

NORTHERN MINE RESEARCH SOCIETY



NEWSLETTER

NOVEMBER 1990

FUTURE MEETS

9th March 1991 The Society Annual General Meeting and Annual Dinner. This will again be held at the Ascot House Hotel, 53 Kings Road, Harrogate, N.Yorks HG1 5HJ. Tel.0423 531005.

As in previous years the dinner will be preceded by the Annual General Meeting which is followed by a series of interesting lectures. There is a choice of menu which is shown on the attached booking form.

Accommodation is available at the hotel at a specially reduced tariff of £29.50 single or £24.50 each in a twin or double room for B & B. If you require accommodation please make your own arrangements with the proprietor, Mr. Stephen Johnson.

Please give this event your support and come along and meet other members and have a good day out.

1991 NAMHO
Conference

As detailed in the August Newsletter the Welsh Mines Society is hosting the 1991 NAMHO Conference which is based in Blaenau Ffestiniog N.Wales on the 3-6th May 1991. Further details can be obtained by writing to Mrs. Margaret Vernon, 78 Oakenshaw Lane, Walton, Wakefield, N.Yorks. WF2 6NH.

MEET REPORTS

NAMHO Alderley Edge Meet.

The weekend started with brilliant sunshine and a trip down Engine Vein by about 40 people. Split into two parties the visitors were shown round the Blue Shaft area and then upto the opposite end of the vein where the excavations at Ring Shaft have revealed three previously unknown workings on the vein.

Various geological and mineralogical points of interest were pointed out on the way round. Some of the more intrepid visitors then walked over to explore the rather "delicate" workings of Brynlow Mine while the rest enjoyed the heatwave and lunch. The afternoon was rounded off with trips down Wood and West Mine.

Sunday was slightly overcast but still warm. Again about 40 people turned up and the morning was divided between a trip down Engine Vein or an SRT trip down Square Shaft into the Hough Level. Visitors were then invited to explore the latest discoveries in the extension to Cobalt Mine. This is a recent find by members of the Derbyshire Caving Club who have opened up a complex of passages and shafts which had

been driven to exploit extensive deposits of cobalt, in a previously unexpected and totally new area. Both from a geological and mineralogical aspect this find is of great importance to the understanding of the area.

After lunch we were given a most informative talk on the present re-assessment of the mineralisation and structure of the Alderley Edge Mines by Chris Carlon who has made a lifelong study of the area. Illustrated by photographs and diagrams and couched in laymans terms it was possible for all to understand the complex stages of the deposition of the various minerals found on the Edge. This talk on its own made the weekend worthwhile.

The meet was then concluded with trips down Wood and West Mines. All in all a well attended weekend, good weather and enjoyable for both guides and visitors alike.

L.Tyson.

LETTERS

The Leadhills Library 1741 - 1991.

The miners' library, now the Allan Ramsay Library, at Leadhills, Lanarkshire, was founded in November 1741, and is the oldest community subscription library, and the first working class library in Britain. It ceased to function as a library in 1966, but it was a unique institution for it was managed by the miners themselves and it was they who chose the books.

The circumstances of its founding are unclear. Writing of a visit to Leadhills in 1790, John Ramsay of Ochtertyre remarked that the miners had once been "thoughtless and dissipated", and as part of a policy of social reform, "Mr Stirling suggested the expediency of a library". These views were echoed by other visitors, and all believed that James Stirling, agent for the Scots Mines Company, and sometime confidant of Sir Isaac Newton, was the undoubted instigator of the library. All perhaps thought the founding of such an institution could only have been by an acknowledged litterati, and was beyond the capability of men described as "thoughtless and dissipated".

But the first subscribers gave no credit to others, and in the preface to the Society's Articles and Laws they announced;

"We, Subscribers...agree to form ourselves into a Society in order to Purchase...Books for our Mutual Improvement..."

The Minister in Leadhills in the 1780s endorsed this statement for in his note for the first Statistical Account he wrote, the miners "employ themselves in reading and for this purpose have fitted up a library". This claim received further support in the evidence to the Children's Commission of 1842, where it was stated that the library had been "instituted entirely by the miners themselves and wholly at their suggestion".

The Leadhills miners were always a mixture of abilities and social circumstances. In the early eighteenth century, they were also a mixture of Britons; but unlike those from elsewhere in Britain, most Scots could read and many could have been regarded as cultivated. In his research on Scottish community libraries, John Crawford finds that, in 1737, six Leadhills men were among the subscribers to a Scottish edition of "Prima Media and Ultima" by Isaac Ambrose, an English presbyterian, known in his day as "the painful priest of Preston".

At the same time, the library could not have been instituted without Stirling's support. The miners perhaps saw this as a response to their own

intellectual aspirations. Stirling probably regarded the promotion of the library as a feature of his programme of social control.

A strong village tradition links the institution of the library with the poet, Allan Ramsay, who was born in Leadhills and who began a circulating library in Edinburgh circa 1725, but in his definitive biography of Ramsay, A.M. Kinghorn points out that there is no evidence of a direct connection. Even so, Harvey Wood, in a book on Scottish literature, has drawn attention to the way Ramsay originated and enterprised much of the latter cultural life of Scotland; promoting popular interest in the arts via his circulating library and his ill fated theatre. The Leadhills library can be seen as reflecting Ramsay's attitude to liberal education and honours his memory.

The management of the library lay with a Reading Society and, except for the minister and the school master, the founder members all worked in the mines. Membership was expensive for the entrance fee was 3/- (15p) and the annual subscription, 2/- (10p). It was also exclusive, for full membership was limited to those with the "status of miners", and at best was probably always less than half the men in the village. There is no record of women members before 1881.

The founding Committee drew up a strict regime of Articles and Rules. The monthly meetings to exchange books were obligatory, and all had to be examined before being put back on the shelves. Members who failed to return books on time, or who were adjudged by the elected inspectors to have allowed books to be damaged, were fined, and inspectors were also empowered to examine books in members homes.

Although the Society's organisation may have reflected Stirling's social policies, John Ramsay wrote that the members "breathed somewhat of a republican spirit". However, there is no record of the purchase of any subversive literature or books on radical politics.

The library moved into its present building in the 1820s. The interior was always sparsely furnished, but by the late nineteenth century the precinct had been given a sort of pulpit. By the end of the eighteenth century the stock amounted to about five hundred volumes, and there were around two thousand by the 1850s.

References to the expense of re-binding points to the books being much read. Most titles were in accord with the presbyterian concept that life was a preparation for eternity, so theology was a major subject area. There were nevertheless books on minerals, such as Alvarado Barba, "Scarce and Valuable Treatises on Metals..." 1740, and John Cramer the "Art of Assaying Metals" 1741. But it was not until the late nineteenth century that handbooks on engineering and mining appeared on the shelves.

The whole organisation of the library reflected the independent spirit of the miners, and in 1853 a correspondent to the Gentlemen's Magazine criticised the way books were being chosen by the members themselves. The organisation also reflected a lack of sophistication. A List of Titles was printed in 1904 and is no more than that. Suggesting there was no understanding of classification at that time, and it was not until 1935 that a proper catalogue was produced. This is now available to visitors.

Today, the library is maintained as a library museum by subscription, donations and fund raising. As well as much of the original bookstock, it has volumes of Minutes of the Reading Society from 1821, and mining MSS and other records. It is normally open on weekends and Wednesday afternoons during the summer.

W.S. Harvey.

Friends of Cononley Mine Progress Report.

The Earby Mines Research Group consolidated and repaired the engine house and chimney at this mine in the 1970s. The refusal, in 1985/6, by the North Yorkshire County Council, of planning permission to remove the dumps led to meetings between the sites' owner (Chatsworth Estate), local and county council representatives and mining historians. These meetings resulted in the formation of the Friends of Cononley Mine and the preparation of a scheme to protect the site and make it accessible to the public.

There are two shafts on the site and it is proposed to cap them and to rebuild the pump rod lobby. The latter needs a retaining wall to stop the dumps crushing it. When the shafts are safe, signboards will be erected to guide the public around the mines' surface features. There will be no access to the underground workings which, being in, or close to, shale are unsound. A collapsed culvert, which runs under the dumps, is to be repaired to prevent pollution of the beck. The outfall of the mine reservoir will also be repaired and the water returned to its original level. The latter attracts birds, water beetles and amphibians and the Friends are co-operating with naturalists to prepare a strategy for their protection.

The Friends have agreed the basis of a ten year lease with the owner and the latter gave permission for work to start in July, when volunteers spent five days building a fence on the boundary of the site. This fence is to prevent vehicles entering the site for camping or fly-tipping. Another group of volunteers have been clearing the collapsed culvert. Off-site work includes fund raising, the preparation of a visitor leaflet and the signboards.

The mine, at NGR SD979461, is well served by public footpaths and the owner of the private road, which serves the neighbouring farms, is prepared to allow foot traffic. There is no parking for visitors on the site and they are asked not to drive on the track. Visitors are, therefore, asked to park their cars on the road verges and walk to the mine.

The Friends are organising working weekends to tackle a wide range of tasks. If you are interested in being involved, please do not be put off if you're not a stone mason. ALL volunteer labour will be welcomed. Please contact Mike Gill on 0535 635388 for details.

BOOK REVIEWS

Mines of the Gwydyr Forest. Part 2. The Hafne Mine, Llanwrst and some early ventures in the Gwydyr Forest. By John Bennett and Robert W. Vernon. A5. 96pp. 22figs. bibliography, &c. ISBN. 0 9514798 1 4. £6.25 from Gwydyr Publications, 7 St. John's Way, Cuddington, Cheshire. CW8 2LX.

Society members Messrs Bennett and Vernon continue their projected seven part series with this latest edition, with Part 3 to be issued early in 1991.

The early ventures in Gwydyr Nant, North Wales are here described, including a reiteration of the article which appeared in the Society's 1983 Memoirs (EM 23); this latter deals with John Royle's venture of 1775-1785. Reading through the book one gets the impression that operations in this part of the orefield were attended with pathetically small outputs, whilst in the later years of the 19th century there were the usual crop of dubious company flotations, some of which - surprisingly - were orchestrated from France, of all places!

The early involvement of the Wynns, proprietors of the Gwydyr Estate, is also interestingly featured.

That which dominates the text - as the title suggests - is the Hafna Mine, whose ruins today remain beside the road in the 'Nant'. Indeed, apart from the history of the mine described within these pages, there are excellent drawings of the underground workings and the remaining features at surface - many as fold-outs - with an interpretation of these to guide the visitor. Although beware the machinations of the Forestry Commission in these parts! It is hoped that Hafna's remains (which included a smelting plant) can be saved from further decay and made safe for future generations, an 'eleventh hour' self-imposed labour of love by the authors.

If one could fault the text, it would be in the rather poor proof reading which has allowed silly mistakes to slip by. For example, in a redrawn figure of a takenote relating to Hafna in the 1820's, one reads that "this indenture was drawn up in one thousand and twenty one".... which is a little bit early, to say the least! Moreover, the most annoying aspect, to this reviewer at least, are the numerous references to material which is due to appear later in the series. Such tantalising, not to say irritating deferment of various mines' histories tends to leave one hanging in mid air - until the following parts are published in a few years time. However, with the interplay of histories between the various local mining operations, it is perhaps not easy to overcome the problem without duplicating text in the books which are to follow.

That the authors have done their homework is not in doubt and their second tome of the series is to be recommended to anyone with an interest in the old mines of Wales.

Dick Bird.

Exploration for Metalliferous and Related Minerals in Britain: A Guide.

by T.B.Colman. A4. 52pp.9 figs. 5 plates, Bibliography,&c. ISBN 0 35272 179 X. British Geological Survey, Keyworth, Nottingham. £15. Obtainable from HMSO bookshops.

This guide is a truly useful distillation of facts and data directed at those with an interest in current exploration for metalliferous and related minerals. Whilst primarily aimed at mining companies and the like, how many times have we, as 'amateurs', come across references to Riofinex, Minworth, Billiton and similar names and how many times have we wished to know more of what these corporate organisations are up to, or, more to the point what they have been up to! Well, amongst many other things, this book will go some way to lift the veil.

Mr.Colman has ably summarised current geological knowledge related to Britain's potential for minerals, in addition to outlining the structural geology wherein these minerals are found.

Useful sections are devoted to recent exploration activity and discoveries, ranging from, for example, the 1963 Coed y Brenin copper find, which, as many will remember caused such a furore when plans for an open pit mine were mooted. The low grade ore here (0.3% Cu) is estimated at 200 million tonnes; also, Hemerdon wolfram mine where reserves are outlined at about 42 million tonnes of 0.2% W + Sn. Other projects, some active, some moribund, include Parys Mountain - currently much in the mining news - Cononish, Redmoor, Lack, Gairloch, Vidlin &c.&c.

Different mineral occurrences are described. These include the Irish Style, Pennine Style, Calc-alkaline porphyry Style, Sedimentary stratabound, Volcanogenic, Ophiolite and granite related mineralisation. The wide range of modern exploration

techniques are covered (stream sediment, soil sampling, biochemistry &c.) as are factors associated with exploration research. The latter includes such things as access, planning controls, mineral rights and the location of documentation dealing with past mining activity. As regards the latter, even NMRS gets a brief mention; perhaps since the author is also a member this might have some bearing on the matter!

The book contains excellent illustrations - many coloured - which show, inter alia, areas of Britain with potential, metalliferous prospects discovered since 1968, gravity anomalies, areas investigated by the Mineral Reconnaissance Programme, gold localities in Britain &c. There are eight pages of bibliographic data and also lists of sources of mine plans, topographic maps and similar material.

The academic and specialised nature of this work is reflected in the high price of fifteen pounds, but to any mining concern which may use this compilation of data in their investigations, this sum is small beer indeed.

Dick Bird.

Minerals of the English Lake District - Caldbeck Fells. By M.P.Cooper & C.J.Stanley. Published by the Natural History Museum. 158pp. A4. Soft covers £14.95.

The main chapter (60pp) is a survey of the 175 minerals reported from the metalliferous veins of the Caldbeck Fells. The colour and crystal form of the minerals is fully discussed and short summaries given of exactly where the minerals have been found, eg.12 and 30fm dumps of the Driggith Mine, and in which collection they are now located. About one third of the specimens, the best often dating from c.1800, are illustrated by magnificent colour photographs. The authors have clearly put in a vast amount of effort to examine many collections and to reconcile conflicting information when necessary.

The main chapter on the minerals follows introductory chapters on the geology of the area, 8pp., the relation of the mineral deposits to the geology, 8pp., and a chapter where the history of the mines is briefly sketched, 36pp. These are models of how to summarise the essential features of the information and are well worth reading in their own right. Finally, there is an Appendix where is listed all the minerals found at each mine, these days usually in the dumps, and a very extensive bibliography and a first class index - all evidence of a job thoroughly done.

This is a first class, authoritative book and well worth the price. It is ironic that it appears just when the numbers of mineralogical staff at the Museum are being reduced and many of their fine collection of minerals is going into storage.

G.B.Greenough.

Mineral Reconnaissance Programme 1990. Report No.114. By H.W.Haslam, D.G.Cameron and H.D.Evans. £20 + £1.00 p&p.

British Geological Survey. A4. 61pp. Numerous Colour plates, maps, bibliography &c.

The M.R.P. began work in 1972 under the auspices of the British Geological Survey, the terms of reference being a nationwide programme of mineral exploration and investigation.

The intention was to assist private sector exploration by supplying a wide range of data on different target areas of potential - initially for base metals - and, subsequently more strategic minerals such as manganese, tungsten, baryte, gold and platinum-based metals. Of the numerous areas of potential identified, it has been estimated that some 30% - 50% have attracted commercial interest.

The report highlights 113 locations, these being listed in tabular form showing minerals present and style of occurrence, together with the techniques used in their investigation. Many of the latter are illustrated. A particularly interesting picture shows a young blonde field operative (female I presume! ed.) panning stream sediments; have the B.G.S. any vacancies, I ask myself??!

A summary of all 113 identified areas compliments the tables, the former being a precis of the individual reports which are available from the Surveys' offices in Keyworth, Edinburgh and London. Incidentally, to purchase the whole suite of these reports would leave little, if any, change out of £1,500!

To the mining historian, this publication is rather too esoteric, and its high price would make most people think twice before buying for their bookshelves. (A copy can be borrowed from the Society Librarian, courtesy of the B.G.S.)

Those with very strong leanings to economic geology would find the work an interesting up-to-date survey but, in essence, since it is directed very much towards commercial mining and allied organisations, it really cannot be recommended for your average bed time reading.

Dick Bird

Out of the World and into Combe Martin.

Published by The Combe Martin Local History Group. 1989.

The north Devon village of Combe Martin is best known to mining historians for its mediaeval silver-lead mines. This book, however, results from a study of the entire parish which the group made at the Department of Continuing and Adult Research of Exeter University, between 1985-88.

The authors have adopted a lonh-chronology in their approach to examining the parish's industries, which include: agriculture, fishing, mining and quarrying. These are supplemented with accounts of the local church, tithes and families. As with similar books, the level of analysis is variable but this will not detract from its value for most readers.

Peter Claughton's chapter on mining in Combe Martin shows that it was never of importance and the mines, whatever their promise, only worked sporadically. By having them set in a wider context, however the reader is able to compare their changing fortunes with those of other local industries. Peter gives a good account of the various ventures, from the Crown's mediaeval mines to the limited liability companies of the later nineteenth century. He also covers the attempts to produce alternative minerals, such as: iron, zinc, copper and umber. The latter mineral was dried in the old smelt mill. Unfortunately, Peter fails to emphasize that the mediaeval mines, with their relatively large, waged labour force and high level of fixed capital, were far from typical of the English mining industry. An impression which is reinforced by the interest shown in Combe Martin's mines by German capitalists and the Elizabethan monopolies. This aspect is important, because some writers on early mining have used these atypical mines as evidence of an early industrial revolution throughout the industry. This was not so.

The book is a useful guide to the village for anyone holidaying in that part of north Devon. Moreover, enthusiasts for old mines should be aware of Peter Claughton's chapter on them.

Mike Gill.

GENERAL NEWS ROUND UP

Scotland

Cononish Mine Prospect

Ennex announced earlier in the year that underground exploration at the gold and silver property was completed and a feasibility study had been initiated. This has now been completed and the directors have stated that they intend to file a formal planning application, although a formal production decision had not yet been made.

South West

The DoE has agreed to sponsor a major new study into reclaiming the white china clay waste tips of Devon & Cornwall. It is the first time the Government has sponsored research into ways of reclaiming the white spoil heaps near St.Austell and in south-west Devon.

A Staffordshire-based firm, Wardell Armstrong has been appointed to look into ways of landscaping the spoil mountains. They will consider proposals for revegetating and landscaping the tips, examining their potential for use as amenities and as agricultural land.

Environment minister Colin Moynihan says the china clay industry makes a valuable contribution to the British economy, but the associated mineral extraction and tipping of wastes must take account of the effects on the environment.

News of the reclamation study has been welcomed by English China Clays, the world's biggest china clay company, which has already funded some research into landscaping its St.Austell tips.

Wheal Jane.

Wheal Jane one of Cornwall's two remaining tin mines which was due to close at the end of this year has been given a temporary reprieve and is likely to stay in operation until June 1991.

The mine's permanent closure with the loss of 150 jobs was announced in March 1990 after the collapse in tin prices. Wheal Jane requires a tin price of around £6,500 per tonne to break even, compared with recent prices of between £3,500 and £4,000. However Wheal Jane's ore also contains considerable quantities of zinc, a metal which has been attracting relatively high prices.

Mr.Brian Calver, managing director of Carnon Consolidated, which owns Wheal Jane, said that, by concentrating on extracting the zinc, his company had turned the mine into "a cash generator". He added "By raping the mine for the past six months we have been getting out ore with between 5 and 7 per cent zinc. While the price of zinc stays up we will keep raping and keep the mine open". About 100 are still employed at the mine.

Wheal Jane will produce about 6,000 tonnes of zinc concentrate this year compared with the usual 5,000 tonnes. The mine will also produce about 1,000 tonnes of tin. Mr.Calver said the strong zinc price was enabling Carnon to "buy more time" to formulate proposals for the future use of Wheal Jane's 280-acre site near Truro.

First choice was a scheme which would permit pumping to continue in at least part of the mine to keep it clear of water and maintain the option of mining again in

the distant future if the tin price ever moved high enough. Some 6,000 gallons of water a minute has to be pumped out of Wheal Jane to allow mining to continue and analysts suggest that, once the pumps were turned off the mine would quickly flood, making it too expensive to reopen. Carnon has been spending about £1.5 million a year to pump out the water. The proposed project would cut costs to about £600,000 a year.

The project would turn the site into a multifaceted tourist development with the mine and some of its associated industrial operations at its centre. Carnon expects to have made application for outline planning permission for the scheme in October.

Carnon was bought by 12 managers from the RTZ Corporation in March 1988. They have since been joined by two more board members who between them own 80 per cent with the remaining 20 per cent held in trust for the other employees. In 1988 Carnon employed 2,000. If Wheal Jane closes the number will be down to 370, most of them employed at the Company's second tin mine, South Crofty, nearby.

Carnon has a £25 million interest free UK Government loan and one of £10 million from RTZ. One of the important restrictions placed on Carnon is that any income from other sources must be used to support and sustain tin mining. Carnon still had £4.2 million of loans to draw on and cash in the bank. South Crofty, with its break-even of about £3,600 a tonne, could live with the current tin price and so far it had not been necessary to change from normal mining procedures.

Norfolk

Norwich City Council is investigating the latest in a series of holes to appear in the city's roads after subsidence caused by an abandoned chalk mine created a 30ft cavity in a residential street. The collapse was caused by the failure of an old shaft which was inadequately capped. It was the sixth incident of its kind in the last three years. Two years ago a bus carrying passengers fell right into such a cavity. Fortunately no one was seriously injured.

Wardell Armstrong are about to report after a £120,000 underground investigation into abandoned chalk mines in the city. "The problem is that we do not know where to look for the mines as most pre-date the Mines and Quarries Act in the 1870s with the result that there are very few mines for which we have detailed drawings", said Norwich City Council's assistant engineer Stephen Hague. "Until we know where to look it is very difficult to form a coherent policy on how to tackle the problem as a whole", he added. (Treat it as a HOLE, Stephen!!! ed.)

Rio Tinto and the Iberian Pyrite Belt

In May this year we made the fourth mining study tour to this famous mining field. The eight-day tour was based at Rio Tinto with an overnight visit to Seville and two days spent in Portugal.

Rio Tinto is, of course, the major mine in the region, although present day operations are on a fairly modest scale. The industrial landscape of mine workings, spoil tips, processing plants and smelters connected by a network of railway lines and marshaling yards, covers over 50 sq.km. With staff of the "Fundacion de Riotinto" we were able to make a tour of the modern operations at the Colorado open-pit copper mine, the Alfredo shaft installations and to view the vast Atalaya open-pit pyrite working. We were also able to view the collection of locomotives and rolling stock representative of the former Rio Tinto railway that linked the mines with their port

on the Atlantic coast of Huelva.

Rio Tinto is the centre of the Pyrite Belt that runs east-west from Aznalcollar, to the west of Seville, to Lousal, near the Atlantic coast of Portugal. The majority of the mines lie in the Spanish province of Huelva and a large number of Abandoned, medium-sized workings were easily reached from our base in Rio Tinto.

Industrial remains are plentiful at the mines, dating from the mid 19th century to the 1960s. I intend taking another tour to the same area in late May 1991, probably a 10 day itinerary. If you would like more details, please contact me (Jamie Thorburn) at: Atalaya Tours, Ceinionfa, Penglais Terrace, Aberystwyth, SY23 2ET. Tel.0970-625137.

WANTED/FOR SALE

Surveys of the Box Stone Mines (northern district); covering over 11km of main haulage ways and minor routes over deads. This amounts to about one third of the accessible mine. The plan, on a laminated A3 sheet, is drawn one side, with a route description on the reverse. It is the work of the Shepton Mallett Caving Club and the Beechen Speleological Society and copies are available, at £2.50 including postage, from:- Neil Reaich, 46 Marshfield Way, Fairfield Park, Bath, Avon. BA1 6QH

***** SUBSCRIPTIONS FOR 1991 *****

A MEMBERSHIP RENEWAL FORM is attached to this Newsletter. As you can see the annual subscriptions have been held at last years level, which makes membership even better value than before. So please don't delay and send off 1991 subs. today, its never too early and you will only forget with the rush of Christmas just around the corner! If you are not already a Covenanter please consider becoming one. It won't cost you a penny and will give the Society extra income.

EDITORS COMMENTS

I'm afraid that there are quite a lot of forms accompanying this newsletter. It is important that you take just a little time to complete the Questionnaire (I reckon about 2 mins.). If you send it in with your subscription you won't even have any extra postage to pay. Alternatively you can hand it or post it to any Committee member.

Thanks. Thanks to all the contributors to this newsletter both those named after certain articles and the following who have also sent in information which has been used. Dave Blundell.

The views and opinions expressed in this Newsletter are those of the correspondents and are not necessarily agreed with or shared by N.M.R.S. its officers or the Editor. The accuracy of submissions is the responsibility of the authors and will not always be checked for validity by the editor.

The Next Newsletter will be published in February 1991. Please send any material for inclusion to the Newsletter Editor, at the address below before 31st December 1990. Damian J.McCurdy, "Denefield", 111 Barn Lane, Golborne, Warrington. WA3 3PR. Tel:- 0942 718192.