



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 OCTOBER 2023

The October Meeting will be held on Friday the 6th of October at 7.30 p.m. in the clubrooms of the Parramatta and Holroyd Lapidary Club at 73 Fullagar Road, Wentworthville.

The main lecture of the evening will be given by Ian Baillie who will describe :-

‘The Discovery of the Constellation Copper Deposit, NSW’.

There will also be a minitalk to be given by Graham Ogle on : - **“A New Mineral from Kingsgate”**

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. Specimens do not have to be top-grade display quality, (although a large number of those would be excellent!), but donations could include whatever a member feels would be interesting to others. Trays with a selection of specimens instead of single items could also be offered for sale.

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. Prospective buyers could indicate on the sheets what they thought the specimen was worth and 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 establish the highest bidder and purchaser.

FORTHCOMING MEETINGS and PROGRAMS

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’**. Lee Spencer would be the lead speaker, Ian Graham would deal with the Primary Mineralisation and Jocelyn McGrade would speak about the Oxide Zone Minerals.

Saturday December 2nd. The Society Annual **Christmas Swap and Sell** will be held on Saturday from 11.00 am to 3.00 pm and would include a BBQ.

2024: The Society does not hold General Meetings in January. The first Meeting in 2024 will be on Friday, February the 2nd. Meetings will be held at the Parramatta and Holroyd Lapidary Club on the first Friday of each subsequent month through the year except if the date is before a long weekend when the Meeting would be held on the second Friday.

Thank-You to the Society from the Kids with Cancer Foundation

Letter received from the Kids with Cancer foundation CEO thanking the Society for our generosity and support. The 2022 Impact Report referred to by the CEO was sent to the Vice-President, John Chapman.



17th May 2023

Minsoc
190 Ray Road
EPPING NSW 2121

Dear Sir/Madam,

I am thrilled to share our 2022 Impact Report with you. This report showcases the milestones and accomplishments that we have achieved together in 2022. As we reflect on the impact, we continue resolutely on our mission to make today easier for kids with cancer.

Your generosity and support have played a vital role in enabling us to change lives through vital research, give practically via financial assistance and deliver clinical care and support in oncology hospitals across Australia.

As you will see in this report, we have made a remarkable impact across our 5 programs, yet we understand there is much more that needs to be done.

We are deeply grateful for your ongoing support and commitment to our mission. Your contributions, both big and small help us make a brighter future for kids with cancer.

With heartfelt gratitude,

Todd Prees
Chief Executive Officer
Kids with Cancer Foundation (Australia) Limited

The SOCIETY COMMITTEE

PRESIDENT:	Dieter Mylius E-mail:	Mobile: 0412 516 193 <i>dieterm@internode.on.net</i>
VICE-PRESIDENT:	John Chapman E-mail:	Tel: (02) 9808 3481 <i>chapmanjr@optusnet.com.au</i>
SECRETARY:	George Laking E-mail:	Tel: (02) 9636 7145 <i>bglaking@tech2u.com.au</i>
TREASURER:	Graham Ogle E-mail:	Mobile: 0400 683 574 <i>quartzandsirius@hotmail.com</i>

COMMITTEE MEMBERS:	Haley Bambridge	Mobile: 0413 100 344
	Denis O'Brien	Tel: (02) 6360 3412
	Geoff Parsons	Tel: (02) 9548 3289
	Mark Walters	Mobile: 0421 012 647
	Ed Zbik	Mobile: 0401 538 480

WELCOME

Welcome to new members :-

Miguel Lanegra of Wiley Park, Mark Syme of Manildra and Carolyn Farbrother of Magenta.

The SEPTEMBER MEETING

The September General Meeting was opened by the Society President, Dieter Mylius. There were a few announcements, the President drawing attention to forthcoming **Mineral and Gem Shows**, notably the Gemkhana being held over the weekend of the 23rd and 24th of September but on the same day as a show being held by Peter Beckwith at the St George PCYC, (Police Citizens Youth Club), Rockdale.

The Rockdale show would display the Dr John Bennett Collection of some 1800 specimens that had been put together over the last 60 odd years from some very obscure collecting locations.

Over the 5th to the 10th of November the 2023 **45th Mineralogical Seminar** was being held at the Grindelwald Conference Centre, Tamar Valley Resort, Grindelwald, Northern Tasmania, (near Launceston).

Members were advised that there were currently no field trips pending although inquiries were continuing. Mark Walters was waiting for an answer from contacts at the **Ardglen quarry**, (on the New England Highway, near Murrurundi), with the view to making a visit there in due course.

A date for the next Micro Group meeting had not been decided but would probably be about the mid-Sunday of the month. Members would be notified by e-mail.

The first talk of the evening was given by Geoff Parsons on :-

‘Hardness Testing using the Schmidt Hammer’

Geoff Parsons commenced his talk by reminding members about the lecture he had given to the July meeting on Lord Howe Island Rocks. During a holiday on Lord Howe the speaker, as a geologist, had paid particular attention to rock formations on the island and any minerals to be found. Coincidentally the very next day after speaking to the Society about rocks he was shown a Schmidt Hammer. Since he presumed that few people would have heard of such a device he decided to describe it to the Meeting and also provided a ‘live’ demonstration with a hammer testing the strength of a brick sample.

The hammer being demonstrated was a cylinder about a third of a metre long with an internal spring-loaded piston. The user had to compress the piston against the spring and then hold the piston end against a rock or concrete surface. The spring is then abruptly released to powerfully impact the piston and measure the degree of rebound and compressive strength of the surface being tested. This made a fairly loud bang.

The hammer was provided with a graph from which the rebound reading could be converted to indicate the pressure generated in lbs per sq in, (psi), or to more modern units, in megapascals, (MPa). The leather carrying case for the hammer brought to the Meeting was quite worn, indicating it had been in use for many years and Geoff Parsons noted that the case bore the initials SMHES. He had realised the initials stood for the Snowy Mountains Hydro-Electric Scheme, showing that the particular hammer had been in use when the Scheme was under construction. (Mainly from 1949 to 1974).

The Schmidt Hammer was invented by Ernst H.W. Schmidt, a Swiss engineer as a device to measure the elastic properties or strength of concrete or rock, mainly surface hardness and penetration resistance. Referring to hammers available through the Internet the speaker noted that prices ranged from less than a hundred dollars to over a thousand. Newer types were electronic and priced up to two thousand dollars. Geoff Parsons suggested that under these circumstances he would stick to testing rocks with his trusty rock hammer!



The Schmidt Hammer



Testing concrete with the Hammer

Geoff Parsons' talk was followed by another short talk given by Dieter Mylius on a **'Surprise Zeolite from Nimmitabel'**. A summary will be provided later when more research and mineral identification work on the minerals found has been conducted. The main lecture of the evening was given Dioni Cendon.

'Back to the Salt Mines: Evaporites Genesis and Mineralogy'

Dioni Cendon

In introducing his lecture Dioni Cendon referred to the lecture given to the Society in June 2020 by Murray Brooker titled Salt Lake Mineral Exploration. The lecturer then had referred more to the commercial aspects of salt lake mineral production whilst in his lecture this evening the speaker intended to deal with the genesis and origin of those minerals. For a number of years he had been working on evaporites and had investigated a large number of sites in Europe and North and South America.

Describing his talk layout Dioni Cendon advised that he would be dealing with a number of aspects of the salt lake story, asking and explaining :- What are evaporites?; The Chemical divide model; Evaporites and geological time; Saline Giants; Modern analogues?; Marine evaporites; Salt on the move; Evaporites and research. The lecture was illustrated by a large number of images continually referred to by the speaker as he dealt with each part of the story.

What are Evaporites?;

Rocks originally precipitated from a saturated surface or near surface brine by hydrologies driven by solar evaporation. Bedded sedimentary rocks that crystallize from hypersaline solutions, “brines”.

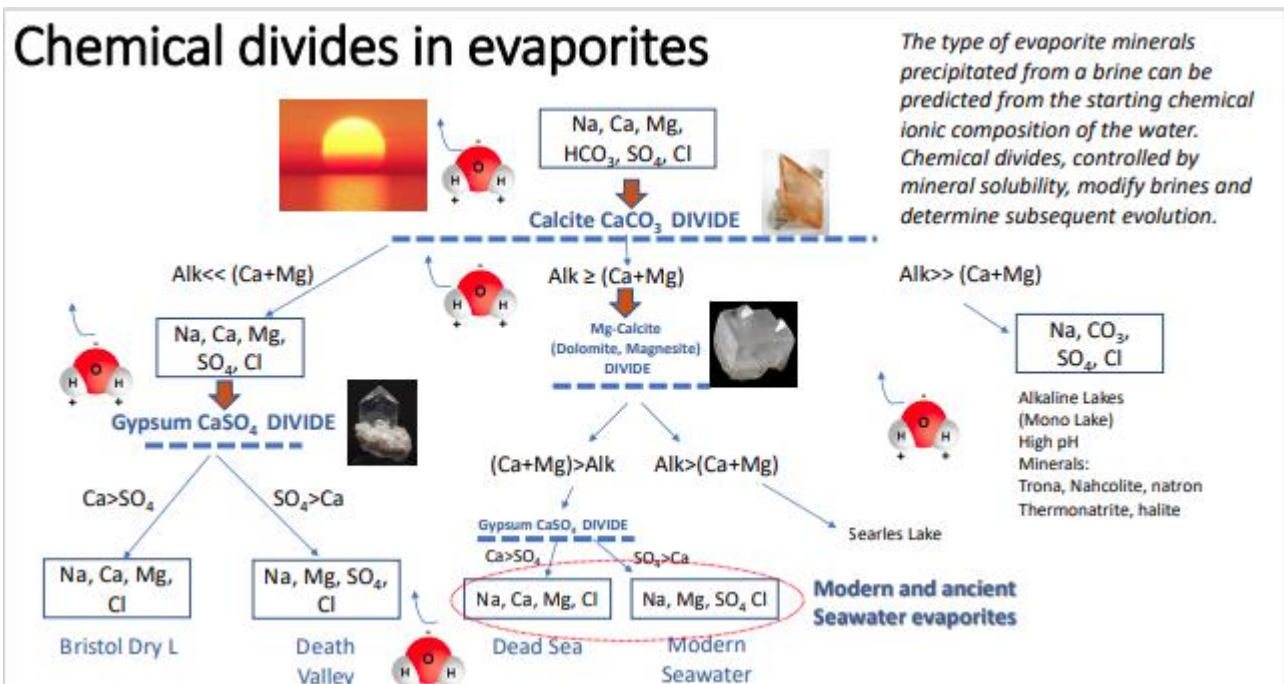


The Cave of Crystals, Naica, Chihuahua, Mexico. Enormous gypsum crystals grew from low- salinity solutions at a temperature of around 54°C, at 300 metres depth.



Gypsum crystals grew from a super-saturated solution in a lake

The Chemical Divide Model;



Evaporites and Geological Time;

Were evaporites more abundant in past geological times? Yes. There were peaks of evaporate deposition during the Cambrian and Permian-Triassic. A tectonic setting that favoured subsidence, connections to solute sources and entrapment of solute.

Are Evaporites Formed in Current Modern Times?

Yes, but they are uncommon and small. Generally terrestrial and concentrated to arid areas with either high temperatures and/or low rainfall (hydrological deficit). Examples: Sabkhas in Tunisia, Persian Gulf, Playa lakes around the world (Chile, Bolivia, Argentina, USA, Australia, etc).



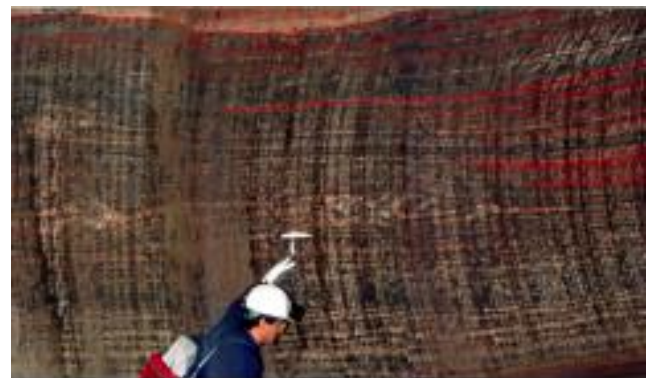
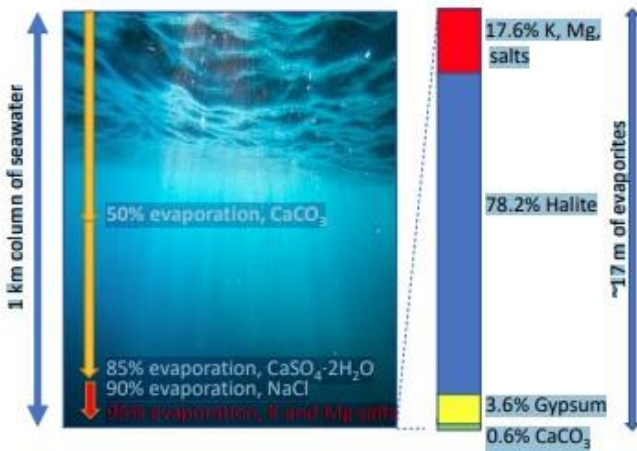
Sabkha El Melah, Tunisia in 1987 (Landsat 5 Image)

Sabkha El Melah, Tunisia in 2001 (Landsat 7 image)

Saline Giants:

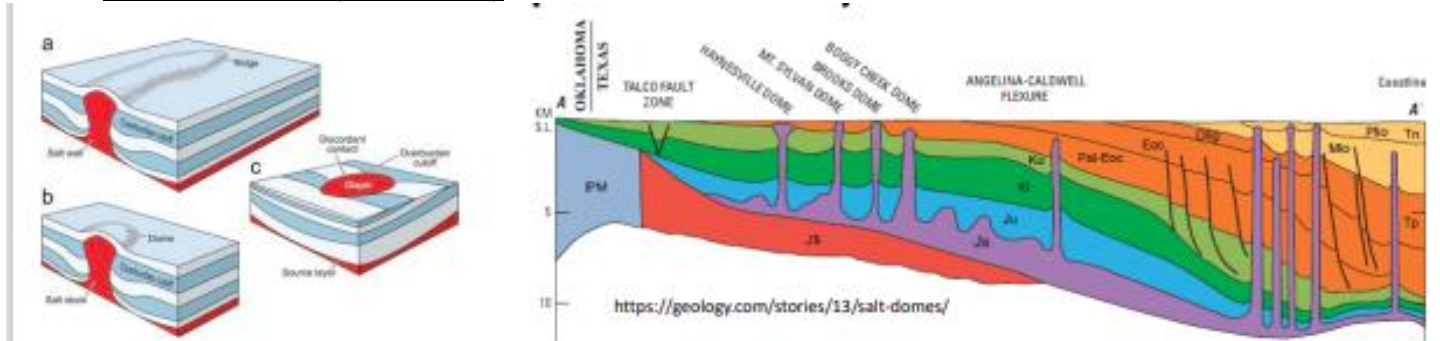
The Messinian Salinity Crisis: 5.96 Million years ago (Upper Miocene). Nearly one million km³ (cubic kilometers), of evaporite salt with up to 2400 metres thickness of halite deposited in the west Mediterranean. Mechanisms of formation are highly disputed.

Marine Evaporites:



Subiza Potash Deposit, Navarra (Spain)
Sylvite and carnallite

Salt on the Move (Halokinesis)



<https://geology.com/stories/13/salt-domes/>

After dealing with the background to evaporite deposits the rest of the lecture displayed a number of images of sites that Dioni Cendon had visited in the course of his studies.



Photos: Examples from terrestrial evaporites

Salar de Uyuni, Bolivia



Death Valley, California



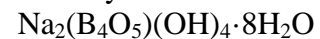
Rio Tinto Boron Mine, Kramer B deposit, Boron, California.

Middle Miocene (16 Ma).

The largest borax mine in the world, producing nearly half the world's borates.

Ore reserves are sufficient for production through to at least 2050.

Primary mineralisation: Borax:



Precipitated in a shallow permanent lake fed from thermal (volcanic) springs rich in sodium and boron.



Photo: D. I. Cendón

Kernite block Photo: D. I. Cendón



Boron, California

If you have time visit the Rocks shop in the town. Huge range of very dusty specimens...but you can find many things of interest.



Salar de Uyuni. The World's largest playa lake, over 10,000 km². 3700 m elevation. Part of a once much bigger lake "Lake Minchin" in the Pleistocene. Source of lithium. Used for calibrating altimeters of Earth observation satellites.



Leaving Uyuni towards the ranges and border with Chile, salt lakes in all depressions.



Different chemistries



Thank you for listening

FORTHCOMING EVENTS

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



Contact: R Bottrill, Ralph.Bottrill@stategrowth.tas.gov.au mob: 0429 173 055