



THE MINERALOGICAL SOCIETY OF NEW SOUTH WALES INC

Website: www.minsocnsw.org.au

Please address all correspondence to :-
The Secretary, 58 Amazon Road, Seven Hills, NSW 2147

NEWSLETTER MARCH 2022

The March Meeting will be held by virtual mode on Friday the 4th of March at 7.30 pm.

Whilst it had been hoped to hold the March meeting at the Parramatta and Holroyd Lapidary Club the scheduled speaker could only deliver his lecture by virtual mode from Melbourne. Members will be provided with the Zoom link code by e-mail near to the meeting date.

The program will comprise a lecture to be given by Dr Phillip Blevin on : -

Critical Minerals in New South Wales

Dr Phillip Blevin is the Director - Acquisition & Synthesis, of the Geological Survey of New South Wales. He has provided the following background to his lecture.

'Critical minerals (i.e., elements) are vital to the world's economies, in particular to new and emerging high-tech applications, but whose assured supply may be made problematic by geological, geopolitical and other considerations. Minerals defined as critical vary on a jurisdictional basis however in NSW the rare earth elements, cobalt, scandium, titanium, zirconium, antimony, tungsten (tin) and copper have been identified as having the best potential for the discovery of new resources and/or recovery as by-products from existing or historical operations and their tailings.

The discovery and development of new critical mineral resources in NSW is a key plank in the state government's "Critical Minerals and High-Tech Metals Strategy" which aims to support the growth of the sector across the critical minerals supply chain.'

FORTHCOMING MEETINGS AND PROGRAMS

Society meeting will be held at 7.30 pm on the first Friday of each month for the rest of this year at the Parramatta and Holroyd Lapidary Club. (Subject to confirmation). It is hoped to provide a virtual coverage of each meeting for the benefit of members unable to attend in person.

April 1st: There will be a lecture to be given by Dioni Cendon on '**A Mineralogical Trip Around Spain**'. (Title to be confirmed).

There will also be a mini-talk to be given by David Colchester on '**Datolite from Albion Park**'.

May 6th: The Annual **Members Mineral Auction** will be conducted by Glenn Brown.

June 3rd: Lecture by Kevin Capnerhurst, '**The State of the NSW Economic Rock & Mineral Collection**'.

2022 Society Membership Subscriptions

Members are reminded that Society Membership subscriptions were due from January 1st.

Fees are as follows : -

Adult membership, Sydney metropolitan area	\$30
Adult membership, country or interstate	\$25
Child/youth (under 18 years), or student member	\$20

Family members (spouse/partner and children only) can be admitted for membership at the additional cost of \$5 each. The name of the family member must be provided for the record and members are recommended to inform the Society if any of their details, e-mail addresses etc, have changed since last year. Renewal forms if needed are available on the Society Website and one will accompany this Newsletter.

Members are particularly recommended to pay their subscriptions by direct debit which is the most convenient method of payment and which also provides a bank record of the transaction for both the payer and payee. Receipts are not issued for direct debit payments. The payer should enter his or her name into the description or memo line in their bank account direct debit window so that the Society will know from whom the payment has been made. The phrase '*Minsoc sub*' would not be sufficient to identify the member.

To direct-debit the Society account the details are: - Commonwealth Bank

Account Name: - Mineralogical Society of NSW Inc.
BSB: 062016 Account number: 28023647

Any members who joined the Society in 2021 are reminded that new members joining from May 1st in any year are deemed to be financial for both that year and the whole of the following. New members who paid subscriptions after May 1st last year are therefore financial to March 31st 2023.

The SOCIETY COMMITTEE

PRESIDENT:	Dieter Mylius	Tel: (02) 9477 1060
	E-mail:	<i>dieterm@internode.on.net</i>
VICE-PRESIDENT:	John Chapman	Tel: (02) 9808 3481
	E-mail:	<i>chapmanjr@optusnet.com.au</i>
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	E-mail:	<i>quartzandsirius@hotmail.com</i>
COMMITTEE MEMBERS:	Haley Bambridge	Mobile: 0413 100 344
	Peter Beddow	Tel: (02) 8810 8446
	David Colchester	Tel: (02) 9449 3862
	Geoff Parsons	Tel: (02) 9548 3289
	Mark Walters	Mobile: 0421 012 647

WELCOME

Welcome to new member Julie Walsh of Pendle Hill.

News on FIELD TRIP planning

Item 1)

“Proposed Field Trips 2022/2023

The Society has three potential field trips, they remain unconfirmed at this time as access and authority to visit these sites is being organised:

1. Possibility of another field trip to Manuka Resources, Wonawinta site. This is a commercial mine site and participants need to be SWMS certified to attend.
2. Possibility of visiting the Paddy River site as described in the Journal of Australian Mineralogy. Permission is being arranged with the ACT National Parkes and the SWMS is a condition for participation.
3. Possibility of visiting a site in the Yetholme area for Mo and garnets – Open to members but may be revised. Preference will be given to SWMS Certified members if the landowners impose a limit on numbers.

Members may arrange field trips to sites visited in the past by sending an e-mail on their intended visit to Mark Walters

Application to any of the above field trips has a cut-off date 30 days before the visit. A list of SWMS certified participants is supplied to the host company for their various departments, including safety and on-site verification to other employees that a visiting group will be on site.

A number of properties are now Bio-Certified and we are looking at how the SWMS can be applied to these properties.

Covid protocols may still be in place at a number of commercial mine and quarry sites.

MarkW, EdwardZ and JohnC are working on the above.”

Item 2)

“Do you need to update or apply for the first time your member “Safe Work Method Statement” for fieldtrips?

Now with Covid-19 restrictions beginning to ease it is time to try and run some more Society fieldtrips. If you wish to come along on fieldtrips you will need to have a current SWMS Certificate of Compliance.

If you wish to either recertify or certify for the first time please respond by email to both Mark Walters (markwalterstafe@gmail.com) and Edward Zbik (edward.zbik@bigpond.com). Then we will send out the reaccreditation package to you via your email. There are two questionnaires available:

1. For members applying for the first time for their SWMS Certificate.
2. For members who SWMS has lapsed and need to be re-Certified.

The Certificates are issued for a period of three (3) years.”

Regards, Mark, 0421012647

FREE MINERAL CABINET

Martin Rosser of **GEO Discoveries** at Gosford advises that there is a mineral specimen cabinet from an old collection at Springwood to be found a new home for, free. Picture and description following.

Inquiries to Martin Rosser at : - *martin@martinrosser.com.au*



Width 1470mm
 Depth 870mm
 Height (including legs/base) 1050mm
 Height (excluding legs/base) 750mm
 6 drawers each approx. 80mm deep.
 Sets of handles included.

The FEBRUARY MEETING

The February Meeting was conducted in virtual mode and opened by the Society President, Dieter Mylius, who welcomed the members to the first meeting of the New Year. Initially he advised that whilst it had been hoped to start the year with meetings held at the Lapidary Club, virus restrictions had made it temporarily inadvisable. The Committee would monitor that situation and advise members in due course when 'live' meetings at the Club could be resumed.

The President referred to the forthcoming **Gemboree** to be held at Mudgee over the Easter weekend and that John Haupt of the Victoria Mineralogical Society was hoping to organise holding a meeting for micromounters there. Ideally John should be informed how many members were likely to wish to attend such a meeting and Dieter Mylius recommended that anyone intending to go to the Gemboree should inform Graham Ogle who organises the Society micromount meetings. Names could be collected and communicated to John Haupt.

In regard to the **Society micromount** meetings it was noted that these were on hold at the present time due to the virus restriction uncertainties but would be resumed presumably within a month or two.

Brian Holden was asked to describe the forthcoming **Glenn Innes Minerama** which would be held over the second weekend in March. The Minerama is held every year in the Glenn Innes showground and is usually well attended. Being an open-air event it would probably not be affected by virus restrictions.

Dieter Mylius noted that the **Canberra Rock Swap** was also being held over the same weekend so there was a choice for Sydney members interested in visiting an event at that time, to head north or south.

With no more announcements to be made Dieter Mylius presented his lecture for the evening.

‘The Most Stunning Mine in the World’

Dieter Mylius

In 2015 the speaker undertook a holidaying and sight-seeing trip to north-west America. He had heard about a particularly notable mining location in Alaska and determined to visit there. The lecture for the evening comprised a very thorough Power Point montage with detailed explanation of his visit to what he suggested was the ‘Most Stunning Mine in the World’. This was the Kennecott Mine in the Wrangell - St. Elias National Park and Preserve in McCarthy, Alaska. The mine processing buildings have been particularly well-preserved and are now a National Monument.

Initially before describing the Kennecott mine Dieter Mylius referred to a number of other notable sites in comparison and displayed a series of images of a few of the ones he had visited. The Australian sites included the ‘mountain goat topography’ of the Tolwong Mines in NSW; the Burra Burra Copper Mine in SA; the denuded landscape around Queenstown, Tasmania; the Superpit at Kalgoorlie; and for contrast, a view of the vistas of central western NSW from the rehabilitated Peelwood Mine.

Getting to the Kennecott location involved some organisation after taking a plane flight to Anchorage where Dieter and Sue hired a vehicle. Quoting from the speakers notes : -

‘From Anchorage it was a drive eastwards along the AK-1 to Glenallen and Copper Centre, via the Matanuska Glacier and the coloured volcanics of Sheep Mountain, then the Edgerton Highway through black spruce taiga to Chitina.’

Chitina is a small township alongside the Copper River, the picture showing the markedly braided water course heavily stained with silt. It is nevertheless popular for salmon fishing at certain times of the year.



The Copper River at Chitina

Chitina was clearly far from a bustling place with parts which were apparently somewhat derelict although there is a small permanent population, including an occasional moose wandering through. Hired vehicles were not allowed to travel further eastwards from Chitina, (the whole area eastwards is a National Park), so the speaker had to find a local guide with vehicle to take him further on to another township named McCarthy which is situated at the foot of the Kennicott Glacier. The drive involved crossing the deep gorge of the Kuskulana River which is 75 meters deep and then the Gilahina River Crossing. Aerial views of the Kennicott Glacier showed it to be substantially stained with rock debris compared to the relatively pristine Root Glacier subsidiary joining it on its east side. The location of McCarthy was shown in the aerial view; the destination of Kennecott was eight kilometres north of McCarthy on the east side of the glacier.

From McCarthy there was an eight-kilometer walk or preferably a shuttle bus, to take visitors to their destination. The Kennecott mine buildings, the processing plant, concentration mill, power-plant, machinery shops, offices etc are situated alongside the glacier at an elevation of 670 meters. (Due to a clerical error on a claim document many years ago when apparently someone forgot to dot the 'i' in Kennicott the mines became recorded as 'Kennecott', situated alongside the Kennicott Glacier).



Kennecott Mines and Mill, on Kennicott Glacier
The White mountain in the background is Mt Blackburn, 4996m, 5th highest peak in the US.

The hospital was the only building painted white in Kennecott, the other buildings were all red because red paint was cheaper. Apparently, the hospital had the first medical X-ray in Alaska. The speaker spent some time wandering through all the plant buildings taking a number of photographs before moving on to examine the dumps.

Kennecott had five mines: the Bonanza, Jumbo, Mother Lode, Erie and Glacier. All were at a much higher elevation from the processing plant and offices at about 1500 to 1800 meters or about 1250 meters higher up. Visitors were discouraged from going to see the mines which compared to the plant were largely derelict. Also a visit to the mines would involve a full-day hike. Copper ore was run down to the plant on aerial tramways and after processing was transported from Kennecott to Cordova, 196 rail miles away on the Alaskan coast, via the Copper River and Northwestern Railway (CRNW). Then it was shipped to Tacoma near Seattle in Washington State, U.S.A.

Quoting from the speaker's notes:-

'The Kennecott Mines were fabulously rich. The iconic feature of the site is the surviving mill complex. From 1911 to 1938, the Kennecott Mines produced 1.2 billion pounds of copper (around 544 thousand tonnes) valued at \$3.5 billion in October 2017 dollars. The main minerals were the sulphides, chalcocite and covellite, and the carbonates, malachite and azurite. Silver was an important by-product. In places huge masses of pure chalcocite were encountered, which were shipped directly to the smelter without processing and averaged 50-55% copper. Lower-grade ore was sent to the mill for processing. The overall grade was over 12% copper. The mines themselves employed 200-300 workers and an additional 300 people were employed in the mill and related operations. After extensive drilling at Kennecott failed to identify any additional orebodies the mines were closed in 1938.

The Kennecott precinct was included in the Wrangel-St. Elias National Park and Preserve in 1980 and in 1986 the complex was declared a National Historic Landmark, with the buildings and contents documented as part of the Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER). Since 1998, the National Park Service has been stabilizing and restoring the historic structures as funding permits.'



The Bonanza Mine ruins

History

In the late 1890's the general area was prospected for gold and copper, with several parties working in the area. In 1900 a green patch in an improbable location for a grass-green meadow, was found exposed on a ridge above what is now Kennecott by two prospectors, Jack Smith and Clarence Warner. This turned out to be malachite on chalcocite (copper glance), on what is now known as the Bonanza orebody. The claim was acquired in 1901 by a young mining engineer named Stephen Birch, backed by the Havemayers, who had made their fortune in sugar refining. Together with others they formed the Alaska Copper Company and confirmed that at the time the Bonanza deposit was the richest known concentration of copper in the world.

A partnership with JP Morgan and the Guggenheims, calling themselves the Alaska Syndicate, bought a large share in the Alaska Copper Company and traded under the name Kennecott Copper Corporation, which in 1905 consolidated many of the claims in the area. This entity also purchased a 200 mile right of way on which they could build a railway from the coast at Cordova to the mine, as well as the Alaska Steamship Co, thereby taking care of transport needs. Production could not start until the 196 mile long Copper River and Northwestern Railway was built to connect Kennecott and Cordova. From Cordova the Alaska Steamship Company took the ore to smelters in Tacoma, Washington State.

Apparently contamination of the environment at Kennecott was not a disaster, as the sulphides were not processed but sent off-site, and the carbonates of the limestone helped control any acid contamination. Then the high grade ore and concentrate were bagged and sent by rail to Cordova for shipping to Tacoma. The wealth generated by the Kennecott Mines was used to diversify into other important mines in the US and Chile, with Kennecott Copper becoming a multinational giant, now a division of Rio Tinto'.

Having referred to the railway built to transport ore to the coast Dieter Mylius had researched more information about it since at the time it was a very considerable feat of rail building in difficult terrain and conditions. The route ran through to Chitina and then followed the Copper River down to Cordova. Given the difficulties of building and keeping it open through harsh winters, for a period it was nicknamed the '*Can't run and Never Will*' by detractors.

'The Copper River and Northwestern Railway (CR&NW)

The railway was built in 1911 and maintained until 1938 – a feat of engineering. It was 196 miles (just over 300km) long, went across frozen ground, skirted massive cliffs, crossed three wild rivers and even negotiated icebergs, following the Copper River to its mouth near Cordova. 6000 men blasted tunnels, built huge bridges, moved masses of rock and completed the railway in five years.

Along its length there were 773 wooden trestles, the largest being the Gilahina Trestle. Keeping the railway open was a continuous task. At the time it had the world's largest rotary snowplows to deal with drifting snow and avalanches. The wooden trestles across the Copper and Kennicott Rivers washed away each year and had to be replaced, after huge chunks of ice from the glaciers came barreling down the rivers.

The railway ensured that ore could be transported from the mines at Kennecott to Cordova and then to the Tacoma smelters in Washington by steamer. With the price of copper very high, it was worth it to get the rich copper ore to the port at Cordova and on to Tacoma. Ultimately the Kennecott Copper Corporation made a profit of 100 million dollars, equivalent to over a billion dollars in 2010'.



Dieter Mylius finally showed a Mindat list of 24 minerals found at Kennecott although had to advise that they were not very interesting. He had made a point of collecting specimens from the Kennecott dumps but found that the material had been broken up quite thoroughly with no large pieces to be found. A number of mineral species were found however including pieces of olivenite & cornubite which were not listed in Mindat and also covellite, antlerite, malachite and azurite.

One curiosity about the Kennecott mineralogy is that the site is one of the few localities where Mindat lists ice as a mineral given that at the height above sea level and the latitude of the mines, ice is permanently present. An image was shown of a mass of ice crystals about a meter across pictured in-situ in the Mother Lode Mine.

At the end of his lecture Dieter Mylius thanked the information services of Mindat and the U.S. National Parks for the sources of information and images which he had gathered for his lecture. He particularly recommended a visit should be made at least to take in the spectacular scenery.

FORTHCOMING EVENTS

A notice and invitation from Peter Beckwith

‘The Boutique Gem & Crystal Expo’

“Hello everyone, well 2022 is finally here and it seems the world is reopening at last. The Boutique Gem & Crystal Expo is on Saturday & Sunday 5th & 6th of March at the Turramurra Masonic Hall, 1247 Pacific H'way Turramurra 2074.

Glenn from Quality Gem Rough Supplies will be there with all his new stock from around the globe. Peter & Debbie from Kristallen will have the Tommy Tamas collection on display for the first time. Over 1000 specimens 90% of them being Australian as well as some great new decorator pieces from O/S.

Rachelle from Juter Jewellers will have some amazing and wonderful new creations from the bench as well as be able to create something unique and special for yourself.

We will be running a COVID safe event and the NSW Govt. rules will apply on the day. We look forward to seeing everyone for our first Expo of 2022 and hope to kick the year off with a bang. There is plenty of parking in Turramurra Ave, Gilroy Lane car park, just beside the hall and entry is free.

Cheers, Peter Beckwith AGAMEXpos 0412 333 150”

AGAMEXpo 2022: Over the 9th & 10th of April

The **2022 Australian Gem and Mineral Expo, (AGAMEXpo)**, will be held in the Hawkesbury Indoor Stadium on Greenhills Way off Stewart Street, South Windsor. The Indoor Stadium is a very large venue and the Expo held for the first time at the Stadium last year was very well attended by the general public. The Society will be providing an information table at the show and Peter Beckwith has also invited Society members to set up displays of selections of their mineral collections. Display cases will be supplied.

MINERAMA Fossicking Gem and Jewellery Show

In the Glen Innes Showground over the 11th, 12th, and 13th of March 2022

From the Minerama Website : -

‘The 2021 Minerama was a huge success with large crowds joining the event each day. Fossickers and gem seekers had a ball on the field trips finding some amazing gems. Minerama 2021 was one of the most successful shows in the New England Highland Region. Despite COVID restrictions and compliance, crowd numbers were overwhelmingly keen to shop, fossick and browse for gems, gifts and bargains.

The Minerama committee strives to improve the event every year. Community, family and kids’ involvement and activities are high on our agenda this year. Our premium fossicking tours, beginner to pro, with our experienced guides are highly sought after. Gemology and mineralogy are covered at Minerama. Professional advice in jewellery design, gems, crystals, rough lapidary, jewellery supplies and more – you should find it at Minerama 2022. A variety of food, coffee, snacks, relax in the food court with something delicious from our vendors. Something for everyone, a great family day out!’

Further information available through the Minerama Website : - <https://www.minerama.com.au>

CANBERRA LAPIDARY CLUB INC. GEM SHOWS 2022.

Rock Swap over Saturday the 12th, Sunday the 13th and Monday the 14th of March.
In the Parrot Park in the Exhibition Park (EPIC) in Canberra.

Free Entry: Fossickers & dealers selling :
Minerals, crystals, jewellery, rough & cut gemstones, opals, fossils.
Refreshments available: Sieve for Sapphires: Pan for Gold

Winter Gem Show in the Mallee Pavilion, EPIC: Sat – Sun 21st – 22nd May
Spring Gem Show in the Mallee Pavilion, EPIC: Sat – Sun 29th & 30th October
Winter & Spring Gem Shows are indoor only, Entry charges apply.

ILLAWARRA LAPIDARY CLUB INC – ROCK SWAP

'Sunday 20th March. Between 8am and 2 pm at Stuart Park, George Hanley Drive, North Wollongong.
Club members and others will be selling Jewellery, Gemstones, Cabochons, Minerals,
Opals, Findings, Beads, Fossils and maybe some Lapidary equipment.

Come along for a great day.

<http://www.illawarralapidaryclub.com.au/> or like us on Facebook

Information from:- Lynne Webb, Publicity Officer, The Illawarra Lapidary Club Inc'

THE NEW ENGLAND GEM AND LAPIDARY CLUB INC

Will hold the 31st ANNUAL GEM & CRAFT SHOW in the ARMIDALE SHOWGROUND
over the weekend of the 19th and 20th of March.

From 9.00 am to 5 pm on Saturday and from 9.00 am to 3 pm on Sunday.

'See a spectacular array of Gems, Rocks, Crystals, Jewellery, Crafts, Beads &
Lapidary Books, Supplies, Equipment and much more!.
All on sale at the Show.'

Inquiries to Mick :- 6778 5122 or to Jenni : - 0407222425

58TH GEMBOREE 2022

The 58th National Gem & Mineral Show, GEMBOREE, will be held over the Easter long weekend from
Friday the 15th of April to Monday the 18th of April at the Australian Rural Education Centre (AREC)
in Bombira on the Ulan Road about 2.5 kms north of Mudgee town centre, NSW.

Friday from 12pm to 5pm, Saturday and Sunday from 9am to 5pm and Monday from 9am to 2pm.

The Gemboree 2022 Booklet and other information is available and can be downloaded from the
AFLACA, (Australian Federation of Lapidary and Allied Crafts Associations Inc) website : -

<https://aflaca.org.au/gemboree/>

The 32nd Lismore GEMFEST:

Will be held over Saturday and Sunday the 14th & 15th of May in the Lismore Showground.
Hosted by the Lismore Gem & Lapidary Club.

‘Australia's largest Annual Gem and Mineral Show

Stalls: Over 140 Tailgaters and Dealers over two Massive days

Displays: Minerals, Gems, Fossils, Jewellery and Equipment from all over the world.

Family Fun: Sand Sieving for Crystals and Gem Fossicking on the Hill'

Refreshments available: Entry Fees: - were \$5 last year.

Canberra Lapidary Club Winter Show

From 10am to 5pm Saturday and 10am to 4pm Sunday the 21st & 22nd of May.
in the Mallee Pavilion in the Exhibition Park (EPIC), Canberra.

Entry \$7 Adults, \$12 Family \$4 Concession, Free to Children to Age 16.

Dealers with sales of gems, minerals, jewellery, minerals, fossils, rough & cut gemstones,
crystals, opals, beads & lapidary supplies.

Refreshments available

Other Displays of members' collections & demonstrations of cabbing & faceting.

Age of Fishes Museum Information & Fossil Exhibition.



THE MINERALOGICAL SOCIETY OF N.S.W. INC.

MEMBERSHIP RENEWAL 2022

Membership fees are due from January 1st

Please provide your full name, postal address, telephone number/s and e-mail address (if available). Members with e-mail capability will receive the Newsletter and other information only by e-mail.

NAME:

POSTAL ADDRESS:

.....

.....

Telephone (ah)..... (bh).....

(mobile).....

E-mail address

FEES: Adult membership, Sydney metropolitan area \$30

Adult membership, country or interstate \$25

Child/youth (under 18 years), or student member \$20

Additional family members (spouse/partner and children only) can be admitted for membership at the cost of \$5 each (after the first member's costs as per the list above). If applying for additional family members, please list the name(s) here:

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New members joining from May 1st in any year are deemed to be financial for both the current and the whole of the following year.

Options for payment

1). *Direct Credit / bank transfer to the Society's account*

The account details are: -

Commonwealth Bank:

Account Name: Mineralogical Society of NSW Inc.

BSB: 062016 Account number: 28023647

Please put your name in the Memo line when making a direct debit/bank transfer so that the Society will know who the payment is from. If any of your address or telephone details have changed you should provide those details on this form and return it to the Secretary - either : -

- 1) at the next General Meeting,
- 2) by e-mail to bglaking@tech2u.com.au
- 3) by post to the address below

2). *Cheque or Australia Post Money Order sent with a completed renewal form to : -*

The Mineralogical Society of New South Wales Inc.

58 Amazon Rd,

Seven Hills,

NSW 2147

3). *By cash or cheque delivered to the Secretary, at any General meeting.* Members however are strongly urged to pay subscriptions by direct debit only as this will provide bank records of the payment for both the member and the Society.