



THE MINERALOGICAL SOCIETY OF NEW SOUTH WALES INC

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NEWSLETTER OCTOBER 2021

The October Meeting will be the **43rd Annual Combined Mineralogical Societies of Australasia Seminar** to be held by Zoom virtual mode on the theme of '**43 SHADES OF SILVER**' over Saturday and Sunday the 2nd and 3rd of October. There will be no Friday evening meeting this month.

The Seminar will open on Saturday at 10.45am and present a series of talks by speakers through to 3.00pm. The Sunday program will be the same length but starting at 11.45am through to 4.00pm since Daylight Saving will have been brought in on Sunday morning for NSW but not for all other states. The times of the Seminar sessions have been established to accommodate the different time zones of delegates.

Each day program will comprise two sessions of one and a half hours. There may be late adjustments to the schedule of speakers, subjects and the order of the lectures to be given but it is intended that there should be ten speakers representing most of the Australian State Mineralogical Societies and New Zealand who will deliver lectures on a wide range of subjects. The last lecture of the Seminar will be given by Rod Martin who will describe the arrangements for the 44th Seminar to be held next year in New Zealand. After the last lecture there may also be an open discussion.

The Zoom link for the Seminar will be sent out to all member and other state societies by e-mail with a final program for the Seminar a few days before the commencement. Members should note for convenience that they are at liberty to leave the conference at any time throughout the proceedings if they wish and connect back in later such as over the lunch break. The link will remain active for the whole Seminar period and could be used repeatedly.

'43 SHADES OF SILVER'

Saturday October 2nd 10.45 am:

Speaker	Topic
MC	Getting Connected, Welcome and Introduction
Peter Williams	Native Metals
Ian Graham	The Mineralogy of Bowdens, The Largest Undeveloped Silver Deposit in Australia.
David Colchester	Minerals and Quartz of the Manuka Silver Deposit
<u>Break</u>	
Tony Forsyth OAM	A Lost Treasure from an Iconic Tasmanian Mine
John Haupt	The Silver Mines of Germany
Graham Ogle	The Silver Mines of Laurion, Greece

Sunday October 3rd 11.45 am

MC	Getting Connected and Welcome
Ralph Bottrill	Silver Mines of Tasmania
Bill Birch	Silver King Mine, Omeo, NE Victoria
Rod Martin	Cerro Rico de Potosi, Bolivia
<u>Break</u>	

John Chapman Presentation of photo competition entries and announcement
of winners. The competition will be followed by a lecture.
John Chapman Taking great mineral photographs
Rod Martin 2022 Northland Seminar.

The SOCIETY COMMITTEE

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WELCOME

Welcome to new members Zac Rosser of Woodberry
and Krishna Ghose of Birmingham Gardens

ROCK SPLITTER

We are still trying to locate the Society rock splitter. The Society has acquired a few tools and instruments from time to time as the need arose and which were loaned out to members when requested, - but with the expectation that these would be returned in time. The rock splitter would have been lent out to someone probably several years ago now and after use they may perhaps have put away in their shed and forgotten that they were using and still have it.

Anyone who has occasionally borrowed Society equipment is asked to think back and decide whether they have the tool and if so please inform Ed Zbik on Mobile: 0401538480 or e-mail *edward.zbik@bigpond.com* or George Laking on Mobile 0468 387 899 or e-mail *bglaking@tech2u.com.au*

THE SEPTEMBER MEETING

The September Meeting was conducted in virtual mode and chaired by the Society President, Dieter Mylius, who welcomed members who were attending and particularly the lecturer for the evening, Paul Melville, who was speaking from Darwin.

Initially the President referred to the August A.G.M. noting that there had been one change to the Society Committee, Mark Walters, who had joined the Committee to in effect take Ed Zbik's place and commendably had already volunteered to take on Ed's work with the important SWMS certification process. It was expected that the Field Trip program would be continued with all of the preliminary work which that would entail except that at the moment the pandemic restrictions had put everything on hold. Dieter Mylius then referred to the Mineralogical Seminar to be held in October, also by virtual mode, the same as was presented in October last year, with unfortunately no field trips or outdoor activities.

The Seminar would be held over the same day-time slots as last year and the program with Zoom link would be e-mailed to everyone about three days beforehand. There were a number of speakers with subjects already confirmed whilst some others who it was hoped would be able to give lectures were a little wary of speaking on Zoom or about their computer connections. Further arrangements were pending but should all come together before the October long weekend.

After asking if there were any questions about the A.G.M. or the Seminar Dieter Mylius introduced the program and speaker for the evening.

The program was effectively Part II of the speaker's presentation, commenced with the April Meeting lecture of his many years travelling, exploring and collecting throughout the Northern Territory and his and other collector's experiences there.

'Top End Specimen – Producing Localities'

Paul Melville

Paul Melville advised that apart from the information being given in his two lectures on Top End mineralogy he also had an amount of information on uranium deposits in the N.T. which he could possibly present in yet another lecture to the Society. For this evening he indicated on a map the area which he would be mainly covering, effectively marked out by the three points of Darwin, Jabiru and Pine Creek, and linked up by the Arnhem, Stuart, and Kakadoo highways which delineated an approximate triangular area of the N.T. In pointing out many of the mines and mine-sites in the area the speaker stressed that apart from uranium deposits other mines were not very large operations, most being from small to medium. Over the course of his well-illustrated lecture the speaker dealt with five mines describing their location, history, mineralogy and providing a number of images of the mineral specimens recovered.

Initially Paul Melville gave an overview of the geology of the area much of which was the Pine Creek Inlier or Geosyncline of early Proterozoic volcanic rocks which hosts probably many hundreds of mineral deposits, mainly of uranium, gold and base metals with a few others such as of tantalum. He noted however that there had been a considerable upsurge in exploration in the N.T. over the last few months.

The **Woodcutters Base Metal Deposit** was discovered in 1964 by the Bureau of Mineral Resources and was gradually developed with drilling to 1983 by Peko/EZ then taken over by Nicron Resources with open pit and underground mining to 1987. Aztec Mining took control in 1990 then Normandy-Poseidon in 1994. Operations closed in 1999 followed by several years of rehabilitation. The main products were lead-zinc-silver and mixed lead-antimony concentrates which were sent to China in the

1990s. There was also some production of copper, nickel, tin and gold. Minerals were hand specimens and micros of galena, sphalerite, pyrite, arsenopyrite boulangerite, cerussite, mimetite, and corkite.

The mineral assemblage was written up by Dehne McLaughlin in the 1988 *Australian Mineralogist* and the speaker showed examples of a variety of McLaughlin specimens, of mimetite on gossan or corkite, cerussite with corkite, valentinite-geocronite-galena, and valentinite-cerussite crystals on galena-sphalerite. There were also a few Australian Museum Woodcutters specimens featured such as boulangerite with pyrite-chalcopyrite.

The next site to be described was **Mount Bonnie** which is located about 140 km SSE of Darwin, not far from the Stuart Highway. The information that Paul Melville had acquired on Mt Bonnie came mainly from accessing articles written by Brian England and Norm Robinson in 1988 for the *Mineralogical Record*. The deposit was discovered in 1903 and mined until 1916. Workings comprised two levels with internal shafts and cross-cuts and the main Sabine's Shaft. Drilling was carried out during 1917-1918 and further exploration activities between 1957 and 1982 by various companies (mapping, sampling, drilling and ore reserve calculations). The Peko/BP Joint Venture existed from the mid 1970s to the mid 1980s when a mining operation took place from 1982 to end 1985 run by a consortium of Darwin businessmen and geologists, the 'Mount Bonnie Trust'. During that operation 110,000 tonnes of ore yielded 376,170 g of gold and 3,968,944 g of silver.

The **Collecting History**: Mount Bonnie is best known for world-class mimetite and also for crystallised duftite. Early specimens of mimetite presumably from the early 1900s mining are in the Australia Museum collection provided by collectors such as George Smith. There is no further known record of collecting until mid 1973 when the American geologist and collector Demetrius Pohl was in Australia for some time and explored the '*lower adit*' when he '*acquired good specimens of mimetite and duftite*'. In between his regular work of exploring Arnhem Land prospecting for uranium he also collected specimens from Mt Bonnie consisting of light brown prisms associated with duftite in cavernous gossan which were found to be arsenian pyromorphite.

In late 1973 the appropriately-named American dealer and collector Rock Currier also visited Darwin on his way back from a collecting trip to Europe, India and Asia and meeting up with Demetrius Pohl spent two days collecting in the '*? lower and in the intermediate level*' adits at Mount Bonnie. In the former they found duftite, the arsenian pyromorphite and tabular yellow mimetite crystals. Interestingly they also found under some rubble a newspaper dated 1918 on which "*tiny thin needles of pyromorphite were growing*" ! Then later, according to the 1988 *Mineralogical Record* article, Australian collector and dealer Norm Robinson '*systematically and single-handedly mined the gossan specifically for specimens over a period of 19 months between 1977 and 1979*'. It was stated that over the period Norm Robinson successfully collected thousands of specimens.

Not recorded in the article was that during the open-pit mining by the Darwin-based consortium specimens were not generally saved from going through the crusher since most of the mine geologists had no idea of the value of the specimen material. Fortunately however the chief geologist did collect a few samples. One of these was in the speaker's collection and another was taken to Darwin and for a time stuck in a garden rockery until it was rescued by Rob Sielecki of AusRocks. Paul Melville believes that he may have seen that specimen later at Tucson in 1990 carrying a price tag of US\$30,000 ! He was not sure but believed that it might eventually have gone to the private museum in Beirut.

The speaker was able to show a number of images of fine mimetite and some other mineral specimens from Mount Bonnie the captions noting that they had been variously collected by a number of familiar collectors, George Smith, A.E. Williams, Peter Nicholson, Harvey Henley, Dehne McLaughlin, Norm Robinson, Rock Currier and Demetrius Pohl. A few views were also shown of the mine open pit and dumps.

MOUNT BONNIE SPECIMENS



Mimetite 8.5x5x5 cm. P Melville collection,
Ex D McLaughlin



Mimetite 14x11x5 cm. P Melville collection.
Collected by Peter Nicholson from the
Mount Bonnie Open Pit operation 1982-1985



Mimetite. D Pohl specimen Collected
December 1973 upper adit level adjacent
to Sabine's Shaft



Arsenian Pyromorphite with Duftite
D Pohl specimen. Collected lower
adit, December 1973.

The next mine to be described was the smaller operation of **Mt Shoobridge** – the '**Pyromorphite Prospect**' which is located about 130 km south of Darwin and near to the recently-closed major gold deposit the Cosmo Howley Mine, and to the 'old' Stuart Highway. The area was better-known for tin mining (with accessory tantalum), the geology comprising pegmatites and greisens etc related to the Mt. Shoobridge granite. There were also gold, base metal and uranium occurrences in the area in Lower Proterozoic meta-sedimentary host rocks. Tin mining was carried out intermittently from the 1880s and continued to the 1930s

Dehne McLaughlin whose collecting activities in the Northern Territory has had some significant impact over the previous 20-30 years first collected at the Pyromorphite Prospect in 2004 and took specimens to Tucson. A few years later Dehne took out a Mining Claim and the first excavation took place in 2010, with the recovery of further specimens.



Mt Shoobridge Pyromorphite 8x6x4.5 cm.
Collected 2004 P Melville collection



McCarthy Pyromorphite 7x5x3 cm
AM D59722 Collected 1987

McCarthy's Lead Prospect is located approximately 12 km south-west of the Moline mine complex in the Pine Creek region. It was also a small operation comprising a one meter wide lode worked from several shafts from 1912 to 1918. Workings extended to around 25m depth. Total production was 570 tons of ore containing 70% lead and 10oz silver per ton. Dehne McLaughlin 're-discovered' McCarthys in the early 1980s, finding reasonable specimens of crystallised pyromorphite.

The **Evelyn Mine** lead-silver-zinc deposit is located approximately 4.5km north-west of the Moline minesite, and 400m north of the Kakadu Highway. It was historically worked from 1886 to 1890 by shafts, adits and open cuts. There was some drilling and shaft sinking in the mid-1950s by the Zinc Corp and in the 1960s some underground development and exploratory drilling by the United Uranium NL company. The deposit comprised nine small lodes, max width 1.5m and 75m strike length in the Carbonate host rock, (dolomite, - Koolpin Formation), very altered within a zone of brecciation, silicification and hematization. Total recorded production was 2200 tons of ore containing 600 tons lead and 89,000 oz silver, principally from the oxidized zone. A number of minerals were recorded and collected. Those illustrated by the speaker were cerussite, anglesite, hemimorphite, hydrozincite, aurichalcite, linarite, rosasite and malachite.

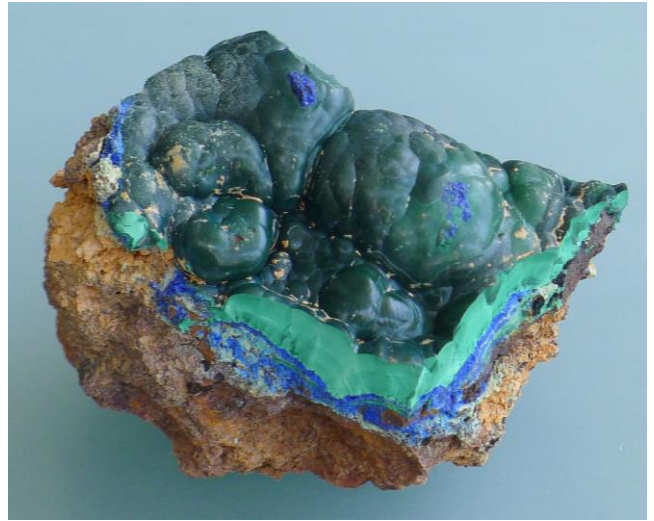
The **Sandy Flat Copper Deposit Redbank District** is located in the NT's 'Gulf Country' adjacent to Highway 1, approximately 30 klm west of the NT / Qld border - and 200 klm ESE of the McArthur River mine. In the early 1990s Dehne McLaughlin was permitted to collect from the dumps of the Sandy Flat Mine and with others wrote up a report for the Australian Journal of Mineralogy. (Volume 6, Number 1, June 2000. - *'Minerals from the Sandy Flat Pipe, Redbank, Northern Territory'*, by D.McLaughlin, A.Ramsden, J.Sharpe & P.A.Williams).

Several trips produced specimens of cuprite (chalcotrichite), libethenite, pseudomalachite, azurite-malachite, native copper and pyrobitumen. The Sandy Flat mineralisation is breccia-pipe hosted – 130m wide and 330m deep. The country rocks consist of acid-intermediate volcanics. The pipe is overlain by sandstone and there is a zone of supergene enrichment, mainly chalcocite, which is underlain by primary sulphides, principally chalcopyrite. Mineral specimens recovered and some illustrated were malachite, azurite, cuprite, chalcotrichite, pyrobitumen, libethenite, pseudomalachite and native copper.

At the end of the lecture there were a few questions put to Paul Melville initially on on mineral and mining developments in the Northern Territory which prompted a lengthy discussion with a number of members joining in, contributing and sharing information and anecdotes on their collecting, travelling and exploring experiences. Notably many of the anecdotes were about member's knowledge of, discussions with or dealings with Norm Robinson.



Native Copper with Pyrobitumen 5x5x4 cm
Sandy Flat Mine. P Melville collection



Malachite with Azurite 9x7x7 cm
Sandy Flat P Melville collection

FORTHCOMING EVENTS

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/>
