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

NOVEMBER 2014

The November Meeting will be held on Friday the 7th of November 2014 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 program at the November Meeting will be an interactive evening on : -

Geology and Mineralogy of the Kulnura Quarry

The program will be introduced by Brian England who will deliver a lecture on the site and its minerals and will then promote a discussion with members about their finds and collecting experiences there.

Members are invited to bring in specimens collected at Kulnura and if possible to offer information or contribute to the discussion on their visits to the quarry and specimens collected.

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FORTHCOMING MEETINGS

Friday December 5th: 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 would be officially opened at 7.30 p.m. but the venue would be open from about 6.30 pm to allow members with material for sale time to get set up.

There will be a substantial and comprehensive range of snack food refreshments and drinks. Members, guests and visitors attending the **Christmas Social Meeting** will be charged $10 towards the

cost of the refreshments. Experience from previous Christmas Socials has shown that the total cost of refreshments compared to the fees collected break approximately even although with the refreshments usually costing a little more than the fees so the $10 fee is regarded as an appropriate amount to charge.

Members are reminded that the Society Committee has determined for some years 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 next** any members who were unsure of their current financial status could pay their subscriptions for 2015 from now on.

FEES:	Adult membership, Sydney metropolitan area	$30
	Adult membership, country or interstate	$25
	Child/youth (under 18 years), or student member	$20
	Family members, who must be named for registration, $5 extra each member.	

Payments may be made by : -

1. Direct Credit / bank transfer to the Society's account, details : -
   Account Name: Mineralogical Society of NSW Inc.
   BSB: 062016 Account number: 28023647

2. Cheque or Australia Post Money Order sent to : -
   The Treasurer,
   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.

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FORTHCOMING MEETINGS FOR 2015

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 2015 will be on February 6th. Meetings will be held on the first Friday of each month throughout the year except before the long weekends of April, June and October when it will be held on the second Friday.

February 6th 2015: Minitalk by Jim Sharpe on : - '**Tenorite; Not pretty but interesting'** followed by a lecture by Vera Munro-Smith on **'Cobalt Mines of the Cloncurry District'**

At the February Meeting there will also be a **Mineral Sale** to raise money for the **Kids With Cancer Foundation** and members are invited to start looking from now on for surplus specimens that they could donate for this sale. Information about donations should be communicated to Jim Sharpe by mid-January 2015 in order to provide a sale list of specimens for distribution in advance.

March 6th 2015: Report on the **2015 Tucson Show** by Penny Williamson, and a lecture by Paul Carr on **'The Burning Question of Mt Wingen – When did the Fire Start?'**

April 10th 2015: (The Meeting will be held on the second Friday. April 3rd is Good Friday).
Minitalk by Jim Sharpe on : - **'Sampleite, An Undervalued Mineral'.**
Lecture by Jeff Davis on **'Applications of Mineralogy in Forensic Science'.**

May 1st 2015: Member's Mini-Auction.

June 12th 2015: (Second Friday) Mini-talk, to be confirmed, probably on other minerals found at the Mt Knowles or at other Mudgee locations. Followed by a lecture to be given by David Colchester and John Chapman on : - '**Mudgeeite. Establishing a New Mineral.**'

July 3rd 2015: Member's Forum on **'Kingsgate Revisited'**. Overview of the history, geology and minerals. Member's experiences, mineral display and discussion.

August 7th 2015: A.G.M. and the Betty Mayne and Edna Walker Memorial Lecture to be given by Noel Kennon on : - **'The History of Broken Hill'.**

September 4th 2015: Lecture on **'The Creative Power of Groundwater'**, by Peter Williams.

October 9th 2015: (Second Friday) **'The Wonderful world of Micro-Minerals'.** Presented by the Micro-Group.

November 5th 2015: Program to be confirmed.

December 4th 2015: **Christmas Social**

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FIELD TRIP to Hartley Vale and Bathurst

Saturday & Sunday, 22nd and 23rd November

ITINERARY: Partly Social and Partly Collecting

Saturday 22nd November: Visiting the Hartley Vale shale deposits and touring the remaining infrastructure of the old shale works to view and collect. This is one of the few sites where Jet has been found, a variety of lignite coal. Possible visit to Lithgow, to be confirmed.

Overnight spent in Bathurst.

Sunday 23rd: November: Visit to the Warren Sommerville Collection in Bathurst and collecting at Sunny Corner.

For more details, please register with Edward Zbik by e-mail: etzed@optusnet.com.au or by SMS message to 0401 538 480 simply saying "registering for Nov FT" with your e-mail address.

Field trips would not be held during the hottest months. The next trip is being scheduled for the third weekend in March 2015 to the Wingen/Ardglen area.

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The SOCIETY COMMITTEE

PRESIDENT:	Dieter Mylius	Tel: (02) 9477 1060
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	David Colchester	Tel: (02) 9449 3862
	John Rankin	Tel: (02) 9482 7474
	Edward Zbik	Tel: (02) 9638 6586

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THE OCTOBER MEETING

The next meeting of the **Micro-Mineral Group** would be on the following day at the home of David Colchester and the Group would be examining the minerals of the Bunnan road cutting. Information collected by the Group after some meetings spent examining minerals from the Woodlawn mine have been collected and written up by Noel Kennon who has submitted the report to the *'Crocoite.com'* website.

Ed Zbik reported on arrangements for the next **Field Trip** which would be held over the 22nd and 23rd of November weekend to Hartley Vale and Bathurst.

The lectures for the evening were delivered by Graham Ogle speaking about two sites which he advised were both skarn deposits. The first talk was on the minerals discovered by members at Mt Tennyson over the field trip in September. A number of these specimens had been brought in by members to display to the Meeting.

Mt Tennyson Mine Field Trip and Minerals Identified

Graham Ogle

A brief history of the Mammoth Mine at Mt Tennyson was provided by the speaker who had been able to obtain information mainly from a report by a company performing exploratory work in the 2000s. The mine was opened in 1898 and worked sporadically up to 1918 mining high-grade molybdenite ore. Towards the end of this mining period exploration of the area by companies commencing with BHP during the First World War established that there was a large deposit of low-grade ore of about 0.1% molybdenum but which was not economic to be mined. Subsequently other companies have conducted drilling and exploratory work. In 1959-1960 New Consolidated Goldfields and then in the 1960s North Broken Hill investigated, also establishing that there was a deposit of about one million tons of low-grade molybdenite ore. Then in 1974 GeoPeko and finally in 2002-2012 the Moly Mines Group also came to the same conclusion.

A few pictures of the early mining operations had been found by Ed Zbik and were shown to the Meeting and then a larger number of views taken by several members of the Society field trip party arriving and working on the site. Some views were shown of the immediate countryside before the party which had taken some time to find the mine on the opposite side of the mountain from where the cars were parked, got to work on the site and spent the rest of the afternoon working. Initially after members parked over thirty cars neatly lining them up in one of the farm paddocks Peter Williams gave the party an overview of the geology of the site.

Most of the east coast of Australia molybdenite deposits are in acid-intrusive igneous rocks, some containing bismuth and others not. Mt Tennyson is situated about in the middle of the Bathurst batholith and contains some tungsten but no bismuth, unlike at Duckmaloi. Both are skarn deposits. The word skarn is from the Swedish meaning waste rock and refers to calcium-bearing silicate rocks formed after contact between carbonate and igneous rocks and may contain a variety of minerals. At Mt Tennyson the gangue rock in association with the deposit is a mixture of calcium and aluminium silicates with andradite garnet, calcite and pyrite with some molybdenite.

The field trip members were warned to look out for uncommon minerals such as betpakdalite, a complex arseno-molybdate which may have formed at Mt Tennyson due to the association between arseno-pyrite and molybdenite. Other supergene minerals may also be present. Images were also shown of the main minerals found, of andradite garnet, calcite, actinolite, some pyrite, powellite and molybdenite. A specimen with calcite had been later treated with acid to reveal a small octahedral scheelite crystal. A few smaller specimens found were of chlorite, pyrochlore and what might be wolframite.

There were also a few views of the entrance to the mine which some members entered a short way to make use of their ultra-violet lamps. These showed some powellite in the walls of the drive and also another mineral giving a slight greenish fluorescence which members became excited about but which later turned out to be quartz. The speaker referred to early work on the fluorescence of powellite and scheelite. The minerals are calcium molybdate and calcium tungstate and it was established that powellite will normally fluoresce only white but if it contains a small amount of tungstate, at least 0.5%, the fluorescence will become yellow, the more so with increasing amounts of tungstate. Scheelite on its own fluoresces blue-white.

At the end of both talks the lecture room lights were turned out for a few minutes whilst ultra-violet lamps were used to demonstrate fluorescence in the specimens which had been brought in for display.

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‘Långban, Sweden – Rarity and Fluorescence’

Graham Ogle

Graham Ogle had the opportunity to visit Långban the previous year in the course of a visit to Sweden to attend a medical conference. Långban is a mining area in the south of Sweden, about 250 klm west of Stockholm. It has been mined for about three hundred years, mining ceasing in the 1970s.

At the commencement of his lecture the speaker acknowledged help in preparing his lecture and gathering the images to be shown. He had obtained information, images and permission to use them from a number of workers and institutions. Acknowledgements were made to some of the contributors to Mindat, Knut Eldjarn and others for permission to use their images from Mindat for his lecture and also to

the Swedish Museum of Natural History for permission to use some of the historical images from the book published by the Museum, '*Långban: The Mines, Their Minerals, Geology, and Explorers'*. Acknowledgement was also made to Andrew Christy in Canberra who had written an article, *'Långban-A Short Geological and Mineralogical Description'* to which the speaker was also to refer.

To illustrate the significance of Långban Graham Ogle displayed a list of seven of the World's sites providing the most type locality species with Långban being at the top of the list with 71 type minerals, above locations such as Tsumeb with 70 and Mont St Hilaire with 60. Also mentioned in order of numbers of type minerals were Mount Vesuvius with 39, the Franklin mine in the U.S. with 35, Shinkolobwe in the DRC, (Congo) with 34, and Lengenbach in Switzerland with 32. Broken Hill would be number thirteen with 20 type minerals found so far although the speaker speculated that continuing work by Peter Elliott may add to the list.

Around 300 minerals have been found at Långban. A list of the Långban minerals was shown and the speaker suggested that most were ones that members would never have heard of and many were quite rare with thirty that have been found only at the site. Most were fairly uninteresting in appearance and not easy to identify but in spite of this the location was one of the most mineralogically significant in the World. The geology of the area features a mineralized band extending form the south-west to the north-east across Sweden and over towards Finland. There are thousands of mines across the area which have long supported substantial industrial development and economic wealth in Sweden.

The significant rocks are of Proterozoic age, about 1.9 billion years old and are essentially pale-coloured acidic metavolcanics interleaved and overlain by shallow marine sediments containing carbonates. The precursors of the ore-bodies were mainly laid down as submarine exhalations towards the end of the volcanic activity. The mineralised areas are largely metamorphosed manganese-iron deposits with complex skarns and pegmatites. The layers were strongly deformed only a little later, geologically speaking, during the Karelian Orogeny of about 1.8 billion years ago which caused a number of granite intrusions into the Långban area. These events introduced unusual elements such as beryllium, boron, antimony, lead, tungsten and arsenic into the pegmatites.

Historically Sweden probably originally obtained iron for tools from 'bog ore' which was most likely the source of the iron used by the Vikings for their weapons, helmets and tools. Whilst there are suggestions that later some iron may have been obtained from Långban up to 800 years ago, the first reference to metals there was in 1667 by an inspector Anders Malm and then another in 1711 by a Johannes Kiallman after which mining became established and continued without interruption until 1972. By the end of this period companies were mainly mining dolomite. After the building of mining, processing, roasting and smelting facilities at Långban ore was brought in from other mines in the area. Mines were initially given Swedish names such as Storgruvan and Collegiegruvan (Gruva = mine), but gradually were given whimsical names of countries, places and events elsewhere in the World such as 'Hindenburg America', 'Japan', 'Bolivia', 'Ireland', 'Scotland', 'Canberra' and 'New Zealand'.

The mineral assemblage was introduced by the speaker referring to a classification made by Magnusson in 1930. There are four types of minerals, the primary minerals including re-crystallisation products, the ore and skarn minerals formed at the peak of the metamorphism, the cavity minerals and the fissure minerals. Then looking at the types in turn the speaker described the main minerals occurring in the deposits noting that the fissure or hydrothermal minerals were the most complex with the constituent elements of the many minerals representing a substantial portion of the Periodic Table. Thirty-seven of the Långban type-minerals are manganese-containing and then there is a mixture of silicates, arsenates, arsenides, borates, sulphides, halides and vanadates.

Graham Ogle referred to an interesting and important Swedish mineral collector, Gustav Flink, (1848 to 1931). He was a collector, a significant mineralogist and a dealer and worked for a time at the Swedish Museum of Natural History as an assistant. He amassed an important collection of minerals from Långban representing about half the total known during his time with a number of new species being discovered amongst his specimens. Some of these were either described by him or by other workers after his collection was obtained by the Museum.

The speaker proceeded to show a large number of images of his trip to Sweden starting off in the city of Göteborg where the medical conference was held, then of the countryside on the way to Långban and upon arrival of the various mining areas and remaining mine buildings. There were views of the mine dumps, many of which were accessible for collecting whilst others were fenced off but the speaker managed to collect a number of specimens. He was substantially aided by information that he obtained from two contacts in America who were very helpful and able to advise very precisely where the best and accessible collecting places were including sending him a map. As a result a number of specimens were collected which back in his hotel and applying his ultraviolet lamp a few were found to be fluorescent.

Unfortunately whilst there is a museum in Långban it was closed because the tourist season had ended. However there was also a Mine School which was opened in 1830, the building is still there and was visited by the speaker. It was also supposed to be closed but a 'tourist lady' was very helpful and let the speaker in. The School turned out to have quite a collection of minerals, mostly from Långban, and a number of photographs were taken, many of the rarer minerals from the area.

One image was of a specimen of stenhuggarite, a calcium/iron antimony arsenate which the speaker noted was named after a worker Brian Harold Mason, (1917-2009), who was a New Zealand then American geochemist, mineralogist and meteoriticist. He had graduated from the Canterbury University in New Zealand then became Curator of Mineralogy at the American Museum of Natural History in New York, and Curator of Meteorites at the Smithsonian Institution, Washington, D.C. He was quite an expert on meteorites and moon rocks. In his honour workers on the Långban minerals named the new mineral after him but had to translate his name into Swedish, ('mason' having already been used). 'Stenhuggar' is Swedish for 'stone mason'.

Finally Graham Ogle displayed a large number and variety of images of Långban minerals, some taken from the School collection but most taken from the Mindat and other Websites.

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FORTHCOMING EVENTS

THE PARRAMATTA and HOLROYD LAPIDARY CLUB ANNUAL EXHIBITION

To be held over Friday, Saturday & Sunday the 7th to 9th of November 2014.
From 9.00 a.m. to 4.00 p.m. each day. At the Clubrooms at 73 Fullagar Road, Wentworthville.

Competition, demonstrations of Club activities, rocks & mineral for sale, member's work for sale, demonstrations, children's activities, sand sieving, fossicking heap, refreshments.
Wheelchair access and plenty of parking
Contacts: Ray 02 9863 1273, John 02 9635 8218

SPRING GEMCRAFT & MINERAL SHOW

by the CANBERRA LAPIDARY CLUB

Over Saturday the 15th & Sunday the 16th of November. 10.00am to 5.00pm. In the EPIC – Mallee Pavilion, EPIC showgrounds, Canberra. Gem, mineral, jewellery & lapidary dealers. Minerals, fossils, jewellery, rough & cut gemstones, lapidary equipment & supplies, opals, beads & supplies. Displays of members' collections, free sessions on fossicking & gold detecting, cabbing, faceting and jewellery making demonstrations. Entry fees: $5 adults, $9 family, $2 children/concession.

For more information telephone: 02 6260 5322 or Website *http://www.canberralapidary.org.au*

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WINDSOR JEWELLERY, BEADING, GEM & MINERAL SHOW

Saturday 23rd & Sunday 24th November 2014 in the Windsor Function Centre
on the corner of Dight & Macquarie Streets, Windsor.
Saturday open from 9.30 a.m. to 5.00 p.m. & Sunday from 9.30 a.m. to 4.00 p.m.
Admission $5, children $1. Light refreshments.
SALES of jewellery, gemstones, beads, opals, mineral specimens from all over the world,
tools and equipment for lapidary and beading work, metaphysical and healing crystals.
Inquiries to Peter Beckwith on 0412 333 150.

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MILTON LAVERS COLLECTION SALE

The very important **Milton Lavers Mineral Collection of Broken Hill minerals** is being offered for sale at the Ausrox/Crystal Universe showrooms in Port Melbourne, Victoria, over Saturday and Sunday, the 13th & 14th of December 2014. Mineral curators, Broken Hill collectors and gem and mineral club members who would wish to attend are requested to register by 1st December 2014 for security and catering purposes. Inquiries and registration may be made to the Ausrox/Crystal Universe Showroom by telephone (03) 9646 1744 or to *rob@crystaluniverse.com.au*

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The NEW ENGLAND LAPIDARY & FOSSICKING CLUB INC.

Presents the 24th ANNUAL GEM AND CRAFT SHOW

Over Saturday March 21st , 9 am to 5 pm and Sunday March 22nd 2015 from 9 am to 3 pm
In the Armidale Showground

Gems, Rocks, Crystals, Jewellery, Gifts, Craft, Beads and Lapidary Books/Supplies/Equipment
Light refreshments available. Stall holders welcome, Public Liability Insurance Required.
For details contact the organisers on (02) 6778 5122 after hours or e-mail *nelfc@hotmail.com* .

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GEMBOREE 2015 HORSHAM, VICTORIA

AUSTRALIA'S 51st NATIONAL GEM, LAPIDARY, JEWELLERY AND MINERAL SHOW.

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

GEMBOREE 2015 is to be held in the Wimmera Events Centre on Longerenong Road, Dooen, via Horsham, over Easter, the 3rd to 6th of April 2015.

Showcase displays of 1,000 + National Competition Entries, Demonstrations of gem cutting & faceting, lapidary work, enameling and beading. Gemstone identification. Trade stands of a huge range of gemstones, minerals, fossils, jewellery, beads, meteorites, lapidary equipment and dozens of tailgating stalls. Program of social activities, lectures and field trips. Camping catered for with powered sites.

Gemboree booklets, information and registration from *gemboree@victoriangemclubs.asn.au*
Information on accommodation and other information on the area from *www.visitorhorsham.com.au*
or call the Horsham and Grampian Visitor Information Centre on 1800 633 218

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The 25th Annual LISMORE GEMFEST

Presented by the Lismore Gem & Lapidary Club Inc over the weekend of the 16th & 17th May 2015 in the Lismore Showgrounds

'Now in its "Silver Jubilee" year the Gemfest will be held as long-established in the Lismore Showground. The last Show in May 2014 saw a large number of dealers and over 130 stall-holders and tailgaters who displayed and provided minerals, fossils, cutting material, cut stones, jewellery findings, tools, machinery and finished jewellery.

Information: Postal enquiries to P.O.Box 743, Lismore, NSW 2480,
General enquiries to Bruce Copper on 02 6688 8280 or e-mail : - *bcopper@bluemaxx.com*,
Tailgate enquiries to Jan Thompson on telephone 02 6621 4703.
or visit the Website *www.gemclublismore.org.au.*

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