



THE MINERALOGICAL SOCIETY OF NEW SOUTH WALES INC

Website: www.minsocnsw.org.au

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NEWSLETTER SEPTEMBER 2023

The September Meeting will be held on Friday the 1st of September at 7.30 p.m. in the clubrooms of the Parramatta and Holroyd Lapidary Club at 73 Fullagar Road, Wentworthville.

The main lecture will be given by Dioni Cendon titled

‘Back to the Salt Mines: Evaporites Genesis and Mineralogy’

There will also be a short talk by Geoff Parsons on :-

‘Hardness Testing using the Schmidt Hammer’

and also a talk by Dieter Mylius on :-

‘Surprise Zeolite from Nimmitabel’

FORTHCOMING MEETINGS and PROGRAMS

October 6th : Ian Baillie will give a lecture on the **‘Discovery of the Constellation Copper Deposit, NSW’**. It is hoped that there will also be a minitalk, subject and speaker to be confirmed.

The program will also include the annual **Kids with Cancer Sale** of specimens and mineralogical material, books etc, donated by members. The sale at the November meeting last year generated \$515 for the charity foundation and it is to be hoped that that sum can be exceeded this year.

Donors should provide specimens with labels indicating the name and source and also their recommended sale price. It has been suggested that because donors may not be certain what prices to assign to specimens some of the donations could instead be offered for sale by silent auction. Specimens could be listed on sale sheets which would be provided with columns for prospective buyers to indicate how much they were prepared to pay for each item. Specimens with prices provided could be sold throughout the evening whilst the auction sale sheets would be examined at the end of the Meeting to see who was the highest bidder.

November 3rd : Speakers Lee Spencer, Jocelyn McGrade and Ian Graham will give a lecture on **‘Unusual Oxide Mineral Species from Base Metal Veins Surrounding the Mt Turner Porphyry Cu - Mo System, Georgetown’**.

December 2nd . The Society Annual **Christmas Swap and Sell** will be held on Saturday from about 10.00 am to 3.00 pm and would probably include a BBQ.

Minutes of the ANNUAL GENERAL MEETING Friday 4th of August 2023

The 2023 Annual General Meeting was opened by the Society President, Dieter Mylius. The President noted that the A.G.M. required a quorum of at least fifteen members and that there were a total of about thirty attending comprising about twenty members present and another dozen connected by virtual mode.

Graham Ogle reported that a date for the next **Micromount meeting** had not been decided but meetings were being held about every six weeks on Sundays at 1.00 pm. He would send out a notice to the usual attendees about the next Meeting when scheduled and to anyone else who wished to be notified.

The President drew member's attention to a number of mineralogical events coming up over the next few months. Annual Gem & Mineral shows by the Blaxland Gem & Mineral Club, the Inverell & District Lapidary Club and the Central Coast Lapidary Club. Also the Gemkhana at Clarendon near Richmond and the 45th Annual Mineralogical Societies Seminar at Grindelwald in Tasmania.

With no more announcements the President delivered his Report for the 2022/2023 year.

President's Report 2023

Thank you all for being here, and thank you to all Society members for your support of our little band of mineral enthusiasts with such enthusiasm.

As we gradually come out of the hiatus of the Covid years, things are largely returning to normal, whatever that means in 2023.

Even though there are fewer numbers attending the live meetings, the Mineralogical Society of NSW is still active and functioning; with meetings both here physically in Wentworthville and on the Zoom format for people from near and far to join in on their devices. Our finances are solid, and our membership is steady at just over 100 who are financial. While a few people have chosen to leave the society, we also have had the pleasure of welcoming new members as well.

Our physical meeting numbers seem to be down a little at around 20 to 35 people, each month, but I think meetings have been enjoyable, not only due to great talks, and other activities, but also the social chit chat before and after. I thank everyone who has given a presentation or run a meeting during the past year. For those attending in person, the meetings have been well worth it, and the delicacies brought in by Marion, have been well received and consumed. And here I must apologise for the number of meetings I have had to miss due to travel and life asserting itself.

For those people attending on screen, we are still trying to work out how to, as they say these days, "improve the experience", with microphone struggles, and some challenges of computer operation. Hopefully, we can only get better, or perhaps we need some teenagers to sort us out.

Other than talks we again had our yearly auction of mineral specimens, enthusiastically run by Glen Brown, again very successful with some great results for buyers and sellers. The Christmas gathering was also popular being a daytime indoor outdoor event, which the committee will consider again for this year, and perhaps become the new norm.

The monthly micro group, convened by Graham Ogle continues to attract those interested in looking really closely at their specimens. If you are looking at building up your collection with specimens that do not take up to much space and cash, every meeting seems to have a good array of freebies from all sorts of places, for the taking.

Mark Walters is doing a great job with field trips. These are increasingly difficult to organise, due to restricted access, governmental permissions and sites that are depleted, totally weathered or seem to have disappeared. But with the help of some country members, we are gaining access to localities that are proving quite interesting. Mark is also looking after the Safe Work Methods Certificate program, In our society, these certificates are a prerequisite to attending most fieldtrips.

Our website is looking great, but we still need to train more people to maintain it and keep it up to date, so that not everything has to go through one person.

After running the Joint Mineralogical Societies of Australasia seminar entirely on Zoom for 2 years in 2020 and 2021 during Covid, last year we also helped New Zealand run their Seminar on "Zeolites" remotely from Dargaville in November.

I would like to thank the outgoing committee for the work they have done during the year with the heavy lifting largely being done by George Laking our secretary of course, our vice president John Chapman, Treasurer Graham Ogle and Field Trips Officer Mark Walters. Committee meetings are held on Zoom most months. It was a largely sane and cohesive group of people which meant that committee meetings were nearly as enjoyable as the general Friday meetings. If you are interested, any member can join in the meetings and contribute, just not vote on motions. Just ask Graham Ogle for the link. So John, Graham, George, David, Peter, Haley, Geoff and Mark, thank you for the great work you have been doing over the years. This year David and Peter have decided to have a rest from the committee and we thank them especially. They say they will still haunt us by joining meetings to hear the goss.

If you think that serving on the committee may be for you, ask about nominating. The current people cannot do it forever, it would be great to have some young blood, and with more nominations, it may be interesting to have an election - a novelty not seen for many years.

Again, thank you all. I wish the incoming committee a successful year.

Dieter Mylius, President, Mineralogical Society of NSW.

August 2023

The next Order of Business was for the Society Treasurer, Graham Ogle, to present the **Annual Financial Report**. Copies were handed around to the members and Graham Ogle proceeded to explain the figures. The Report showed the records for the financial year ended on 30th June last and for comparison the figures for the immediately preceding year.

The Treasurer pointed out on the Report the main figures of the Society total funds of \$109,343.69, the amounts in the term deposits, in the cheque account and the current liabilities. The Society maintained three accounts. There were two term deposits, the Betty Mayne and the Walker, and a current account to deal with month to month expenses. The balance in the operating account was similar at the end of the financial year to the balance at the end of 2021/2022. Graham Ogle noted that the term deposits had now been invested for two-year terms and were earning about 4% each compared to the very low figures of around 1% which had been available from banks over the previous financial year. At the maturation date of the Betty Mayne term deposit the interest had been added to the current account so the capital amount remained unchanged whilst interest accrued by the Walker deposit had been added to the capital on the rollover date.

Income from membership subscriptions was very similar to the previous year; financial membership at 30th June was 103 compared to 99 on the 30th of June 2022. In addition there had been income from refreshment and mineral donations. Figures for the previous financial year for income and expenditure for refreshments were much lower because the Society held very few 'live' meetings in 2021/2022 due to virus restrictions. Similarly there was no fee paid to the Lapidary Club for room rental due over that period.

Expenditures included insurance premiums, website maintenance fees, subscriptions for affiliations, magazine and library fees, postage and printing and refreshment expenses.

MINERALOGICAL SOCIETY OF NEW SOUTH WALES INC.

FINANCIAL STATEMENT 2022-2023

		2022-23	2021-22
<u>Funds in hand:</u>	Balance in Operating Account CBA # 06 2016 28023647	\$ 8,704.26	\$ 8,662.14
	Funds in CBA Term Deposit 1 – Betty Mayne Bequest	\$ 31,966.32	\$ 31,966.32
	Funds in CBA Term Deposit 2 – Walker Bequest	\$ 69,788.91	\$ 69,265.05
	Cash in Hand	\$46.00	\$ 46.00
<u>Liabilities:</u>	Kids with Cancer Foundation \$515, Reimbursement zoom payments \$646.80	\$1,161.80	\$ -
<u>Total Funds at 30th June</u>		\$ 109,343.69	\$ 109,939.51
<u>Increase in funds</u>		\$ (595.82)	\$ 1,523.45
<u>Income:</u>	Membership subscriptions	\$ 2,245.00	\$ 2,375.00
	Supper donations and mineral sales	\$ 777.90	\$ 175.50
	Sale for Kids with Cancer	\$ 515.00	
	George Smith /Gemstones NE book sales + others	\$ 50.58	\$ 131.95
	Interest on operating account	\$ 39.54	\$ 34.66
	Seminar	\$ -	\$ 800.00
	Interest on term deposit (into operating account)	\$ 159.83	\$ 159.83
	Interest on term deposit (reinvested into term deposit)	\$ 523.86	\$ 209.36
	Total	\$ 4,311.71	\$3,886.30
<u>Expenditure:</u>	Supper items	\$ 423.05	\$ 59.21
	Rent - hall hire	\$ 740.00	

Seminar		\$ 374.97
Transfer of money raised for Kids for Cancer	\$	\$ 1,120.00
Printing, postage, stationery, Subs, PL ins., Dept Fair Trading, PAI, Speaker, Website, Library, Equipment etc.	\$ 2,582.68	\$1,928.67
<u>Total</u>	\$ 3,745.73	\$3,482.85

<u>Income - Expenditure:</u>		\$ 565.98	\$403.45
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Other assets: Mineral trimmer
UV lamp, Geiger counter
Microscopes
Library and shelving
George Smith books
UHF radios (2)
Projector, PA system
Urn

The above statement indicates that the Society is in a sound financial position

Graham Ogle
Treasurer
4th August, 2023

The Treasurer advised that the Society was in in a strong and stable financial position and asked if there were any questions.

With no questions asked by members about the Financial Report Dieter Mylius proposed that the Report be accepted by the membership so that a statement could to be sent to the Department of Fair Trading within a month of the A.G.M. The proposal was seconded by Haley Bambridge and carried.

ELECTION OF THE SOCIETY COMMITTEE FOR 2022/2023

The next Order of Business was the election of the Society Committee for the forthcoming year. All the Committee positions were open and Dieter Mylius asked Glenn Brown to come forward and take on the task of Returning Officer to conduct the election.

The Returning Officer noted that up to the commencement of the A.G.M. there had been only one nomination received for each Committee position. Since there was only one nominee presented for each position the Returning Officer was able to dispense with any balloting and declare the nominees duly elected as follows -

PRESIDENT:	Dieter Mylius
VICE-PRESIDENT:	John Chapman

SECRETARY:	George Laking
TREASURER:	Graham Ogle
COMMITTEE MEMBERS:	Haley Bambridge
	Denis O'Brien
	Geoff Parsons
	Mark Walters
	Ed Zbik

With the Election concluded the re-elected President advised that the 2023 Annual General Meeting had been completed and would be closed.

The MEMORIAL LECTURE

In introducing the guest speaker for the evening Dieter Mylius explained that the lecture given after the Annual General Meeting was titled the **Mayne-Walkers Memorial Lecture** in acknowledgment of three major benefactors to the Society and at the suggestion of the late Professor Laurie Lawrence. Betty Mayne was a past-President of the Society and brother and sister Harold and Edna Walker loyal members during the early 2000s. Betty Mayne passed away in 1990 and her will provided that her collection should be sold with half of the proceeds given to the Society. Harold and Edna Walker had passed away within about a year of one another in 2011/2012 and their will also provided an amount to be given to the Society. The bequests have been held as term deposits with interest allowed to accumulate or added to the current account and sums occasionally used for commemorative purposes.

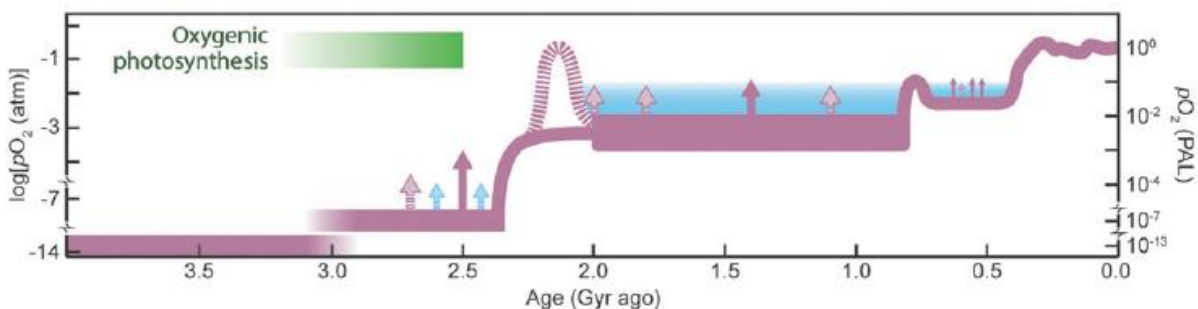
The speaker was introduced by Ian Graham, Society member and Senior Lecturer in Earth Sciences at UNSW. Indrani Mukherjee originally conducted her undergraduate and master's degrees at the University of Delhi and then a PhD at the University of Tasmania. She is the first ever female Lecturer in Geology at the University of New South Wales which Dr Graham said has been a long time coming. She was to speak this evening about her research on pyrite chemistry.

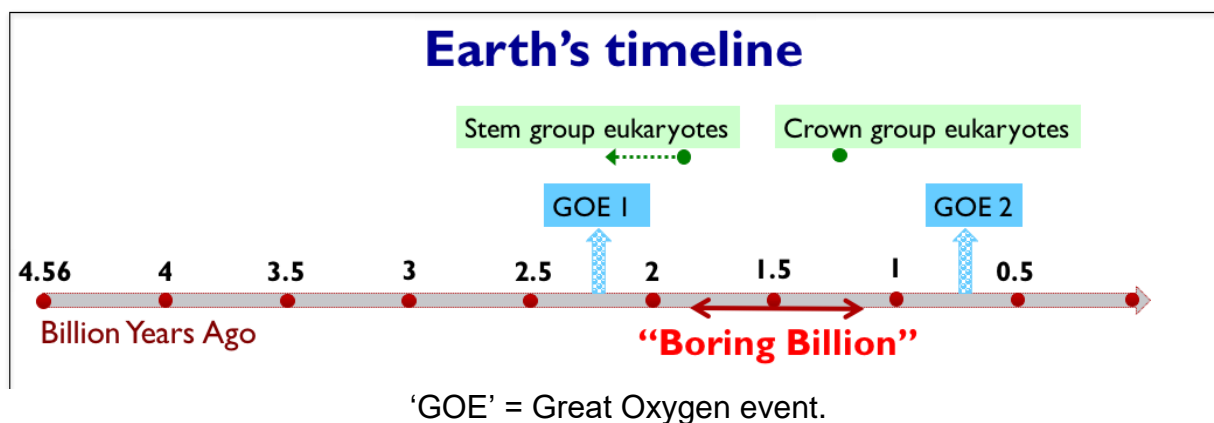
'Minerals - Earth's DNA'

Indrani Mukherjee

Initially the speaker thanked the Society for inviting her to speak about her research advising that she was pleased to share her interest in minerals with people who also shared that interest. The speaker's research has particularly looked at the chemistry of pyrite and its significance for the development of early life. The lecture was very well illustrated by a series of images, many of charts showing and describing the movement and amounts of major, minor and trace elements on and in the Earth's surface and in the oceans throughout earlier Earth history, all indicated to varying degrees as being significant in the development of life.

Oxygen levels in the Earth's atmosphere through time.





The ‘Boring Billion’ is a term used by geologists to describe Earth’s middle age, which occurred between 1,800 to 800 million years ago. Geologists thought that it was characterized by little happening on Earth in terms of biological evolution, climate, or the chemistry of the oceans and atmosphere. However it is likely that eukaryotes appeared in this period. Eukaryotes are single celled organisms. It is not certain when they first appeared but they were a very important advancement from the earlier and simpler bacteria and capsule life forms in the evolution of life.

What other elements are essential for life? (Nutrient elements)

																		Oxygen			
1 H																	2 He				
3 Li	4 Be													5 B	6 C	7 N	8 O	9 F	10 Ne		
11 Na	12 Mg													13 Al	14 Si	15 P	16 S	17 Cl	18 Ar		
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr				
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe				
55 Cs	56 Ba	57 La	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn				
87 Fr	88 Ra	89 Ac	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og				
119 Uue																					
		58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu						
		90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr						

Macro elements: present more than or at least 1 milligram per gram of dry matter

Micro elements: present less than 1 milligram per gram of dry matter

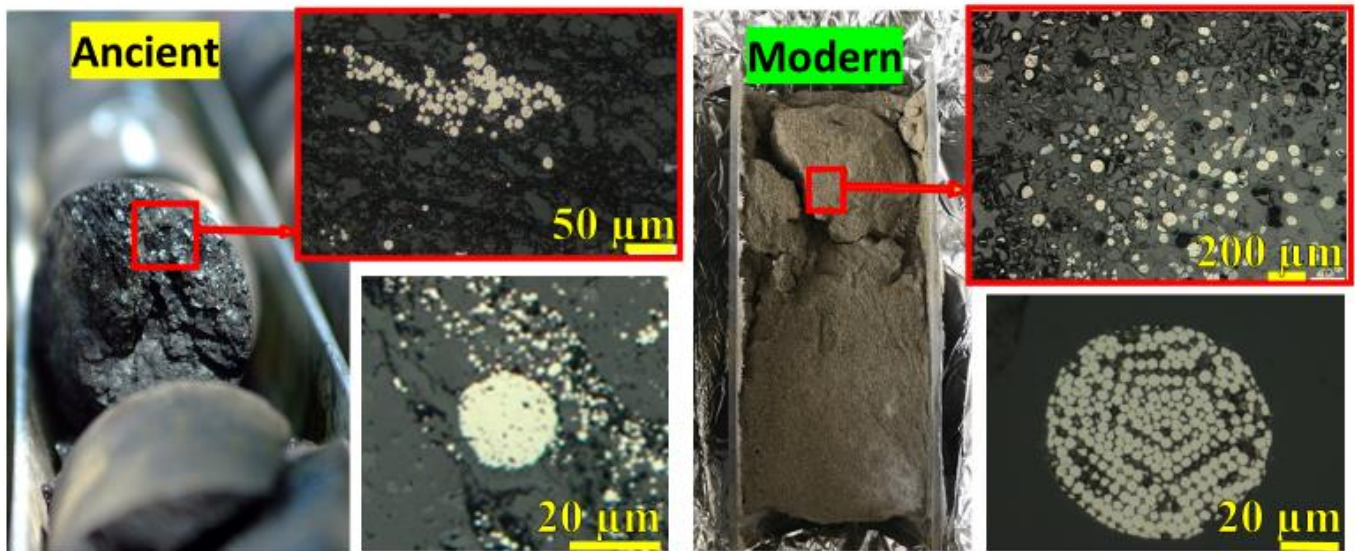
Co-evolution of trace elements and life in Precambrian oceans. The pyrite edition.

Article by I Mukherjee and Ross R.Large. UTAS 19 June 2020.

ABSTRACT

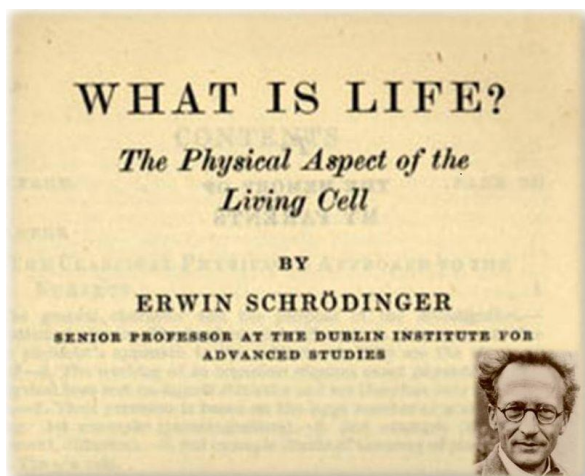
The significance of trace elements (TE) in initiating origins and driving the evolution of life on Earth is indisputable. Trace element trends in the oceans through time broadly reflect their availability and allow speculation on all possible influences on early life. A comprehensive sedimentary pyrite-TE data-base covering 3,000 m.y. of the pre-Cambrian, has improved our understanding of the sequence of bio-essential TE availability in the ocean. This study probed how changing availability, (and scarcity), of critical TEs in the marine environment influenced early life. The pyrite-shale matrix TE sequence shows relatively elevated concentrations of Ni, Co, Cu, and Fe, Cr respectively in the Archaean and Paleoproterozoic. Abundance of these elements in the Archaean potentially facilitated their widespread utilisation by prokaryotes.

The Paleoproterozoic-Mesoproterozoic saw increases in Zn and Mo but a marked decline in Ni, Co, Cu, Se, and Fe. Our date suggests the evolution of the first complex cell in the Paleoproterozoic was probably triggered by this major change in TE composition in the oceans. A decline of elements prompted alternative utilization by organisms as a response to TE deficits in the middle Proterozoic. An overall increase in a multitude of elements, (Ni, Co, Cu, Cr, Se, V, Mo, and P), in the Neoproterozoic and Cambrian was highly advantageous to the various micro- and macro- life forms. Without questioning the importance of macronutrients and atmosphere-ocean redox states, multi-TE availability would have induced substantial heterogeneous biological responses, owing to the effects of optimal, deficient, toxic, lethal, and survival levels of TEs on life.

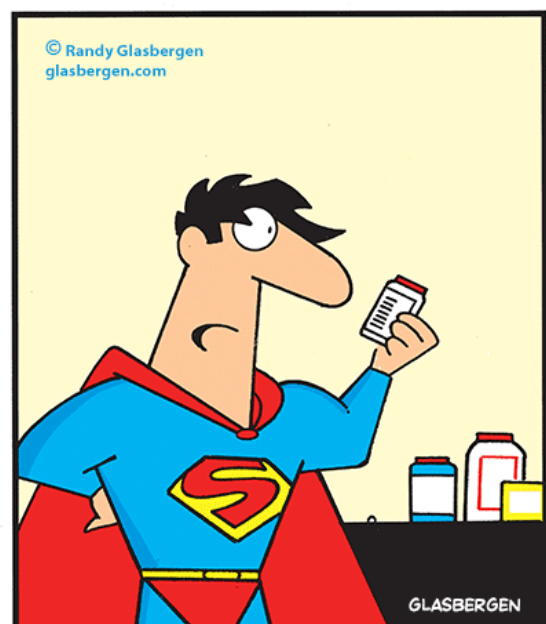


Fine grained sedimentary marine pyrite is an excellent deep time proxy that allows us to understand ancient and modern ocean chemistry.

The lecture was very thorough and detailed, Indrani Mukherjee dealing with pyrite and trace element availability and movements of these over time and also with reference to images, of some of the earliest fossil records of life forms. There were also references with accompanying images, to some of the scientists and commentators who have asked the fundamental question, “What is Life”.



NASA definition, “life is a self-sustaining chemical system capable of Darwinian evolution.”



“Zinc, iron, copper, selenium, phosphorus, potassium, magnesium, kryptonite — uh oh!”

FORTHCOMING EVENTS

2023 NSW GEMKHANA

The NSW Jewellery, Gems, Crystals & Minerals Show, **GEMKHANA 2023**, will be held in the Hawkesbury District Agricultural Show Grounds, 40 Racecourse Rd, at Clarendon, - near the Richmond RAAF base, over the 23rd and 24th of September. Featuring:- Hand crafted Jewellery, Faceted Stones, Polished Stones (Cabochons), Stone Carving, Minerals, Fossils and Crystals.

Gem & Craft Show 2023 – Inverell & District Lapidary Club Inc

Being held over the 13th, 14th, & 15th of October.

Field Trips 15th To 20th – Open House – 13th to 20th in the Inverell Lapidary Centre, Mcliveen Street Inverell. For further information:- Inverell Gem and Craft Show Program 2023.

‘Crystal, Gem & Jewellery Show’

To be hosted by the Central Coast Lapidary Club at the Mingara Events Centre, Wyong Road, Tumbi Umbi, over the 14th & 15th of October.

The 45th Annual Seminar of the Joint Mineralogical Societies of Australasia

To be held over the 5th to the 10th of November at the Grindelwald Conference Centre, Tamar Valley Resort, Grindelwald, Northern Tasmania, (near Launceston).

Field trips and Gem and Mineral Show visits after the seminar.

For further information: - <http://www.mineral.org.au/seminar/seminar23.html>

45th Annual Seminar of the Mineralogical Societies of Australasia:

“Granite-related minerals”

Tasmania, 5 – 10th November 2023

Grindelwald Conference Centre, Tamar Valley Resort,
Grindlewald, Northern Tasmania

Tentative Program (including related events):

Sun 5th - Tues 7th Nov 2023 – Field Trips (NE Tas)
Wed 8th Nov 2023 – Conference and Evening Dinner
Thurs 9th Nov – Conference with Micro Session
Friday 10th Nov – Transport day to Zeehan, West Coast, Tas.
Sat 11th Nov – Sun 12th Nov - Zeehan Gem & Mineral Fair
Mon 13th Nov – Field trip, Zeehan area
Tues 14th – Thurs 16th – Free Days
Fri 17th – Transport day to Launceston
Sat 18th – Sun 19th - Launceston Gem & Mineral Show



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