



# Mineralogical Society of Western Australia Inc.

*To encourage mineralogical study by amateur and professional alike  
and, in so doing, discover, document and preserve the Earth's  
and in particular Western Australia's natural history.*

## Newsletter - September 2020

### CONTENTS

Editorial	2
Past Events	3
School of Rock - By Dr Robert Madden	11
Interesting Articles & Other News	12
Simpson WA Update Project	13
Mineralogical Society of WA Library	14
Upcoming Events - Meetings, Workshops, Activity Days & Social Events	14
Membership & New Members	16
Contacts - Committee Members	16
MinSocWA Links	16
Advertising & Advertisers	17

#### **Mineralogical Society of WA, Inc.**

Meetings held at the WA Lapidary & Rockhunting Club rooms  
31 Gladstone Road, Rivervale (corner of Newey Street)  
Registered Society No. A1009304P

## EDITORIAL

The next meeting of the Mineralogical Society of WA will be our Annual General Meeting and the celebration of the 20th Anniversary of the incorporation of the Mineralogical Society of Western Australia. We hope you all will be able to attend to celebrate this event which will be held in our usual venue of the clubrooms of the WA Lapidary and Rockhunting Club. There are further details in the Upcoming Events section of this newsletter.

There are some vacant positions on the committee and members are asked to consider nominating for these positions. The Society operates on the efforts of all the members so if you are able to nominate for any of the vacant positions please contact any current committee member.

### ***Positions vacant:***

- ***Treasurer*** - John Mill is acting as Treasurer until the AGM.
- ***Secretary*** - Susan Stockmayer is acting as Secretary until the AGM.
- ***Committee member***

As part of the undertakings for the 20th Anniversary of the foundation of the Society, a new website is being produced in order to refresh some of the content and to introduce dynamic webpages for resizing on different devices.

Ken Ireland has contributed to both the construction and management of the current website and although he has declined to contribute to this next stage the Committee would like to greatly acknowledge Ken's contribution over the many years.

*A reminder that membership fees were due by 30 June 2020.  
If you have not paid please contact Susan Stockmayer.*

### **Meetings**

The General and Annual General Meetings of the Mineralogical Society of Western Australia Incorporated are usually held at **7.30pm on the second Wednesday of every odd month** at the WA Lapidary & Rockhunting Club rooms located at 31 Gladstone Road, Rivervale (corner of Newey Street).

*At all meetings the Society's microscopes,  
UV lamp and refractometer are available for use by members.*

If any members have any requests or suggestions on what they would like to see in the newsletters please contact the Newsletter Editor. Contact details are included in this newsletter.

## PAST EVENTS

### MINERAL APPRECIATION GROUP - Wed 1 July 2020

Ruth and Craig Bosel hosted a 'Mineral Appreciation Group' gathering on Wednesday 1st July 2020 from 6:30pm to 8:30pm at their home. Ten members attended including Nicolas Hebert who has written this summary of the event.

Ruth and Craig Bosel hosted the MinSocWA Mineral Appreciation event on July 1st. Only a small number of members could attend to abide with COVID-19 restrictions. Tea, drinks and nibbles were courtesy of the hosts.

The collection is spread across 4 showcases in a specially arranged room. While a section is dedicated to Australian minerals and another shelf is reserved for epidotes, international specimens are presented following the classical Dana system. Crystals that have gathered attention during the visit include some remarkable Australian molybdenites displayed in the sulfide shelf, a colourful suite of fluorite, an exhaustive series of lustrous epidotes from a diverse range of locales. Nice trigon-shape exsolution pattern on a transparent spodumene has raised attention too, and was taken out for an improvised photo shoot.

The evening meeting was concluded by a small group tour of the collection under short and long wave ultraviolet light, that revealed a whole new world of colours.



*Photo submitted by Craig Bosel*

## GENERAL MEETING - Wed 8 July 2020

Due to the WA Lapidary & Rockhunting Club facilities being closed on this date, the meeting was held at the Chem Centre at Curtin University which was very kindly offered for use by Dr Kari Pitts. Following the meeting Kari Pitts gave a talk on The Use of Mineralogy in Forensics.

## TALK - Kari Pitts - 'The Use of Mineralogy in Forensics' - Wed 8 July 2020

Dr Kari Pitts presented her talk after the General Meeting. This was held at the Chem Centre at Curtin University.

*Photos by Stewart Cole*





### Forensic Mineralogy

- Soil analysis and comparisons
- Identification of unknowns
- Concrete comparisons and dust
- Stomach contents and wound debris
- General Dust examinations

Variscite (hydrated aluminium phosphate) under UV ALS

### Forensic Soil Analysis

**Whole Soil** → **Bulk Exam**

- Bulk Colour
- Bulk mineral composition
- Stereo microscopy

**Separation/Sieving**

- Fine fraction**
- Heavy Minerals**
- Sand grains**
- Stones etc**
- Man-made artefacts**
- Biological and Organic Mat**

**Detailed Examinations**

- Particle size distribution
- Grain characteristics inc rounding, frosting
- PLM/OM
- XRD
- SEM-EDS
- ICP-MS/ LA-ICP-MS
- Other specialised testing

**Other evidential analysis**

## FIELD TRIP – Donnybrook - Sat 8 August 2020

*Field trip report by Peter Willems (MinSocWA Trip Leader & Committee Member)*

On a brisk Saturday morning, the 8<sup>th</sup> of August 2020, 14 members of MinSoc WA met in Donnybrook in Western Australia's Southwest Region. The purpose – to visit some abandoned shafts of the Donnybrook Goldfield. The hope was to sieve and pan samples of the famous 'fern gold', which good evidence suggests has been recrystallised by microbial activity. The trip was led by Peter Willems under the guidance of Alan Longbottom, who had visited the site previously.

From the Donnybrook township we set off on a short drive to the gated four-wheel drive track into the site. As this was a different access track than had been used in previous visits, we managed to drive right past the spur which lead to our destination. Fortunately for us, Alan was onto it! A short bushwalk ensued to locate the correct route before turning the convoy around on the narrow track (which was a fun exercise in itself) before playing 'duck and weave' with our vehicles between trees and arriving at the site. The group gathered near one of the shafts and Alan briefed us all on the perfect technique for finding some gold, which involved sieving and then panning the mullock material from around the shafts. We set up two circuits of tubs filled with water for a 'muddy' first pass pan and 'clear' final pan, making sure detergent was added to each tub to prevent fine gold from floating from the pan. After some further discussion regarding safe practice around the open holes and a little site geology/history, we were off!



*Photos by Allan Hart*

Contrary to Alan's assurance that we were highly unlikely to find any nuggets, Sue S pulled some very impressive, large gold nuggets out of her first sieve – one being well over an ounce in weight! The sample however had been salted by none other than the groups troublesome youth/prankster – John M.



*Photos by Olga Blay*

After the scandal had been resolved and the nuggets had been admired, most members of the trip managed to successfully pan some small examples of gold, including a couple of crystallised pieces displaying fern habit. We also took a few dozen kilograms of sieved material which we are hoping to put through a sluice at a follow-up event.

By all accounts, the trip was a very enjoyable day in the bush and a great little outing for the members who joined in. Finding a bit of gold was a bonus! Thanks for everyone who came along and made the day an easy success. Special thanks also to Alan for all your hard work helping organise the site permissions and for sharing your local knowledge and to Allan Hart for taking so many great photos on the day.



*Photo by Allan Hart*



Photos by Angela Riganti



## WORKSHOP - Microscopy Group Activity - Sun 23 Aug 2020

The workshop was well attended by about 12 members.

Mike Wort's workshop commenced with a short PowerPoint presentation that introduced the mechanics and design of the transmitted light microscope and the reflected light microscope. The comparisons and differences between the two were explained. Mike also taught us about the properties of some common opaque minerals, diagnostic properties to look for, centering an objective and finding the same point again. Minerals showing internal reflection were also discussed. We were also given some useful information for using these microscopes and some recommendations of reference texts for ore microscopy. Mike gave all members in attendance a set of notes relating to his talk.

Mike brought his ore microscope for the workshop and our new Society acquisition was also on display for use by members. This petrological microscope was very kindly donated by Alicia Verbeeten, consultant petrologist based in Kalgoorlie and has now been overhauled.



*The petrological microscope donated to MinSocWA by Alicia Verbeeten*

*Photos by Lesley Daniels*



*Photos by Allan Hart*



*Allan Hart examining a specimen of dumortierite with the Society's petrological microscope*

*Photo by Lesley Daniels*

*Petrological microscope in the new protective case*



*Photo by Lesley Daniels*



## SCHOOL OF ROCK - DR ROBERT MADDEN

*Dr Robert Madden is an avid science communicator writing small geology vignettes, geology stories and educational resources on his social media account "School of Rock".*

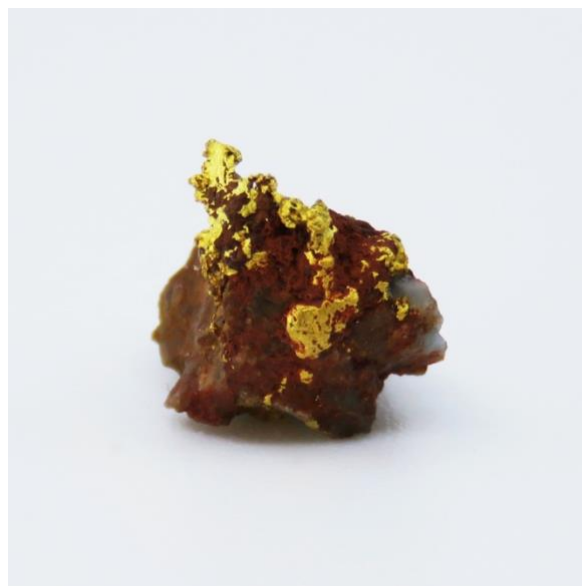
*This segment of our newsletter shares some of Dr Madden's incredibly interesting articles and photos.*

*You can follow Robert's 'School of Rock' for more geoscience content on Instagram @drrhcmadden.*

### **Editor's note:**

For this newsletter we've chosen a gold theme to compliment the recent field trip to Donnybrook Goldfield.

## **AURUM**



Is there any element more intriguing and captivating to humankind than gold? Named after the Latin word aurum, meaning 'yellow' gold (Au) is one of the few metals that is not a grey or silvery-white colour. The yellow colour of gold is attributed to oscillations of plasma amongst an atom of gold's outer electrons.

Western Australia is home to amongst the biggest gold deposits in the world. The Neoproterozoic aged (~2.64 billion years old) Kalgoorlie Gold Field contains both the giant Golden Mile and world-class Mt Charlotte deposits. It is from the Mt Charlotte Deposit where this little bit of gold, still attached to a rusty quartz vein, comes from.

The Kalgoorlie Gold Field lies in the centre of a granite-greenstone terrain of the eastern Yilgarn Craton and is characterised by two main ore-types: (1) a ductile style of mineralisation and (2) the brittle-style Mt Charlotte lodes. The Mt Charlotte lodes are generally pipe shaped, coarse-grained quartz-carbonate-scheelite vein-stockworks with well-defined vertically zoned alteration profiles. These lodes extend for around 1 km along strike, 1.1 km vertically and have a lateral spread of about 90 m (a whole 'load' of gold).

The source of the auriferous-fluids that turned Kalgoorlie into a gold-town are an area of extensive and continuing research. Current investigations of fluid-composition, fluid-inclusion

thermobarometry and isotope geochemistry indicate a metamorphic fluid derived from deep sections of volcanic sequences. These fluids reacted with crustal rocks along huge faults and shear zones that controlled regional fluid flow pathways. Alternately it has been suggested that the fluids and gold may have been derived from devolatilization of a subducting oceanic slab and overlying sedimentary wedge during accretion of the Kalgoorlie Terrain onto the Yilgarn Craton.

*Dr Madden only writes about specimens he has personally seen and he takes all his own specimen photos.*



**Dr Robert H.C. Madden** has been looking at rocks and minerals for the last 17 years. Robert's specialities lie in carbonate sedimentology and petrology as well as exploration geology, particularly porphyry-epithermal and MVT systems.

He is also a Fellow of the Geological Society of London and a Member of the Australian Institute of Geoscientists with a rich, global portfolio of geological experience.

Robert is an avid science communicator writing small geology vignettes, geology stories and educational resources on his social media account "School of Rock".

You can follow Robert for more geoscience content on Instagram @drhcmadden.

*Dr Robert Madden  
Sedimentology research in Namibia.*

## INTERESTING ARTICLES & OTHER NEWS

**Title: Mineral occurrences and exploration potential of southwest Western Australia**

This publication was written by our well-known member, Lee Hassan. You can download the whole publication from of charge by following the link.

**Reference:** Department of Mines, Industry Regulation and Safety Bookshop

**Link:** <https://dmpbookshop.eruditetechnologies.com.au/product/mineral-occurrences-and-exploration-potential-of-southwest-western-australia.do>

## Earth Science Week 2020 (11-17 Oct) and Minerals Day (12 Oct)

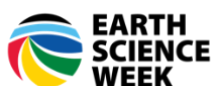
This year's Earth Science Week will be held from October 11 - 17, 2020 and will celebrate the theme "Earth Materials in Our Lives." The coming year's event will focus on the ways that Earth materials impact humans — and the ways human activity impacts these materials — in the 21st century.

12 October 2020 will be the first-ever day dedicated to Minerals. This initiative by the Mineralogical Society of America (MSA) and the American Geosciences Institute is part of the international Earth Science Week 2020 activities. It is designed to raise awareness and appreciation for minerals and mineralogy among the general public as well as K-12 and higher education students and teachers in both formal and informal educational settings.

"Minerals Day activities will celebrate the beauty of minerals and highlight their uses in a wide range of products and technologies. Minerals Day will also promote the many different careers that are available to experts in mineralogy " says MSA President Carol Frost.

Visit [Minerals Day](#) to see some of the resources (e.g. [Mineralogy 4 kids](#)) on offer.

Closer to home, check [AusEarthEd](#) website, their [YouTube channel](#) or the [ESWA](#) websites to see educational activities on minerals, rocks, and beyond.



*If any members have any interesting articles they would like to share with other members through the newsletter please email your submission to Lesley Daniels (Newsletter Editor) at [lesleydaniels777@gmail.com](mailto:lesleydaniels777@gmail.com).*

## SIMPSON WA UPDATE PROJECT

Thank you to all members who have already shown keen interest in the proposed collaborative MinSocWA Simpson WA Update Project. This section has been added to the newsletter to keep you up to date with progress along the way.

A package giving all the details of the project including a list of minerals for write-up and examples of style has been sent to all those who expressed interest in contributing to the project. There has been considerable interest with several members offering to write up specific minerals – some individuals focussing on their favourite mineral whilst others have offered to do up to twelve. One individual has already supplied preliminary details on three minerals for editing and is working on a fourth.

However, don't hold back – there is plenty for everybody and, as the project progresses, more minerals are found and added to the list.

Please contact Susan at [suewarnerstocklmayer@gmail.com](mailto:suewarnerstocklmayer@gmail.com) for information on what minerals are still available for descriptions.

## MINERALOGICAL SOCIETY OF WA LIBRARY

The Mineralogical Society of WA library is currently being audited and out of date publications that are not required in the library will be removed and offered for sale to members. This is being done to update the library and to allow it to be stored in the limited space we have available. Members will be notified when some items are available to purchase.

Currently there are over 150 publications housed in a lockable cupboard in the WA Lapidary & Rockhunters Club premises comprising of numerous books, reports and journals that have been donated by members. To access the books please see the Librarian, John Mill. Members are encouraged to borrow books from our library to keep it viable to continue maintaining.

Donations of books and other relevant publications are also appreciated. Please see John Mill if you have any publications you would like to donate to the library or email John at [millrock@inet.net.au](mailto:millrock@inet.net.au).

The Mineralogical Society of WA receives complimentary copies of the Australian Journal of Mineralogy (AJM) which are available for members to borrow. These journals cover a wide spectrum of articles on mineralogy, ranging from descriptions of new minerals to book reviews, museum news and items of general interest to mineral collectors. MinSocWA members are regular contributors to the AJM.



## UPCOMING EVENTS - MEETINGS & ACTIVITIES



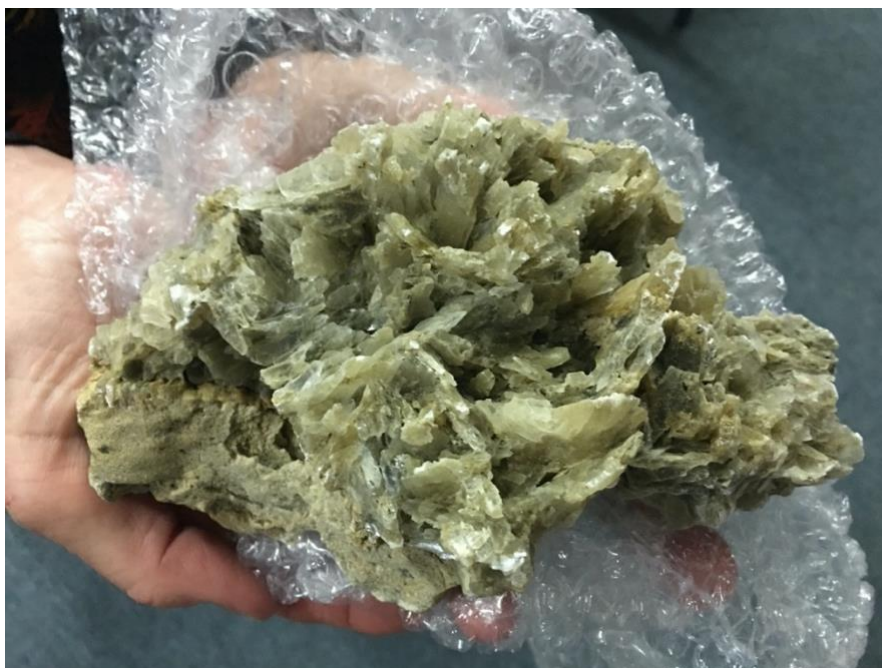
**AGM & 20th Anniversary Celebration of MinSocWA - Wed 9 September 2020**

***Come along and celebrate!***

This year is the 20th Anniversary of the incorporation of the Mineralogical Society of Western Australia. The AGM will be a special celebration with a professionally catered social event of finger foods after the official AGM meeting in lieu of a talk. It will be a chance for members to spend some time with each other catching up. The evening will include a presentation on the 'History of the Society' over the last 20 years showing lots of photos and stories of field trips, workshops and other events over that time. Susan and Vernon have prepared a light hearted quiz for extra entertainment while we enjoy the catering.

The hall will be open from 7.00pm for 7.30pm meeting start. We hope to get through business and the PowerPoint presentation for an 8.30pm suppertime and socialising.

The door prize will be this Western Australian gypsum specimen that was very kindly donated by Stewart Cole.



*Photo by Lesley Daniels*

*We look forward to celebrating with you!*

### **VIRTUAL SEMINAR - 3 & 4 October 2020**

*Members will be notified of venue and time via email when confirmed.*

As the October 2020 Joint Mineralogical Societies of Australasia Seminar has been postponed to October 2021 due to Covid-19, it has been decided by their Committee to hold a Virtual Seminar on 3<sup>rd</sup> & 4<sup>th</sup> October. The MinSocWA Committee are hosting an Activity Weekend for members to enjoy the Virtual Seminar together. Further details will be forwarded to members when available.

### **GENERAL MEETING - Wed 11 Nov 2020**

The next General Meeting will be held at 7.30pm at the WA Lapidary & Rockhunting Club rooms located at 31 Gladstone Road, Rivervale (corner of Newey Street).

Following the meeting there will be a talk by Ben Nicholson.

### **TALK - Wed 11 Nov 2020 Ben Nicholson - Namibian Odyssey**

Details in the next newsletter.

### **GENERAL MEETING – Wed 13 Jan 2021**

The next General Meeting will be held at 7.30pm at the WA Lapidary & Rockhunting Club rooms located at 31 Gladstone Road, Rivervale (corner of Newey Street).

Following the meeting there will be a talk. Speaker to be confirmed.

## GENERAL MEETING – Wed 10 Mar 2021

The next General Meeting will be held at 7.30pm at the WA Lapidary & Rockhunting Club rooms located at 31 Gladstone Road, Rivervale (corner of Newey Street).

Following the meeting there will be a talk by Mike Freeman.

## TALK - Wed 10 Mar 2021

### Mike Freeman - Ellendale: the 'FANCY YELLOW' diamond story

Details in a future newsletter.

## MEMBERSHIP & NEW MEMBERS

*Members are asked to ensure that all your contact details are up to date with the Secretary. If you change your email address or phone number please let us know so that you continue to receive all MinSocWA communications.*

The Mineralogical Society of WA would like to welcome the following new members:

- Cheryl Armstrong

## COMMITTEE MEMBERS FOR 2019/2020

<b>President</b>	Sue Koepke	0417 990 688	<a href="mailto:minsocwa@hotmail.com">minsocwa@hotmail.com</a>
<b>Vice President</b>	Angela Riganti	9243 7472	<a href="mailto:tormalina@bigpond.com">tormalina@bigpond.com</a>
<b>Secretary</b>	Susan Stocklmayer (acting)	9291 9043	<a href="mailto:baobab46@dodo.com.au">baobab46@dodo.com.au</a>
<b>Treasurer</b>	John Mill (acting)	0411 420 921	<a href="mailto:millrock@inet.net.au">millrock@inet.net.au</a>
<b>Field Trip Leader</b>	Peter Willems	0467 040 409	<a href="mailto:pjwillems90@gmail.com">pjwillems90@gmail.com</a>
<b>Newsletter Editor</b>	Lesley Daniels	0432 322 659	<a href="mailto:lesleydaniels777@gmail.com">lesleydaniels777@gmail.com</a>
<b>Committee Member</b>	Susan Stocklmayer	9291 9043	<a href="mailto:baobab46@dodo.com.au">baobab46@dodo.com.au</a>
<b>Committee Member</b>	Position vacant		

**Patron - Mark Creasy**

## MinSocWA LINKS

Web: <http://www.minsocwa.org.au>  
Facebook Group: <https://www.facebook.com/groups/minsocwa>  
Facebook Page: <https://www.facebook.com/MINSOCWA>  
Instagram: <https://www.instagram.com/MINSOCWA>  
YouTube Channel: <https://www.youtube.com/channel/UC0S2TFVFIBLU-2ziEzE5VNA>



## ADVERTISING

*Members may submit short advertisements free of charge. Additionally, commercial advertisements will be accepted for a nominal charge. If you are interested in submitting an advert to the newsletter please contact the Newsletter Editor, Lesley Daniels.*

### **Curtin University mineral and rock art installation – can you help?**

A proposed art installation for a new building at Curtin University (see artist impression) will feature about 150 Western Australian rock and mineral specimens in a vertical display. Designed to be eye catching and accessible to the general public and students, specimens are sought with the following characteristics:

- Typically 20 to 30 cm (fist to football) in size
- Natural specimens rather than cut and polished slabs
  - Aesthetically pleasing
- From WA but not necessarily from an exact documented location
  - All different

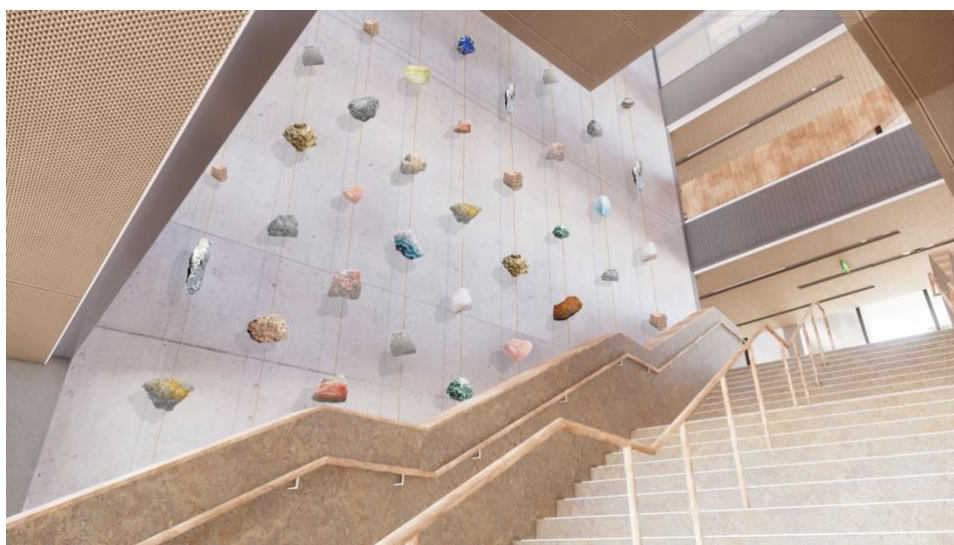
There are some obviously 'iconic' WA rocks to include like Kimberley zebra rock, Shark Bay coquina, etc., but we also want good examples of everyday rock types, e.g. Bunbury basalt. For individual mineral specimens, unless they are from pegmatites we will likely need a rock that features the mineral prominently, rather than an exceptionally large single crystal.

All contributors will be acknowledged in the explanatory information that will accompany the exhibit.

In anticipation of likely questions:

- No, we will not mount the specimens in stratigraphic order – it will be up to the artist to decide the final arrangement
- Samples will be core-drilled and clamped onto brass rods, so very friable samples will likely be unsuitable – this is the engineer's problem to deal with, so initially I'm not going to rule anything out (except asbestos)

If you have some specimens to contribute, please contact Pete Kinny (Director, The Institute for Geoscience Research) at [P.Kinny@curtin.edu.au](mailto:P.Kinny@curtin.edu.au)



*Proposed vertical rock wall at Curtin University*

# The Australian Journal of Mineralogy

<https://www.ajmin.org.au>

The Australian Journal of Mineralogy now has its own website. It lists all the issues of the journal, and visitors can use the site to pay for subscriptions, or purchase past issues. There is a free index, and a PDF of the now out-of-print V1.1, also free of charge. It has photo galleries, a mineral events calendar, handy links, and more.

Cover and contents of Volume 21, Number 1, 2020



## Contents

### Featured Articles

- The cause of colour in phillipsite-Na and phillipsite-K in basanite from Kulnura quarry, Central Coast, New South Wales .....7  
*Ian T Graham, Karina Judd, David M Colchester, Simon Hager, Angela Lay, Alan Greig*
- The discovery of a probable Johannes Menge specimen and other South Australian 1851 Great Exhibition specimens .....19  
*Benjamin A Grguric, Robin Hansen*
- A note on pseudobrookite and associated minerals from The Anakies volcanoes, Victoria, Australia .....27  
*William D Birch, John C Haupt*

### Other items

- Molybdenum-bearing minerals from Mount Moliagul, Victoria, Australia .....39  
*Pat Sutton*
- Every Picture Tells a Story .....46  
*Steve Sorrell*
- What's new in Tasmania: March 2020 .....69  
*Ralph Bottrill*

### Society news

- Postponement of the 43rd Joint Mineralogical Societies of Australasia Seminar .....71

### *Photographs galore in the latest AJM issue!*

The latest Australian Journal Mineralogy, volume 21(1), includes articles and items of scientific and historical interest, and many stunning photographs taken by some of our best Aussie mineral photographers.

The cover is a striking photo (and specimen!) by Steve Sorrell, featuring sprays of intense blue linarite, Broken Hill, New South Wales — note the reflections of the linarite on the white cerussite crystal; FOV is 4.3 mm.

If you want to subscribe to the journal, or just want a copy of the latest issue, please visit [www.ajmin.org.au](http://www.ajmin.org.au).

# Monster Mineral Sale

At Last! John Mill has sold the family home and is moving to a 3 bedroom apartment at Ascot Waters with his wife Ann. While this is all very well and good, it means that he has to dispose of some 50 boxes of rocks, crystals, minerals, fossils and polished agates that are now surplus to requirements.

These include crystal and mineral specimens from a wide range of locations including Broken Hill, Eleura, Tri-state USA, Agate Creek Queensland, Luanshya Zambia and many other locations.

Given the current problems with the Corona Virus and social distancing, you can ring John on 0411 420 921 or email him at [millrock@inet.net.au](mailto:millrock@inet.net.au) to arrange a corona-safe inspection.

Minerals, crystals, rocks, fossils, agates

