



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 AUGUST 2021

The August Meeting will be held by virtual mode on Friday the 6th of August at 7.30 pm

Unfortunately due to the current COVID outbreak in Sydney and the extensive lock-down mandated by the NSW State Government the next Society Meeting cannot be held in the Lapidary club and will be held by virtual mode. Members will be sent a Zoom program access code by e-mail a few days before the Meeting.

The program in August will be the **ANNUAL GENERAL MEETING**.

The A.G.M. will be followed by the Mayne-Walker Memorial Lecture to be given this year by Professor Martin van Kranendonk who will deliver a lecture on :-

**‘The Role of Minerals in the Emergence of Life:
Lessons from Deep Time Earth and the Test Tube’.**

September 3rd: The original scheduled program may have to be changed depending on whether speakers can present their lecture by virtual mode if pandemic restrictions are still in place.

October 2nd to 4th: The **43rd Annual Combined Mineralogical Societies of Australasia Seminar** will be held on the theme of **‘43 Shades of Silver’** over the October long weekend.

Due to the continuing COVID pandemic and mandated substantial restrictions with no timetable for these being ended completely or partially by October the Society Committee has taken the regrettable decision to cancel the live Seminar in October and replace it with a virtual meeting as was provided in 2020. The Seminar will now be free to all participants and the few that have paid their registration will be refunded. We were greatly encouraged by the attendance last year, and hope 2021 will be the same.

A Field Trip program was being planned as part of the Seminar activities and visits to mining or mineralogically-significant sites may still be possible to arrange.

November 5th: The complete program is not finalised but will include a talk to be given by Dieter Mylius on :- **‘The Prettiest Mine in the World’**

December 3rd: **Christmas Swap and Sell**

The ANNUAL GENERAL MEETING Friday 6th of August 2021

The **Annual General Meeting** will commence at 7.30 pm by virtual mode and will present the President's report for 2020/2021, the Treasurer's report and the annual financial accounts for 2020/2021 and the election of the Society Committee and office-bearers for 2021/2022. In accordance with the Society Constitution the entire current Committee retires at the commencement of the A.G.M. and all positions are open for nomination and election. Any other business may also be raised and discussed. The minutes of the previous A.G.M. in 2020 were circulated in the September 2020 Newsletter. Copies can be obtained by e-mail or post from the Secretary, George Laking, electronic or postal addresses as following.

Nomination forms for election to the 2020/2021 Committee are being circulated with this Newsletter. Nominations may be sent to the Secretary electronically and members sending forms should ask for a confirmation that they have been received. According to the Society Constitution nominations should be received seven days before the commencement of the A.G.M. Nominations for a full Committee have already been received but others could be made before the seven days deadline and in that event with more than one nominee for any position a ballot would be held.

Only financial and Honorary Life members of the Society are eligible for nomination or allowed to participate in any voting. Any members who feel able to serve on the Committee are urged to discuss this with any of the current Committee members and if they wish to be nominated should arrange for another member to propose them and provide the completed and signed form. A member can be nominated for but cannot hold more than one position.

Members sending hard copy nomination forms by post should address all correspondence to :-

The Secretary, Mineralogical Society of NSW Inc,
58 Amazon Road, Seven Hills, NSW 2147
or by e-mail : - *bglaking@tech2u.com.au*

The JULY MEETING

The July Meeting was held by virtual mode and chaired by the Vice-President, John Chapman. The President, Dieter Mylius was travelling in country NSW and had not a reliable WiFi connection.

Ed Zbik reported that research work and arrangements for **Field Trips** were under constant review with unfortunately as he kept finding, the managers or landowners of many places contacted being reluctant to allow visits. Also apart from insurance and biodiversity concerns landowners would expect visitors to be fully vaccinated. He recommended that any members with suggestions for sites that would be ideal to examine should let him know and if any members were intending to travel around Australia he could provide them with a list of sites in National Parks which they could visit.

Ed Zbik also advised that cataloguing work on the Society Library was continuing with the ongoing acquisition of a few magazines and Journals, notably the A.J.M. and the Rocks and Minerals magazine.

Graham Ogle reported that there would be a **Micro-mineral Group** meeting on Saturday the 17th with the venue yet to be decided, subject to COVID regulations. The following month the Group would meet at Noel Kennon's house in Dapto.

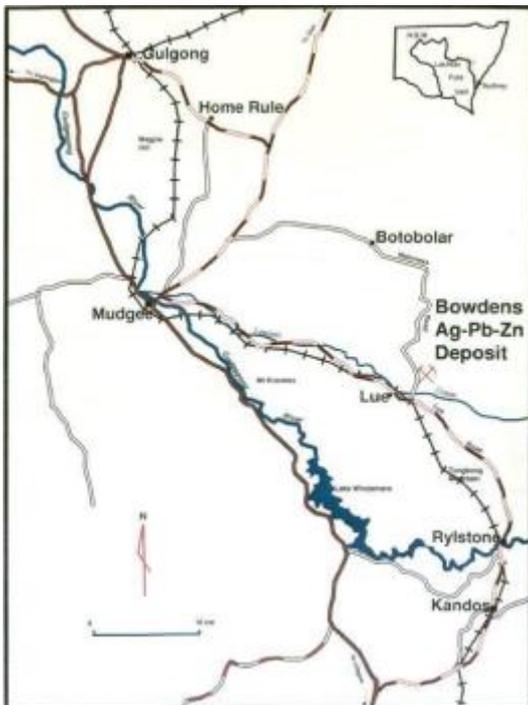
With no more announcements or reports being made the Vice-President introduced the speaker for the evening. Ian Graham has been a Society member for probably as long as anyone else having joined the Society in the 1980s and has given several lectures to the Society over the years, on Woodlark Island, (February 2013), on Manuka, (September 2017), and ‘Mineralogical Treasures of China’ in February 2020. He is currently a Senior Lecturer at the University of NSW and has published over 101 papers and articles.

‘The Geology and Mineralogy of Bowdens, the Largest Undeveloped Silver Deposit in Australia’

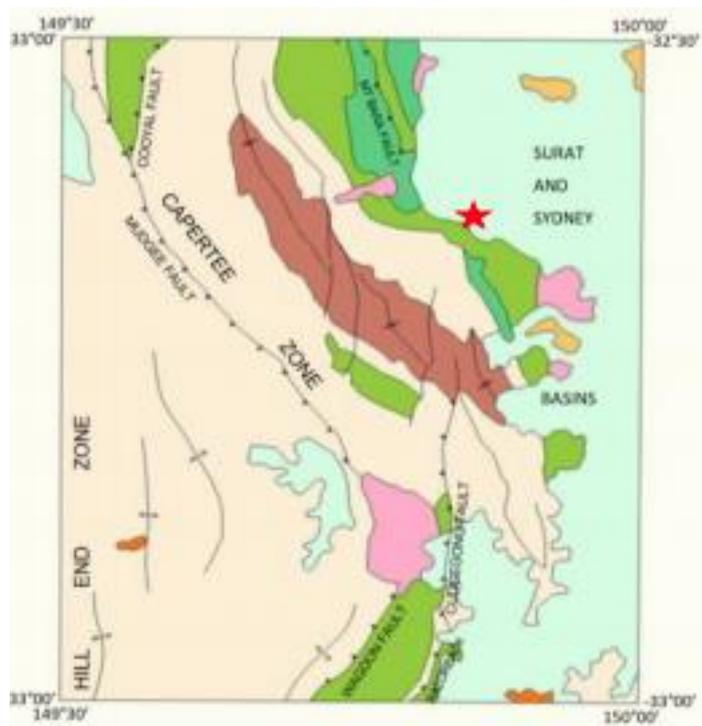
Dr. Ian Graham

Dr Graham introduced his lecture by describing the Bowdens Silver deposit as the largest undeveloped silver project in Australia and one of the largest globally. Bowdens deposit is located near the village of Lue, approximately 30 km east of Mudgee in NSW. Dr Graham initially acknowledged the geologists of the developers of the deposit, Bowdens Silver and Silver Mines Ltd, and his former and current geology students. He outlined the lecture to deal first with the location, discovery and history of the deposit and then the geology, mineralogy and genesis.

The lecture was extremely thorough and extensively illustrated with some 60 images of the location, the countryside with local buildings, with notes, diagrams and maps of the geological formation and many images of the rock types encountered in situ or in the drill cores, in polished thin sections or under the microscope.



Location of the Bowdens silver deposit close to the village of Lue and between the larger towns of Rylstone and Mudgee.



The deposit is located on the unconformity between the Ordovician Coomber Formation and the Snapper Point Formation of the Sydney Basin

From the speaker’s lecture notes:

The Bowdens deposit was discovered during a regional stream sediment sampling program by CRA Exploration in 1989 which discovered samples with anomalous levels of silver, lead and zinc. There are some earlier old shallow pits in gossan but no records of who made these. Continued exploration was conducted by CRA Exploration over 1989 to 1994 when Bowdens was acquired by Golden Shamrock Mines followed by Silver Standard Limited in 1997 then Kingsgate Resources from 2011 to 2016 when it

was acquired by Silver Mines Limited and Bowdens was made a subsidiary company. Since then there has been extensive diamond drilling and expansion of the resource, environmental studies and the project is currently in mining permission stage from the government. (Which apparently takes from between two to five years).



Lue Hotel



Bowdens office in 2017

Bowdens is a rhyolite-hosted silver-dominant epithermal (low temperature and emplaced at high level) deposit. It is the largest undeveloped silver resource in Australia and is a designated state and national significant project. The expected mine life through open-cut mining is over 20 years, with possible extensions to underground mining. The estimated amount of ore is 128 million tonnes grading at 40 g/t silver, 0.38 g/t zinc and 0.26 g/t lead. Total contained silver is 163 million ounces or 275 million ounces of silver equivalent (i.e. the combined resource of zinc and lead recalculated to a silver value). Estimates are still growing as drilling is continuing. The estimates do not take into account the mineralisation in the Coomber Formation or resources below 200 metres depth. The bottom of the mineralisation has not yet been established.

Earlier in the day Dr Graham had checked on the current price of silver to find that it is US\$34.82 per ounce which indicated that the total deposit would be worth US\$5.68 billion or almost AU\$10 billion.

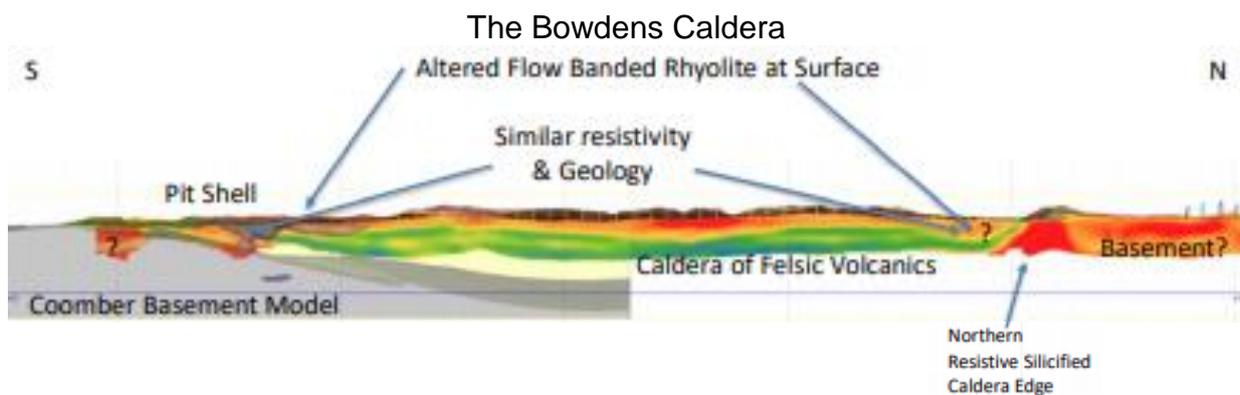
Bowdens is located in a unique stratigraphic setting, above the Lachlan Orogen (LO) geological sequences but below the overlying Late Permian Sydney Basin sequence. The local geology, age, mineralisation and origin are very similar to the epithermal low-sulphidation precious metal deposits of the Drake Goldfield within the New England Orogen of northern New South Wales. Rift-related intraplate volcanism is related to the initial opening of the Sydney Basin within a shallow marine environment. The deposit was initially thought to be hosted exclusively within the Rylstone Volcanics but we now know that it extends downwards into the underlying Ordovician Coomber Formation.

For the greater part of his lecture Dr Graham worked through the images of rock types found during the drilling program and referred to the large variety of minerals found. He advised that in terms of specimen acquisition at Bowdens the mineral assemblage would probably provide mainly micros.

There is a wide range of species throughout the deposit including the rare vanadium mineral roscoelite - $KV_2AlSi_3O_{10}(OH)$. The silver minerals included sulphides such as acanthite, and the silver sulphosalts, - stephanite, pearceite, pyrargyrite, freibergite, tennantite and tetrahedrite. Other sulphides are galena, sphalerite and pyrite. Sphalerite from the Rylstone Volcanics is enriched in manganese, (up to 1.67 wt%) and cadmium, (up to 2.51 wt%). Carbonates found at Bowdens include ankerite, dolomite, kutnohorite, magnesite, rhodochrosite and siderite.

Galena from the Rylstone Volcanics contains up to 8100 ppm silver and from the Coomber Formation up to 2950 ppm. The galena in the underlying Coomber formation is also bismuth-enriched up to 7.94 wt% and the pyrite contains up to 500 ppm silver and the marcasite up to 2600 ppm. Ore at depths greater than 500 metres also contains thousands of ppm thallium which would be an important safety factor to take into consideration when mining commences. Thallium is very toxic and must not be left on surface dumps. Some gold also occurs in the Formation although in amounts too small to be economically extractable.

Dr Graham finally described the genesis of the Bowdens deposit which was a large volcanic caldera formed about 327 million years ago, (Mid Carboniferous). It intruded through the underlying Ordovician Coomber Formation and the slightly younger (330 Ma) Carboniferous granites.



At the conclusion of his lecture Ian Graham answered a number of questions among many others noting that the mineralogy at Manuka which he had also studied and given a lecture to the Society was very different to Bowdens and much simpler. He expected that mining at Bowdens would commence within about two years, depending on the required government permission.

The Meeting ended with a general discussion among the members.

FORTHCOMING EVENTS

Towards the later months of last year and up to the early months of this year with the gradual improvement of the pandemic situation in Australia and the easing of restrictions, various events normally on the annual calendar had been scheduled to be held as usual. However with the COVID outbreak over the last two months and unless the situation improves radically and quickly, events intended to have been held to the end of this year are now in doubt.

The **Gem & Lapidary Council of NSW** website lists a number of shows intended to be held to the end of 2021. Anyone hoping to visit these should look for up-to-date information on whether they are still being held as scheduled. From the Website : -

28th & 29th August 2021: Windsor Gem and Mineral Expo. The Windsor Function Centre.

4th & 5th of September 2021: Blue Mountains Crystal, Mineral & Craft Festival. To be held in the Blackheath Community Centre.

11th & 12th of September 2021: National Opal and Crystal Festival, Albert Hall Canberra.

Saturday 25th & Sunday 26th September 2021: **GEMKHANA**, the NSW Annual Gem and Lapidary Show to be held in the Hawkesbury Showground, Clarendon from 9am – 5pm

Sat 16th & Sun 17th October 2021: Central Coast Crystal, Gem & Jewellery Show, Mingara Event Centre, Wyong Rd Tumby Umbi. Open Saturday 9am to 5pm & Sunday 9am to 4pm.

Sat 30th Oct – Sun 31st Oct 2021: Canberra Lapidary Club Gem Show; Spring Gemcraft & Mineral Show : From 10am to 5pm Saturday and 10am to 4pm Sunday.

Saturday 30th and Sunday 31st of Oct 2021: The Northern District Lapidary Club's Bi-Annual Exhibition and Gem Show will be held from 9 am to 5 pm. on both days at the Beecroft Community Centre in Beecroft, Sydney.

Sat 6 Nov and Sun 7 Nov 2021: Illawarra Lapidary Club Inc. – Jewellery Gems and Minerals Festival. Saturday 9am – 4pm and Sunday 9am to 2.30pm in the Heininger Hall, Ribbonwood Centre, 109 Princes Hwy, Dapto.

13th & 14th November 2021: Hornsby Crystal, Mineral, Fossil & Craft Festival Hornsby Memorial Hall.

27th & 28th November 2021: Carlingford Gem & Mineral Expo. Roselea Community Centre.

58TH GEMBOREE 2022

The 58th Gemboree will be held over Easter 2022, from Friday to Monday, the 15th to 18th of April at the Australian Rural Education Centre, 267 Ulan Road, Bombira, north Mudgee, central NSW.

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 MINERALOGICAL SOCIETY OF N.S.W. INC

NOMINATION FORM FOR ELECTION OF OFFICE-BEARERS

AND COMMITTEE MEMBERS FOR 2021/2022

POSITION	Name of Nominee (Please print)	Signature of Nominee
OFFICE-BEARERS		
PRESIDENT
VICE-PRESIDENT
SECRETARY
TREASURER
COMMITTEE MEMBERS		
MEMBER

PROPOSER:

Name (Please print):

Signature:

Date: