mine strategy. The draft was made available in the Internet and details circulated to the widest possible number of interested parties in the short time available for consultation - largely achieved via the mining-history discussion list. (See: **<http://www.jiscmail.ac.uk/files/mining-history>** for details.)

The timescale for response was very short but once involved in the consultation we were pleasantly surprised by the reaction. The Agency has shown itself willing to engage with all the interest groups and has taken on board their views in its draft strategy. Whilst the Agency's early concept of mining archaeology had been found wanting, the view expressed in the draft document accorded with those of the society. We did recommend changes for the final publication but these were in the detail rather than the overall aims of their strategy. With eight sites (Llanfair near Lampeter; Bog, Caegynon, Esgairlle, Goginan, and Llywernog in the Rheidol catchment; Nant Minera in north-east Wales; and Parys Mountain on Anglesey) chosen for the initial phase of remediation, we wait to see if our optimism is born out in the detail of the work planned.

The Welsh Mines Society or suitable local interest groups, where they represent the interests of the society, will be included in the working parties considering the work to be carried out on each site.

*Peter F. Claughton*

**26. Snowdonia Copper Mines Archives.** 'All my papers relating to 'The Old Copper Mines of Snowdonia', 1982, will shortly be deposited in the County Record office, Caernarfon, Tel. (01286) 679 088. They will be available to anyone interested in further research into the subject.'

*David E. Bick*

**27. Six Inch Geological Maps.** David Bick informs us that he has deposited several Old Series (1850s-1860s) six-inch hand-coloured Geological maps, with the Durham County Record Office. They are Durham Sheet Nos. IX, X, XI, XII, XVI, XXIV & XLI and cover much of the lead mining and some coal mining districts in the county of Durham.

**28. Electronic Mining Journal.** Peter Claughton informs us of a proposal by himself & John Morris of the Mining Heritage Trust of Ireland to secure EU or Heritage Lottery funding for the digitisation of the Mining Journal from 1835 to 1920. Both the National Library of Wales, and the current Editorial Director of the Mining Journal have given a positive response to the proposal. It is anticipated that other national agencies and bodies will also support the project.

It is hoped to produce an electronic image of the Journals, in addition to a searchable plain text version using optical character recognition. This has been done very successfully in the States by the likes of Cornell University Library ( <http://cdl.library.cornell.edu/moa/> ) with similar Journals from the 19th century. Let us hope the necessary funding can be secured.

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## Query Corner

(Please reply direct to the correspondent. Any follow-up info will however be gratefully received by your editor to allow a suitable response to be placed in the next newsletter for the benefit of all.)

**29. Cader Idris - (Revisited !)** Due to 'data transfer' problems, item 35 in the last N/L, by David James, was incorrectly reproduced. I apologise for any inconvenience caused, the article should have read as follows:

'My first reaction was that the promotion of the Cader Idris Ironstone & Tramway Company (N/L 43, Item 25) was probably a scam as it is well known geologically that all

ironstone workings at Cader Idris lay **north** of the spine of the mountain between Llyn y Gadair and Cross Foxes and that no ironstone is present **south** of the spine, presumably in the Llyn Cau to Minffordd area, where the 'open quarry' mentioned would appear to lie and where the only possible, and charitable, explanation could be the misidentification of rusty weathered basic volcanic tuff as ironstone. Also, the gradients and probable operating costs on a tramway from the latter area to Upper Corris, i.e. crossing the Tal-y-llyn valley, are simply mind-boggling. However, the project was real and parliamentary sanction for the line was granted in 1864. The idea was to link the ironstone workings at Tir Stent, near Cross Foxes, to Upper Corris to join the then entirely horse-drawn Corris Tramroad. This would have required the line to contour the steep, unstable slopes of Bwlch Llyn Bach. The dubious economics of the idea were never tested as Tir Stent decided to link to the Dolgellau-Bala line.'

*David James*

**30. John Kitto** - In the last N/L (Item 32) Simon J. S. Hughes queried if new member, David Kitto-Smith, is a descendent of mining agent John Kitto of Llanidloes. David informs me that there is no family connection - as far as he is aware !

### **31. Mines Near Usk**

There is an interesting reference in the 'Memoirs of the Geological Survey, South Wales Coalfield, Part 1' [2nd Ed'n, 1909, p.6 - Ed'] to stone mines between Pontypool and Usk. They were in the Wenlock Limestone and ran south from Cwm, via Greenmeadow for about a mile. However, it appears the Llandegfedd Reservoir may have drowned out some of the workings, which faded out at about NGR ST 338 996.

There were more pits between Pentrewhain House going south-east and then east to NGR ST 347 982. Possibly these workings are shown on the old 6 inch maps. Does anything remain of them now ?

*David Bick*

*[There is a report in 'The Red Dragon', (Journal of the Cambrian Caving Council), Vol.16, 1989-90, of visits in 1988 to four underground workings in this area - one of these visits being made with extreme caution, as apparently the farmer (who owned the land) and his two sons had a reputation for violence !! - Ed.]*

**32. 'New Wheal Treharne'** - (Ref. N/L 45, Item 30) Our editor queries where this is, and speculates it might be Vale of Towy. He, is right; it is the name I gave to some re-opened old workings south of the mine, as I remember, in 1957. I well recall George Hall and I, when exploring the area, were intrigued to hear the drone of a big compressor not far away. On hurrying to the spot we found Idris Trehame, an ex-collier turned metal miner, running a two-man enterprise for barytes. For a winding engine he was using an old farm tractor with one rear tyre removed and the rope wound round the rim. What the Mines Inspector thought is not recorded, if indeed, he ever saw it. But such initiative and enterprise as this deserves to succeed, although it was fated, the vein not proving thick enough to pay. There was however, some very fine transparent barytes discovered, which I mentioned in Old Metal Mines, Part 5. Barytes was then worth only about £8 per ton.

In the 1960s Trehame went on to open up a virgin lode of lead ore, which he found on a Mountainside near Cynhordy, north-east of Llandoverly. But after a very promising start, sinking a shaft and driving two adits, this again this turned out a costly failure. Incidentally there is a lesson here for mine historians. You must never assume for certain that a shallow

adit was driven before the deep one, although of course in nearly every case it was. In this instance the deep adit failed to find the lode due to faulting, and so the shallow one came later, with more success, though faulting eventually ruined the chances. George Hall and I helped to drive the latter, and you would never believe how many tramloads of spoil had to be dug and blasted just to create the approach cutting, even on a steep hillside - it was, I recall, about 150. Incidentally, Treharne put down underground a tramway with wooden rails which may yet remain - a fatal trap for some future historian who thinks he has found some wonderful evidence of early mining !

*David E. Bick*

**33. Mystery Share Certificates** - More on *Carreg Fawr Slate and Mineral Company Limited*. (Ref. Item 34, last N/L, & Item 21, N/L #45)

My notes from the PRO, Kew, confirm Registration on 26.5.1860, but with the registered office at 12 Copthall Court, Throgmorton Street in the City of London. The office was moved on 22<sup>nd</sup> June to Skinners Place as per Andy Bowman's note. This was subsequently changed three more times until liquidation 14.4.1874. One of the shareholders during this time was Thomas Savin who played a part in a number of enterprises including the Corris Railway.

*John A. Knight*

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## Book Reviews & Bibliographical References to Welsh Mines & Mining

### Available Soon

**34. 'Collieries of South Wales : Part II'** - by *John Cornwell*. Andrew Lewer of Landmark Publishing informs me that this publication is due to be released as a follow-on to Part I released last year, which due to demand, is now in its second printing.

### Book Reviews

**35. 'The Glasdir Experiment'**, by *Peter R. Jenkins*. Published by *Dragonwheel Books, Sandcott, Rectory Lane, Pulborough, West Sussex, RH20 2AD*. s/b, A5, 21pp. ISBN 1-870177 24 X £2.50. This little publication details the trials and tribulations of the development of the Elmore oil flotation process at the mill at Glasdir at the turn of the 19<sup>th</sup> Century. It's recent re-printing is rather timely given that we're scheduled to visit this site during the June field meet.

**36. 'On the Dressing of Ores'**, by *John Darlington* being a 90 page extract of *Ure's Dictionary* - Edited by Robert Hunt of 'British Mining' fame. Originally published in 1878, this is a most useful reprint which is well worth acquiring. Less voluminous and cheaper than an original, far better than a photocopy and it has an index. It could have been improved by the addition of some biographical details of John Darlington and references to his other works. Published by *Dragonwheel Books*, (details above) at £12.95 ISBN 1 870177 67 3.

*Simon J. S. Hughes*

**37. 'The Nent Force level and Brewery Shaft'**, *Peter Wilkinson*, 105pp., B5, pb. The author is well known within Mining History circles and this is one of the best known mining ventures in the UK. The Nenthead mines are some of the most visited and yet not a great deal has been written in recent years about history of the mines.

The book includes three walks around the area supplemented by sketch maps, plans and colour photos. Albeit these are clustered together in a separate section to reduce printing costs. The walks include mining features and the general explanations are clear and concise.

I am pleased to see an easy to understand explanation of the operation of Brewery Shaft which was used by various means of hydraulics and water power to not only generate electricity but also compressed air. Water was fed from the dam to the top of a 70ft tower above the shaft and then dropped 400ft pulling air with it and then the water was pushed 250ft back up to Rampgill level and allowed to drop down again to power Pelton wheels.

Peter explains in brief detail the very complex history of the area and cleverly uses extracts from historical documents by the likes of Sopwith and Westgarth Forster to explain and understand events and developments at the Mines. There are only 2 pages on the Geology of the area which provides an overview but is very brief.

In all this is very good book it acts as a signpost to further reading and more serious tomes, it is aimed at historian and casual visitor alike and is a worthy addition to your bookshelf. £9.95 + £1.00 p&p Available from Mike Moore, [Mike@moorebooks.co.uk](mailto:Mike@moorebooks.co.uk)

### **Bibliographical References to Mining in Wales**

**38. ‘Caring for Industrial Heritage of Slate’**, David Rhys Gwyn, 18pp., sb, bilingual, GAT & CADW. Details the basic approach to safeguard Industrial Heritage in Wales, where support may be sought, plus a list of key legislation, planning guidance etc. currently in force.

**39. ‘Below’** - Quarterly Journal of the Shropshire Caving & Mining Club, No.2002.1

p.3 ‘Gwynfynydd Gold Mine’. Report of visit, Dec. 2001, Ian Cooper.

pp.5-7 ‘Llanberis Munitions Store’. (Lower Glynrhonwy slate quarry.) Report of visit, Jan 2002, Ian Cooper.

pp.10-12 ‘Parys Mountain Trip’. Report of visit, Jan 2002, Ian Cooper.

**40. TICCIH - International Colliery Monuments List.**- A revised copy of this list, as previously mentioned in N/L 44, Item 36, is now available from the Web. Go to: <http://www.mnactec.com/TICCIH/coal.htm> (Your Editor will supply hard copies on receipt of an SAE).

### **41. Grosvenor Caving Club, N/L, Issue 118**

pp.5-6 ‘New ‘old’ discovery in Lode 656’, Mick, Glen et al. Explorations in part of the Milwr Tunnel.

pp.7-10 ‘Limestones of Hendre’, Anon. Discusses the geology around Olwyn Goch mine.

**Research Resources** - The following items list some of the many useful resources available to those with the computer hardware necessary to use them:

**42. National Census 1881 on CD** - This is available from The Church of Jesus Christ of Latter-Day Saints on a mere 25 CDs, and covers 30,000,000 individuals from England, Scotland and Wales. WMS member Keith Williams has found this immensely useful when searching for mine Captains, mainly in the Cwmystwyth area, and was amazed with how much useful information he was able to obtain. Peter Donovan, does however recommend that the ‘Viewer Ver.3.0’, is also purchased (it may now be included - check before ordering) as this improves searching capability.

The 1881 Census CDs [L.D.S. reference 50169] can be obtained from, The Church of Jesus Christ of Latter-Day Saints, The Distributions Centre, Family History CDs, 399, Garretts Green Lane, Birmingham, B33 0UH. Price £29.95. inc. p.&p. The ‘Viewer V.3.0’ is an

additional £5.95 inc. p.&p. Payment is by cheque made payable to - The Church of Jesus Christ of Latter-Day Saints. Alternatively Credit Card orders can be made by calling Tel. (08 700) 102 051, or by Fax on (08 700) 102 052.

Peter informs me that if you deal with them for CDs you do not get any religious pressure.

**43. On-Line Resources** - Peter Donovan has brought the following to my attention:

**<http://www.reesm.co.uk/home.htm>** The Trealaw/Llethrrdu (Rhondda Valley) cemetery index. Includes burials from the Dinas explosion of 1879.

**<http://home.clara.net/wfha/wales/listfram.htm>** Welsh Family History Archive – From the list of names do a text search on ‘mine’ or nearest town.

**44. National Census 1901** - The PRO, on 2<sup>nd</sup> Jan. 2002, published the 1901 National Census in its entirety on their web site. Due to technical reasons (I assume their servers couldn't cope with the ‘traffic’) they stopped access only a few days later. It can however still be viewed by visiting the PRO in person. *Ref. Computer Buyer, #130, p. 106*

**45. Welsh Mines Society on the ‘World Wide Web’** - First a reminder to readers, that the WMS web-site is always kept up-to-date with details of the forthcoming field meets (including menu's etc.) posted there as soon as they are known - you don't have to wait for your Newsletter to find out what's happening ! Menus etc. are also made available for download so you can book meals etc. a little further in advance. Links to on-line 1:50,000 OS maps showing where we'll be meeting will also be set up wherever possible.

The amount of information available on the internet continues to expand, despite the statistic that the numbers of users in the UK who are now on-line has more or less stabilised. Of particular use is the indexing of collections of record offices and libraries, which are slowly making their way on-line. Although a visit is still needed to the RO in question, at least you can be quite sure as to what it is you'll find once you get there, and can perhaps prioritise which documents are to be viewed first. I recently visited the Public Record Office in Kew, having established several references from their on-line database a few weeks beforehand - I wasn't disappointed with what I found.

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## **46. Early Trade from Blaenau.**

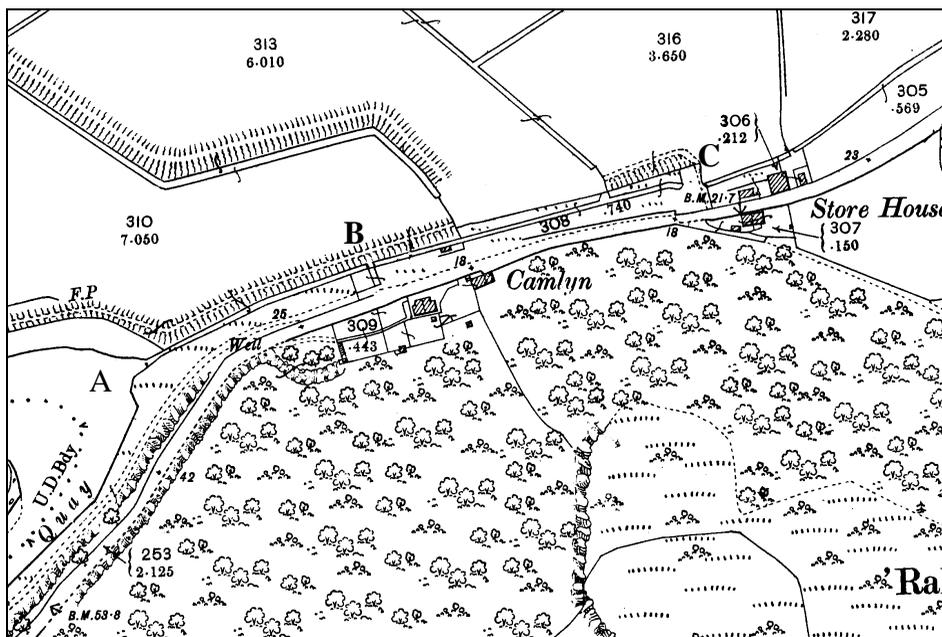
The Merionethshire town of Blaenau Ffestiniog owes its existence to slate. The origins are found in the well known story of a dream. Methusalem Jones was a quarryman at Cilgwyn, just north of the Nantlle Valley. He had a dream which led him across the mountains to an area on the hillside just north east of the later site of the Festiniog Railway's Duffws station. That area was named Diffwys, the quarry where Jones found the Merioneth Old Vein, probably in the early 1760s.

Slate had been worked in the Vale of Ffestiniog since at least the late 16<sup>th</sup> century, when reference is made to a slate roof. The village of Maentwrog in its early days, owed much of its slate roofing to the output from the nearby quarry of convenience at Caen-y-Coed. Blaenau lying at c.700 feet a.s.l., was an isolated area. What was needed for the growth of the slate trade was a means of getting the product quickly to the customer, in quantities that the customer required. Before the arrival of the Festiniog Railway in 1836, this would mean using the Afon Dwyryd. There is evidence that slate had been carried on the Afon Dwyryd in the 18<sup>th</sup> century, but these would almost certainly have been small and irregular cargoes.

In his excellent book, "Sails on the Dwyryd", Dr. Lewis makes an interesting case for a quay at Maentwrog. What we do know, and they are clearly visible to this day, in most cases usable if required, are a number of quays built downstream of Maentwrog, on both banks. The earliest if we save judgement on Maentwrog is Cemlyn. This existed before 1800, although possibly without the built up quay side. The quay lies on the north side of the Harlech road, less than half a mile from Maentwrog. Of equal interest is the Cemlyn Canal.

As the Dwyryd is followed up stream, the course is hard left from Cemlyn Quay turning in the direction of Plas Tan-y-Bwlch. Immediately above Cemlyn Quay and as the river moves away from the road, may be seen what appears to be a large ditch. This is the Cemlyn Canal. It was formed by the re-alignment of a stream which flows through part of Maentwrog. The canal provided some 312 yards of quayside, which also included Parry's Wharf. It was dependent on tidal flow, had no gates and no room for vessels to pass.

There was also the added disadvantage of a bridge over the canal, there by 1840, and still there to-day. The only real disadvantage of the bridge would be the requirement to lower a mast if the boat was so fitted, and once in the canal it would seem unlikely that a sail would be of any use.



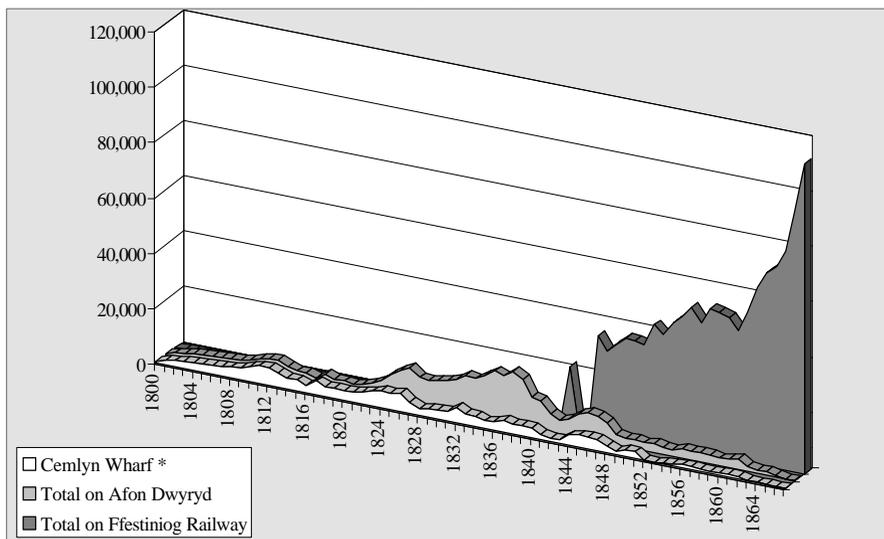
**Cemlyn Canal** - The canal runs from its connection to the Afon Dwyryd at 'A', to its termination at 'C'. The bridge is located at 'B'.

*Reproduced from the 1899, (2nd Edition),  
1/2,500 Ordnance Survey map, Merionethshire Sheet XI.12*

The boats on the Dwyryd were usually operated by two men, no women are shown in the surviving lists of skippers and boatmen. From available information the majority of boats would appear to have carried a single mast, but with a variety of rigging. Some idea of the quantity of slate being produced in those early days may be seen from the available figures for shipment on the Dwyryd. Between 1800 and 1865, from Cemlyn Quay, the Cemlyn

Canal and Parry's Wharf, 192,288 tons were shipped. If we use a mean figure of 6 tons for boat capacity, then this is equal to c.43 boats per month. It would be an uneven supply of slate from the quarries, the weather and tidal conditions would also affect the use of the river, and then there would be the requirement for sea going vessels to be available to receive their cargo. On some days the river would have been a very busy place. During the period 1800 to 1868, 420,778 tons is known to have been shipped on the Dwyryd. Again, allowing six tons per boat, this equals an average of c.91 boats per month. To keep these amounts in perspective, when the Festiniog Railway opened in 1836, then two ton wagons would have carried the above monthly amounts in c.121 and c.254 wagons respectively.

**Tonnage of Slate Transported from Cemlyn Wharf, on The Afon Dwyryd, & The Ffestiniog Railway, 1800 - 1867**



(\*Includes Cemlyn Canal & Parry's Wharf)

We know the railway was essential for the continued expansion of the slate trade from Blaenau Ffestiniog, and the effects of its introduction in 1836 is clearly shown on the graph above. Another factor which would be directly affected was cost. Before 1836 the boatmen were charging fifteen shillings per ton for carriage. The F.R. started at six shillings per ton, which in 1864, a year after the introduction of steam, was down to two shillings and sixpence a ton. Put more clearly in cost terms. One months carriage on the Dwyryd from Cemlyn and Parrys in 1836 would cost £181 10s, whilst twenty eight years later the Festiniog Railway would carry the same amount in one 121 wagon train, for £30 5s 0d. For all the quays on the Dwyryd, in one month in 1836 the cost would have been £381. The F.R. would carry this in possibly two trains of 127 wagons each, for £64 10s.

The above is just a brief look at one aspect of the slate trade. Essential reading for anyone wishing to look deeper is "Sails on the Dwyryd" by Dr. M.J.T. Lewis. Together with the documents of the Gwynedd Archives Service, a much fuller picture of the transport and costs to the slate trade in and around Blaenau Ffestiniog may be formed.

Peter Donovan

## Miscellaneous

### 47. ALMA - A Phantom Mine.

Dr. O.T. Jones, in his Memoir on The Mining District of North Cardiganshire and West Montgomeryshire, 1922, says 'Llechweddhen or Alma. This mine adjoins Bronfloyd on the east...', and David Bick, in 'The Old Metal Mines of Mid-Wales', Part 3, shows Alma Mine '(not described)' in this position.

For years I accepted these authorities, until it slowly dawned on me that I had not found a single reference under either name in the Mining Journal. I then had a look through the pages of Francis, Liscombe, and Spargo, to discover that they too made no mention of it.

This seemed strange, and I next went carefully through the reports from Bronfloyd mine in the Mining Journal from 1850 up to 1857. That company gave most of its energy in those years to bringing up a deep adit from the east, and I eventually discovered that this had been driven as a cross-cut south for 57 fathoms to the lode, where the No. 1 shaft had been sunk, and then westward for about 125 fms., which brought it under the easternmost ancient workings. Scaling off the six inch map seems to make it clear that the No. 1 shaft must be that shown by David as Alma Mine. I also noticed that the Mineral Statistics showed production figures from Bronfloyd in 1851 and 52, and then from 1855 on, while those from Alma are for 1853 and 1854 only, filling in the gap.

The workings of Bronfloyd were under the property of three different mineral owners, and there is no doubt that returns of ore would have to have been kept separate. However, I don't think that is the reason for the use of 'Alma'. The battle of The Alma took place on September 20th, 1854, and this heroic event no doubt took someone's fancy, who decided to commemorate it by using it for the 1853-54 Bronfloyd sales. In other words, there never was a real Alma Mine.

There may seem to be a discrepancy in the dates, but connoisseurs of the Min. Stats. will be aware that 1853 and 1854 were published together, over the date July 19<sup>th</sup>, 1855.

The M.J. reports mention sundry sales of dressed galena from Bronfloyd in all these years, but unfortunately exact figures were not given.

*George W. Hall*

### 48. Ore genesis in Central Wales - Reference N/L 45, item 52.

For a long time I have held the view that geology can only be learnt in the field. That means the learner is dependent on the knowledge of his or her companion. Mr. James's interesting article, written to clarify and simplify the geology, did nothing to change that view. A continued re-read, perhaps glance may be more accurate, appears to confirm that Wales was in geological upheaval c.400 million years ago, so that appears to indicate that the slate beds were laid down at a similar time as the veins of lead.

Does this mean that copper deposits which were found first, i.e. nearer the surface, are older than the lead or as in Cornwall the tin, which is/was found further down ?

A point I do not understand, amongst many others, is the reference to a fluid source of infinite volume. How can any fluid source be infinite ? No doubt I have missed the point yet again.

An interesting and useful article, of which more will prove of interest, but this member is already at the limits of his understanding.

*Peter Donovan.*

#### 49. Dinorwic Slate Quarry - Australia Mill

I heard a story a while ago, from a usually reliable source, relating to the saw tables in Australia mill. The story goes that the Ingersoll Rand plates that these carried were manufactured in Gilfach Ddu to fit to the machines to enhance their saleable/scrap value when the quarry was closing.

Last July I visited Dinorwic and after lunch I was re-reading the notes from Alun John Richards 'Gazetteer' wherein he states that "although they carry Ingersoll Rand plates the saw tables seem to be of Turner pattern". This therefore seemed to suggest that the story could well be true.

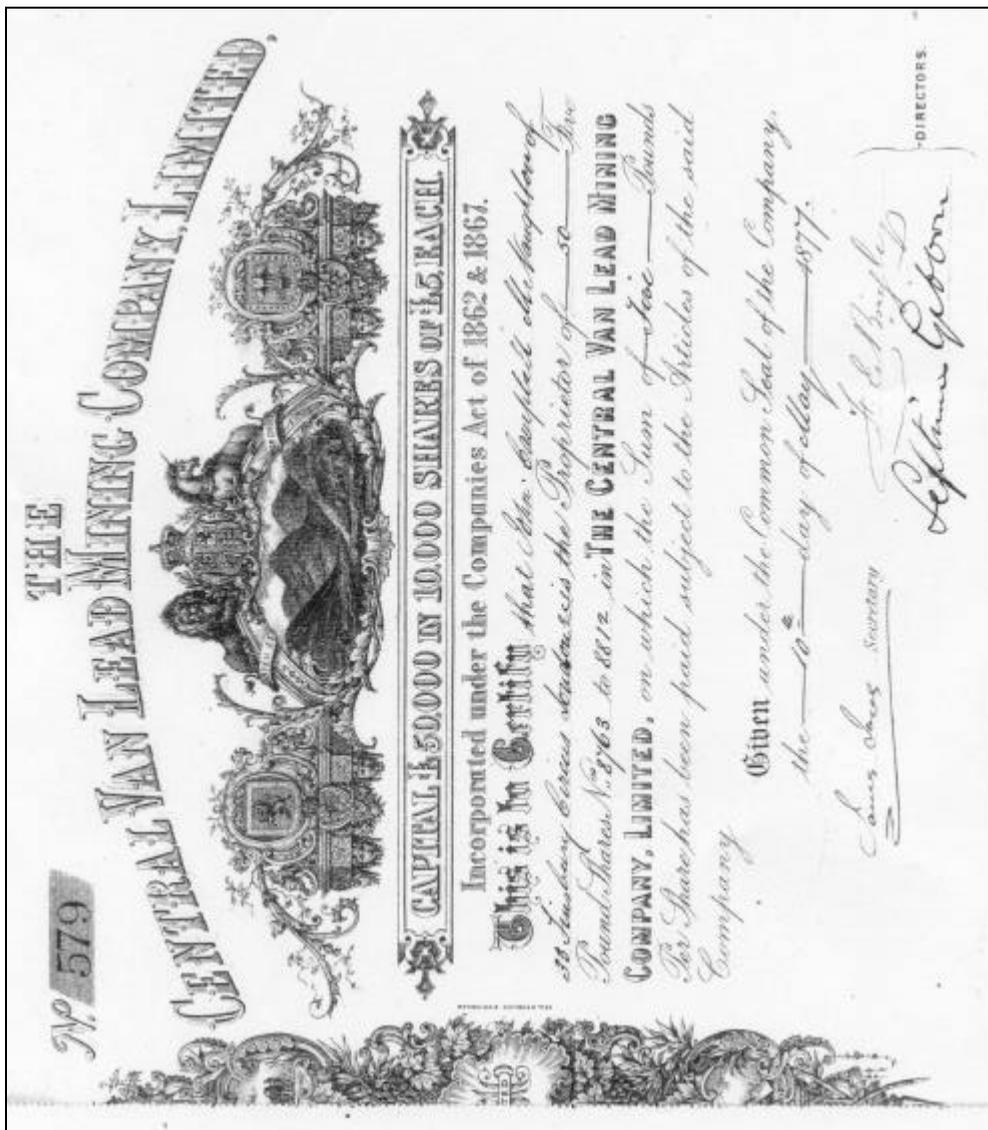
Subsequent to this I contacted Alun who comments; "The story does persist, and indeed they were installed in the early 30's at a time of financial stringency and were items that could have been made in house. Some years ago I contacted a retired director of Ingersoll Rand who was the company archivist. He told me that the Lumber Division did make saw tables but had no evidence of an order of this size from the UK at this time nor that they supplied the slate industry." Alun then comments; "However absence of evidence is not evidence of absence !"

*John A. Knight*

#### 50. Central Van Lead Mining Company

Several years ago I purchased a share certificate of "The Central Van Lead Mining Company", it was sold as a certificate of the Van company. [See over page.] On researching the certificate I began to realise that I had something more interesting. The certificate was not of the Van company, but was for a small mine close to Van, called Central Van. On consulting The Mines of Montgomery (Mineral Statistics) by Burt, Waite and Burnley I found an entry for Central Van, which was owned from 1874 to 1878 by the aforementioned company, making no detailed return of ore. In 1877 six men were employed underground and in 1878 four were employed on the surface and two underground. Unfortunately no location was given. Several reference sources were checked but I still could not find the exact location of the mine, or any of its history. Following a request WMS Newsletter No. 44, Item 21, George Hall came to the rescue with the following:-

*"Central Van consisted of two separate workings, one a shaft 75 fms from Van Shaft, and the Llwyn-llys cross-cut, at GR 9450 8765. I am almost certain the shaft is at the top corner of the triangular field just north of Clifton Villa, at GR 941 880, the north apex of a wedge of land not included in Van proper. When I saw it some years ago it was still open, but almost hidden in a mass of briars. The shaft was expected to cut the Van lode at between 70 and 120 fms deep. It reached 72 fms from the surface, where a cross-cut was driven 50 ft north, up to their boundary. They then realised that they would have to sink a good deal deeper to intersect the Van lode, a task beyond them, and subsequent efforts were concentrated on the deep adit at Llwyn-llys. This had penetrated 137 fms into the hill by 1876, and had intersected a lode 20 fms wide, and a couple of counter-lodes. These were not, where seen, productive, or very encouraging. They then sunk a shaft, installing some sort of engine for pumping and drawing, just inside the deep adit, where they actually got some lead. But the company ran out of money and went into liquidation in 1879, with this shaft still only a few fms below the 15".*



What started as a purchase of a share certificate in Van mine, turned out to be something much more interesting. My thanks to George Hall for the in depth information on the history and location of the mine.

Graham Levins

## 51. Lewis Morris's Mineral Collection C. 1747 and his comments on Ancient British Mines, Silver and Copper Ores, and Blasting Clay in Cardiganshire.

Of interest perhaps in relation to Simon J.S.Hughes note (last N/L, Item 55) on Morris's visit to the Roman mines at Dolaucothi (Caio) in 1761, a glance through Lewis Morris's 'Commonplace Book' c. 1750 amongst the Morris papers within NLW provided a fascinating, though unfortunately for us, an abruptly cut short insight into his observations on natural history. Amongst which are numerous fine drawings, as well as varied other aspects of Cardiganshire life, some of it in diary form, which include such snippets as the cost of felling, peeling and squaring oak timber, and of course numerous reference to mining.

Most interesting I thought was the (incomplete) listing of his mineral collection, mostly from Cardiganshire, and which he had sent to a William Jones FRS in 1747. At or before this date he appears to have had in his possession 'pyrites and marcasite from Gogofau in Carmarthenshire... from prodigious old caves and hillocks' stating; 'it is not known what age they were worked nor what kind of ore they used'. Of still further interest on the ancient mining front comes the comment associated with what was presumably a sample of calcite, malachite and crystalline chalcopyrite from the Great Orme, which he described as '*white, green and yellow copper ore from Llandudno, Caernarvonshire, an old British or Roman Work*'. The latter appears to be the earliest specific reference to the antiquity of mining on the Orme, although he does of course refer to the mine itself later in his '*Plans of Harbours...in St.George's Channel*' (1748) as being '*...formerly a great copper mine... which now lies under water*'.

Other useful references to Cardiganshire mines and mineral specimens abound within the list including; '*blue clay used by all miners in Cardiganshire for blasting with gunpowder..Bontgoch nr. Cefn Gwyn, Cards.*'; ....'*a black mineral resembling wadd found amongst silver ore at Cwmsymlog. SG=4*' ( I guess most likely to be pyrolusite nevertheless); '*a piece of shoad ore above a hundredweight found on top of a hill, highest of any near it...but no vein discovered, Cil Olwy, Borth*'; .... '*potter's ore of the best kind from Brony Berllan Mine nr. Strata Florida*'; and of silver ores... '*irregular flaky silver ore from E. end of Cwmsymlog Mine. Will produce 74 oz. of silver for 1 ton lead*' plus references to '*steelgrained and feathered ore from Darren...*', '*steelgrained and crop grained silver ore from Pencraigddu...*', and '*striated silver ore from Erglawdd*'.

The numerous correspondents within the WMS Newsletter who have in the past commented on the mystery mine at Newquay (Wheal Neptune ?) will be interested to know that Lewis Morris's collection also contained '*a free and fusible lead ore (found) in a vein in cliffs above the sea, Newquay, Cards.*', a specimen which must surely date from the earliest known working of the site (W.J.Lewis 1967). Evidently the collection once contained specimens from all over Wales, including from outcrops/sites which have otherwise remained undocumented. Peter Cloughton might be interested in the reference to a sample of '*rich copper ore from an untried vein. West Mangle, Milford Haven*'. I know of no other reference to this.

Gold speculation within Wales, even then, was rife. Morris notes ruefully his specimen of '*...pretended gold ore from Flintshire puffed up by Dr.Linden. It is an iron vein (!)*'. This is presumably the same Dr.Linden who was also actively promoting trials on Gwydir High Park, Llanrwst, between 1752 and 1765 (Bennett & Vernon 1991).

*Simon Timberlake*

**52. Looking for a Patent ?**

Whilst in London recently I wanted to track down a Patent, so naturally I went to where the Patent Office has always been, off Chancery Lane. It isn't there any more; the building has been taken over by the L.S.E.

Patent records are now housed in the British Library, which is next to St. Pancras station. It is necessary to obtain a Reader's Pass; this requires identification in the form of a banker's card or driving license, but the procedure is simple and took no more than ten minutes.

Armed with my Pass I set off into what is a large and potentially confusing labyrinth. I need not have worried. I found the staff to be both helpful and enthusiastic. I knew how to carry out the search, it was just a matter of finding my way about the shelves, but I met with friendly assistance at every turn which made my search and subsequent photo-copying straightforward, swift and successful.

All the time saved may be wasted quite easily by browsing through the volumes of patent abstracts, which are fascinating. Underground explorers might care to adopt the apparatus for miners dress and personal equipment patented in 1904 by Mr. F. Solf of Oberwaldenburg. "On a rope running over sheaves is hung a receptacle, from which is hung a second receptacle. The first box contains a comb, hair-brush etc. and is fitted at the corners with coat-hooks, while its bottom may be formed of a hinged mirror. The lower receptacle may be of corrugated sheet metal and may carry a soap dish and hooks for boots". Perhaps I have identified that strange device hanging on 15C in Bryn Eglwys !

I commend the British Library to all Members. It is much more user-friendly than the P.R.O., and the coffee is good too.

*Adrian Barrell.*

**53. Biblical Quotes** - (Ref. Item 51, N/L #44.) Simon J.S. Hughes says 'It has been pointed out to me that metallurgy is in fact considered in Genesis, firstly in 2:11, supposedly around 4004 BC, regarding the land of Havilah where there is gold, and the gold of that land is good. Secondly in 4:22 where Tubal Cain, about 3875 BC, is described as a "forger, or artificer, of every sort of tool of copper and iron".'

**54. Slate Confusion** - Peter Donovan points out that 'The slate which McAlpine is selling from Cwt-y-Bugail, is actually from Craig Ddu, although it is dressed at Cwt-y-Bugail, but Cwt-y-Bugail is not really Cwt-y-Bugail, but is Manod which is really Bwlch-y-Slaters but McAlpine has re-named Manod as Cwt-y-Bugail.' !

**55. Oxygen Meter** - Simon Hughes has recently discovered that MSA produce a tiny Oxymeter in their "cricket" range which sells at £ 140 + VAT + carriage and is readable without any previous experience, it has a pre-set audible alarm triggered at 19.4 % Oxygen. This is considerably cheaper and easier to use than the Draeger type of multigas meters. The disappearance of the habit of carrying a flame lamp has resulted in some near misses during recent years. If the mine had been registered, some of these incidents would have been notifiable events. Now whilst many theories abound regarding oxygen stripping, the simple truth of the matter is that there is often a lack of oxygen in old workings which have just been re-opened. Excitement and anticipation draw attention away from the slight physiological symptoms and then suddenly the lights go out with no warning ! It's a bit like a major diabetic turn, but sitting down to take glucose only makes matters worse.

Contact them by e-mail [info@MSABritain.co.uk](mailto:info@MSABritain.co.uk) regarding model # 804625.

**56. Insurance** - By chance this year we reverted to the insurance organised by BCRA for the purposes of the NAMHO conference rather than the much cheaper insurance organised by the British Trust for Conservation Volunteers. This is fortunate as the BTCV has been forced to cancel its insurance cover for a huge range of its members including any involved with mining and quarries. This spectacular default has been brought about by 11<sup>th</sup> September, the difficulties of the market and by a potential £4 million claim on behalf of a paraplegic who was injured while riding a bike on a BTCV members site. It is likely that the BCRA insurance will also suffer from these issues and it is possible that WMS will be faced with some difficult and expensive insurance decisions when the September renewal is received.

*David Roe*

**57. Electronic Newsletter** - Those members who have previously opted to receive the Newsletter by e-mail, will have noted that they have continued to receive 'hard copies' through the post. David Roe informs me that his membership database won't sensibly cope with differentiating between the two, so to avoid burdening him with 'unnecessary administration' he will continue to mail hard copies to all members. An electronic version will therefore no longer be e-mailed to members, but I will continue to post the latest edition of the Newsletter to the WMS web pages, (at the same time as the hard copies are despatched) so members can still obtain it in electronic format, (Word Ver. 6.0 & Word 2000), if so required.

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### ‘Tailings’

**Acknowledgements** - Many thanks to all those who have provided me with contributions and feedback for the newsletter. Note that all items are credited to the contributor, unless submitted by your editor.

All contributions welcome - see note below about format. Absolutely any field reports/ notes, or news item from the local paper, T.V., radio or 'heard down the pub' are sought. Without these the Newsletter would cease to exist, so please don't stop sending them in !

*Mike Munro & BronwenDog* 

**WMS Membership** - Annual membership is £4, (or to ease administration - £8 for 2 years). The paid up date is shown on your address label - on the envelope you've just thrown in the bin !! If you are "paid up to DEC 2001" or earlier, then the date will **be highlighted in red**, your subs are now due, and your Treasurer, David Roe (address on front page), would be most grateful if you could pay promptly.

**Copydate** for the next Newsletter, **15<sup>th</sup> September 2002**, publication due October-ish ! Articles (preferably typewritten and ideally on 3.5" disk, MS Word 6.0 or Plain Text format) to be sent to Mike Munro, (address on front page) or E-mail to **mike.munro@cwcom.net**

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