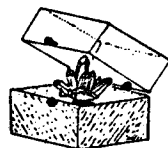


BRITISH MICROMOUNT SOCIETY



NEWSLETTER No.10 March 1984

The new year is now well and truly underway, and it is time to think of planning field trips, and getting new and exciting projects underway also. If you are intending to do anything interesting, or require help with information etc, the pages of the newsletter are at your disposal - please write and tell us and we'll pass the message on.

One project planned for 1984 is the 3rd Edition of our popular Directory of Micromounters. To this end reply forms were mailed to all members before Christmas, requesting a return before mid-January. We had hoped to have the publication ready in time for the London Show on 24/25th March. Unfortunately the response has been very poor indeed, with 35% of members not bothering to return the forms (as at 28th February). If you don't give me the information we can't print it - so PLEASE DO IT NOW - put the form in the post tomorrow.

In the same vein, there are still a considerable number of members who have not paid their subscriptions (due on 1st January). It is extremely tiresome to have to keep prompting people for payment - the membership fee is still only £3 per year, and it increases my already heavy workload unnecessarily. PLEASE PAY NOW - this is your last newsletter.

A list of persons with outstanding payments and directory forms is enclosed separately with this newsletter.

ANNUAL FIELD MEETING - 5th,6th,7th May 1984.

The meeting will be held in the Leadhills-Wanlockhead area over the May-Day bank holiday weekend, and will be organised along similar lines to last year. It is planned for the meet to be based on Sanquar which is only 7 miles from Wanlockhead, using the Castle View Caravan Park, Townfoot, Sanquar, Tel.291 (Mrs Cluckie), grid.ref. NS788094, or alternative local accommodation. Further details regarding accommodation will be available shortly, together with an itinerary for the weekend. If you wish to attend the meet please send a large S.A.E. to Roy Starkey (29 Painswick Close, Oakenshaw, Redditch, Worcs.B987XU), and information will be forwarded when available. The Castle View Caravan Park offers facilities for tents and touring vans, and also has static vans available for hire.

Access to the Leadhills-Wanlockhead area is subject to the authority of the two estate companies, and we have been fortunate in obtaining permission. Certain restrictions will apply - particularly :- No dogs, Keep to designated footpaths, Sign Indemnity Form, Report to Local Keepers on arrival. It is most important that all members on the meeting adhere to these conditions and follow directions of the leaders.

Please see back page for further information

BRITISH LEAD MINERALS PROJECT. report by David Ifold.

Slow but steady progress is being made on the Monograph on British Lead Minerals. So far only fifteen (15) reply forms have been returned - so please can the rest of you get writing - all contributions will be welcome, particularly interesting occurrences of the less common species e.g. Phosgenite from Clevedon, Boleite from Newport Beach etc.

The figure for British lead minerals has now crept up to 62 species, and there may yet be more to be added. From the original survey sheet listing the following species have been deleted for a variety of reasons : - blixite, fuloppite, geocronite, heteromorphite, hidalgoite, hinsdalite, jordanite and plattnerite. The following species have been added to the list :- betekhinite, boleite, cotunnite, crocoite, descloizite, francevillite, galeno-bismutite, litharge, massicot, mereheadite, osarizawaite, parkinsonite, phoenicochroite, pseudoboleite, shirmerite, scotlandite, susannite(?), and vandendriessheite.

Sixteen British type localities have been confirmed so far, and of the other species some have been known for so long that their early history is uncertain. British collections must have some of the earliest known specimens of such minerals as boulangerite and bindheimite.

A detailed bibliography of important works on lead minerals is being assembled, so far of about seventy articles from various journals. If you know of any useful article which may not have been included please contact me.

A first review meeting is being held in early March for area officers, and further information will be available at the London Show.

Please get involved - your help will be welcome - particularly in digging out obscure journals etc, and in depth local knowledge of specific areas. Thanks - D.Ifold.

NEW MEMBERS (Full details will appear in the Directory.)

Mrs M.Lumb
38 Railway Terrace
Gt.Harwood,
Blackburn
Lancashire.
BB6 7EQ
Tel. 885490

Mr Beverley Yates
Beck Allans
Grasmere
Ambleside
Cumbria.
LA22 9SZ
Tel.09665-329

Mr John Betterton
21 Linkway
Edgecumbe Park
Crowthorne
Berkshire
Tel. 771477

Mr Kenneth Luff
3 York Avenue
Sidcup
Kent
DA15 7LJ
Tel. 01-300-2405

Late extra !

Wolfgang Diwald has written from Austria requesting exchanges with BMS members. He is particularly interested in zeolites, and offers chabazite, heulandite, stilbite, mordenite, levyne, cowlesite, and others as well as other Austrian species. If you are interested please write to : Wolfgang Diwald, Wienerstrasse 4, A - 3340 Waidhofen/Ybbs. Austria.

MICROMINERALS FROM MILGUN STATION, WESTERN AUSTRALIA. by John Reeve.

Introduction: In recent times a new mineral location has come to the attention of collectors in Western Australia, to a lesser extent to collectors in other parts of Australia and overseas. The remoteness of the location, in a harsh geographical environment will protect the site from excessive exploitation common in many more accessible deposits.

The locality is a variscite deposit in semi-desert country 15Km N.W. of the Milgun Station Homestead, 120Km N.W. of the regional town of Meekatharra, which in turn is 966 Km north of Perth.

Occurrence: The Milgun phosphate deposit is to be found on the west side of a range of hills on the bank of the Gascoyne River. The host rocks are interbedded mudstones and dolomites of the irregularly Formation of the Proterozoic Sangemall Group. The deposit has been fractured and gives the impression of being brecciated. Mineralisation of the deposit occurs in the fractures of the mudstone and dolomites.

Minerals:

Variscite $\text{AlPO}_4 \cdot 2\text{H}_2\text{O}$ - The deposit was originally mined for variscite which occurs as veins and lenses near the surface. The veins of variscite were of sufficient thickness and width to attract a lapidary market. The variscite is massive and no crystallisation has been observed that would warrant prolonged attention by the micromounter.

Collinsite - Magnesium $\text{Ca}_2(\text{Mg},\text{Fe})(\text{PO}_4)_2 \cdot 2\text{H}_2\text{O}$ - The collinsite occurs as tapering white 3mm prisms, mammillated aggregates and thin veinlets in cavities in the mudstone. The more coarsely crystallised specimens exhibit the appearance of shark's teeth. Each collinsite prism is composed of multiple blades with complex faces. The fine-grained collinsite displays mammillated structures of radiate crystal groups. The magnesium collinsite, only the third world occurrence of this rareity should be compared with the zincian collinsite from Reaphook Hill in South Australia.

Hydroxyl-Apatite $\text{Ca}_5(\text{PO}_4)_3(\text{OH})$. - Hydroxyl-apatite is a common mineral, occurring as small hexagonal crystals in cavities and veins, often associated with gordonite and to a lesser extent, montgomeryite. The hydroxyl-apatite habit is usually a compact group of crystals with rounded terminal faces resembling a stalagmite or mushroom. The crystals are clear and easily recognised.

Gordonite $\text{MgAl}_2(\text{PO}_4)_2(\text{OH}) \cdot 8\text{H}_2\text{O}$ - Gordonite forms minute prismatic to platy aggregates which take on a sheaf-like appearance. The most common colour is white, but it can also be pale green.

Montgomeryite $\text{Ca}_2\text{MgAl}_4(\text{PO}_4)_6(\text{OH}) \cdot 12\text{H}_2\text{O}$ - Montgomeryite is one of the more difficult minerals to identify as it occurs in minute lath-like crystals associated with gordonite. Magnifications in excess of x20 should be used in seeking out this mineral. The colour is pale green which further complicates identification.

Crandallite $\text{CaAl}_3(\text{PO}_4)_2(\text{OH}) \cdot \text{H}_2\text{O}$ - Crandallite occurs abundantly associated with a wide variety of rare secondary phosphates. The Milgun deposit is no exception, where it occurs as nodular masses and occasionally in chalcedonic-like masses.

Nitridatite $\text{Ca}_2\text{Fe}_4(\text{PO}_4)_4(\text{OH})_6 \cdot 3\text{H}_2\text{O}$ - Nitridatite occurs in two distinct forms - deep red to bronzy red crystal aggregates or green to greenish yellow colloidal coatings on the host rock.

Foggite $\text{CaAl}(\text{PO}_4)(\text{OH}) \cdot 2\text{H}_2\text{O}$ - Occurs as white masses and lenses on the margins of variscite. Foggite identification can only be tentative because of the other white masses also present which require identification.

Other Phosphate Minerals Reported but yet to be identified by the author include :-

Goyazite	$\text{SrAl}_3(\text{PO}_4)_2(\text{OH})_5 \cdot \text{H}_2\text{O}$
Jahnsite	$\text{CaMn}(\text{Mg}, \text{Fe})_2\text{Fe}_2(\text{PO}_4)_4(\text{OH})_2 \cdot 8\text{H}_2\text{O}$
Lehiite	$(\text{Na}, \text{K})_2\text{Ca}_5\text{Al}_8(\text{PO}_4)_8(\text{OH})_{12} \cdot 6\text{H}_2\text{O}$
LEUCOPHOSPHITE	$\text{KFe}_2(\text{PO}_4)_2(\text{OH}) \cdot 2\text{H}_2\text{O}$
Overite	$\text{CaMgAl}(\text{PO}_4)_2(\text{OH}) \cdot 4\text{H}_2\text{O}$
Segelerite	$\text{CaMgFe}(\text{PO}_4)_2(\text{OH}) \cdot 4\text{H}_2\text{O}$
Wardite	$\text{NaAl}_3(\text{PO}_4)_2(\text{OH})_2 \cdot 2\text{H}_2\text{O}$

References:

Bridge, P.J. and Pryce, M.W., 1974. Magnesium Collinsite from Milgun Station, Western Australia. *Min. Mag.* **39**, 577-579.

Fleischer, M. 1980. *Glossary of Mineral Species.*

End Note: If any British micromount collectors are interested in exchanging, the author has Milgun material available to exchange, and can be contacted by writing to R.J. Reeve, 13 Buchan Place, Hillarys, 6025, Western Australia.

Access to Sites - B.R. Quarry, Meldon.

Members may be interested to know of access arrangements at the above quarry, I quote from the standard letter from the Quarry Manager, Meldon Quarry, Okehampton, Devon. EX204LT.

'Following recent government legislation it has been necessary for me to review the procedure for individuals and parties wishing to visit the quarry.

Visits may be made on Mondays to Fridays only between 9.0am and 3.0pm, subject to fulfilling the following conditions:-

1. The organiser must arrange an Insurance covering ALL members of the party and submit it for British Rail approval.
2. Each member of the party will be required to sign an Indemnity Form 'B' prior to the day of visit.
3. A fee will be payable on arrival at the quarry to cover costs of providing the party with an attendant, Permit and administration.

The Permit charge for one person = £1 ranging to a maximum charge of £10 for 21-50 persons.

The attendant's charge is calculated from the time advised. If you wish to amend the start time, 72 hours notice must be given.

Attendant's Fee £15 for 3 hours - plus VAT
£30 for 6 hours - plus VAT.'

Roy Starkey.

The World's Deepest Hole (newscutting via Michael Jackson)

The Kola deep drilling operation in northern Russia is currently at a depth of 7 miles, and is targetted to reach 9.5 miles below the earth's surface. By then geologists believe they will have pierced the earth's crust and reached layers of rocks forming the mantle covering the earth's molten core.

The drilling is being carried out by Russian scientists and engineers in the Kola Peninsula on the Soviet Union's chilly north coast. The peninsula was chosen because it is believed that here the mantle is closer to the surface than any other point in the world.

Drilling started at the site in 1975, and the complex is more like a large laboratory than an oil rig - with buildings 25 storeys high. Rock cores brought to surface are carefully examined and catalogued to provide a detailed record of the earth's crust.

Kola cont^d...

Soviet scientists hope to obtain information which will be invaluable when oil and metal deposits at comparatively shallow depths run out, and a need to seek supplies much further down becomes a reality.

The latest report on the project(which has already broken the established depth record), says that the temperature seven miles down is 200°C.

Murphy's Law of Geology (Courtesy american correspondent of J.Spence)

1. A location specified for petrified wood will yield geodes.
2. Geological surroundings suggesting definite violent activity will yield few silicates but an abundance of sedimentary material.
3. If a large specimen is found, the tools necessary to remove it will be in the garage at home. If the tools are available, it will be discovered that the specimen is too large to fit in the car - but only after it has been transported to near the car.
4. Any specimen chipped to determine quality will promptly shatter, and close examination of the fragments will confirm that it was a real dandy (OK for micros !).
5. The probability of dropping a specimen is distinctly proportional to its fragility.
6. The most promising crystal pocket on the cliff will also be a den for scorpions etc.
7. The rarity of specimens found is inversely proportional to the experience of the finder.(Boy I've seen this - and they don't even know what they've got !).

Perhaps members would like to submit any additional examples ? Ed. - in my own experience a dropped specimen invariably falls crystal side down !

Book Review

Field Tests for the Common Mineral Elements. George H. Roseveare. Pub. Bureau of Geology, Arizona, USA. 43pages. 23cm x 15cm. Black and white illustrations. 1979. Price \$1.50

This pamphlet is primarily intended for the non-professional prospector, mineralogist and 'rockhound', giving easy tests for 35 different elements or minerals in simple terms, without any particular claim for accuracy.

Explanations are non-technical to the extent 'a piece the size of a pea', or 'ground to the size of table salt'. Nevertheless the descriptions are detailed and good - in particular those concerning bead tests and how to obtain an oxidising or reducing flame.

One note of discord is in the table of mass/volume where the density of Millerite is quoted as 349lbs/cubic foot !

Finally - support reviews are requested for 'The Complete Guide to Micromounts' by Milton Speckels, and Frederick Pough's 'Field Guide to Rocks and Minerals'. Thanks. G.Deverell.

- THOU SHALT NOT SPREAD DISINFORMATION !

I am truly ashamed of myself! In newsletter no.7 last March I described the Loanhead Quarry location - but consulted a ancient telephone directory and an old AA book. I must now correct this : You should leave the M8 at junction 29 to Beith, and the best person to contact is Mr Colin Morrison, tel.0505-52534 at the quarry. The owners address is KINGS,134 Nithedale Drive,Glasgow G41 2PP(041-423-6611). I am writing this as a result of an irate letter I received from soemone who put his faith in me! Max Wirth.

Holiday Accomodation - on offer!

One of our members(Mr & Mrs Beverley Yates) has written to offer a reduced rate to BMS members on self catering apartments in Grasmere village, Cumbria. If you are interested please telephone 09665-329 or write to Beck Allans,Grasmere,Ambleside,Cumbria.LA22 9SZ.

News from Hope's Nose - by a special correspondent.

During the last annual symposium several members said that they had heard that Hope's Nose was now a 'no-go area'. I had heard the same stories about warning notices, barbed wire etc. Armed with a camera and disguised as an out of season holiday maker I visited the promontory in November. I was most disappointed to find no trace of the machine gun posts, no alsation dogs and not even a warning notice or parking restriction. Very little has been done in the way of excavation since well before David Neal's television appearance, but I did find a little gold in one vein, presumably washed free in a recent storm.

Overseas News.

We received an invitation to send a delegate to the 19th Pacific Micromount Conference, hosted by the Southern California Micro-Mineralogists on 3-5th February. I was tempted to abscond with the society cheque book, but realised this would only run to a single ticket. Perhaps we could run a Bursary scheme and award someone to go each year ? The programme looked interesting with such topics as Zeolites of Boron, The Jensen Quarry, Pegmatites of the Black Hills South Dakota, and the usual swap and chat sessions.

Roland A.Fogg has written to request exchanges with members - he offers a wide selection of material including alunite, bixbyite, chalcotrichite, delafossite, mordemite, endlichite and others. If you are interested please write to R.A.Fogg, 20018 Palo Verde Dr. Suh City, Arizona. 85373. USA.

Jean Morel has written from France requesting exchanges with BMS members, particularly Fluorites. His list of exchange material includes a wide variety of species - over 100, and offers an excellent selection of minerals from Cap Garonne. If you are interested please write to Jean Morel, 43 Rue Chenard Huche, 83000, Toulon, France.

The CMMA newsletter, micronews continues to feature interesting articles, including a technique for HCl testing of micro specimens without damage - using a micro pipette to apply the acid, a summary of our knowledge of the conditions covering crystal growth, a note on minerals from the R&D Cloud Mine in New Mexico, and an account of minerals from the Palermo No.1 mine by Bill Christiansson.

INTERNATIONAL DIRECTORY

The next edition of the International Directory of Micromounters will be published later this year. It is proposed to submit our new Directory listing (when complete) for inclusion. If you **DO NOT WANT YOUR NAME AND ADDRESS INCLUDED IN THE INTERNATIONAL DIRECTORY** please notify me in writing before the end of March. Thankyou.

Roy Starkey.

Edingtonite or Harmotome ? by Max Wirth

Last January (1983) I had a letter from Dave Dabney in the USA asking whether I was willing to exchange some specimens. Of course I said yes and sent off half a dozen zeolite micros. He was quite pleased and sent me a parcel in exchange...but he sent me the wrong parcel - with very nice specimens destined for someone in Australia ! Amongst other things it contained a specimen of edingtonite from Ice River, near Golden, British Columbia. I was glad to have it and Dave kindly refused my offer to return his specimens.

Then in April I was walking the dog in a forest in boring sandstone country when I suddenly found the road had a basalt bottoming, recently laid. I picked up a couple of bits to take home and on closer examination found little crystals that looked awfully like edingtonite .. oh boy !!! Which quarry had this lot come from? After numerous enquiries including the local planning officer, I discovered that the rock had come from another forest 20 miles away and I hied myself hither. It was a half hour walk from the car up a forestry road before I came to a dead end and that was it - every other piece of rock had these same crystals. I filled my bag and sagged back to the car. Later I went back with Kemp Meikle and we collected all we could find before it was taken away as roadstone.

The article in the Min. Record 12, (4), 221-, gave a fine description of the crystals from Ice River. I am told that the first specimens were removed from the Yoho National Park without permission, which is perhaps why they called in the Geological Survey of Canada to cover their tracks.

Well, when in doubt I always consult the Royal Scottish Museum who are most helpful. Yes, they thought my crystals looked just like the museum specimen of the original edingtonite from Kilsyth (Scotland of course). But why, I asked did these not look at all as pictured in Greg & Lettsom. So the museum brought out the original specimen and, lo and behold, they had never noticed the real edingtonite sitting like square pillows next to the harmotome prisms. I was finally assured that mine were harmotome.

So why were the Ice River ones not square pillows? I wrote to Dave Dabney and it was he who showed me how unobservant I had been. In edingtonite the pyramid faces are aligned with the prism faces, whilst in harmotome they are rotated by 45° - so I should have noticed.

So, you lucky devils who got some of my specimens, all you have got is harmotome. Actually Dave suggested phillipsite or wellsite, but this is not so, by paper chromatography I could detect only Ba and no Ca.

In case you are all going to rush off to Ice River, I happened to be in Golden, B.C. in September, I dropped in to the tourist office and asked them to show me on the map where Ice River was. They had never heard of it, it was not mentioned in their reference books - it didn't exist (officially). To continue though, the specimens we found here were often accompanied by salmon pink crystals looking like stilbite, these are in fact orthoclase pseudomorphs after stilbite. In the old Greg & Lettsom these are referred to as Cluthalite (Clutha is the ancient name of the Clyde). In the South Kensington museum there is a specimen labelled cluthalite from Old Kilpatrick and this is said to be a variety of analcime - anybody want a piece ?

BRITISH MINERAL AND GEMSHOW - HOLIDAY INN, SWISS COTTAGE, LONDON - Sat & Sun 24/25th March 1984 - 10.00-18.00 (Sat) and 10.00-17.00 (Sun). The B.M.S. will be exhibiting - please come along and help - contact Elsie Hansford or Roy Starkey if you can assist in manning the stand. For further details of the Show - contact Dave Neal or Ivor Thurgood Tel: 0279-411952 Or 0279-415844 - DON'T MISS BRITAIN'S BEST SHOW !

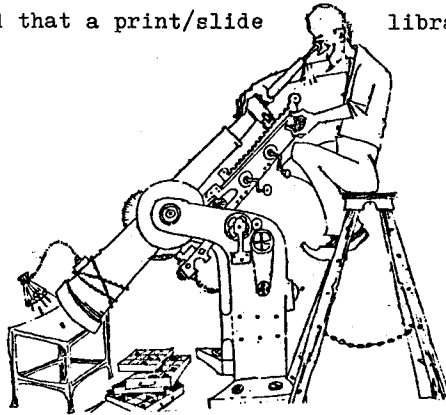
First Quarterly Meeting of the South East Branch of the BMS.

On the 26th November at 4pm, 12 members of the BMS gathered at 16 Preston Drive for the first full meeting of the newly formed South East Branch. This was double the number of members who attended the Inaugural Meeting on 3rd September 1983. Members present were: Graham Bell, Debra & Steve Dyson, John Hall, Elsie Hansford, Nigel Hoppe, John Nowak, Peter Reynolds, Roy Tampling (Host), Peter Tye, Paul Wallace, Bob Weatherall.

As members arrived microscopes were soon set up and discussion ensued on equipment, minerals etc. The main topic at this meeting was photography of minerals through the microscope and Elsie and Paul showed slides both taken via the microscope but with differences in technique etc. that proved very interesting and informative. After about 2 hours refreshments were provided by Audrey Tampling which were most welcome - although members were too busy to sit and eat, but carried on with tea in one hand and sandwiches in the other.

The last hour of the meeting was given over to discussing activities of future meetings.

It was suggested that a print/slide library of minerals could



'THE MICROMOUNTER' (artist unknown - R.S.)

be compiled for identification purposes but it was thought that unless the Print/Slide was able to show good colour and crystal symmetry - identification was not always easy. The idea is shelved until perhaps our photography improves.

Paul Wallace suggested that perhaps he could catalogue members collections on his home computer so that members would know who had which species. He will report on this possibility at the next meeting.

Steve Dyson is able to supply micro boxes at £9.00 per hundred PLUS postage.

A suggestion that at each meeting a mineral identification table be provided was taken up and members are asked to bring along doubtful specimens (not more than two), stating location where found, and all members would then try to identify them with the guidance of more knowledgeable members.

The next meeting is on Sat. 18/2/84 at 16 Preston Drive, Bexleyheath, Kent at 4pm. Don't forget to bring your microscopes, slides, minerals for identification, minerals for exchange or sale, anything else of interest.

13/1/84 Elsie Hansford.

Industrial News

by Eric Otty.

Strontian Minerals £2.5m barytes plant on the shores of Loch Sunart came on stream in October 1983, and is now providing material for oilwell drilling use. Significant quantities will also be available for filler/extender purposes as well as for chemical applications. The plant with a capacity of 50,000t.p.a. uses dense medium separation and froth flotation - lead, zinc and silver being recovered as by-products.

Following a surge in demand for roofing slate, Penrhyn quarries in North Wales have doubled their output and are now working at full capacity. The Manod slate mine at Blaenau Ffestiniog has just been reopened, but even so, slate is being imported from Spain to satisfy demand. Demand has been created through government grants paying up to 90% of the cost of re-roofing houses built before 1910 (with slate).

At Geevor Tin Mines, St. Just, the sub-incline shaft to 23 level of Levant Mine is being extended. The Department of Trade and Industry have made a grant of £350,000 towards the total cost of £2.2m and the work should be completed by 1986. Work on Allens Shaft, Botallack has been suspended until 1986. Approval has been given to Marine Mining (Cornwall) to dredge offshore sands in St. Ives Bay, expected to yield 50,000 tons/year of 1% tin concentrates for processing at a mill at Gwithian. South Crofty, at Redruth are to spend £5.7m on the modernisation of Pendarves Mine and aim to increase production from the present 41,000 tons to 60,000 tons/year by 1987. Preliminary design work is being undertaken by Southwest Consolidated Resources, Callington, with a view to reopening Redmoor Mine to produce 1200 tons/day of tin and wolfram ores. The £44 million scheme of Amax/Billiton to work the Hemerdon deposit still awaits planning permission.

Punched Cards ...or a computer. by Max Wirth.

In newsletter No.9 I described the punched card system I use for optical identification of minerals. Now, punching cards is an awful bore, and having just acquired a wee Sinclair Spectrum, I tried writing a program to simulate the cards. It would have to allow cross referencing. The language is BASIC which is slow, but I have yet to progress to machine code. Anyway it works - so far for 34 zeolites.

The program is as follows:-

```

3 INPUT "Print number of fits you want, but not more than six; if you
  have less than six, print ones to complete the next input",
5 INPUT "Print characteristics Nos",d,e,f,i,j,l
7 PRINT d;" ";e;" ";f;" ";i;" ";j;" ";l
10 DIM a(34-10)
13 FOR h=1 TO 34
15 LET g=0
20 FOR c=1 TO 10
25 READ a(h,c)
26 LET b=a(h,c)
30 IF b=d OR b=e OR b=f OR b=i OR b=j OR b=l THEN LET g=g+1
40 NEXT c
45 IF g>=t THEN PRINT INK 4;TAB 25;(h+1)
47 NEXT h
102 DATA.....
103 DATA.....
  etc.
109 DATA 4,6,7,9,13,20,25,29,0,0
  etc.
135 DATA 3,6,7,13,19,38,40,0,0,0
900 INPUT "Which set of data do you wish to display? Enter the
  number (or 0 if you wish to start again):",q
905 IF q=0 THEN RUN
910PRINT INK 4;q;" ";:FOR x=1 TO 10: PRINT INK 2;a((q-1),x);" ";:NEXT x
920 PRINT: GO TO 900

```

cont/...

I have not included all the data since it refers to my own system, but it is based on the following characteristics:

2 Plates	11 0.006	20 /	30 Twin
3 Needles	12 .01	21 no cleavage	31 Red
4 Prisms	13 .02	22 cleavage	32 Yellow
5 Uniaxial	14 .03	23 0-15°	33 Blue
6 Biaxial	15 .04	24 15-25	34 Green
7 +	16 .06	25 25-50	35 Igneous
8 -	17 more	26 50-70	36 Mineralised
9 Fast	18 Pleochroic	27 70-90	37 Metamorphic
10 Slow	19 =	28 =	38 Zeolite
		29 1	39 n>1.57
			40 n<1.57

Easy isn't it ?

(Editor's note - if you are confused by the terminology above such as uniaxial, biakial, 2V, Positive-Negative etc, a couple of hours browsing through the introductory chapters of a good mineralogy text such as Rutley, Dana etc should straighten things out for you.)

AND still more on computers (Well it is 1984 !)

Computer Cataloguing of Minerals. by Nigel Hoppé

The last few years have seen a massive jump in the field of micro electronics, with the home micro computer now well within the pockets of most people. Computers by their very nature are excellent sorters of vast amounts of information 'data'. However before a machine will do anything it must be given instructions 'programming', the language used by most of todays micros is 'BASIC'. Therefore the prospective owner is faced with the task of learning and manipulating Basic before his computer will perform even the simplest of functions. If all this seems daunting, it may be possible to :-

- A) Buy a cheap general purpose filing program, a number are now available from computer shops. These will most likely be limited in their 'scope and may require modification before use.
- B) Get a friend or colleague who is familiar with computers to write a program for you.
- C) Employ a professional programmer to write the program for you, but at a price.

With B & C it is essential to decide beforehand what your requirements will be,-once the program has been written it may well be too late to make alterdions without a major re-write being undertaken.

Suitably programmed the computer will sort data alphabetically or numerically by 'Fields' (these are block headings such as name, formula,crystal form,mine, etc). Before buying a computer one should roughly ascertain the amount of storage 'RAM'(Random access memory) required - in 'K-Bytes'. To do this consider the typical information kept on a file card. This may be simple or complex:²

Typical file card.

No.	462
Name	Clinoclase + Olivenite
Locality	Wh.Gorland St. Day Cornwall
Cost	£6.50
Acquired	F.Green

Max.no.of characters

	4
	20
	20
	20
	20
	20
	6
	10
Total	120

cont/...

cont/..

RAM required can be calculated by :- $\frac{T \times R}{1000} = \text{K-bytes}$

Where T = total characters (120)

R = estimated no. of records to be held (say 250)

$$\frac{120 \times 250}{1000} = 30 \text{ K-Bytes}$$

To this should be added the programme length and any additional 'working space' required, (typically 10 & 5 K). Most machines are only 32K and this means that only 133 records could be stored in the example above.

Unfortunately the expense of buying a computer system does not end with the initial purchase of the computer. Data storage programs need large amounts of back up storage and fast retrieval times to work well.

Tape storage is slow and is the normal means used with smaller and cheaper computers. The 'Floppy Disk' is the alternative, but the beginner may be put off by the expense - approximately ten times that of a tape system.

Sooner or later hard copies of listings, programs and even specimen labels will be required, so a printer will need to be added to the system. These range in price from under £100 to several hundred pounds.

Three main types are available:-

- A) Thermal printers are at the bottom of the price range, they are limited by poor type quality and narrow paper width. Thermal paper can also be quite expensive.
- B) Dot matrix type characters are composed of dots, quality can be reasonably good.
- C) Daisy wheel printers are at the top end of the market, they have many type sizes and styles. Quality is excellent, but at a very high price.

After having had my own collection catalogue on a 32K Commodore Pet with disk drives for some three years I would like to point out that unless a comparable system is available at home or place of work, computerisation of a mineral collection is likely to be an expensive and time consuming business.

The alternative to all this high technology is of course the much maligned cardex system, which is cheap to set up and maintain, requires no specialist knowledge to use, and if carefully built up can be just as useful as a computer.

For instance, simply by adding a punch hole along the side of a file card corresponding to a field of interest - e.g. copper minerals, one may later retrieve all similar entries by the insertion of a knitting needle. (see Max Wirth's article in Newsletter No.9). Of course if a mistake has been made the wrong cards will be pulled out. This is equally true with a computer system, the simple incorrect spelling of a word, or the forgetting of a full stop may lead to the machine not retrieving a record. Garbage in - garbage out !

If a computer still seems an attractive proposition for mineral collection cataloguing, I would advise prospective buyers to seek out a competent computer dealer where your particular need can be discussed and a suitable machine and software recommended.

by David P. Clough

Grid Ref. Sheet 203. 365323

This mine is situated within the St. Just Mining District about three quarters of a mile from the town, and in particular forms part of the Wheal Owles Mining Sett, which includes several other mines, perhaps the most notable of which is the Wheal Edward mine.

The main area of spoil occurs adjacent to a small row of cottages on the N.E. side of the valley. The fenced off collar around the main shaft can be seen at the top of the spoil, and the ruined engine house a further two hundred yards beyond the shaft.

Minerals which have been collected from this location include siderite, goethite, limonite, specular haematite, chalcedony, quartz, achroite, and malachite, but the most interesting occurrence is that of the hydrated iron phosphate VIVIANITE. This occurs in vugs in the quartz/ironstone matrix as small colourless, transparent to opaque prismatic crystals, up to several mm in length, and as acicular and flattened crystals, either singly or in radial groups. Often the vivianite occurs with small siderite crystals on botryoidal goethite. When unaltered the crystals of vivianite are colourless but tend to alter to a pale greenish yellow, deepening in colour on further exposure to light. This is due to the partial oxidation of ferrous (Iron II) to ferric (Iron III) iron.

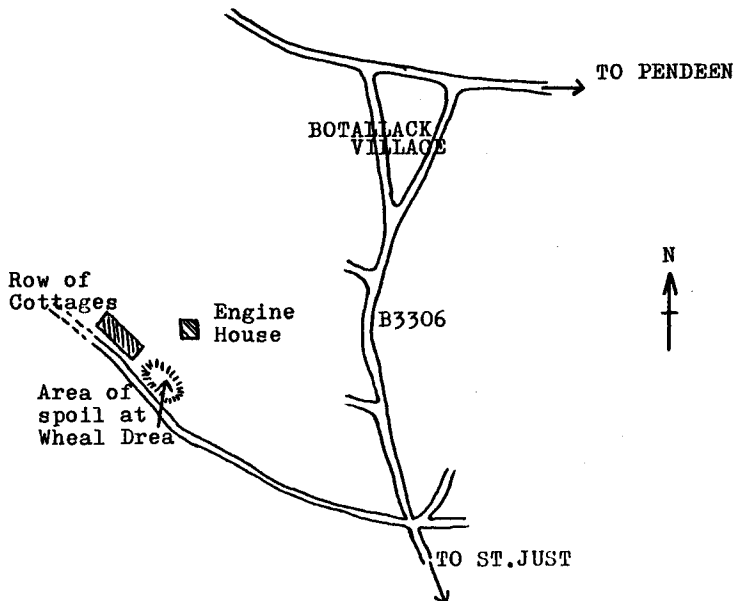
Vivianite has been found in several places on the spoil, but the most spectacular were collected about midway up the slope on the extreme right hand side of the shaft as you look from the road.

Further information:

Manual of Mineralogy of Great Britain & Ireland : R.P. Greg and W.G. Lettsom.

A Handbook to the Mineralogy of Devon and Cornwall : J.H. Collins.

A Collectors Guide to Minerals, Rocks and Gemstones in Cornwall and Devon : C. Rogers.



by Roy Starkey

Grid Ref. Sheet 172 ST402718

The coast at Clevedon exposes a section through the Portishead Beds (Devonian) and Lower Limestone Shale Group (Carboniferous), overlain unconformably by Triassic Dolomitic Conglomerate. The Dolomitic Conglomerate is faulted west of the Pier Hotel, and the fault plane is marked by a prominent cliff feature, exhibiting traces of barytes mineralisation with minor amounts of galena and secondary copper minerals. On the beach below the Pier Hotel, west of the Pier, are many large boulders of prominently banded barytes and Dolomitic Conglomerate up to 1m across, derived from the mineralised fault. The boulder material contains angular clasts of limestone and occasional fossil fragments.

The large boulders contain cavities up to 12cm across, lined with pale cream to pink crystals of cockscomb barytes, on which occur crystals of chalcopyrite altering to pseudomorphous limonite, together with acicular white aragonite crystals to 4mm, bright green malachite globules to 2mm, and superb sharp dark blue azurite crystals. The azurite crystals are worthy of note for their perfection and size - to 5mm long, exhibiting many complex forms. Massive galena is present to a greater or lesser extent in most of the boulders.

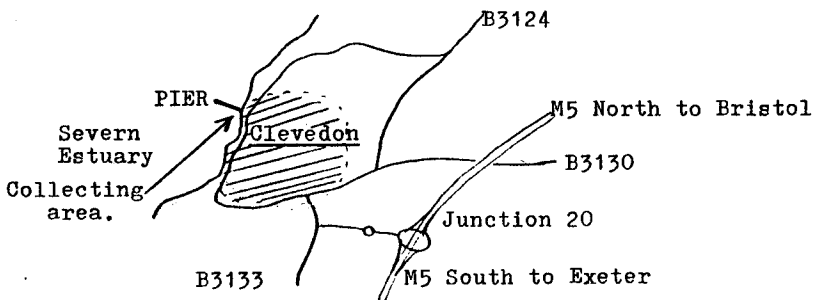
In the mud on the beach, small barytes pebbles up to 10cm across are found, prevented from further transport by virtue of their great density. These pebbles are rich in galena and show a higher degree of alteration than do the large boulders. Minerals identified from the pebbles so far include:- aragonite, aurichalcite, azurite, brochantite, cerussite, chalcopyrite, native copper, covellite, cuprite, galena, malachite, and most interestingly phosgenite. In all cases the crystals are of microscopic size - up to 2mm.

The phosgenite occurs in charcoal grey altered galena, and in cavities in the barytes as sparkling colourless euhedral crystals to 1.5mm on edge. Several forms have been noted.

The locality is only accessible at extreme low tide, and wellington boots and overalls are essential prerequisites for collecting.

Further reading:

Abdul-Samad, F.A. et al. (1982) *Transition Metal Chem.* **7**, 32-37.
Dean, A.C. et al. (1983) *Mineral. Mag.* **47**, 235-236.
Greg, R.P., and Lettsom, W.G. (1858) *Mineralogy of Great Britain and Ireland*, John van Voorst.
Grenfell, J.G., (1873) *Trans. Clifton Sci. Soc.* **1**, pt. 4, 63-64.
Kingsbury, A.W.G. (1957) *Mineral. Mag.* **31**, 500-501.
Kohlberger, W. (1976) *Mineral Rec.* **7**, 114-125.
Stoddart, W.W. (1877) *Proc. Bristol Nat. Soc. New Series* **2**, 68-76.



Annual Field Meeting Cont'd.

We have been very fortunate in enlisting the help of Richard Gillanders - author of the recent Min.Record article on the area to assist in leading the weekend, and he will also be presenting an introductory talk on the geology and mines of the area.

We have been asked to supply a report of our findings and specimens found/collected to both the estate companies in return for the permission to visit - help with this after the meeting will be appreciated.

If you have any queries regarding the weekend, please telephone Roy Starkey (Redditch 42018), or for specific local help Max Wirth (0383-880439).

Remember if you want to attend - send a SAE to Roy Starkey for final details on meeting times and itinerary.

The initial meeting point ONLY will be NS867133 at the foot of Whytes Cleugh, on Saturday 5th May at 09.30am.

General Notes

1. Please pay your subscription if you have not done so.
2. Please return your directory form.
3. I am starting to organise the 1984 symposium - if you would like to offer a talk please contact me.
4. Lead Mineral Survey forms to David Ifold please.
5. This is the biggest newsletter ever - thanks to all who have contributed - please keep up the good work. Let's see some new names amongst the authors - there is plenty of ability in the membership. Locality articles especially welcome, and also simple notifications of new finds.

Finally we look forward to seeing you supporting the Society stand at the British Mineral and Gemshow in London on 24-25th March, at the HolidayInn, Swiss Cottage. We shall be there all weekend and will be talking minerals etc. See you there !

Published by British Micromount Society, 29 Painswick Close,
Oakenshaw, Redditch, Worcestershire, England.

Reproduction freely encouraged providing source is acknowledged.
Thankyou.

Crystal Sketches of Phosgenite from Clevedon.

