THE
MINERALOGICAL SOCIETY
OF
NEW SOUTH WALES INC
C/o School of Natural Science
B.C.R.I. Parramatta Campus, Western Sydney University
Locked Bag 1797, Penrith South DC, N.S.W. 1797
Website: ***www.minsocnsw.org.au***

NEWSLETTER

DECEMBER 2017

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

The program will comprise the

CHRISTMAS SOCIAL and SWAP N' SELL

The program for the last Meeting of the year will comprise the sale or exchange of mineral specimens and mineralogical material, books, magazines and equipment. The Meeting will be officially opened at 7.30 pm possibly with a few announcements but the Club rooms would be open from about 6.30 pm to allow time for members with material for sale to get set up.

There will be a comprehensive range of snack food refreshments and drinks and including a pizza delivery at about 8.00 pm. Members, guests and visitors attending the **Christmas Social Meeting** will be charged $10 upon entry towards the cost of the refreshments. The fee has been previously estimated to approximately cover the cost of the refreshments, (although usually with the Society having to subsidise the total cost a little). There will be a lucky door prize awarded by raffle. Tickets will be issued to each person as they arrive and pay their $10. Please make sure you receive one.

In expectation that a larger number of people would be attending the Christmas Social than other meetings, with extra food available and being consumed and minerals being moved about members are **particularly asked not to place any objects on the Lapidary Club display cases around the room**.

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.** Since Society **membership subscriptions are due from January 1st** any members who were unsure of their current financial status could pay their subscriptions for 2018 from now on and they would then be taken as financial. Members intending to pay subscription renewals are asked to pay by direct-debiting as much as possible instead of assailing the Secretary of Treasurer at the Christmas Social with payments when they would prefer to be looking at minerals.

A membership renewal form will accompany this Newsletter and members are asked to fill out a form particularly if any of their addresses, telephone number/s or e-mail details have changed and e-mail, post or hand it to the Secretary or Treasurer at a Meeting. Please keep the Society up-to-date with this information.

FORTHCOMING MEETINGS AND PROGRAMS

2018: The Society does not hold General Meetings in January and the first Meeting in 2018 will be on February the 2nd. Meetings will be held on the first Friday of each subsequent month through the year. Subject to circumstances some changes to the following schedule of program subjects and speakers may have to be made in due course.

February 2nd 2018: Speakers will present talks on : - '**Tolwong – Collecting for Mountain Goats'.** The speakers will include Dieter Mylius, David Colchester and Ed Zbik.

There will be the **Kids with Cancer Sale** at the February meeting. Members are invited to donate specimens for the sale. There is no need to notify the Society in advance about which specimens are to be donated, please just bring in the donations to the meeting; a table will be set aside for the sale. The donor should label specimens with the name and source location and also the price.

March 2nd 2018: Lecture to be given by Graham Ogle on : - '**The Fluorescent Minerals of Sterling Hill'.** There will also be a talk to be given by Dieter Mylius on : - '**Mineral of the Month – Garnets'.**

April 6th 2018: The program will include a number of talks on **'Pyrite'**. Presenters will include John Chapman, Peter Williams and Brian England.

May 4th 2018: Member's annual **Auction.**

June 1st 2018: Lecture to be given by Kevin Capnerhurst on : - **'The New Minview. On-line Mineral Deposit Data'.**

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The Oberon Field Trip November 2017

Figure 1:
The weekend was spread over two days; the forecast was for rain which proved correct.
Wet weather program = dry weather program + raincoat.
Seventeen members accepted the challenge and came up in twelve cars.

Saturday 18th November

Figure 3: Hornfels Slab and polished cabochon. Photo & specimen: Doug Austen

It was wet. At Lowes Mount, members focused on four locations. The Vesuvianite area showed minerals but they were harder to find. Specimens of grossularite garnet, diopside with epidote, actinolite and green feldspar continued to be found both at the Vesuvianite site and the lower car park.

The area of Scheelite at the road cutting had been bulldozed by the reforesting process but a nearby site produced some small specimens. An area by the creek produced 1-2mm flakes of molybdenite with generous scatterings of chalcopyrite and pyrrhotite.

Figure 2: Drusy quartz. Photo & specimen: Denis O'Brien

One exposed area on a ridgetop produced a grossular – andradite garnet in a calcareous hornfels tactite.

Mineral specimens found by members included:

Mineral	DA	HB	EZ/TZ	DO'B	GP	DM	Others
Actinolite			X	X		X	
Diamond	??		??		??		
Drusy quartz				X			?
Epidote	X	X		X			?
Greenstone (Green feldspar)	X	X	X	X			?
Grossular-andradite							?
Mud	X	X	X	X			?
Olivine (v peridot)		X					?
Sampleite		X					?
Scheelite				X			?
Vesuvianite	X			X		X	?
Vug with xls	X			Drusy			?
Wollastonite			X			X	?

Comments from our past trips to Lowes Mount and some questions to be checked out:

- Can crystals from Kessey's be scratched by diamonds?
- Drusy quartz on closer inspection showed tiny blue crystals in the yellow crystalline matrix.
    - The best crystals resemble the pyramidal shape of spinel from the guidebooks.
    - They are microscopic but may be of interest if they are blue spinel.
- One piece under short wave UV showed lots of small bright, whitish blue fluorescent specks, which is probably scheelite.
- XRD results proved that a specimen was Ilsemannite.
- XRD results proves that a specimen was wollastonite.

Figure 4: Group at the Vesuvianite skarn

For the evening we went to the Oberon RSL for dinner.

Sunday 19th November

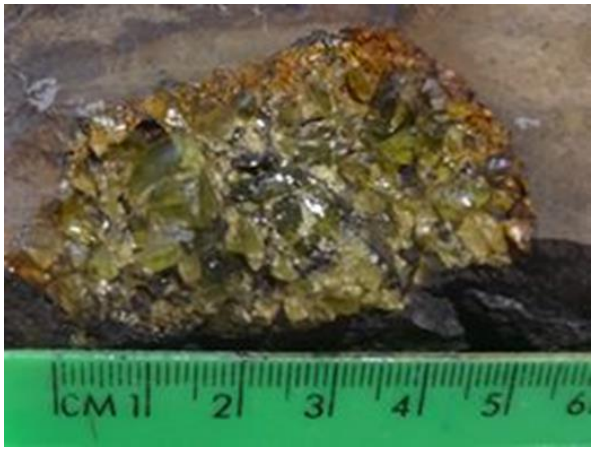

Figure 5: Epidote Photo & Specimen: Denis O'Brien

Sunday saw the group at the Ponderosa Pipe. While on top of the hill, we received a message from a member that he had arrived at Oberon at 10:00 am from the east as we left westward. SMS messages were sent (but not received). The group decided to have lunch at Black Springs at 11:45 am. The member appeared at 12:15pm. In the meantime, all the group bar five left for the sapphire diggings at Sapphire Bend. When the Black Springs group re-joined them, more buckets of pay-dirt were seen to be loaded up to be worked on at home. The group moved out for a 9km drive through Vulcan State Forest, first stopping at Knotts Creek Diamond Deposit, then continuing to Kessey's Road diamond prospect. The site was found easily by some. Sledge hammers appeared in force and many rocks were smashed. Diamonds here are about 10 pointers. There are 100 points per carat which means that these diamonds were very small. Glassy pockets were found. Some vughs had interesting arrangements of balls of calcite. The day ended with all saying that they had collected interesting specimens but that the company was better!

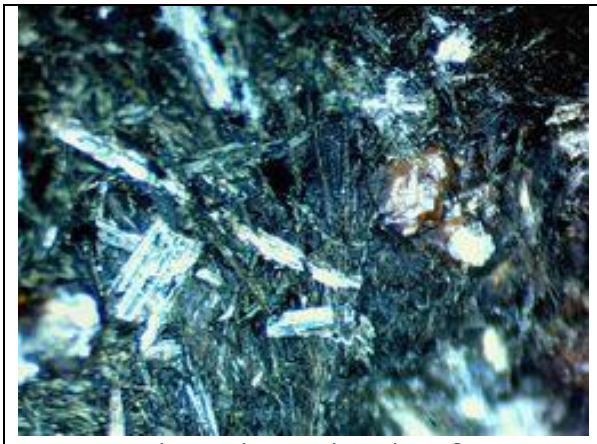

Figure 6: Epidote with Actinolite. Photo & specimen: Denis O'Brien (FOV 6mm)

Figure 7: Vesuvianite
Photo and specimen: Denis O'Brien

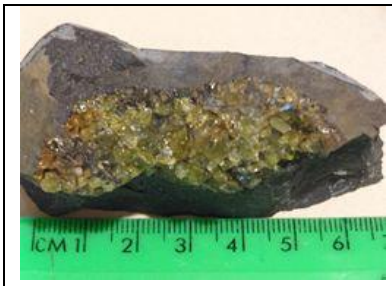

Figure 8: Epidote from the Ponderosa Pipe. Photo & specimen: Denis O'Brien

Figure 9: Vesuvianite. Photo and specimen: Denis O'Brien

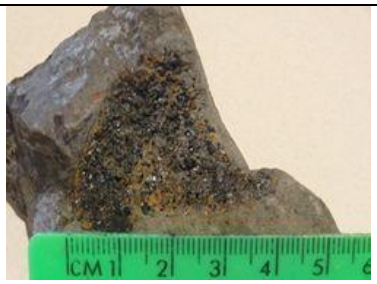

Figure 10: Glossular Andesite garnets. Photo & specimen: Denis O'Brien

We all found reasonable specimens.

Figure 11: Skarn displaying line of strike

Figure 12: The upper car park

Figure 13: The lower car park

McAlpine Visit in September.

Doug Austen presented this photograph for identification. It's about a 4mm FOV.

McAlpine Mine has the following minerals: Arsenopyrite, Azurite, Bismuth, Chalcopyrite, (Chromite), (Covellite), Cubanite, (Galena), (Goslarite), 'Limonite', Magnetite, Malachite, Maucherite, (Nickeline), (Pentlandite), Pyrite, Pyrrhotite, Smithsonite, Sphalerite, Tetrahedrite, (Violarite).

The mine is in the Coolac Serpentine Belt between Tumut and Wee Jasper.

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Field Trips for 2018

Registration is now open for the following Field Trips for 2018.
Some of the field trips have common dates as some events still depend on confirming a date by the host.
One of the events will occur on either date.
Trips are usually planned for the 3rd or 4th weekend of any month.
Trips to Bungonia and Tolwong may happen during the week.
Field trips are open to all members unless it specifically states that a member must be SWMS Certified.

Feb 18th or March 25th *Date to be confirmed*	Bombo Quarry Walk led by Paul Carr (1 day) Open to all members / waiting confirmation of date
Feb 18th or March 25th	Bungonia SCA to collect minerals under Science Licence. (2 days) Possibly collect for The Australian Museum. Open to all members
Register Interest for Weekdays in March, April, May	Bungonia SCA day trips during the week to collect under the Science Licence. Possibly collect for The Australian Museum. Walk to site, walk in/out 3km, drive home same day. Four sites being visited over these months. One trip will be an overnight bush camp
Register Interest McAlpine Mine March	Revisit McAlpine Mine, in Red Hill SF, North of Tumut State Forest camping weekend. Open to all Members. Can be on weekdays. **Requires State Forest Fossicking Licence**
Register Interest Oberon Area Dec, Jan, Feb	Short notice visits to Oberon area. Sites cannot take large numbers. Most of these are to evaluate sites on private property plus any localities members may lead us to. Can be on weekdays **Requires State Forest Fossicking Licence**
Register Interest *Dates to be confirmed* April/May	Visit Manuka Resources, Mt Hope and Cobar Locality 1 day travelling to Manuka – 700km plus - about 10 hours 2 days at Manuka see *Note* 2 days South of Manuka 2 days East of Manuka/Cobar 1 day return trip. **Must be SWMS Certified.** *Note: The Manuka Mine site may be accessed on Saturday so members who want to visit the site may travel up on Friday, visit the site and return on Sunday.*
April/May *Subject to weather*	Tolwong Mine – 3 days bush walking and camping in the Morton NP under Science Licence. Minimum five bushwalkers. Open to all members
June Queen's Birthday Weekend (Confirmed)	Australasian Mineralogical Society Annual Conference at Ballarat. The Society has been asked to provide an indication of the numbers of MinSoc NSW members that may attend.
June 23/24 (Confirmed)	23rd Special viewing of minerals at GeoScience Australia, Canberra. 24th June Paddy's River Skarn Field Trip. Open to all members

To register for any of the above Field Events or to become SWMS compliant, contact Edward Zbik by e-mail at *ecjz@optusnet.com.au* or SMS 0401 538 580 or call (02) 9638 6586.

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The SOCIETY COMMITTEE

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	E-mail:	*grahamo@diabetesnsw.com.au*
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	David Colchester	Tel: (02) 9449 3862
	Geoff Parsons	Tel: (02) 9548 3289
	Simon Tanner	
	Edward Zbik	Tel: (02) 9638 6586
	E-mail:	*ecjz@optusnet.com.au*

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The NOVEMBER MEETING

At the commencement of the Meeting there were a few announcements. Ed Zbik reported on his arrangements for a **field trip** to be held in mid-November, over the 18th and 19th weekend to Lowes Mt and other sites in the Oberon area. He was also hoping that another field trip could be organised to the Manuka mine in central NSW south of Cobar which was described by Ian Graham and colleagues in a lecture to the September Society Meeting. It might be necessary to provide only very short notice of that trip, possibly to be held within this or the next month because the mine was currently not being worked and due to be closed. Members would be kept informed by e-mail of any arrangements.

John Chapman reported that the next **Micro-Mineral Group** meeting would be held at John Behrens' house at 1.00 pm a week on the following Saturday. The group would be studying minerals from Torrington. Any members wishing to learn more about or to attend the meetings were asked e-mail him or Graham Ogle.

John Chapman also advised that he had learned that a well-known mineral collector in South America, Alfredo Petrov, could arrange **mineralogical and collecting tours in Bolivia.** He had no information on cost, duration or itinerary but if there was sufficient interest expressed by members on possible trips he would obtain more details and report back.

Jim Sharpe reminded members about the forthcoming **Kids with Cancer sale** to be held during the 2nd of February General Meeting next year and urged members to donate specimens. He suggested that there was no need to inform him in advance of what was being donated but just to bring in the specimens to the meeting with a label including the sale price. He complimented members for their previous generosity in donating specimens for the sale which has generated near to $2,000 each year for the Kids with Cancer Foundation.

The President, Dieter Mylius, provided a brief report on the **Annual Mineralogical Seminar** in Hahndorf, S.A. over the first week of October which he and a few other Society members had attended. The Seminar had provided a number of interesting lectures and an extensive and ambitious field trip program with a large number of sites scheduled for visiting. There was also the Adelaide Gem Show to visit. Some of the field trip sites were within a short travelling distance from Hahndorf, then others further and further away to sites in the Broken Hill area.

There were a few comments from other attendees, Ann Kennon mentioning a problem she found with the hard seats in the lecture room and also that the lectures did not keep to the times provided and did not follow the printed program precisely. Overall however the event had certainly been interesting and good fun.

During his report on the Seminar Dieter Mylius, pointed out that he was wearing a T-Shirt with the A.J.M. logo, a souvenir from his attendance. The **Australian Journal of Mineralogy** was being promoted at the Seminar with many attendees complimenting the new publishing team in W.A. and Dieter Mylius recommended that Society members consider subscribing to the Journal, the next issue being due to be printed and distributed around the start of the New Year. The issue after the next one should include an article on the Tolwong deposits which had been written by members of the Micro-Mineral Group and based on an article originally written by the late Laurie Lawrence.

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'Ever heard of Quodons?'

David Colchester

After first posing the question, David Colchester commenced his lecture by stating that up to a year ago he had never heard of quodons either but in the interim had been researching the subject. As it happens there was a lecture on the subject given the previous month at the 2017 Joint Mineralogical Seminar.

Quodons, (quasi-one-dimensional lattice excitations), are the marks or tracks left in rocks and minerals by subatomic particles derived from the decay of natural radioactive isotopes in the environment or from extraterrestrial sources. They will occur in many substances but are most visible in transparent minerals such as muscovite mica. The passage of a subatomic particle through a mineral will disrupt the crystalline lattice which if it contains iron will cause the iron to change to magnetite. Quodons in mica are not uncommon and the speaker suggested that in fact members might already possess examples in their collections.

Some of the subatomic particles may be muons derived from collisions in the upper atmosphere between cosmic rays, very high-energy particles arriving from outer space, and terrestrial particles in the atmosphere. Coincidentally the speaker had heard a radio report that very morning describing how researchers had used muon detection equipment to establish that there is apparently another chamber inside the Great Pyramid at Giza, other than the ones already known.

Other radiation more commonly causing quodons was particles derived from the decay of natural radioactive elements in the environment, notably potassium-40, (^{40}K), which is a normal constituent of mica. The decay process of potassium-40 was described. It has a very long half-life of approximately one and a quarter billion years and in decaying will usually generate a beta particle and an anti-neutrino changing to calcium-40 or less commonly by the emission of a gamma ray and a neutrino changing to argon-40.

With the aid of diagrams and images of pieces of mica David Colchester explained how the particular crystalline structure of the mineral will cause quodon features to assume various appearances, of dots, patches of dots, smudges and notably of tracks oriented along the hexagonal crystal lattice directions.

The speaker finally referred to how he had come to find out about quodons which was because there had been a visitor to the Australian Museum last year, Mike Russell, whom he met, who has been working on quodons in mica for some fifty years and was to give a lecture on the subject.

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Quartz

Noel Kennon

The main lecture for the evening was given by Noel Kennon on the mineral Quartz. The lecture was extremely thorough, extensively illustrated by projected images and by a large number of specimens of quartz in various forms brought in by members for display.

The speaker commenced his lecture by noting that quartz apart from being very common is found in all environments, many forms, many habits, many colours and had acquired more names than any other mineral. As an example of the abundance of quartz Noel Kennon pointed out that sandstone underlies much of the Sydney basin. The basin is approximately twelve and a half thousand square kilometers in area and with the depth amounts to about three hundred cubic kilometers of quartz sandstone. Another much larger area of sandstone referred to was the northern part of Africa and images were shown of the Sahara dunes.

Posing the question why is quartz so abundant the speaker referred back some 4-5 billion years to the formation of the Earth and described how the major elements of oxygen, silicon, aluminium and iron formed the major minerals of quartz and the feldspars and then all the minor elements in various combinations gradually forming large and then smaller and smaller amounts of all the minerals to be found in the Earth's crust. Referring to the current 2014 edition of Fleischer's Glossary of Mineral Species No 11 Noel Kennon pointed out that it contained the names of about 4,800 minerals whereas the next edition due out next year would contain over 5,000.

The origin of the name quartz was discussed being derived from the German quarz which may have been derived from forms of the name in earlier German dialects which may in turn have obtained the name from Polish or Czech words for 'hard'. The earliest references to the word quarz seems to be from 1505 by a German physician who was a rock collector and then a little later by the mineralogist and metallurgist, Georgius Agricola, (1495 – 1555), in his book *De Re Metallica*, (On the Nature of Metals). The book was then and still is a classic, being the first and for about two hundred years the only definitive treatise on the mining, smelting and refining of metals. It was translated from its original Latin into English by a mining engineer who had worked in Australia for a period, one Herbert Clark Hoover, later to become U.S. President. Agricola was the latinised name of the author whose real name was Georg Bauer. (Agricola and Bauer are the Latin and German words for farmer).

The ancient Greeks certainly knew about quartz which they named *krustallos* which was derived from an earlier word *kruos* which meant 'icy cold' and referred to the supposition that the mineral might be supercooled ice. The Greek word has obviously come down to us as the word 'crystal'. This point led the speaker to describe the crystal structure of quartz being built up of SiO^4 ions with half the oxygens being shared with other units to form an eventual composition of SiO^2 - silicon dioxide. The mineral exists in a large number of polymorphs, minerals with the same composition but different crystal structures. A list of these was shown and the various structures explained briefly. Noel Kennon then moved on to describe the many different colours of quartz with the different names for the colour varieties, colourless, citrine, amethyst, smoky etc and providing some explanation for the causes of the colours.

The latter and larger part of Noel Kennon's lecture then concentrated on showing a large number of images of different crystals, in various forms and colours with a number of images of the natural crystals and the various gems and ornamental forms that can be cut and polished from a very useful, and plentiful, material.

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SALE OF MINERALOGICAL RECORD COLLECTION

Andy Paterson, Society member in Newcastle, is selling his Mineralogical Record collection. There are a total of 236 issues including all supplements and also a few of the Dvds, - on private collections and the Tuscon show, which have occasionally been issued with the magazines. The collection covers the years from 1981 to 2016, complete, with a few issues from 1980 and 2017. Andy would wish to sell the collection complete and has been advised to set a sale price of $1,200 but has indicated that he is willing to negotiate.

MINERALOGICAL RECORD COLLECTION FOR SALE: $1.200

'My collection of Mineralogical Records consists of 216 general issues plus 20 special issues. The collection includes No's. 3,4,5, and 6 from *Vol.11* 1980, the complete sets of Vol. 12 to Vol. 47 and No's. 1 & 2 *Vol. 48* 2017 for a total of 236 books. The publication "The Complete Book of Micromounting" by Quintin Wight would also be included in any sale.

As I fell into the habit of returning them to their mailing covers after reading, very many are in "as received" pristine condition.

Regarding price I feel that $1200 for the complete collection would be reasonable but would be willing to negotiate with any interested party.

I can be contacted by anyone wishing further information on (02) 4948 9769 or by email at *adelepaterson3@bigpond.com'*

With thanks

Andy Patterson

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FORTHCOMING EVENTS

SYDNEY CRYSTAL SHOW

Presented by RocknCrystals over Saturday 2nd and Sunday 3rd December 2017,
From 10am to 5pm at the PaddoRSL, 220 Oxford Street Paddington.

'Dealers in Minerals, Crystals, Jewellery, Fossils, Opals & more.
Great food available onsite at the RSL. **FREE Entry**
Presented by Sarah & Stu from RocknCrystals 02 9559 6737'

Websites for information:

https://rockncrystals.com.au/sydney-crystal-show/sydney-crystal-show-paddo/
rock@rockncrystals.com.au *www.rockncrystals.com.au* *www.facebook.com/rockncrystals*

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MINERAMA Fossicking, Gem & Jewellery Show

At the Glen Innes & District Services Club,120 Grey Street, Glen Innes over Friday to Sunday, the 9th to 11th of March 2018. Tailgaters will be accommodated on the King George Oval behind the Services Club.

Quoted from the Website: 'The Minerama Fossicking, Gem & Jewellery Show in Glen Innes is NSW's largest annual gem and jewellery show, attracting visitors and dealers from all over Australia. Held every year on the 2nd weekend in March, Minerama is perfect for all gem and jewellery lovers, rockhounds and outdoor adventurers. Guided fossicking field trips to suit both beginner and experienced gem hunters.

There are over 100+ stalls trading in gemstones, fine jewellery, facet rough, lapidary tools & supplies, crystals, beads, fossils, mineral specimens, arts, crafts and more. Whether you are after a two-dollar special, a gemstone of world-class quality or a unique piece of jewellery you'll find it at Minerama.'

Website: *www.minerama.com.au*

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GEMBOREE 2018

The 54th National Gem & Mineral Show, GEMBOREE 2018 will be held in Willunga Park Reserve, Railway Terrace, Willunga in South Australia over Easter, the 30th March to 2nd April 2018.

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

MEMBERSHIP RENEWAL

Membership fees are due from January 1st

Please provide your full name, postal address, telephone number/s and e-mail address (if available). Unless otherwise indicated, members giving their e-mail address will receive the Newsletter only by e-mail.

NAME: ……
POSTAL ADDRESS: ……
……
……
Telephone (ah)……. (bh)…… (mobile)…….
E-mail address …….
If an E-mail address is supplied please indicate if the member wishes to receive hard copies of any Society correspondence or E-mail only. ? E-mail only: ……. ? Hard Copy also: …….

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:

……..…… ……..……..……. ……..…….

Options for payment

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

The account details are: -

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 *grahamo@diabetesnsw.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). Cash or cheque delivered to the Treasurer, or in his absence the Secretary, at any General meeting