



The Mineralogical Society of Victoria  
Incorporated  
A0001471E

**Newsletter No. 211**

**June 2011**



Zircon, Carapooee, Vic  
27mm field of view

Print Post Approved PP332785/0015

The Mineralogical Society of Victoria Inc.  
P.O. Box 12162  
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Vice President:	TBA	Special Projects:	Dermot Henry
Secretary:	Lia Bronstijn	Resources (incl Library):	TBA
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**Membership Details:**

Joining Fee	\$5.00		
City Adult Member	\$25.00	Country Adult member	\$20.00
City Family membership (2 adults & children under 18)	\$35.00	Country Family Membership (2 adults & children under 18)	\$30.00
Student Member (full time)	\$15.00	Newsletter only	\$15.00

(N.B. - Country membership - more than 50 km from Melbourne G.P.O.)

Applications for membership can be obtained by writing to:-

The Secretary, Ms. Lia Bronstijn,  
P.O. Box 12162,  
A'Beckett Street,  
Melbourne, Vic, 8006.

General meetings are held on the 2nd Monday of each month (except January) commencing at 8.00 pm at the Royal Society of Victoria, 8 Latrobe St. Melbourne.

Visitors are most welcome.

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Newsletter of the Mineralogical Society of Victoria  
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ISSN 0811-1855

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## **FORWARD DIARY**

**PLEASE NOTE:-** General Meetings of the Society are now held on the second Monday of each month, 8:00pm at the Royal Society Building.

- June NOTE – There will be no General Meeting in June due to the Joint Societies Seminar being held over the previous weekend.
- June 19 Mineral Appreciation Group – Nunawading Lapidary Club, Silver Grove, Nunawading  
Topic: “The Battle of Agincourt” – Minerals named after British OR French persons. (Choose your side!)
- June 26 Micro Group Meeting – Venue: Jo & David Price's home.  
Topic: Minerals of the Apatite Group.
- July 11 Annual General Meeting: Speaker – Alex Blount.  
Topic: Inclusions are a Girl's Best Friend
- July 17 Mineral Appreciation Group – Nunawading Lapidary Club, Silver Grove, Nunawading  
Topic: Minerals containing Nickel and/or Titanium.
- July 31 Micro Group Meeting – Venue: Judy Rowe's home.  
Topic: Minerals from Spring Creek and Reaphook Hill
- Aug 8 General Meeting: Speaker – To be advised Topic: To be advised
- Aug 21 Mineral Appreciation Group – Nunawading Lapidary Club, Silver Grove, Nunawading  
Topic: 1 ‘segment’ of your collection : bring along a portion based on how your collection is organized/kept. Perhaps 1 locality, 1 country, 1 collecting trip, 1 species, or 1 set of catalogue numbers..
- Aug 28 Micro Group Meeting – Venue to be advised. Topic: To be advised.

## **MINERAL RELATED EVENTS**

- Jun 11-12 33<sup>rd</sup> Joint Mineralogical Societies of Australasia Seminar. Melbourne, Victoria.  
Hosted by The Mineralogical Society of Victoria. Topic: “Mineralogy into the Future”

## **NEXT ISSUE**

**PLEASE NOTE:-** Material for the August Newsletter to be with Michael Hirst by **July 20<sup>th</sup>**.

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## FROM THE COMMITTEE

**W**e are fast approaching the Annual Joint Societies Seminar over the weekend of 11-12 June, and by the time you are reading this it will probably be upon us. The subject of the Seminar is “Mineralogy into the Future” taking a look at what is happening at the frontiers of mineralogy and where the professions and hobbies of minerals may be heading.



Details of the speakers, topics and other interesting activities around Melbourne are available at the Society website: <http://www.minsocvic.websyte.com.au/>

This time of year we also have the Annual General Meeting in July to think about, and our usual call goes out for anyone interested in joining the committee. We have a variety of roles available and the time commitment is tailored to the amount you can or wish to contribute.

Lastly, you may have noticed that our Newsletter is now produced in glorious full-colour printing. Whilst words are all very well and good, they do tend to come in a rather monotonous black. In recent times we have seen some of the amazing examples of Richard Wright’s drawing skills and some fine micro-mineral photography on the front cover. Realistically, we expect that most of us really do love to look at pictures of specimens or interesting field trip memories, so we are looking to provide a regular feature of artwork and photographs contributed by Society Members. Any contributions can be forwarded by email to the editor or passed on by hand to the editor or any committee member at a meeting.

Alex Blount  
President

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Special thanks to Jon Mommers ([www.earthstones.com.au](http://www.earthstones.com.au)) for providing the printing services and allowing us to present the Newsletter in colour.

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## **34<sup>th</sup> Joint Mineralogical Societies of Australasia Seminar**

### ***Mineralogy into the Future***

Gemmology House  
380 – 382 Spencer Street  
Melbourne

11 & 12 June

**LATE REGISTRATIONS ACCEPTED**  
up to Tuesday 7 June

Full program can be viewed at [www.minsocvic.websyte.com.au/site.cfm?minsocvic/3/](http://www.minsocvic.websyte.com.au/site.cfm?minsocvic/3/)

For further information contact John Bosworth on 03 9801 1304  
or email to [ajmineralogy@iprimus.com.au](mailto:ajmineralogy@iprimus.com.au)

## **SHORT TALKS**

Below is the roster for member's Short Talks at the monthly General Meetings for the first half of 2011 and beyond. Remember that the talks only need to run for around 5 minutes or so (10 minutes maximum please) and can cover any topic of a 'mineralogical' nature. The "warning bell" will be appearing this year!

As we have had a few talks postponed and shuffled around, rather than keep moving everyone down the list, we will now put any missed speakers into the next available meeting (i.e. after the current schedule speakers).

Talks do not have to be technical – in fact some of the best subject material can be your own specimens, experiences and opinions on the world of minerals.

DATE	SPEAKER
Mon 13 June	No Meeting (Seminar)
Mon 11 July	Annual General Meeting
Mon 8 August	Peter Hall
Mon 12 September	Volker Hoppe
Mon 10 October	Steve Sorrell

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## **EXCURSIONS**

No collecting excursions are planned for the immediate future, pending the identification of suitable locations. As previously mentioned in this Newsletter and at Society Meetings, we rely on our Members to suggest new places to visit and let us know of any old favourites that you are keen to return to.



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## **MUSEUM FUND**

The Society is selling a selection of mineral specimens donated by Ian Strachan. The proceeds from the sale are being held in the Society's museum fund, which is made available to assist Museum Victoria in the purchase of specimens for their collection. Donations to the Fund are always appreciated and can be made through your annual membership renewal form, through buying or donating specimens for sale, or by contacting a Committee member at any time.

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## **PUBLICITY**

### **Micro Group Report**

The topic for the November 2010 meeting was "Zeolites from Australia, but for Victoria only those localities not listed in 'Zeolites of Victoria'." Tasmanian and New South Wales were the predominant States featured with the former being represented by a couple of classic Cape Grim specimens of an analcime joined pair about 12 mm across showing the tetrahedron habit and filled with kaolin giving them an earthy appearance and a radiating ball of white natrolite crystals about 2.5 cm across.



New South Wales specimens included the classic stellarite and heulandite from various localities in the Garrawilla volcanic complex. An orange-brown colour is the feature of the specimens from this area often associated with drusy quartz. A single crystal of laumontite, about 2.5 cm in size, from the area was acquired in the mid 1970s and was stored in a small jar of water to prevent deterioration of the specimen. Willy Wally Gully specimens were well represented with a particularly showy cluster of chabazite showing the phacolitic habit but opaque rather than the normal clear crystals with the largest crystal being about 1.5 cm.

Victorian specimens from localities not reported in "Zeolites of Victoria" included a specimen of water clear 1 mm chabazite crystals perched on the end of natrolite crystals from a road cut on the Alpine way between Hotham Heights and Dinner Plain. This particular outcrop was exposed during road works in the



late 1990s and is no longer available as a collecting site. Phillipsite from Ruined Castle which is also in the Hotham area was also shown.

Several species from the Ridge Road quarry at Daylesford were seen in particular the unusual habit of pseudo-octahedral form of phillipsite. Phillipsite from the Eastern Hill quarry at Anakie East was seen in small vesicles in the basalt.

An enjoyable day with some attractive zeolites on display.

The topic for the April meeting was “Minerals containing Uranium”. Amongst Australian specimens shown were: rich yellow carnotite, El Sherana Mine, N.T.; samarskite, Harts Range, N.T.; voglite, metatorbernite, saleeite and parsonsite from the Ranger Mine, Jabiru, N.T.; threadgoldite, South Alligator Valley, N.T.; davidite, uranophane, autunite and torbernite from Radium Hill, S.A.; kasolite from the British Empire Mine, S.A.; phurcalite and torbernite from the Monakoff mine, Queensland; torbernite from Fielders Hill, N.S.W. and from the Royal George mine, Tasmania; and carnotite from Yinnietharra, W.A.

Victorian specimens shown were: saleeite from Wycheproof; as well as lakebogaite (T.L), metanatroautunite, torbernite and ulrichite (T.L.) from the Lake Boga Quarry.

Several specimens from other countries were tabled including: cuprosklodowskite and vandenbrandeite from Katanga province, Congo; marthozite, Musanoi Mine, Katanga, Congo; boltwoodite, Rossing, Namibia, autunite, Tsumeb, Namibia, and weeksite, Aranois, Namibia. European minerals included two from their type localities: zeunerite, Walpurgis Flachen Vein, Schneeberge, Germany and bergenite, Shaft 362, Bergen, Germany. We saw a very rich autunite from Les Oudots, France. From USA there were Holfertite, Thomas Range, Utah, and uranophane, New Mexico, and from Mexico schmitterite, Bombollita Mine, Moctezuma, Sonora, which is its type locality.

It was agreed that this topic brought out many good specimens and gave us much to discuss.

The Group welcomes new members. Our meetings are informal and tea, coffee and cake are provided. It's only necessary to bring your lunch, microscope and any minerals you may have for the day's topic.

No minerals? No problem – come anyway as many minerals will be tabled for all to see, but if you haven't attended one of these meetings before, do let the host of the day know you are coming so that there will be enough seats for everyone.

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### **Mineral Appreciation Group Report**

Back in February we looked at the mineral calcite and its many and varied crystal forms and habits. Another species that shows up in many collections and can often be visually similar to calcite is baryte – the topic of the April meeting. In the world of mineral specimens, baryte ( $\text{BaSO}_4$ ) seems to receive far less attention and interest than say calcite and notably less than some of the other species in the baryte group – being anglesite ( $\text{PbSO}_4$ ) and celestine ( $\text{SrSO}_4$ ).

PHOTO: Blue baryte, Stoneham, Colorado, USA.

The name baryte reportedly comes from a Greek word meaning weight or heavy, which is a fitting reference to one of those minerals that



often looks like it should be lighter – but then seems surprisingly dense when handled. The ‘official’ spelling of the name is ‘baryte’ as it came from the originally named/defined species ‘barytite’ back in the 1790s and was later adopted as ‘baryte’ in the 1970s by the IMA. However, there are certainly a large number of references to ‘barite’ in the literature and especially on the internet – one reference even going to far as to state that the Mineralogical Society of America has ‘notably ignored’ the IMA recommended spelling!

(Even the computer seems convinced that I have spelt the name incorrectly, and keeps trying to correct it to ‘barite’)

Barite, I mean baryte, has a number of important uses including as the primary additive in oil and gas exploration drilling ‘mud’, where the high density and fine clay-like consistency allow it to be pumped into a drilled borehole and resist the pressures at great depths below the surface. It was noted that possibly greater than 75% of mined baryte is used in the drilling industry. Because baryte is also radioopaque it is used in medical radiography to allow images of internal organs to be made that would not normally be visible. An example of this is the ‘barium meal’ used to allow x-rays of the stomach and digestive system.

Whilst we noted that baryte seems to be a somewhat under-appreciated mineral species, it was also noted that baryte seems to occur in association with a very wide array of other species, and that many examples were found in people’s collections on the ‘mineral xxx on baryte’. From the examples presented, it certainly does appear in an attractive range of colours, forms and associations.

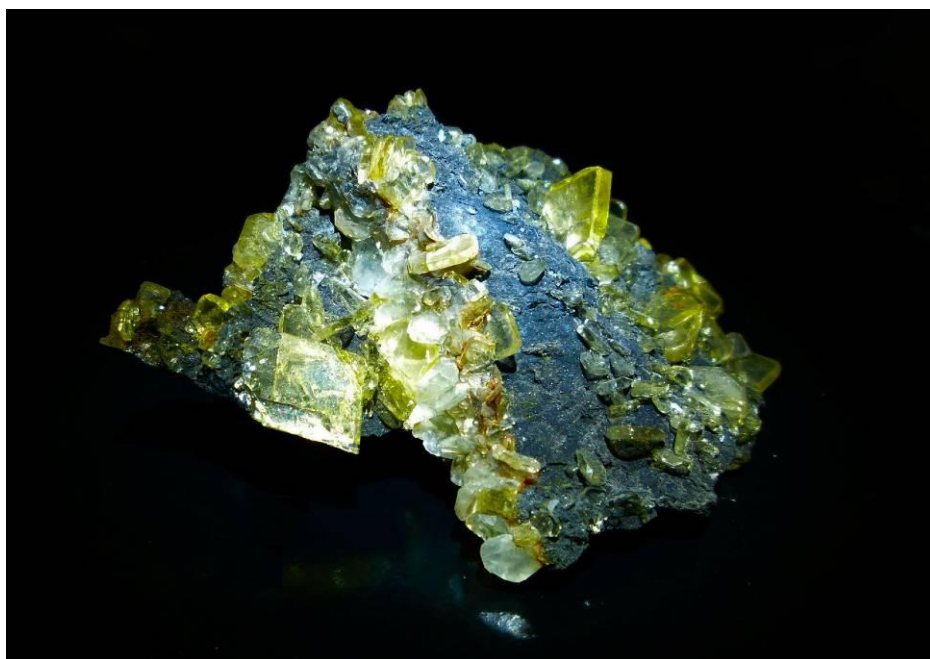


PHOTO: Golden baryte, Meikle Mine, Nevada, USA.

Some of the material presented to the group included bright white, vitreous blades with chalcopryite from Dreisler in Germany; with highly contrasting red-brown vanadinite from Morocco; with almost-invisible clear fluorite from Asturias in Spain; and with pyrite from the Huanzala Mine in Peru.

Translucent to transparent white to almost quartz-like tablets of baryte were

studied from various localities in China; transparent golden tablets from the Meikle Mine in Nevada, USA and from China; and golden cauliflower-like coverings on calcite from Renison Bell in Tasmania. Baryte was not listed in the MinDat database for Renison Bell, so there is the chance that the specimen was labelled incorrectly.

Semi-translucent cream to pink coloured crystals on calcite were presented from the Zinc Corp. Mine at Broken Hill; cockscomb sprays in pale cream-pink ‘hedgehog’ shapes from the USA, possibly from Weldon Mine, Pima Co. Arizona and similar material on fluorite from Oviedo in Asturias, Spain.

And for a slightly different colour there are the impressive blue, transparent, gem-like prismatic crystals of baryte from Stoneham, Colorado, USA. For anyone interested in the varieties of baryte to be found around the world, and examples of materials from different localities, we can highly recommend the work done by the authors of the ‘barite specimen localities’ website at:

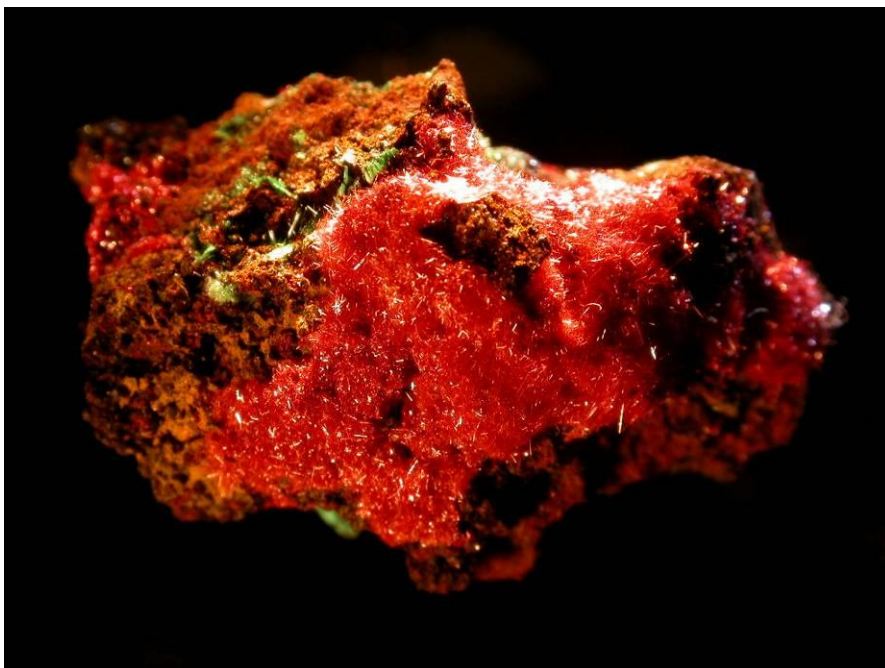
Having previously started to look at mineral names and origins, our topic in May was ‘discredited mineral species and names’. The term ‘discredited’ has a particular usage in the IMA listings, but as usual, the topic was open to interpretation however each member saw fit and minerals may be considered as discredited in a variety of ways. Whilst it is generally known that the IMA sets and approves the names of new minerals and occasionally adjusts names and re-classifies species, the IMA does not specifically go back and re-assess old, existing species. The Commission on New Minerals and Mineral Names (CNMMN) was founded in 1959 and species existing prior to that time, and believed to represent valid minerals were retained as ‘grandfathered’ species. Where subsequent study has indicated a pre-1959 mineral to be invalid, it will often be discredited. Some old names have been modified to fit more modern naming conventions, middle-members of mineral series (solid solutions) have often been removed as individual species, and sometimes a mineral from a locality is believed to be one species, but later found to be a different or multiple species instead.

The topic proved to be quite difficult for most of us, as we typically don’t have our collections organized or catalogued according to ‘old names’. Most resorted to finding a list of ‘discredited’ minerals and then hunting through the collections. There was also quite a lot of discrepancy between different references as to what was a current valid mineral and what isn’t. One member of the group took to comparing the 1980’s edition of “Fleisher” with the current 2008 edition, to see what had changed! The following lists of specimens presented is therefore not guaranteed to be 100% accurate with the current thinking of the IMA..

PHOTO: The mineral formerly known as chalcotrichite (cuprite), Red Bank Mine, Northern Territory.

The attractive display and lapidary mineral tiger-eye, was correctly known as crocidolite – at least until it was determined that it was only a variety of riebeckite or possibly magnesioriebeckite.

Or should that be riebeckite-(Mg)... as a large number of former species have either been re-named by moving chemical prefixes into suffixes, or discredited altogether because the additional magnesium in the ‘magnesio-’ was insufficient to justify a new species of its own. Thus many of the ferro-, natro-, mangan-, magnesio-, lithio-, fluoro- etc.. names are now invalid.



Microcline, from several localities, which was indicated to now potentially be a variety of albite, although both are currently listed in the IMA database and Fleischer.

Embolite from Broken Hill that is now bromian chlorargyrite, and well shaped ‘crystals’ of martite that were later considered to be haematite pseudomorphing magnetite. Of the mica minerals we saw examples of the attractive transparent green mica fuchsite (now just a variety of muscovite), and biotite (now used as a series name to cover a range of dark mica minerals). The curious case of lepidolite, a mica mineral now listed as being zinnwaldite by some references. But, also being listed as a series name in some literature and as a valid but redefined species by IMA.. To make matters more confusing, zinnwaldite is listed as discredited, now being a mica series – but a different series to lepidolite, suggesting no particular relationship between the two?



Poldervaartite, is still a valid species, but many (most?) of the specimens were subsequently found to be a newer mineral in olmiite.

Zaratite, the green nickel carbonate mineral, is now listed as being 'doubtful' and is likely to be an unresolved mixture of other species rather than an independent mineral itself.

The spelling of some species has been changed by the over-zealous-meddling-no-respect-for-tradition-officious-administration... such as haematite => hematite and sulphur => sulfur.

[\* Note – the views expressed by the author are his own and do not necessarily represent those of the Society, even if he is right...]

We saw examples of hornblende, hiddenite, hexagonite (actinolite?), garnets, celestite (celestine), wolframite, sphene (titanite), serpentinite, phacolite, kunzite, herschelite (chabazite), chalcocite (torbernite or autunite), limonite, chrome cerussite and a number of others covering a wide range of localities and reasons for their discrediting.

Given that some references on the topic list as many as 35,000 synonyms and obsolete species names (that's around 5-6 times as many as the number of current approved IMA valid species!), it is almost a wonder that we have any of our labels correct at all.

Members attending this group enjoy looking through their collection for specimens to bring along and to learn more about their characteristics and mode of occurrence. The group highly encourages more Society members come along to these meetings to see an every-changing variety of different minerals on display.

The meetings are an open show and discussion format and all society members are welcome to attend. Meetings typically aim for people to arrive around 10:00am for a 10:30am start, allowing time for people to unpack specimens. If you wish to attend, have any questions or have suggestions for topics you would like to see covered then please catch up with Alex Blount.

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## RESOURCES, NEW PUBLICATIONS & REFERENCES OF INTEREST

If any Society members become aware of new publications relevant to mineralogy or existing items that they feel would be of benefit to members, please feel free to let a committee member know. Where appropriate, the Society can look to obtain copies for inclusion within the library.

Volume 40 of the Mineralogical Record (2009) has now been bound and will be available in the Library.

New journals, publications and newsletters received include:

The Mineralogical Record Mar-April 2011

Imiter: Morocco's greatest silver mine (Jean-Pierre Barral, Georges Favreau & Cedric Lheur).

New mineral finds from Peru, 2003-2010 (Jaroslav Hyrsl & Zolina Rosales).

Some early California mineral dealers (Wendell E. Wilson).

The library is open for borrowing at every monthly meeting – so why not check it out next time.

The library shelves are now in approximate order. There are lots of fascinating books on mineralogy and related topics, just waiting for members to borrow and enjoy them – so, happy hunting and good reading!

THE MINERALOGICAL RECORD



## SOCIETY MICRO-MINERAL COLLECTIONS

Broken Hill Collection – Alex Blount

Iron Monarch Collection – Alex Blount

Victorian Collection – Alex Blount

Western Australia – Alex Blount **NEW!**

The collections currently contain over 600 micro-mineral specimens from their respective regions. We are always looking for new donations of specimens (preferably mounted but not essential), especially from new or recent finds, but updates or multiples of existing species are also appreciated.

The collections are available to all members to borrow on a monthly basis and they provide an excellent way to compare your own material from field-trips with 'already identified' reference specimens. If anyone wishes to borrow the collections or peruse a copy of the catalogue, please catch up with the curators listed above.

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### WANTED

Mineralogical Record Back Issues Vol 2 No 2 & Vol 2 No 5 for the **MinSoc Library**.

Please contact any committee member if you can assist with these.

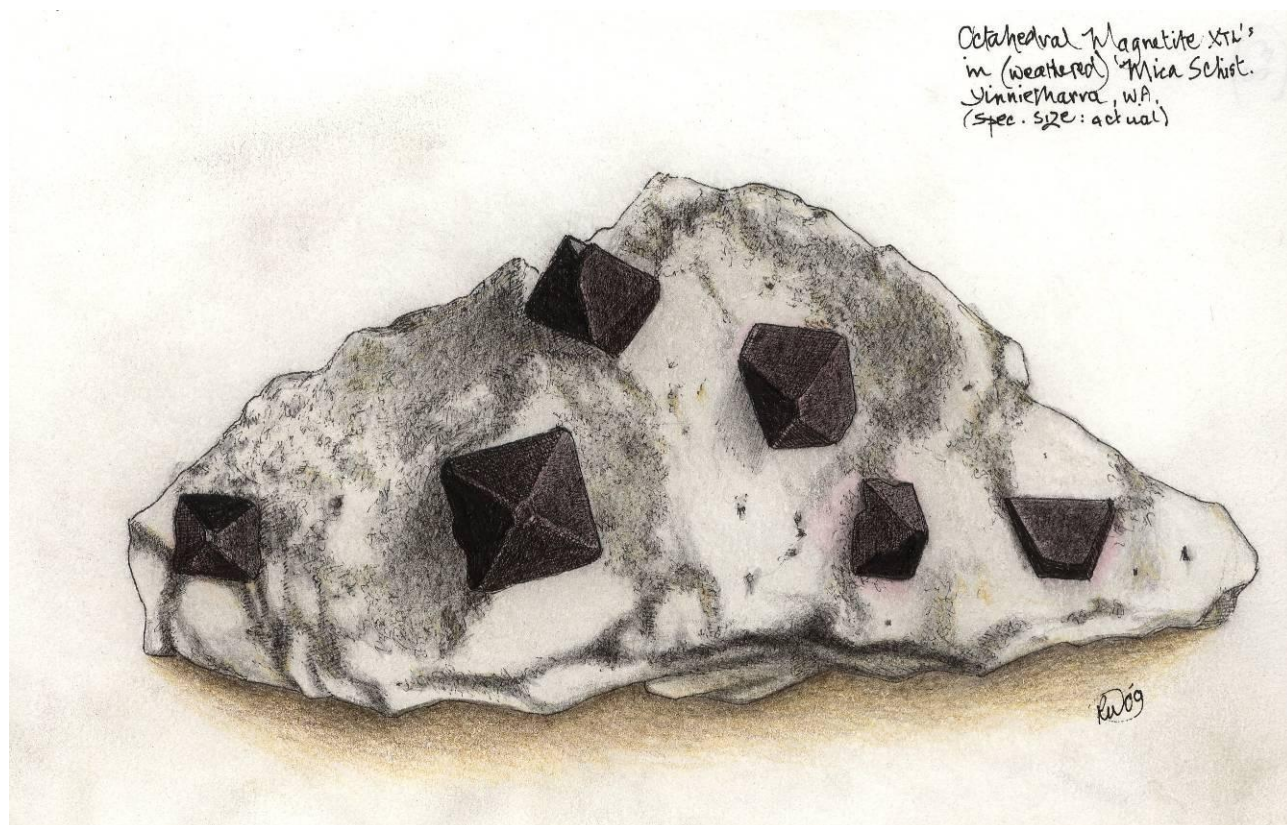
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### THE MINSOC TRADING POST

Society members can submit brief descriptions of specimens, equipment or other mineral related items that they wish to sell, swap or give away.

At General Meetings there are often some minerals for sale after the meeting.

This is open to all – feel free to bring your minerals along.





Hexagonal Sapphirine XTL's  
in Schistose Biotite granulite  
Mt. Riddock Stn. Harts Range, N.T.  
(Spec. size: actual)



RW'09

(Elongated) Sapphirine  
XTL's in Granulite.  
Whites Dam area,  
Mt. Riddock Stn.  
Harts Range, N.T.  
(Spec. size: actual)



RW'09

Pencil and watercolour sketches By Richard Wright ©

Many thanks to Richard Wright for offering his sketchbook to the Editor to copy, and providing permission to use his sketches in the Mineralogical Society of Victoria Newsletter.

# SOME MINES AND MINERALS OF EASTERN VICTORIA

## Part 7

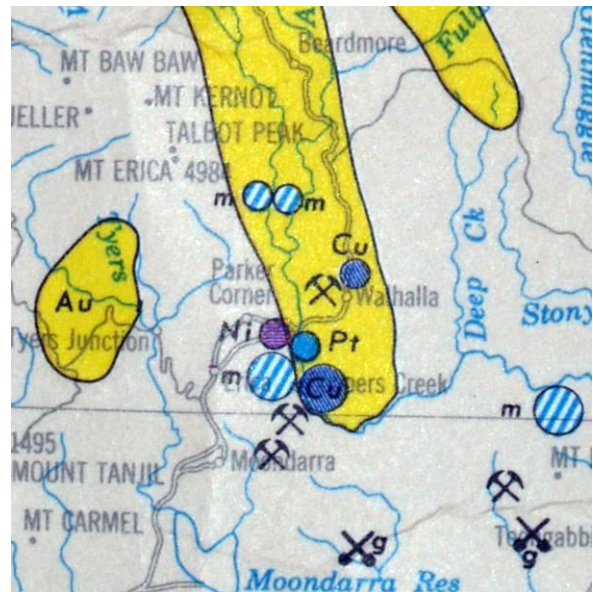
by John Haupt

### Thomson River Copper Mine

The mine is located at the southern end of the Walhalla-Woods Point auriferous belt, on the opposite side of the Thomson River from the settlement of Coopers Creek, 5 km south of Walhalla.

The mineralization occurs in and adjacent to the southern end of an intermediate to ultramafic dyke bulge, approximately 150 m long and up to 30 m wide.

After emplacement, the dyke was altered by hydrothermal fluids which introduced quartz and mobilized copper, gold and platinum group minerals. Two main ore bodies were mined. The No 1 shoot occurred within the sandstone country rock with a ferruginous siliceous gossan outcrop containing iron oxides and secondary copper minerals. The No 2 shoot was contained entirely within the dyke, consisting of disseminated sulphides transversed by quartz-calcite veins.



### History

The mine has a checkered history of intermittent exploration and mining. An outcrop of rich copper ore was discovered in 1864 and a syndicate of local and Melbourne shareholders formed The Thomson River Copper Mining Co. They commenced mining of the deposit by an open cut in 1865, installing 2 reverberatory furnaces to treat the ore (see photo and newspaper article). By 1886 a tunnel was driven to intersect the lode with samples being sent to Adelaide for assay. The assay values ranged from 14 & 32 % and attracted the attention of an experienced copper miner, Ambrose Halifax from Kapunda. He formed the Gippsland Copper Mining Tributers Company to operate the mine on tribute. By 1867 this group had mined 270 ton of ore and produced 42 ton of crudely smelted concentrate (regulus), of which 32 ton was carted to Port Albert, then shipped to Melbourne and then onto Swansea in Wales for converting into pure copper. The operations were uneconomic due to difficulties were encountered in smelting the ore using green firewood and the high cost of transport. The Tributers eventually gave up. A Welsh syndicate then attempted to mine the deposit until 1870, with little result.

The Walhalla Copper Mining Co was formed in 1874 with local shareholders. A lower tunnel was driven to intersect the lode and a bridge was constructed across the Thomson River to connect the mine to the plant and the Coopers Creek township. By 1878, mining commenced on a rich part of the lode below the adit level. Captain Saunders from Burra was appointed to manage operations, and he commenced improving the processing plant. By the end of 1879, 70 men were employed. By 1881 the lode had been worked out and mining again ceased. At that time, the mine had produced 800 tons of smelted copper, but the high cost of fuel (wood), transport and labour would have left little profit.

Between 1882 and 1910 several companies unsuccessfully attempted to mine the deposit. In 1910 the Gippsland Copper and Platinum Mining and Smelting Company took up a lease over the mine. They erected a blast furnace and employed 40 men on opening up the No 2 lens, which had been located by a Mines Department drilling program in 1908/9. They constructed a 2.5 km tramway to the new Walhalla railway at the siding called Platina. By this time platinum mineralization in the ore had been identified and payments were made for copper, silver, gold and platinum matte that was sold to Germany until 1913. With the onset of World War 1 mining again ceased, due to low reserves, the loss of labour and Germany as a customer.

In 1937-8 some exploration work at the mine was undertaken by the Gippsland Copper Company and the ore



was analysed by the CSIRO (Edwards et al, 1942) but no mining occurred. In 1963, the main adit was reopened and a small quantity of ore was mined. In 1969, the Coopers Creek Mining and Exploration Company was floated. The drives were cleaned out, a blast furnace smelter was erected to treat the ore with the concentrate trucked to the Port Kembla smelter in NSW for further refining. A diamond drilling program was undertaken but did not locate any significant ore reserves. Some 700 tons of ore was mined but the operations were unprofitable and mining ceased in 1971. Subsequent drilling by CRA (1973) and Golden Shamrock Mines (1980s) did not lead to further mining.

The mine has yielded a large part of Victoria's copper production. Mines Department records indicate that approximately 10,000 tons of ore was mined from the upper levels of the No 1 orebody up to 1881, yielding 10% copper. The next mining period up to 1913 produced 2,500 tons of 3.7% copper from the No 2 orebody.

Two separate limestone deposits were also mined near Coopers Creek. In 1912 the Evans brothers erected 2 limestone kilns on the track south of Coopers Creek and mined the deposits until the 1930s. The other deposit near Platina was mined by the Platina Lime Co and the White Rock Lime Co between the 1920s and 1951. Inclined tramways were used to carry the limestone to the railway. The remains of these operations are still visible.

### **Minerals**

The dyke outcrop was mined by an opencut, which yielded the copper minerals azurite, chalcantite, cuprite and malachite. Chalcopyrite and pyrite were the main primary ore minerals. Edwards et al (1942) lists the following minerals in the ore veins: pyrite, pyrrhotite, pentlandite, cubanite, chalcopyrite, chalcocite, arsenopyrite, galena, sphalerite, tetrahedrite, gold, electrum and possibly sperrylite. The platinoid group minerals were minor constituents of chalcopyrite, pyrite, pentlandite & sperrylite. Small specimens of azurite and malachite have been collected from the opencut and massive chalcopyrite-pyrite ore from the abandoned ore dumps. Some of the chalcopyrite contains small cavities lined with cream to orange siderite crystals.

### **References**

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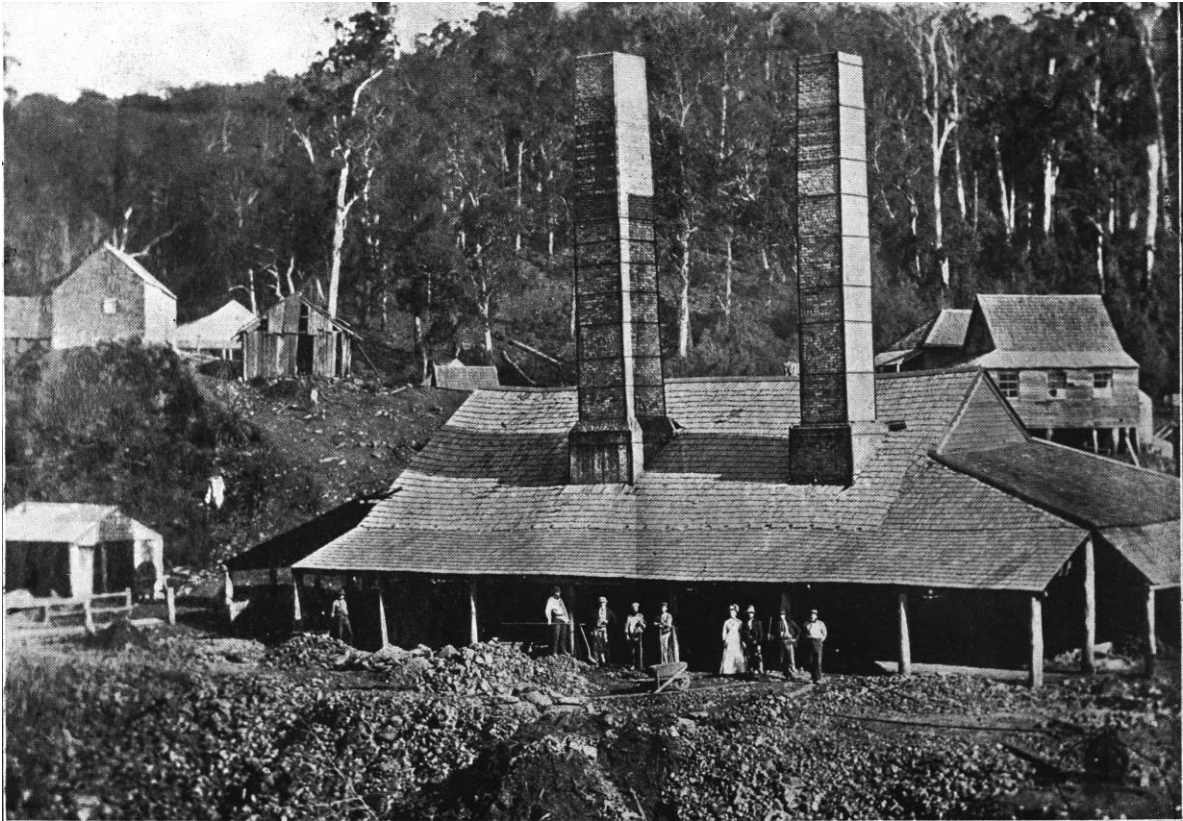
## TRIP TO THE COPPER MINES

From the Gipps Land Guardian, 3<sup>rd</sup> Sept 1867 and reprinted in the Argus on 13 Sept 1867

The immense importance to the colony generally, and to the Gipps Land in particular, of payable mines of copper, can scarcely be over-estimated. The experience of the sister colony of South Australia abundantly proves that copper, as a staple article of colonial product, may be the foundation of a nation's wealth. As being, *par excellence*, a gold producing country, Victoria is doubtless great among British colonies; but we should guard against undervaluing a source of wealth and greatness which may yet eclipse, in point of duration at least, the grand results of our gold discoveries. About two and a half miles from Walhalla, on the main track between that township and Toongabbi, a branch track leads off, in a westerly direction, to the Thomson River Copper Mines, which are situated on the south-eastern bank of the Thomson River, about a mile from the main Toongabbi road to Walhalla. Following the branch track, we passed the mines, and pushed on to the smelting works, of which the first furnace is already erected, upon a site on the opposite bank of the river. The Thomson is crossed by means of an admirable bridge, over which passes the tramway connecting the mines with the smelting works. The company having completed the erection of their first furnace, were, on the occasion of our visit, engaged in the interesting operation of "drawing off" the first "regulus", an event will be ever memorable in the annals of Victorian copper mining. A second furnace, of similar dimensions to the first, is in the course of erection. It is intended to construct in all eight furnaces, to be completed within twelve months; each furnace is computed to burn about one ton and a half of ore every six hours, equal to thirty six tons per week. Immediately beyond the smelting works, at the mouth of a gully debouching into the Thomson Valley, lies the rapidly increasing township of Cooper's Creek, comprising a public-house (kept by Mr. Joseph Coates, late well and favourably known as the manager of the Happy-Go-Lucky Company, but who has now changed his occupation), two general stores – Messrs. Williams, Young and Day's and Messrs. Harris and Feast's, and the usual proportion of private dwellings and tradesmen's shops incidental to settlements of such a character and extent. When the eight furnaces are completed and in full work, and the mines fully "opened out" the present little township by the banks of the Thomson will, in all probability, be one of the most thriving and important towns in Gipps Land.

It may enable our readers to gain a more correct knowledge of the state of affairs in this interesting locality, if we proceed to describe the means and processes adopted by the company in developing this most important branch of our colonial resources. The mines are worked, at present, necessarily in a less methodical and systematic manner than will become practicable as soon as the operations have somewhat progressed, in consequence of the advancing "opening out" of the works in the mine. There are two tunnels, upper and lower. The lode in the upper tunnel is from 12ft to 20ft wide. At about 45ft from the mouth of the upper tunnel a perpendicular shaft has been sunk 40ft deep in the lode. A shoot 180ft in length conveys the ore lode. The lower tunnel is not at present in use. A shoot 180ft in length conveys the ore from the mouth of the upper tramway, along which, for a distance of 1,100ft, the ore is further conveyed, and is then passed down another shoot 300ft in length, connecting the upper tramway to the lower tramway. It has been already mentioned that the lower tramway passes over the bridge to the furnace, and is almost on a level with the site of the furnace, to which the ore is then conveyed. The ores are various, comprising sulphurets, carbonates, and black, red and grey oxides; the sulphurets and black oxides predominating. Prior to the transit of the ore from the mine to the furnace, the sulphurets are subjected to the action of fire at the mouth of the tunnel, to remove the sulphur; and the other ores are "dressed" by screening &c, to detach and separate the loose earth, mullock &c. On their arrival at the furnace, all the ores are placed in the furnace together, but all in certain fixed relative proportions; the process of reducing each class of ore being, however, similar in every case. The "slag" (the valueless portion of the fluid mass produced by the action of the furnace fire), is "drawn off" every six hours; and the "regulus" (the remaining valuable portion, containing the pure copper); is tapped off, at a different aperture, every twenty four hours. The "regulus" contains fifty or sixty per cent pure copper; while the bulk of the ores, immediately before being placed in the furnace, contain an average of between ten and fifteen per cent of pure copper. Of course, the advantages of smelting at or adjacent to the mine consists in the reduction of the ores to "regulus" and the consequent large diminution in the cost of carriage. The company propose to convey the regulus from the mine to Melbourne, via Port Albert. It appears at present to be problematical whether the sale of the regulus in Melbourne or its shipment to English market will pay the company best; but no doubt in course of time this colony will prepare itself for carrying out the final metallurgical or chemical process necessary to separate the pure copper from the regulus. The colonial performance of such a process becomes a matter of very great interest considered in connexion with the establishment of a Victorian Mint, and assuming the yield of colonial copper to continue and increase. Altogether, the Thomson River Copper Mines are well worth a visit.

Note: The following photograph of the smelting works was taken about the time of this visit and shows the extent of the operations.

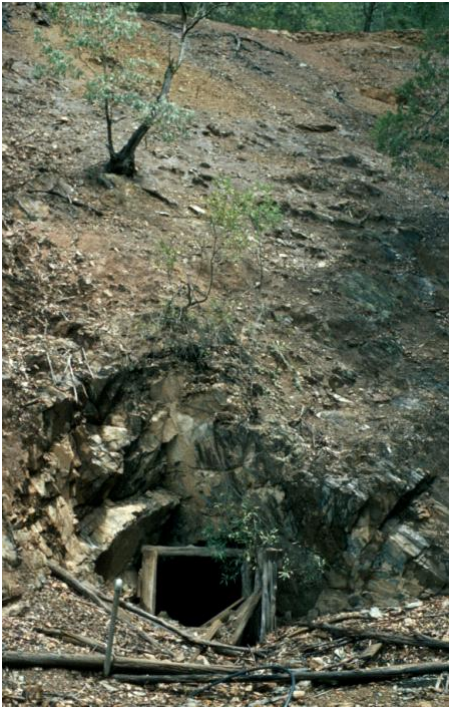


**Above: The Thompson River Copper Company's smelting works, Coopers Creek, 1874. The first copper smelting works in Victoria. Photo from Annual Report of the Department of Mines 1907.**

**Below: Coopers Creek settlement c1900. Photo Collection, State Library of Victoria.**







**Thomson River Copper Mine workings in 1983.**

**Above: Open cut.**

**Right: Mullock dump.**

**Left: Middle adit.**

**Below left: Ore bins.**

**Below right: Blast furnace.**



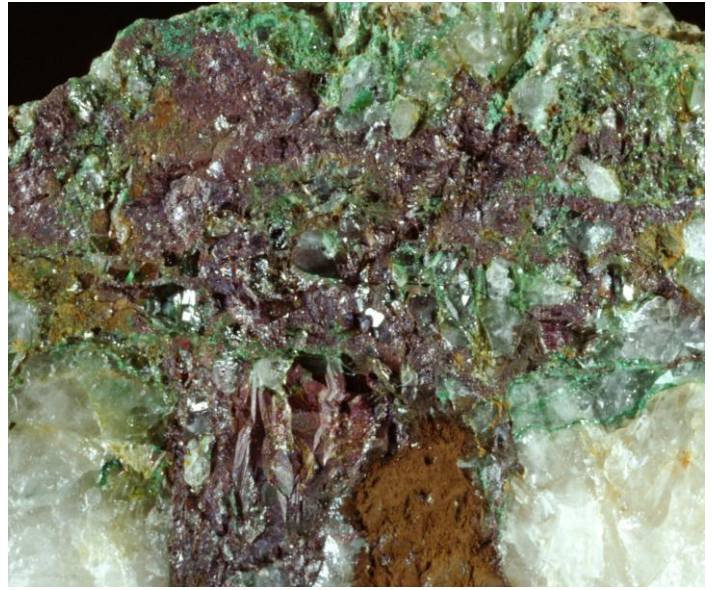




**Left: Inside the No 2 adit after reopening in 1968.  
Photo: GSV Bulletin 61.**

**Below: Cuprite from the Thompson River Copper  
Mine, 1 cm across. Photo: J. Bosworth.  
Specimen: Museum Victoria M10244.**

**Far below: Specimen of chalcopyrite ore, 12 cm  
across. Photo: J. Bosworth.  
Specimen: Museum Victoria E15873.**

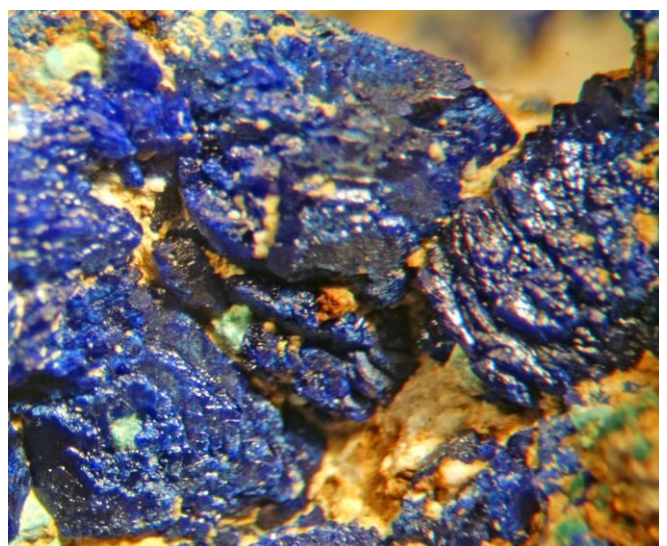
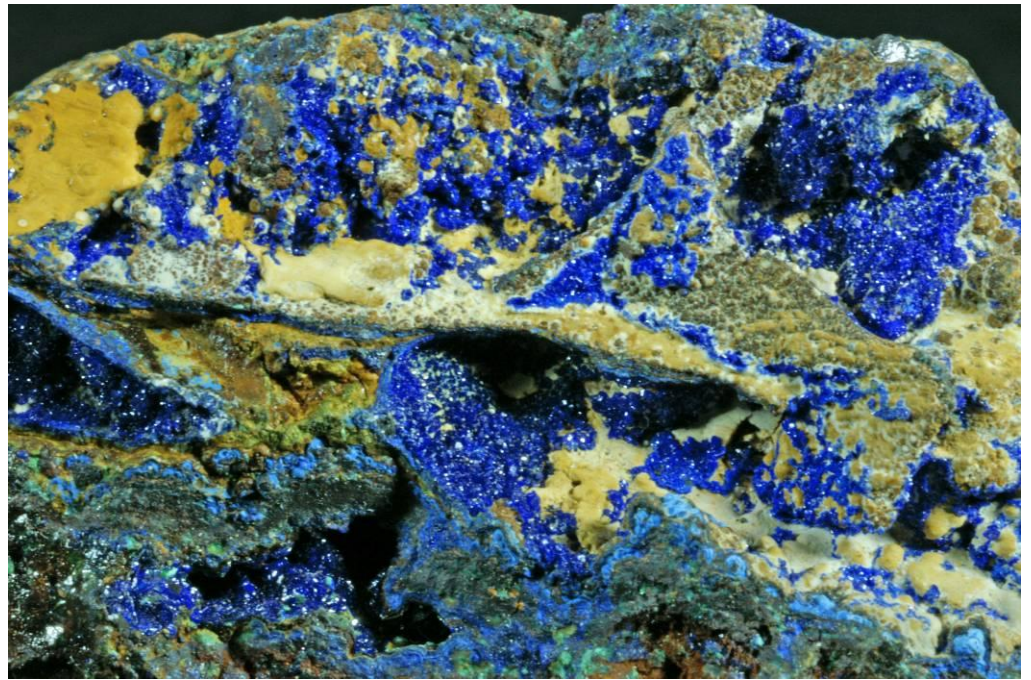






**Top: Malachite balls, 5 mm field of view.**

**Specimen & Photo: J. Haupt.**







**The Mineralogical Society of Victoria**  
A001471E  
Incorporated

Notice is given that the 35<sup>th</sup> Annual General Meeting of The Mineralogical Society of Victoria Incorporated will be held on Monday 11 July 2011 in the Function Room of The Royal Society of Victoria Building at 8 LaTrobe Street, Melbourne commencing at 8:00 pm.

The agenda for the meeting is:

- Minutes of the previous meeting
- Treasurer's Report
- Appointment of Auditor
- President's Report
- General Business
- Election of Office Bearers and Committee

A nomination form for Office Bearer and Committee positions is set out below together with a proxy form should you wish to vote on the motions but are unable to attend the meeting. The completed form(s) must be in the hands of the Secretary no later than 48 hours prior to the meeting.

**The Mineralogical Society of Victoria Incorporated**

**Nomination Form**

I wish to nominate ..... for the position of .....to be held until the Annual General Meeting in 2012.

Signature of Nominator: .....

Signature of Seconder: .....

Signature of Nominee: .....

**The Mineralogical Society of Victoria Incorporated**

**Appointment of Proxy**

I, ..... of ..... being a financial member of The Mineralogical Society of Victoria Incorporated, hereby appoint ..... or if no person named, the Chairman, as my proxy to vote as shown below on my behalf at the Annual General Meeting of the Society to be held on 11 July 2011 and any adjournment thereof.

Signed ..... Date: / /2011.

Resolutions		For	Against
To adopt the audited accounts of the Society			
Other Resolutions (if any)			
To elect Office Bearers and Committee (if required) as follows:			
.....			

