



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 DECEMBER 2023

The December Meeting is the Society's ANNUAL CHRISTMAS SOCIAL and will be held from 11.00 am to 3.00 pm on Saturday the 2nd of December in the clubrooms of the Parramatta and Holroyd Lapidary Club at 73 Fullagar Road, Wentworthville.

The Social will comprise the sale or exchange of mineral specimens and mineralogical material, books, magazines and equipment and the opportunity to socialise. Food and drink will be provided which will include a BBQ Sausage Sizzle. The foods will be set up inside the Club room and also adjacent to the BBQ grillers outside. Members may prefer to bring in their own meat to cook but an adequate amount and variety of sausages and other foods, bread, salads, hot and cold drinks, beer and wine, etc will be provided.

Members will be charged \$10 to attend the Social. There will be a lucky door prize awarded by raffle. Tickets will be issued to each person as they arrive.

Sale tables will be set up inside the Lapidary Club room and depending on the weather under awnings outside in the car park, either location to be used depending on the preference of the seller and first come, first choice. Members intending to sell are recommended to book a table by notifying the Secretary, George Laking, on (02) 9636 7145, Mobile 0468 387 899 or e-mail bglaking@tech2u.com.au before Saturday.

With some of the club car park area in use for sales and for the BBQ car parking cannot be allowed on the Club premises. Members with sale material are asked to arrive from 10.00 am to set out their sale items and may drive into the car park to unload but must then move their cars to park in the street outside.

Sellers are particularly asked not to commence selling before 11.00 am and other members arriving before then are asked to allow the sellers time to set up and wait until 11.00 am before buying.

Members are reminded that the Society Committee has previously determined that anyone attending the Christmas Social who was not currently financial may buy but would not be allowed to sell minerals. Any members who were unsure of their current financial status should pay their subscriptions for 2024 from now on and they would then be taken as financial. Members are recommended to pay subscriptions by direct-debiting only which would provide a bank record for both parties.

FORTHCOMING MEETINGS and PROGRAMS

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.

February 2nd: The first programs and lecture titles for 2024 have not been confirmed but for February Arnold Van der Heyden would speak about the MMM mining project and Lee Spencer would talk about the Bre-X scandal.

- March 1st 2024:** Graham Ogle would give a talk on the Bamford mine in Queensland.
April 5th: Program to be confirmed.
May 3rd: Members Annual Mineral Auction.

2024 Society Membership Subscriptions

Society Membership subscriptions are due from January 1st. A subscription form if needed will accompany this Newsletter. Members are recommended to pay their subscriptions by direct debit only which should be the most convenient method of payment and which also provides a bank record of the transaction for both the payer and payee. Receipts would not be issued for direct debit payments. The payer should be sure to 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.

According to the Society Constitution memberships are valid until March 31st in any year. Members currently financial and wishing to renew could do so at any time up to the end of March.

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 should be provided for the record, (unless already provided), and members are recommended to fill in a Membership Renewal form if any of their details, e-mail addresses etc, have changed since last year. Renewal forms are available on the Society Website and one will accompany this Newsletter.

To direct-debit the Society account the details are: - Commonwealth Bank
Account Name: - Mineralogical Society of NSW Inc.
BSB: 062016 Account number: 28023647

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

The NOVEMBER MEETING

The November meeting was opened by the Vice-President, John Chapman, in the absence of Dieter Mylius who was away from Sydney attending the **2023 Mineralogical Seminar** in Tasmania. There were a few announcements, John Chapman noting that there was the Annual Gems & Minerals Festival at Dapto by the Illawarra Lapidary Club over the weekend and the Annual Exhibition by the Parramatta Lapidary Club over the following weekend of the 10th to 12th of November.

A number of Society members had attended a **field trip** to the **Ardglen Quarry** near Murrurundi over the previous two days and some of them had only just returned to Sydney. Mark Walters addressed the Meeting about the trip and also pointed out a specimen he had collected at Ardglen comprising a large slab of rock with a mass of calcite crystals which he had brought to the Meeting to display. For further trips, probably early in the New Year, Mark was hoping to get back into Mt Tennyson.

Graham Ogle advised that a date for the next meeting of the **Micro-mineral Group** had not been finalised but would probably be on the 26th of November or the 17th of December. Group members would be notified about the date and venue once decided.

Finally John Chapman referred to the forthcoming **Christmas Social** on the 2nd of December. There would be a **BBQ/Sausage Sizzle** with sausages provided although members attending could bring in their own meat if preferred. As with previous years and depending on the weather, tables would be set up in the car park as well as inside the Club room. The Club premises would be open from 10.00 am for setting up all the awnings, tables and chairs and John Chapman asked for volunteers to help with this. Then sales could commence from 11.00 am and John particularly asked that members attending the Social and arriving before 11.00 am should allow the setting up to be completed and refrain from buying before then.

Graham Ogle provided an introduction to the lecture he would be giving in the New Year on the **Bamford Hill mine** in north Queensland where a few new minerals, notably bamfordite, have been identified. Bamford is a tungsten, molybdenum and bismuth deposit with an interesting suite of minerals.

The Vice-President then introduced the team of three speakers for the evening, Society members and noted geologists, Lee Spencer and Ian Graham and a colleague, Jocelyn McGrade.

‘Unusual Oxide Mineral Species from Base Metal Veins Surrounding the Mt Turner Porphyry Cu - Mo System, Georgetown’ Lee Spencer, Ian Graham and Jocelyn McGrade

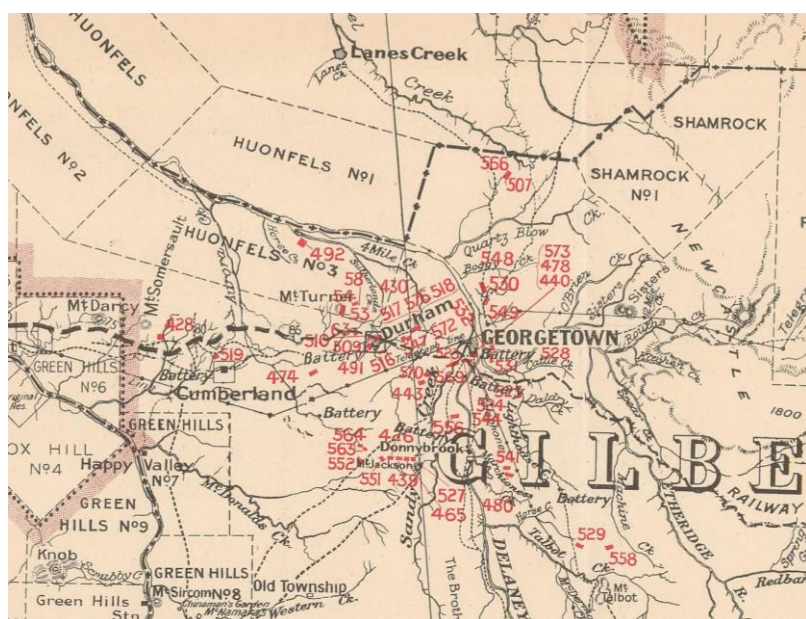
Lee Spencer presented the first part of the lecture and reported that for some two years he and a team had been investigating the Mount Turner porphyry copper mining area near Georgetown in north Queensland. There were several mines in the area, some of which are heritage-listed, and during the team’s investigation of various mine dumps a number of interesting minerals had been found.

Georgetown is about four to five hours drive due west of Cairns and the porphyry deposit is part of the Georgetown inlier. This is a geological formation composed of older Pre-Cambrian rocks exposed among younger rocks and covers an area of about 95,000 square kilometers. Parts of the inlier around Georgetown are mineralized with a number of gold mines established in earlier years with current examination of resources. Georgetown is a small town of only about 348 population according to the 2016 census. Notably it houses the Ted Elliott Mineral Collection of 4,500 specimens in the Georgetown Visitor Centre.



Georgetown Visitor Centre

With the aid of images Lee Spencer described the mining history of the area. Gold strikes in the area initially around Georgetown in the 1870s led to the field being proclaimed the Etheridge Goldfield and gradually a number of mines became established. The Cumberland mine was the largest for a time with among others the heritage-listed Aspasia Mine and Battery, also known as the Mount Turner Battery, being operated from 1916 to 1952 producing gold, silver, lead, and copper. In 1888 silver and lead veins were discovered around Mt Turner. Mining of these deposits did not commence until 1916 when a railway was completed allowing ore to be shipped to Chillagoe for smelting.



Etheridge Goldfield in 1908



Georgetown History Snapshot

- 1866 Richard Daintree discovers gold.
- 1869 Gold rush.
- 1870 Georgetown named after gold commissioner.
- 1872 Etheridge Goldfield Proclaimed.
- 1873 44 individual veins worked, Palmer R rush.
- 1878 Cumberland Mine started production.
- 1886 Cumberland Mine floats on London Stock Exchange.
- 1888 Ag-Pb veins discovered at Mt Turner.
- 1906 Etheridge Railway Act.
- 1910 Almaden –Chillagoe- Mt Surprise railway completed by Chillagoe mining Company
- 1910 Base metals shipped to Chillagoe smelter.



The Aspasia mine

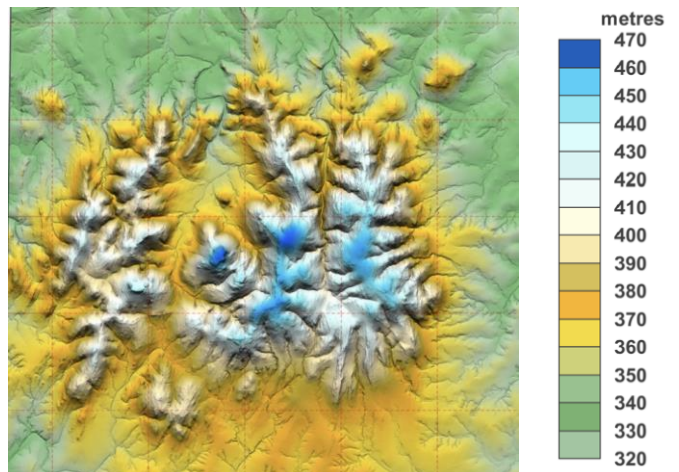
The team has spent some time over the previous two years developing extensive mapping by drone LiDaR (Light Detection and Ranging) of the gold field area. This had enabled them to find and identify a number of older workings, especially as the public geological maps proved to be quite inaccurate in places.



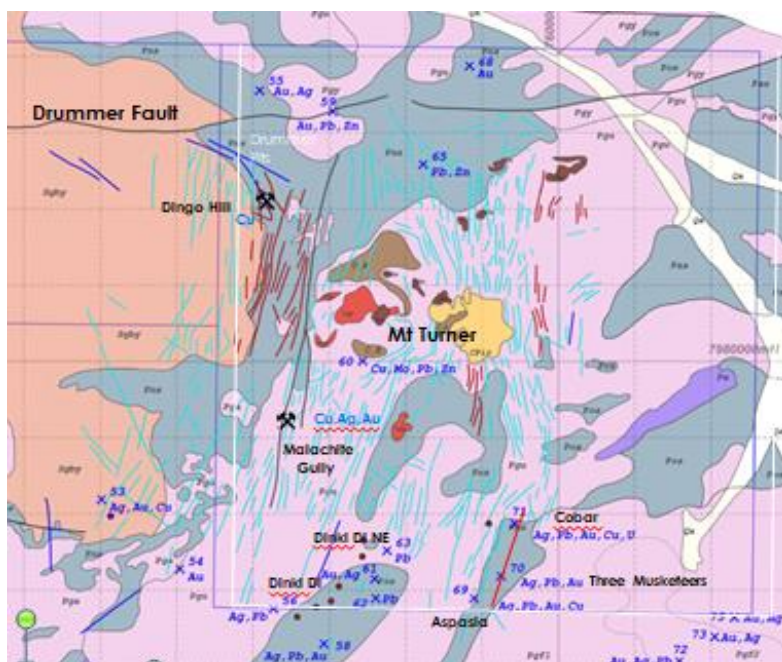
LiDaR – Breakthrough Technology



LiDaR Drone on launching ramp



Mount Turner Lidar Derived Digital Terrain Model



Mount Turner Geology

Overall the team had concentrated on five workings, Malachite Gully, the Dinki-Di, the Aspasia mine, Dingo Hill and the Cobar.



Malachite Gully quartz crystals.

In more recent years interest in the mineralisation at Mt Turner has led to further examination for economic metals including uranium. Modern exploration is dominated by gold and uranium with copper now on the critical minerals list.

Mt Turner Modern History

Year	Company	Work Undertaken
1975-1978	Queensland Government Reserve 71D	Mapping, Drainage Geochemistry, Drilling: BMR - 11 shallow RC holes, GSQ - 4 diamond holes
1978-1980	Esso	Uranium Exploration - Drummer Fault hosts U mineralisation
1980-1982	Dolphin Exploration JV with Renison Goldfields	Mapping, drainage and soil geochemistry: 2.4sq km Mo anomaly 24 sq km Cu anomaly >50ppm Cu
1983-1984	Queensland Metals Pty Ltd	Drilled 3 holes into Drummer Fault for Au
1986-1992	CRA	Drainage geochem NE, 3 shallow RC holes into breccia, re-logged govt drill core for Au
1993-2003	Union Mining	Mined shallow pits into oxide at Drummer Fault
1994-1998	Kidston Gold Mines	184 drainage and 963 soil samples, mapping at 1:5000 scale, 1 diamond hole in 1997
2006-2012	Mega Uranium	Flew detailed regional aeromagnetics
2020-	Ismins	Re-plotted historical geochemistry, drilling and aeromagnetics

Mt Turner: The Primary Mineralisation: Ian Graham

The second speaker for the evening was Ian Graham who proceeded to describe the examination and analysis of ore samples recovered from the various workings. A series of images of specimens and polished sections were displayed, the speaker noting the presence and amounts of gold accompanied by a variety of other minerals. Analyses of the samples indicating the assays of the samples and amounts of minerals found were provided.

Ian Graham stressed that much more work needed to be done on the mineralogy of the Mt Turner area and speculated that a number of new minerals would become established. These might include possibly at least three new cadmium arsenate minerals, the deposit therefore being 2nd only to Tsumeb.

The work to be done was listed : -

1. Possible new mineral species (Cu-Pb-Cd arsenate) currently being investigated with Stuart Mills (Museum Victoria).
2. Lots of micro-XRD, EDS and EMPA analyses to verify mineral species
3. More samples to look at
4. EMPA analysis of sulfides and gold grains.

(EDS = Energy-Dispersive X-ray Spectroscopy: EMPA = Electron Micro Probe Analysis).

Mt Turner: Oxide Zone Mineralogy: Jocelyn McGrade

The third speaker of the evening was Jocelyn McGrade who presented a very thorough explanation of the large number and variety of secondary minerals identified during the examination of the Mt Turner mineralogy. The lecture was illustrated with a series of images showing lists of the mainly secondary mineral groups, arsenates, carbonates, halides, oxides, phosphates, silicates, sulphates and sulphides and examples of some of the minerals. As the speaker worked through the array of images she described the occurrence and abundance of the various mineral species listed and illustrated.



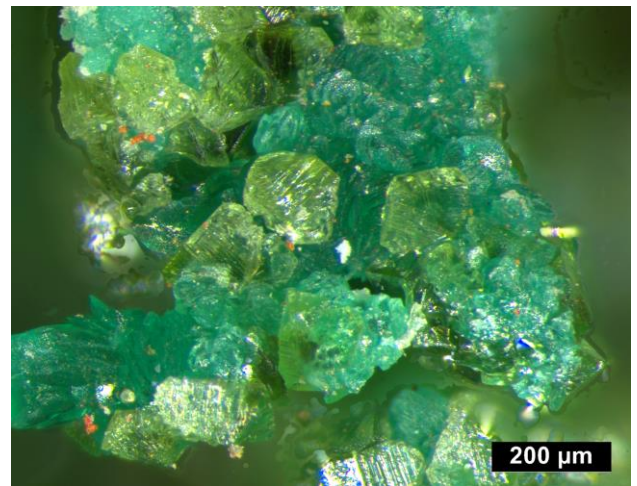
Cuproadamite



Malachite



Pyromorphite



Libethenite & pseudomalachite



Linarite



Brochantite and pseudomalachite



Rosasite



Brochantite

At the end of the lecture series the speakers dealt with a number of questions and were thanked for their participation in the evening and the illuminating amount of information presented.



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

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:

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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 Treasurer - either: -

- 1) at the next General Meeting,
- 2) by e-mail to *quartzandsirius@hotmail.com*
- 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 Treasurer, or in his absence 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.

