

BRITISH MICROMOUNT SOCIETY



NEWSLETTER NO. 44 JUNE 1996

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ELEMENTARY MY DEAR.....

Max Wirth

I have often wondered just what was meant in text books by the comment "decomposed in acid" or "forms a gel with acid", and decided to experiment with the effect of acid on a number of zeolites.

The results are fascinating, and may help in identification. This is actually one of the simplest chemical tests. (Please note, those of you who are scared of chemistry!)

The test is done on a glass slide under the microscope and requires only half a millimetre bit of specimen. The nicest one to try is natrolite. Place the fragment on the slide, and add a small drop of hydrochloric acid (50/50, 15% or 5N, depending on your way of measuring it). The reaction takes about 15 minutes during which the fragment slowly disintegrates. Then little cubic crystals of sodium chloride start to form and these appear to be suspended because a gel (silica-alumina) has formed. There may also be a few cruciform crystals of calcium chloride. After a while the gel dries out and cracks appear (just like cracks in dried mud). Eventually the cracks join up to the crystals and the whole thing looks a bit like a neural network.

Another nice one to try is scolecite, which contains calcium but no sodium. This time only the cruciform crystals form, again suspended in a gel.

Apophyllite, which is not a true zeolite, just rapidly disintegrates along the cleavage planes without forming a gel.

I have tested the following minerals in this manner:

Mineral	Main Cations	Behaviour in Acid
Analcite	K; Na	Decomposes. Sparingly soluble in cold hydrochloric; no gel; a few crystals of KCl and NaCl
Brewsterite	Ba; Ca; Sr	Decomposes. Sparingly soluble in cold hydrochloric; no gel; some tiny needles and barium chloride crystals growing inwards from edge of droplet
Chabazite	Ca; Na	Forms slime. Soluble in hot hydrochloric; no gel; flat feathery hygroscopic crystals Slightly soluble in sulphuric; crystals covered in hair-like needles
Hamatorpe	Ba; K	Decomposes. Forms lop-sided hexagonal blades of barium chloride in hydrochloric No visible reaction with nitric acid Very slow reaction with sulphuric to form light dusting of barium sulphate crystals

Mineral	Main Cations	Behaviour in Acid
Heulandite	Na; K	Decomposes. But insoluble in cold hydrochloric No reaction in nitric Turns opaque in sulphuric
Laumontite	Ca	Forms gel. Readily reacts with cold hydrochloric; no crystals Forms a gel with nitric In sulphuric, specimen becomes coated with hair-like crystals; no gel
Mesolite	Ca; Na	Forms gel. Slow gel formation and some cruciform crystals in hydrochloric Slow gel formation in nitric
Natrolite	Na; Ca	Forms gel. Easy gel formation with many suspended cubes of sodium chloride and some cruciform calcium chloride crystals. Forms a gel but no crystals in nitric. A seaweed-like pattern later develops on the crystal. In sulphuric, rapidly gives hair-like crystals of sodium sulphate, and then a gel.
Phillipsite	Ca; K; Na	Forms gel slowly in hydrochloric, with feathery crystals which later change to cubes. Forms a gel very slowly in nitric No gel, but eventually a mass of tiny crystals with sulphuric.
Scolecite	Ca	Forms gel in hydrochloric with a scattering of cruciform calcium chloride crystals rapidly becoming denser Forms a strong gel in nitric, but no crystals In sulphuric, crystals become covered in needles, then a gel forms, followed by large curved crystals of (?) gypsum
Stilbite	Ca; Na	Decomposes. But no reaction in cold hydrochloric or nitric acids. A few needles form after a long time in sulphuric acid.
Thomsonite	Ca; Na	Slowly forms a gel and a few cubic crystals in hydrochloric In nitric, forms a gel only. In sulphuric forms curved gypsum crystals and a "skin" on the droplet.
Associated Minerals		
Apophyllite	Ca; Na; K; F; OH	Forms slime and disintegrates along cleavage planes in hydrochloric Disintegrates in nitric Disintegrates, with a "skin" on the droplet in sulphuric
Pectolite	Ca; Na	Forms gel with sodium chloride cubes in hydrochloric Forms a gel but no crystals with nitric Forms a gel and slowly gets covered in needle-like crystals in sulphuric
Prehnite	Ca	Decomposes; but no reaction in cold acids

LITTLE ME

Eira Voth (St Catharines, Ontario, Canada)

We came today to find the tiny crystals Time had sealed within this ancient syenite stone.
Now, late afternoon sun casts a golden glow, capturing the immensity of this quarry hole.
My companions away in other parts, I stand alone in awe,
And wonder about my natural home.
With boot I nudge some rocks, and in reflective thought,
Look at the scars the machines of man have wrought.
I begin to see the vastness of geological time.
A source of heat and light from a myriad miles away
Gives sight and warmth this autumn day.
In Cambrian times, silt from distant mountains high
Flowed to where creatures lived and died in ocean bed;
This growing burden changed the sea mud to rocky red.
In Cretaceous time the earth convulsed; a lava sill intruded here;
As eons lapsed, erosion exposed this long ago event.
Now man, a speck in earthly time, rips the years away;
Only jagged walls and barren floor in yawning chasms stay.
Will the earth survive the plundering of Man?
On the ancient ocean bed, small pools of water glisten in the sun
And tiny poplars wave their yellow autumn leaves at me.
Small pools, little trees - again the cycle has begun;
Though altered, the earth will endure.
Will we?

(Ed. note: This poem first appeared in Micronews, the newsletter of the Canadian Micro Mineral Association, of which Eira Voth is a relatively new member.)

MAURICE GRIGG'S MICROMOUNT COLLECTIONS

John Pearce

Many of you will know that Maurice had some superb micromounts and these, along with his other mineral specimens are due to be sold or auctioned later in the year. One of his micromount collections includes material from Gunheath and Goonbarrow china clay pits and probably contains some of the best material ever collected from these localities. It could be that the BMS Reference Collection would be the best location for some or all of this material since it is a well curated collection, offering reasonable security with access to BMS members. If an individual or museum bought the micromounts it seems unlikely that many would get to see the material which is both sad and very alien to Maurice's approach of wanting to share his minerals with other collectors.

Max Wirth, the curator of our BMS Collection, is discussing the situation with John Jones, who has the responsibility of selling the collection, and Chris Jewson is viewing the material and letting us know what micromounts are in the collection.

BMS COLLECTION DATABASE

Max Wirth

Everyone is talking of databases on disk, so I will advertise my wares as well. The BMS Reference Collection catalogue to No.1500 is now available on disk and can be obtained from Mike Rothwell (at cost). I have also collected over 300 literature references relating to specimens in the collection. Each reference begins with the relevant specimen number. This bibliography is also on disk and can be obtained from me (also at cost).

INTERESTING ADDITIONS TO THE BMS COLLECTION

(Nos. 1651-1700; June 1996)

Max Wirth

It has taken a long time to gather these 50 specimens, and even so, I have had to scrape the bottom of the barrel. I'm not saying that Brian Young is the bottom of the barrel, it is just that I had almost forgotten his contributions.

David Green gave us a very clean, bright blue cyanotrichite (1653) from Wedding Cave mine. I am not sure whether it is all cyanotrichite or whether the darker material is perhaps connellite.

Peter Wallace sent me a particularly rich phosgenite (1654) from Gunver Head, and attractive metatorbernite (1656) from West Wheal Owles, the rare parnauite (1657) from Penberthy Croft, as well as sharp, brilliant, dark green duftite, also from Penberthy Croft.

Having read about the New Cliffe Hill quarry in the Russell Society Newsletter, I sent a begging letter to Eddie Foy. He contributed a fine suite of specimens from this unusual (and out-of-bounds) quarry. At first there was thought to be volborthite (1661) as well as vesignieite (1660), but analysis has shown that barium is present in all specimens, ruling out pure volborthite. I have kept the original labels as these minerals cannot be distinguished visually. Malachite (1662), cuprite (1665) and native copper all occur there.

Tim Neall (who is currently in Kazakhstan looking for gold - and being paid to do so!) has given us an interesting apatite (1669) from Beggars Wood, Gateshead. The crystals are tabular with no visible prism faces but knife edges instead. ($1012 \wedge 0112 = 22$ degrees). He also found allanite (1671) and perhaps wulfenite (1672) in Shap granite.

Dave Charlton found plumbogummite (1674) on Upper Roughton Gill. Instead of the usual blue gum-like material, here the sharp crystals are colourless and brilliant. Iron Crag above Roughton Gill has yielded a rare and interesting mineral. Mike Leppington gave us corkite (1679) as fairly large, almost cubic, yellow crystals. These are quite difficult to distinguish against the black manganese oxide matrix. He also found "beudantite" (1678) as brilliant yellow crystals on quartz. However these are probably also corkite as they are rich in phosphate. The pyrolusite (1680) from the same area may be coronadite, which is known to occur there. (You may have seen Mike's spares at last year's Symposium.

Kemp Meikle has given us another, and better, specimen of edingtonite (1686) from the

Loanhead quarry.

I have extracted a few specimens from the bags of material collected by Jim Wooldridge which were available at our Leicester meeting. I think Jim would have liked to know that his efforts were not wasted.

Brian Young has often given me specimens and I have entered many of these into our collection in the past. Now there is a small wavelite (1695) from an unusual location - the Causey Pike cobalt mine in Cumbria. He has also provided excellent analcite (1698) and apophyllite (1699) from the Cambokeels mine in Weardale.

THE BMS DATABASE

John Pearce

There is good news and more good news!

Harry Day has produced copies of the database and these have been sent to the four BMS branches as agreed. Each is contained in 6 folders and weighs several pounds. There are of course all sorts of errors in the database and lots of minerals not yet recorded for many of the listed sites, but once the database becomes available to BMS members, it is hoped that feedback on errors and further site information will start to flow in. Mike Rothwell worked wonders in producing the thousands of photocopies required, and Peter Braithwaite created the attractive covers for the folders.

I was expecting a period of around 18 months before a disk version became available, but Harry has produced the database on disk with an accompanying instruction manual which enables you, not only to gain access to the mineral listings for the various UK sites, but also to add your own mineral and location details. (There are certain difficulties involved when you get your disk updated, i.e. it would eliminate all your personal entries, but we have ways of overcoming this!)

You can order your copy now for £10.00 (payable to BMS, please add £1.50 if postage and packing is involved) from Harry Day. All you need to operate the system is an IBM compatible PC. Harry is also offering an up-dating service (£3.00) at intervals; details will be announced in the Newsletter. It is hoped that the BMS branches will organise a service for providing mineral listings for those who do not have direct access to the database by making and sending photocopies to its members. Harry is also prepared to offer this service at a national level. (A nominal charge will be made to cover the costs using second class postage stamps as currency since very small amounts of money will be involved.)

Two important questions arise from these developments:

Who can purchase a copy of the database? As it stands only BMS members can purchase a copy, but anyone who lives in the UK can automatically become a member by paying a £4.00 membership fee. So in effect the disk and instruction book costs £10 for BMS members and £14.00 to anyone else residing in the UK. Harry and I have also discussed the position of Russell Society members and wondered whether we might offer them a

special price of £12.00 rather than making them join the BMS to get a copy. Russell Society members have considerable personal knowledge of UK sites and minerals and we should greatly value their contributions to the database.

The other question is the **validity of data** which goes into the database. When the project started it took a firm position of accepting only information contained in the literature or minerals whose identity had been confirmed by means other than purely visual. Since then there has been a shift in opinion which suggests that minerals which have been identified visually should also be included, but clearly indicated as such. However, complex, unusual, and rare species would normally be expected to be identified more rigorously.

It is intended to seek members' views on these two points at the Symposium.

This of course is not the end of the project, nor the beginning of the end; simply the end of the beginning! We have in place a structure on which we can build and with many members soon to have their own copies on their PCs we hope to draw on their knowledge of sites and minerals. **The BMS needs you now!**

This is a magnificent piece of work, and Harry Day has worked miracles, confounding many who never thought the project could or would get off the ground. Many congratulations Harry, a great achievement even at this stage.

Please note that we have produced only a limited number of the disks and manuals, so **order your copy today**, before stocks run out.

DIRECTORY OF MICROMOUNTERS 7th EDITION

Mick Wolfe

The time has come round again for me, with your assistance, to produce an updated edition - the seventh - of the British Directory of Micromounters. As members of several years standing will already know, this comprises a brief paragraph on each member. in a booklet form and is a thumbnail (not to say micro) sketch of them and their specific areas of interest and expertise, their collection size, the microscope used, etc., etc.

With this newsletter there is a copy of each member's Directory listing from the 6th edition. I have manufactured a paragraph for new members with no previous Directory entry based on their original application form. Would each member please read their own entry and, where appropriate, correct and update it and post it to me at the address given below. Additionally with this newsletter there is an up-to-date membership address and telephone number listing. Any errors on this can be advised in the same way as above and a fully corrected version will appear at the back of the 7th edition which can be expected early in 1997.

Please ensure all responses are posted to me by the end of September or, alternatively, handed to me at the Symposium. Thanks. (Mick Wolfe, 16 Collington Street, Beeston, Notts NG9 1FJ)

UK JOURNAL OF MINES AND MINERALS

John Pearce

Many BMS members subscribe to the UKJMM, which is a publication greatly appreciated by many mineral collectors. In recognition of its great value to our members and the dedicated work provided by the small team who produce this journal, the BMS is offering to sponsor two colour pages in the next issue.

Congratulations to all those who produce the UKJMM for the very high standard of its content, design and production; its great interest value and the wonderful colour photographs. Long may the journal continue.

(If you do not already subscribe to UKJMM then you can overcome this disadvantage by sending a cheque for £10.00 for two issues to Jean Spence, 3 Oak Tree Road, Bawtry, Nr. Doncaster, South Yorkshire, DN10 6LD. Cheques should be made payable to "Rockbottom Publications" please. It will be the best investment you ever made.)

ARCHIVE DOCUMENT LIST

Muriel Swindell

The following list shows the items currently held in the BMS Archive. In addition to the items listed, copies of all Newsletters are kept, and back copies can be supplied. In some cases, we may need to charge for photocopying.

A. Documents which may *not* be borrowed:

Occasional Papers

- | | |
|---|-------------|
| 1. An Introduction to Micromounts | R. Starkey |
| 2. Determining the Optical Properties of Minerals | M. Wirth |
| 3. Minerals are Chemicals | J. Pearce |
| 4. Paper Chromatography | M. Wirth |
| 5. Using Mineralogical Literature | R. Starkey |
| 6. Stereomicroscopes | M. Edwards |
| 7. Photography of Minerals through the Microscope | E. Hansford |

UK Journal of Mines and Minerals, No. 10

B. Books and Documents which may be borrowed from the Archivist

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|--|--------------|
| Atlas der Krystallform. Volumes 1-9 | Goldschmidt |
| Specimens of some British Minerals | P. Rashleigh |
| Wanlockhead Slag Minerals (BMS Special Paper, No. 1) | E. Otty |

C. Books which may be borrowed from the Branch Co-ordinators

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|--------------------------|-----------------|
| Encyclopedia of Minerals | Roberts, et al. |
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THE MINERALS OF SOUTH AFRICA.

Bruce Caincross & Roger Dixon

Geological society of South Africa. P.O. Box 44283, Linden 2104, Republic of South Africa. Hardcover with dustjacket, 23x30cm, 296 pp, US \$115 plus postage.

ISBN 0-620-19324-7.

(Book Review; Malcolm Southwood)

Having lived and collected in South Africa for over seven years, and having had my appetite for this book thoroughly whetted by both Bruce and Roger when I last visited South Africa in 1993, this was a book which I eagerly awaited. But the wait was not without frustration. I ordered and paid for it in November 1994, on the understanding that it would be available by April 1995. In fact it arrived in early May, but some 13 months later than expected. The sparse communication from the publishers (the Geological Society of South Africa) during that time is regrettable, and the one circular put out by that august body had the gall to ask for an additional \$US50 or so should subscribers wish to receive the book by airmail, and this at a time when it was already six months late!

But that is absolutely my only complaint, for when the book arrived, only a cursory glance showed that the wait had been justified and, in my opinion, this book sets a new benchmark against which national/regional mineralogies will henceforth be measured.

So why such enthusiasm? Well, the authors have uniquely combined information relating to geology, history, site descriptions and, of course, mineralogy, in an easy-to-read and informative manner. The first part of the book (178 pages) consists of site descriptions with the sites arranged firstly according to the age of the host strata, and then by geological terrain. Each section is beautifully illustrated with geological maps and sections, and with (generally) both historical and recent site photographs. Mineral lists are given for all major localities, together with descriptions of mineral occurrences and quite magnificent specimen photographs.

Part two of the book (76 pages) is a simple but well-illustrated alphabetically ordered mineralogy of South Africa, once again with superb photography and concise notes on the main occurrences. A glossary of terms and a detailed bibliography are also included.

At something like £60, this book is not inexpensive. However, I feel that the price is entirely justified and that the authors deserve hearty congratulations on producing a highly readable and informative showpiece.

In Brief...

Minorco has announced that it may be possible to extend the life of the **Boulby Potash** mine beyond the 15 years which current reserves will allow. Original boreholes in the proposed extension area are being re-examined and a feasibility study is now under way, and due to be completed later this year. Boulby currently produces 600,000 tpy of saleable potash, and employs as many as 960 people. (*Mining Journal*, May 24, 1996)

Dr Peter Hardy of the University of Bristol's Department for Continuing Education is leading a **geological study tour to Santorini**, from September 7th to 21st. Shirley Adrian has a few leaflets and application forms, or they can be obtained from Dr Hardy at the Department for Continuing Education, 8-10 Berkeley Square, Bristol, BS8 1HH.

For those members with **internet access**, let me thoroughly recommend the two following websites:

<http://galaxy.einet.net/images/gems/gems-icons.html> allows you to download good-quality full colour images of a number of specimens in the Smithsonian's mineral and gem collection.

<http://www.rtd.com/~bkeller/rockshop/rockshop.html> is a complete on-line magazine for collectors, with regularly updated articles and again, excellent colour images of specimens.

<http://www.xs4all.nl/~mineral/index.html> is the website for the Mineralogical Society of Antwerp, in Belgium. It's all in English, and there are articles and images as well as a very extensive selection of classified adverts from people wishing to sell/buy/exchange minerals.

This year, the famous Chuquicamata mine in Chile has finally been overtaken by La Escondida, which now ranks as the **world's largest copper mine**. In May, Escondida produced an amazing 93,000 tonnes of recoverable copper, equivalent to an annualised rate of 1.1 million tonnes, or about 10% of world consumption. This rate will not be maintained, however, and production for the year will be closer to 800,000 tonnes of metal.

EDITORIAL
Malcolm Southwood

With considerable regret, I'm afraid that the time has come for me to ask if there is anyone else out there who might be interested in taking over this fascinating, exhilarating and rewarding role of Newsletter Editor.

I took up a new job in March, which means that my working hours have increased considerably, and I'm also out of the country a lot more. Unfortunately, something has to give and with great reluctance, I'm starting to put out some feelers for a successor. This is a shame from my point of view, as one of the great benefits of doing the Newsletter is that it keeps you reasonably in touch with what's going on in the Society and with the British minerals scene in general.

Without wishing to oversell the role, I can honestly say that it is an enjoyable one, and in fact its not particularly time consuming. I reckon to spend 2 hours a week in the month that the Newsletter actually goes out, and maybe 1 hour a week in the intervening months.

An essential requirement is a PC with a decent word processor and printer, although final printing could be done elsewhere if necessary. The job does not include the copying and mailing of the Newsletter.

Many authors are now supplying articles on disk, which greatly reduces the typing load. Others supply printed copy which, if you have access to a scanner, can also save a lot of work.

Please get in touch if you would be interested in taking over.

Look forward to seeing you at the Symposium!

Please note the following changes of address:

As if we needed more evidence that the housing market is on its knees, we have no changes of address of telephone numbers reported for this Newsletter.

NEW MEMBERS

New members are (normally!) urged to inform the editor should any of their particulars (as noted below) be incorrect:

However, on this occasion, we have no new members either!

NEWSLETTER EDITOR

Malcolm Southwood
9 Gascoigne, Werrington, Peterborough. PE4 5EH

(Please note that the deadline for articles for Newsletter 45 will be October 1, 1996. Please let me have contributions as soon as possible in order to spread the typing load. Many thanks.)