THE
MINERALOGICAL SOCIETY
OF
NEW SOUTH WALES INC

C/o School of Natural Science
B.C.R.I. Parramatta Campus University of Western Sydney
Locked Bag 1797 Penrith South DC N.S.W. 1797
Website: **www.minsocnsw.org.au**

NEWSLETTER

DECEMBER 2013

The Meeting will be held on Friday the 6th of December at 7.30 p.m. in the LZG14 lecture theatre on the ground floor of Building LZ in the Science campus of the University of Western Sydney on the corner of Victoria Road and James Ruse Drive in North Parramatta.

The December Meeting will be the annual

CHRISTMAS SOCIAL and SWAP N' SELL

At the December Meeting there may be a few announcements made but otherwise there will be no formal program or lecture, the evening being devoted entirely to the sale or exchange of mineral specimens and mineralogical material, books, magazines and equipment. The Meeting venue would be open some time before 7.30 p.m. so members with material to place on display for sale could arrive a little earlier to get set up.

There will be a substantial and comprehensive range of snack food refreshments organised or provided by Society members as well as a range of cool and hot drinks, beer, wine and other beverages. Pizzas will be ordered to arrive about 8.00 p.m., (a larger number than last year since the pizzas were popular and were consumed quickly). Members, guests and visitors attending the Christmas Social Meeting will be charged $10 towards the cost of the refreshments. There will be a lucky door prize awarded by raffle; tickets will be issued to each person as they arrive. Please make sure you receive one.

Members are cordially reminded that the Society Committee determined that members attending the Christmas Social who are not currently financial may buy but would not be allowed to sell minerals. Any members who were unsure of their financial status should consult the Secretary or Treasurer who will have current financial lists. Membership subscriptions for 2014 are also due from January 1st.

Membership payments may be made to the Secretary or Treasurer at the Christmas Social especially if the member is unsure of his or her financial status but members are otherwise asked to avoid this if possible in order not to take up too much time with the Committee members who would prefer to be looking at minerals.

FORTHCOMING MEETINGS For 2014

Subject to circumstances some changes to the following schedule of program subjects and speakers may have to be made in due course. The Society does not hold General Meetings in January. The first Society Meeting in 2014 will be on February 7th. Meetings will be held on the first Friday of each month throughout the year except before the long weekends of June and October when it will be held on the second Friday.

February 7th 2014: Talks by Dieter Mylius and Noel Kennon on :-
'Some British Mines & Minerals. Part I'

March 7th 2014: Lecture by George Stacey on
'My Recollections of Mt Isa – The Mine in the Spinifex.

April 4th 2014 Member's display of Skarn Minerals with a lecture by David Foster on : -
'Skarn Type Mineral Deposits'. Program to be confirmed.

May 2nd 2014: **Member's Mini-Auction**

June 13th 2014: (Second Friday of this month).
Lectures by Peter Williams on : - **'Polymorphs. A Mineral Enigma'** and by Noel Kennon on :- **'Ultra-Small Minerals and How We Can See Them'**

July 4th 2014: Talks by Gary Sutherland and John Rankin on : -
Some British Mines & Minerals: Part II.

August 1st 2014: Society A.G.M. and Betty Mayne Memorial Lecture given by Lin Sutherland on : -
'Indian Zeolites'.

September 5th 2014: Lecture by Rob Barnes on : **- 'Mineral Deposits in NSW'.** To be confirmed.

October 10th 2014, (Second Friday) : Lecture by Graham Ogle on : -
'Longbon Minerals and Rarity in Fluorescence'.

November 7th 2014: Lecture by Brian England on : - **'Kulnura Zeolites'.** Program to be confirmed.

December 5th 2014: **Christmas Social.**

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Kids with Cancer Mineral Sale
February 7th 2014

At the February Meeting there will be a **Mineral Sale** to raise money for **Kids with Cancer** and members are invited to start looking for surplus specimens that they could donate for this sale. In order to provide a sale list of specimens for distribution with the February Newsletter and to be available at the February Meeting donors are asked to contact Jim Sharpe on (02) 9871 2502 or e-mail *sharpe4min@tadaust.org.au* to advise what specimens were being donated. This information should be provided by about mid-January or the weekend of 18th/19th January at the latest.

2014 SOCIETY MEMBERSHIP FEES:

Society membership fees are due from January 1st each year. Subscription renewal forms will be sent out with this Newsletter and more are available from the Secretary or Treasurer at any Meeting. Members are recommended to provide their e-mail addresses if available in the interest of placing as many people as possible within electronic communication, not to mention cutting down the cost of posting out hard copies of the Society Newsletters. Members with e-mail capability may still wish to receive hard copy communications however and can indicate so on the subscription form.

All Society members will be registered for Personal Accident Insurance subject to their being financial members before March 31st in any year or from the subsequent September 1st when the next insurance year commences. Membership infers one person to be insured but if a member wishes in addition to insure one or more family member/s they must pay an extra $5 per person who must be named on the subscription form. Family members can only include spouse/partner and children. The subscription form with family member's name or names must be posted or e-mailed to the Secretary or Treasurer in order for the name/s to be registered.

Information on the degree/s of cover provided by the Personal Accident Insurance is available from the Society Secretary. The insurance has been arranged for a number of years now through brokers Webster Hyde Heath in Adelaide with QBE Commercial Insurance Ltd and provides a number and scale of benefits for personal injuries.

Membership renewal payments may be made by Direct Credit - bank transfer to the Society's account, details are provided on the renewal form. Receipts would not ordinarily be issued for bank transfer payments but the member should e-mail his or her completed renewal form to the Treasurer or Secretary in order for their details to be recorded, especially if these have changed or they wish to have family members registered for insurance.

E-mail to Treasurer, Graham Ogle at : - *grahamo@australiandiabetescouncil.com*
or to the Secretary George Laking at : - *bglaking@tech2u.com.au*

Payments otherwise may be made by cash or cheque delivered to the Treasurer, or in his absence the Secretary, at any General meeting or posted to : -

The Treasurer,
Mineralogical Society of New South Wales Inc.
C/o School of Natural Science
B.C.R.I. Parramatta Campus University of Western Sydney
Locked Bag 1797 Penrith South DC N.S.W. 1797

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The SOCIETY COMMITTEE

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	Jim Sharpe	Tel: (02) 9871 2502
	Gary Sutherland	Tel: (02) 9871 1379
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NOVEMBER MEETING

At the commencement of the November General Meeting the President, Dieter Mylius, reminded members about the forthcoming **Christmas Social and Swap n' Sell** at the December meeting and that since a large range of refreshments would be provided as usual members would be asked for $10 upon arrival to contribute towards the cost of the refreshments.

John Chapman reported on the forthcoming **home visit, BBQ and collection viewing** at Ken Mitchell's home in **Gerringong** on Sunday 17th November. The invitation from Ken to visit his home and view his collection had been announced at the October meeting and details had been e-mailed to members. Thus far there had not been very many persons indicating that they would be going and John Chapman recommended that those members who intended to go should advise him or Ken Mitchell as soon as possible so that Ken would know the total numbers.

For the interest of members Arthur Roffey OAM had brought in the **Order of Australia Medal** that he was awarded this year in recognition of his services to lapidary and mineralogy. The medal was placed on view at the Meeting and members were invited to look but particularly not to touch. The award was published in the **Queen's Birthday Honours List** on the 10th of June when it was announced that Arthur David Roffey had been awarded the Medal of the Order of Australia in the General Division.

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The first speaker of the evening was Jim Sharpe who initially addressed the Meeting to advise that there would be another sale of donated mineral specimens at the February 2014 Meeting to raise money for the **Kids with Cancer** charity. For the past several years the Society and the generosity of members donating specimens, had raised over $1,000 for the charity and Jim hoped that next year would reach the same target. Accordingly Jim urged members to look to donating specimens for the worthy cause and to give him information on donations by about mid-January so that a sale list could be prepared and distributed. His telephone number, address and details were provided on sheets tabled at the Meeting.

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"Coal discovered at Hornsby"

Jim Sharpe

It was probably not generally known that there is coal beneath parts of Sydney and that some of it has been mined in the past. As an introduction Jim Sharpe referred to a few specimens of coal in gabbro from the Hornsby Quarry which he had brought in to display. The gabbro found at Hornsby and from some other quarries in the Sydney basin had brought to the surface indications of coal from a seam which is about a kilometer underground.

Companies started seriously looking for coal under Sydney in the late 1890s and in putting down test bores in the Neutral Bay area found a seam about three meters thick at about 900 meters depth. In the face of objections from the more well-to-do property owners in the Neutral Bay and Mosman areas against setting up a coal mine there the Sydney and Port Hacking coal company decided to set up at Birchgrove in Balmain where there were more working-class people. Unfortunately the company in sinking large shafts found that the coal seam under that site was very thin but decided to continue working by putting drives through to Neutral Bay where they had established that the seams were thicker.

The mine was the deepest ever worked in Australia. It was full of methane, very gassy, very dusty and very hot. Mining conditions were poor with a few severe accidents and there were a number of labour disputes. Due to the various problems the mine was only worked spasmodically up to 1931 when it was closed having not been commercially successful. Since then and particularly during the War there was methane production with some success but also more accidents and gas production ceased in 1950 with shafts and boreholes being filled in and sealed.

SAMPLEITE

Separately from his description of the Balmain coal mine Jim Sharpe commended the mineral sampleite to members a few examples of which had been brought in to display. In the opinion of the speaker the best sampleite in the World has come from the Northparkes mine in NSW and specifically the E26 deposit. It has only occurred in that deposit due to the very specific chemical conditions of high chloride and phosphate in the groundwater that have prevailed there in the past. The neighbouring E22 and E27 orebodies did not contain sampleite. Whilst there was a large amount of the mineral at E26, probably more than anywhere else in the World, and by kind permission of the mine managers many specimens have been obtained by collectors over the years, the one deposit has been worked out and there will be no more of the mineral obtainable from that site. If collectors do not already have a good specimen of sampleite the speaker recommended that they try and obtain one because whilst prices at the moment may be reasonable in twenty years' time or so they may be much higher.

Sampleite, $NaCaCu_5(PO_4)_4Cl{\cdot}5H_20$ was originally found at Chuquicamata in Chile in 1942 and named after Mat Sample - at the time the mine superintendent of the Chile Exploration Company. Elsewhere in Australia there have been small amounts found at Broken Hill and Lake Boga but specimens are nowhere near as fine as those from Northparkes.

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FLUORITE

Gary Sutherland

The main subject of the evening was introduced and described by Gary Sutherland with the aid of a series of images of fluorite, many of them specimens from his own collection, displayed by the projection system. Also an impressive array of specimens had been brought in by members to display and several ultraviolet lamps also brought in to demonstrate fluorescence in the samples.

Fluorite, calcium fluoride, CaF_2, is quite common being found in a wide number of environments, in hydrothermal veins, in pegmatites, in cavities in sedimentary rocks, as a cementing material in sandstone or as a deposit from hot springs. It was named in 1797 by Carlo Napione, although it had been recognised and used for many years before then as a flux to aid iron smelting operations when it was more commonly known as fluorspar, (flow-stone). It is brittle, has very ready cleavage and a hardness of 4. The crystal system is isometric or cubic and the most common crystal forms are cubes or combinations of cubes often in elaborate stacked formations. Less commonly some fluorite may be found as octahedrons, dodecahedrons, hexoctahedrons or tetrahexahedrons.

Pure fluorite would be colourless and transparent but the mineral is mostly found in quite a range of colours. The cause of colour in many otherwise colourless minerals is sometimes not too clear but in general may be due to the replacement of some of the main metal cations with a small number of other metal ions including those of rare earth elements or sometimes organic matter. In the case of fluorite deep purple and black specimens may occur in association with uranium deposits, blue and dark violet fluorite often forms due to the development of colloidal calcium in the crystal structure; lighter blue colours may be due to replacement of some of the calcium with yttrium and green fluorite due to substitution of calcium with samarium or iron.

Although occurring in attractive colours fluorite being brittle and fairly soft is not suitable to fashion into jewellery but large pieces may be made into ornaments, vases, bowls, statuettes etc. During the course of the speaker's recent visits to the U.K. he was able to view a number of ornaments carved from 'Blue John' stone, deposits of massive fluorite having been found and mined in Derbyshire in the U.K. in previous centuries with still a small production to the present day. Some clear and colourless fluorite has been used for optical purposes to make high-quality lenses for cameras and microscopes.

Fluorite is not the only mineral to display fluorescence and many samples of fluorite are not fluorescent or only weakly so but the feature has been named after the mineral. Fluorescence will occur due to invisible ultra-violet light reacting with certain ions in a substance and raising their electrons briefly to a higher energy level when in reverting to their normal more stable level a pulse of light at a longer and visible wavelength is emitted. Studies of fluorite samples from over 350 different localities found fluorescence in virtually all colours from white, yellow-white, blue-white, blue, green, yellow, orange, red, tan, brown, pink, violet and purple. It was established that there are more than a dozen cations which can substitute for some of the calcium in fluorite and act as activators to produce the fluorescence.

After the introduction a series of speakers presented talks on fluorite particularly referring to interesting, notable or unusual specimens of the mineral from their own collections which they had brought in to display. Some of the speakers also demonstrated their UV lamps in the course of showing the colours and varying degrees of fluorescence in the specimens.

Stuart Clark

The next speaker was Stuart Clark who referred to a visit he had made some three years ago to Wollongong University to view the mineral collection in the GeoSciences Building of Wollongong University. He was introduced to Penny Williamson who showed him around the collection and described a visit she had made to the U.K.in 2011. She happened to be visiting the Rogerley mine when a new deposit was found which the operators named the 'Penny Pocket' in her honour.

The Rogerley mine in the Weardale district in County Durham, north-east England, was discovered in the early 1970s and has been worked solely for the production of high-quality fluorite specimens, mostly in green and purple colours. In the course of excavating it a number of pockets were gradually found, opened up and given various names, 'the Jewell Box', 'Blue Bell', 'Black Sheep', 'Weasel' and 'Penny' pockets etc.

A number of specimens from the location had been brought in by the speaker who noted the marked difference in the fluorescence exhibited by specimens more recently obtained from the mine which showed strong blue fluorescence even in daylight compared to ones recovered in earlier years. The speaker also drew attention to a new form of UV light which he had brought in to display which comprised a slightly flexible plastic plate with an array of ultra-violet light generating LED bulbs.

Christeena Taylor-Edwards

Christeena Taylor-Edwards had brought in a number of specimens of fluorite to display and proceeded to point them out, describing a little of the background to each of them as she spoke. The first specimen noted was from the Rogerley mine which she had particularly wished to obtain due to a personal significance, the mine being in an area near where she was born. Her grandfather had died in a coal mine accident in the Durham colliery also in the district.

The Rogerley specimen has had something of a journey on its way to the Taylor-Edwards collection having gone to Tucson, bought and brought from there by Peter Beckwith and then purchased from him in Sydney. Another specimen was one of the speaker's first purchases over the Internet and it also had a little travel history. It had been purchased from Spain but opened by customs in Australia and sent back to Spain to be re-packed and sent back again.

David Mee

The next speaker had brought in a particularly powerful 40-watt UV light and a number of his fluorite specimens to speak about and demonstrate to the Meeting. Notably the first specimen pointed out was of a fine light green dodecahedral fluorite a crystal form which the first speaker, Gary Sutherland, had noted would be uncommon. Another specimen from a locality also referred to by Gary was from the Clay Centre in Ohio, the David Mee specimen comprising fluorite coupled with celestite which is a strontium sulphate.

In suggesting that fluorite would not normally be associated with Broken Hill the speaker was able to show a small specimen of green octahedrons in a matrix of manganoan calcite from that location. He had obtained the specimen from Milton Lavers on the occasion of a Society-organised visit to Broken Hill many years ago. In checking the specimen recently with his UV lamp the speaker found that the fluorite octahedrons fluoresced blue as might be expected. However in then switching to short-wave UV it was seen that the manganoan calcite glowed a pleasing pink, the specimen thereby providing the bonus of double fluorescence from two different minerals. Another such specimen was from Morocco of fluorite on calcite providing an attractive red and blue fluorescent combination.

Using his large UV lamp David Mee checked over all the specimens brought in by other members and whilst not all specimens were fluorescent most definitely were and some spectacularly so. In speaking about fluorescence and his lamp in particular the speaker advised that in his opinion and as a general rule one could never have a light that was too strong, the larger and more powerful the better. In answer to a question he reported that his lamp would have cost about US$900 if bought in America but that he had paid about AU$1,400 in Australia, unfortunately a big mark-up.

Eric Von Werstak

The next speaker dealt with a number of his more unusual or interesting specimens which he had brought in, including another one of the 'Penny Pocket' fluorites from Rogerley. Like the previous speaker he also had a Broken Hill specimen of fluorite on manganoan calcite, in his case obtained from Noni Primrose, and which he had just learned would probably be doubly fluorescent. Also a nice bonus. Referring to another of his collecting sources there was a specimen originally obtained from Chris Parkinson's 'Rock Shop' in Lane Cove and a Mt Bischoff fluorite recently obtained at the sale in Stuart Park in Wollongong.

Arthur Roffey

Arthur Roffey professed to an affinity for fluorite generated on the occasion of one of his first visits to the Tucson Show some forty years ago. He was introduced to two dealers whose specialty was fluorite and in those days they had quite a lot of Illinois material. At the time the speaker bought quite an amount of their specimens but unfortunately did not keep very much for himself since he noted that today the prices for that material are surprising compared to the earlier years. Arthur also was on hand at

Tucson when the Tennessee mines started production and generating amounts of fluorite and he was able to acquire a number of specimens.

Referring to fluorite on celestite Arthur Roffeymentioned a mouthwatering specimen he had seen at Tucson which had been a crystal of celestite about a foot long and two inches in diameter with fluorite cubes perched all the way up either side. It had been selling for US$900 at the time and unfortunately had not been acquired. In continuing to relate his collecting and dealing experiences the speaker referred to meeting collectors and acquiring supplies of specimens from the Blanchard mine as well as specimens from Dalnegorsk and being on hand when the first of all the Chinese specimen material started coming on to the market. Examples of fluorite specimens from those sources had been brought in by the speaker.

John Chapman

The next speaker also referred to making a trip to Tucson when he had found that waiting until the end of the show when the dealers were starting to pack up was a good time to make offers for specimens which might then be cheaper. Otherwise he referred to a few of his more notable specimens including an unusual specimen from Chillagoe and an English specimen acquired from Don Watson many years ago and which had caused some dispute over its source location with a number of suggestions being offered by members.

Graham Ogle

Graham Ogle pointed out a few interesting specimens from his collection which he had brought in. The specimens were from various sources including China and some from within Australia acquired from such collectors as the late Laurie Lawrence and including some from Rumsby's Shaft near Emmaville in New England.

Dieter Mylius

The last speaker of the evening was Dieter Mylius who referred to a specimen he had brought in which had come from a location he called 'the Dodgy B-gg-r Pocket'!, apparently an address in Adelaide where he had bought it. It was a large cube with octahedral faces and was originally from China. He had also brought in a small ornament made from Blue John stone acquired when he and his wife were back-packing in England in the 1970s and had visited the Blue John mine at Castleton in Derbyshire.

In conclusion Gary Sutherland thanked all the speakers and exhibitors of specimens noting that the talks had provided a lot of information. Over the course of the talks the speakers had referred to specimens covering a wide range of localities around the World from Mae Tha at Lumphun in Thailand; Elmwood, Tennessee; Cave-in-Rock, Illinois and Ohio in the U.S.; the Hilton mine in Cumbria and Weardale in the U.K.; Okuruso in Namibia, Berbes in Spain; Dalnegorsk; the Riemvasmaak mine in North Cape Province in South Africa; several sites and mines in Mexico, and a number of sites in China.

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Sunday BBQ and Collection Viewing in Gerringong

In spite of threatening wet weather on Sunday the 17th of November about one dozen members responded to the invitation by Ken Mitchell to visit his home in Gerringong for a midday BBQ and to view his mineral collection. The weather was intermittently wet with some rain encountered during the morning drive and the travelers also found themselves sharing some lengths of the route to Gerringong with a large convoy of trucks and motorbikes taking part in an Illawarra Truck and Bike Rally.

Upon arrival visitors were very hospitably received by Ken and his wife and plied with tea and cake before moving to view a very large display of specimens self-collected just over the past year by Ken. An amount of probably some several thousand specimens had been laid out in flats, which were

counted, there were 108 of them, on a number of trestle tables in Ken's garage and extending out into his driveway. The minerals represented were mostly quartz and had been recovered mainly from several locations or areas in Queensland such as the Mt Isa area and Agate Creek but also from some sites in NSW. Apart from quartz there were amounts of blue fluorite, amounts of the main Garrawilla Volcanics minerals stellerite and heulandite and amounts of the Mullaley prehnite. Overall the large collection impressively indicated what a particularly industrious field collector can amass over a year's work.

After the collection viewing the party sat down to a substantial meal of meats provided and cooked by Ken on his BBQ supplemented by salads and cakes some also provided by Ken and his wife and some which had been brought in by the visitors. There was more fairly light rain through the midday period and into the afternoon but the visitors were able to eat lunch safely dry under a tarpaulin which Ken had erected over his house rear verandah.

Overall a very pleasant and interesting day out and many thanks to Ken Mitchell and his wife for their hospitality.

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The GEORGE SMITH BOOK REPRINT

The reprint of the 1926 book **'George Smith's A Contribution To The Mineralogy Of New South Wales'** should be ready for sale and distribution by the Society Christmas Social for $40. It will be an important historical reference and a collectable. Quoting from the description on the back cover : -

'George Smith's 1926 'A Contribution To The Mineralogy Of New South Wales' is an important reference for both mineralogists and collectors. It was largely based on observations and knowledge he gained while serving as Inspector of Mines in NSW and manager of the Consols Mine at Broken Hill. As the original is long out of print, this reproduction includes the original text and plates, new photography of some of the specimens he collected, as well as a short biography of his life'

Preparing the book for printing has taken a team of Society members well over a year of work. This has involved re-writing the entire text, correcting and proof-reading it through, incorporating a large number of recently-taken photographs of George Smith specimens in the Australian Museum collection and also including a short biography of the author by his grandson Howard Smith taken from an address given by 'Sir' Howard to the Mineralogical Annual Seminar then being held in Sydney in 1991.

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WITH REGRET

At the November meeting Arthur Roffey reported the sad news that **George Roberts** of the **Blue Ribbon Gems** mineral and jewellery company had passed away. The funeral, attended by a large number of people had been held on the day before the Society Meeting. George had been a stalwart over many years of the of the lapidary, gemology and mineralogy interest fields but over the last two years had suffered several strokes and finally passed away on the previous Monday. At the funeral Arthur was pleased to see such a large gathering of people from the different fraternities allied to the Earth Sciences craft.

There would be a vale-obituary provided in the next issue of the Gem and Lapidary Council Newsletter.

FORTHCOMING EVENTS

GEMBOREE 2014

Australia's 50th NATIONAL GEM, LAPIDARY, JEWELLERY AND MINERAL SHOW.

GEMBOREE 2014 is to be held in Gatton, Queensland, over Easter, the 18th to 21st April 2014.

Presented by the Australian Federation of Lapidary & Allied Crafts Associations Inc. (AFLACA).

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