

# Mineralogical Society of Western Australia Inc

## March 2011 Newsletter

### Editorial

Thanks to all those people who have contributed articles to this newsletter.

Contributors to the newsletter should submit articles at least a week before the next meeting. Late articles may be held over to the following newsletter. Members may submit short adverts free of charge.

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### Contents

	page
Editorial	1
Contents	1
April Meeting	1
Future Meetings	1
Joint Mineralogical Societies of Australasia 34th Annual Seminar	1
Kryptonite;-) by Sue Koepke	2
Digital Microscope Workshop by Alan Longbottom	4
Thoughts on mislabelled specimens by Sue Koepke	5
Publications (summary by A. Hart)	7
Field Trips	9
Committee and contact details	9
Microscope Availability	9

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### April Meeting - Wednesday 6<sup>th</sup> April 2011

Starting at 7:30 pm at the WA Lapidary Club rooms 31 Gladstone Road Rivervale.

**Speaker: Craig Bosel**

**Topic: "The Tucson Gem Show"**

**Visitors Welcome.**

**Light refreshments provided after the meeting.**

### 2011 Future Meeting Dates

Wednesday 1<sup>st</sup> June Speaker: Peter Downes Topic: "The Diamond Collection"

Wednesday 3<sup>rd</sup> August Speaker: Mike Freeman Topic: "Opal"

Wednesday October Speaker(s): To be Announced Topic: To be Announced

The next Joint Mineralogical Societies of Australasia 34th Annual Seminar will be held in Melbourne 11<sup>th</sup> to 13<sup>th</sup> June 2011, at Gemmology House 380-382 Spencer Street, West Melbourne. The theme will be "Mineralogy into the future".

Application forms from the Secretary.

We (Western Australia) are putting a proposal to hold the seminar in Perth in 2012 with a theme of "Rare Earth Minerals". This proposal will be put to the meeting of the joint societies at the annual seminar in Melbourne.

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## Kryptonite ;-)

by Sue Koepke

Imagine my surprise when I spotted "kryptonite", a sodium lithium boron silicate hydroxide, in a German mineral dealer's room at the 2011 Tucson show. There it was, a tiny fragment of dull whitish rock in a little plastic box.



kryptonite (jadarite)

The label read jadarite, of course, from the Jadar Valley, Serbia. Back in 2007 - when I announced at the June Min Soc WA meeting that a new mineral matching kryptonite's unique chemistry had been identified and that it was to

be named jadarite (after the locality) - I never thought that I would see this mineral unless I had a very good reason to view it at the Natural History Museum in London. Nevertheless, I burned jadarite into my consciousness.

Unlike Superman's bane kryptonite, the real mineral jadarite is harmless. It is not green but white, and although it doesn't glow like kryptonite, it fluoresces a pinkish colour. Jadarite has the formula  $\text{LiNaSiB}_3\text{O}_7(\text{OH})$ , hardness 4-5, and is monoclinic. It occurs as a massive white aggregate, with some fragments having very thin grey veinlets of Searlesite<sup>1</sup> running through it.

Having discussed the provenance, I duly completed the purchase. My resolve to only add nicely crystallised mineral specimens to my collection was completely overridden by the irresistible novelty value of this mineral species.

My grandson Jacob collects rocks and might eventually inherit a jadarite specimen from the Jadar Basin. Until that day comes, I shall enjoy the 'bragging rights'.

**Acknowledgements:** I thank Pete Williams and Mike Rumsey for their good advice

<sup>1</sup> Mike Rumsey, Mineralogist, British Museum of Natural History, personal communication 2011.

### References and further reading:

BBC News (2007), 'Kryptonite' discovered in mine, April 24. <http://news.bbc.co.uk/2/hi/6584229.stm>

De Fourestier, J. (2005), *The Mineralogy of Star Trek*, April 1. <http://www.minrec.org/pdfs/STAR%20TREK%20Article.pdf>

Natural History Museum (2007), *Superman beware, kryptonite is real*, April 24. [http://www.nhm.ac.uk/about-us/news/2007/april/news\\_11392.html](http://www.nhm.ac.uk/about-us/news/2007/april/news_11392.html)

Ralph, J. (2002), *Mindat.org.database*. <http://www.mindat.org>

Stanley, C. J., Jones, G. C., Rumsey, M. S., Blake, C., Roberts, A. C., Stirling, J. A. R., Carpenter, G. J. C., Whitfield, P. S., Grice, J. D. and Le Page, Y. (2007), Jadarite,  $\text{LiNaSiB}_3\text{O}_7(\text{OH})$ , a new mineral species from the Jadar Basin, Serbia, *European Journal of Mineralogy*; July/August; v. 19; no. 4; p. 575-580

Whitfield, P. S., Le Page, Y., Grice, J. D., Stanley, C. J., Jones, G. C., Rumsey, M. S., Blake, C., Roberts, A. C., Stirling, J. A. R. and Carpenter, G. J. C. (2007),  $\text{LiNaSiB}_3\text{O}_7(\text{OH})$  - novel structure of the new borosilicate mineral jadarite determined from laboratory powder diffraction data. *Acta Crystallographica, Section B*, v.63, p. 396-401.







## Digital Microscope Workshop by Alan Longbottom

Most mineral collectors, especially micromounters, would love to be able to take a decent photo of their specimens. Just think how much easier it would be to show friends, share information, even print some to have on the wall. I have been trying various camera/lens(normal & reversed)/microscope combinations over the recent years with mixed results. The one constant has been the considerable amount of time needed to set up the equipment and lighting. At least digital cameras have made viewing of the images much simpler and faster.

So the offer from **Michael Verrall**, Manager, CSIRO Electron Beam and X-ray Laboratories, to run a workshop on our new digital microscope was more than enough to have me committed to the 400km round trip. To be shown by a specialist is not an opportunity that comes along every day. Armed with a few, hopefully suitable, specimens, I left Leschenault early. The run north on the Forrest/Kwinana and onto the Roe was great, even Orrong was easy (I know it was Sunday but one cannot take chances) so I had 45 minutes for a packed lunch and chat with Tony and Clive.

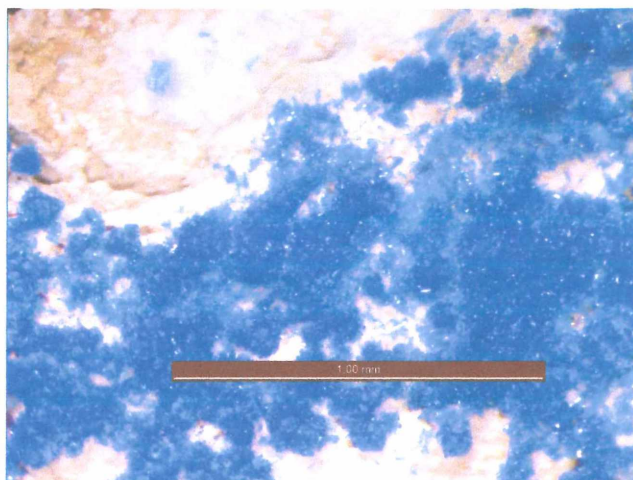
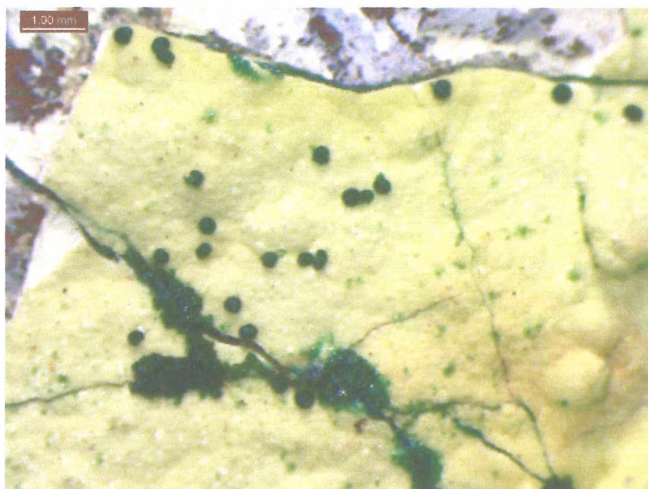
Others arrived and it did not take long to set up the digital microscope and laptop. The connection to the projector refused to co-operate but we made do with the computer screen. Stewart briefly outlined the basics of the system and then introduced Michael who took us on a guided tour of the mechanics and software program needed to capture images. The program is a bit complicated but, with a bit of help from Michael and Stewart, some of us worked our way through to produce quite acceptable results.

I don't want anyone to think it's just a matter of plonking a specimen under the 'scope and pushing a button but I am sure, with a bit of experience, set steps would be quite simple to follow and it certainly is faster than what I have found with setups I have used in the past, particularly for small crystals. If the Branch can accumulate a library of photos, taken by members over time, I believe the system will be considerable help for identification of specimens and will play quite a part in promoting awareness and interest in our hobby.

Special thanks are extended to Michael for the presentation on the day, I am sure we all could see the potential of this technology and I, for one, am looking forward to my next chance to 'have a go'.

(ed's note) Also special thanks to the Lotterywest for granting us the money to buy the microscope and associated equipment.

Alan Longbottom



**Two of the minerals taken using the new equipment. On the left is gillardite (dark green) while the mineral on the right is probably ashburtonite. Both specimens provided by Clive Daw.**



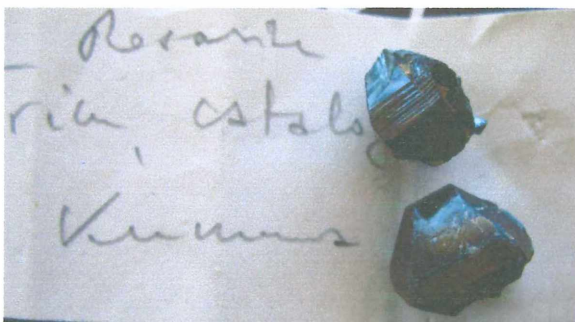
## Thoughts on mislabelled mineral specimens by Sue Koepke

Not too long ago, my ability to recognise mineral species was quite limited. I tended to trust all the various rock collectors and mineral merchants around Australia. Many acquisitions were added to the growing hoard according to what it said on the label.

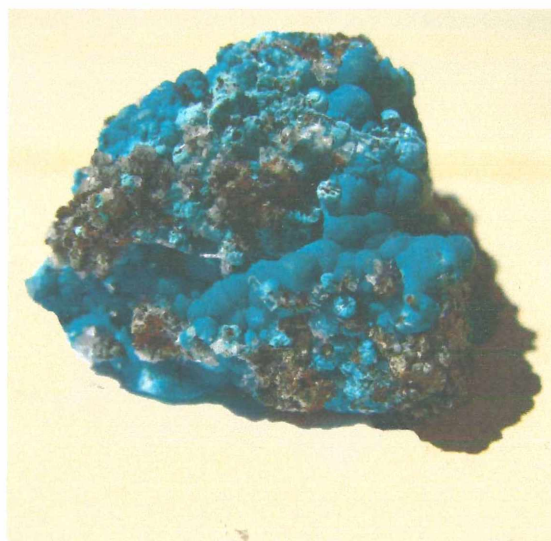
With specimen numbers increasing at an exponential rate, I eventually installed some Ikea shelves and displayed my minerals according to chemical classes. All calcites together on one shelf, dolomite, siderite and rhodochrosite on the next, then more carbonates such as malachite, azurite and rosasite on the shelf below.

As I had purchased the tail-end of the Jiri Just collection which came with some rare species (some of which I had been freely giving away), Ben Grguric visited my home about a decade ago. Imagine his horror when he spotted my two 1.5 cm large lustrous black crystals labelled rosasite, Kununurra. Experienced collectors immediately recognise these specimens as cassiterite (a tin oxide). After the previous owner's untimely death, the proper specimen waiting to be catalogued presumably became separated from the piece of paper, which ended up in my house accompanied by the wrong specimens.

While I was already familiar with many common species, I had never read about rosasite. It dawned on me that many years of serious reading lay ahead.



Label should read: Cassiterite, loc. unknown



Rosasite from Arizona

A few years later, I had the good fortune of George Stacey's tutelage, visiting the Tucson and Munich mineral shows several times. George introduced me to many prominent collectors whose collections I had the great privilege to view. In addition, we visited public collections in Australia, Europe and the USA. I found myself on a steep J-curve learning by osmosis.

George made sure I learned about provenance and localities, and always read labels carefully. Many well documented localities have produced quite distinct mineral specimens that can be distinguished from the same species occurring elsewhere. Although public collections are generally labelled accurately, the occasional label mistake does occur, including incorrect locality, wrong species and 'typos'.

Of great concern are situations where specimens can be temporarily separated from their labels during relocation or while being cleaned, placed into storage or on display. Firstly, there is the potential of contaminating science if the wrong label is allocated to a specimen. Secondly, there can be (financial) loss if a specimen on loan is inadvertently or deliberately swapped or substituted before being returned.



Following the 2005 Joint Mineralogical Societies Seminar in Perth, many field trip participants visited the Hall of Fame in Kalgoorlie. Some lovely minerals were on display, notably a specimen labelled manganpyrosmalite from Broken Hill, NSW that appeared to be studded with spalerite crystals, and a specimen labelled sphalerite from Treece, Oklahoma with a gorgeous crystal of what looks to the seasoned collector like manganpyrosmalite in the centre. George immediately expressed his concerns about this apparent mix-up and pointed out the potential consequences.



Does this look like sphalerite, or is it manganpyrosmalite?



Does this look like manganpyrosmalite, or is it sphalerite?



Then, there is greed and deception. In the past, unscrupulous sellers at Gemborees may have falsely claimed that their specimens came from Torrington or Broken Hill, presumably to obtain a higher selling price. There has also been a period during the 1990s when "povondraite" (much rarer than dravite, and more expensive) from Yinnietharra was on the market. The material was most likely black dravite. Unfortunately, "povondraite" from Yinnietharra is still being offered, but I suspect this is due to the seller's label remaining uncorrected rather than mischief. I was glad to note that this seller's rosasite appears to be the correct colour, unlike mine.

Last but not least, there is the innocent mistake or oversight by the mineral dealer. Oftentimes qualified in earth science, he may have experienced a temporary lapse of concentration, or passed on specimens as he acquired them from his supplier.

Purported eudidymite (a silicate of Be) specimens from Pakistan may well turn out to be merely albite. A dead ringer for celestine in calcite from Chihuahua, Mexico, in my possession was labelled "kernite". At this point I should mention that at the time of purchase I regarded the label with great suspicion, but desired the specimen.

In 2010, a pale "green pyrope" from Ghazni Province, Afghanistan, appeared on the market. To the best of my knowledge, pyrope is red (or a shade thereof). While the endmember knorringite of the knorringite-pyrope series is green or blue-green, it has so far only been reported from the type locality Kao Kimberlite Pipe, Butha-Bothe, Lesotho, and Red Ledge Mine, California, USA. In any case, the conditions required for the formation of knorringite-pyrope do not correspond to the reported geologic setting of the Ghazni Province. Other green garnets such as Goldmanite and Uvarovite can most likely be excluded as well.

A brief internet search for suppliers of "green pyrope" yielded SoCal Nevada (<http://www.socalnevadausa.com/servlet/StoreFront>), a merchant who also sells various apparatus, flux grown zircon crystals and postage stamps. No specialist mineral dealer offering "green pyrope" could be found.

Let's fast-forward through a process of elimination, being left with Grossular or Andradite. Visually, the material from Afghanistan labelled "green pyrope", particularly specimens with well developed 3-dimensional crystals, resembles Andradite var. demantoid. Furthermore, it helps that finds of andradite var. demantoid have been reported from Ghazni Province, Afghanistan.

The odds are that most commercial grade specimen material labelled "green pyrope" from Ghazni Province, Afghanistan, is not a rare yet to be described new mineral, but a common species such as Andradite. I look forward to learning more about this particular mineral find.

**Acknowledgements:** I thank Ben Grguric and George Stacey for their much valued guidance over the years.

## **Publications**

### **"Gold!" by David Hill**

#### **subtitled "The fever that forever changed Australia GOLD!"**

This book covers the discovery of gold in the various states of Australia and the resultant gold rushes. Gold was one of the few ways in which poor people could become rich. At the time of the first gold rush, gold was worth £3 per ounce, while the annual salary for a labourer was between £20 and £30. It describes how Hargraves got the fame, credit and reward for the discovery of gold at Ophir in NSW in 1851 (even though gold had previously been found at the same place, eg William Tipple Smith on 24 January 1849) amongst much controversy and counter claims. The first known recorded discovery of gold was in 1823 by James McBrien (a government surveyor) who found gold near Rylstone. A reward was offered by the NSW government in 1849 for the discovery of payable gold in an attempt to stop the flow of men to California. Prior to this gold discoveries met opposition from the authorities who feared an uprising from the prison population.

Only a few weeks after the gold rush in NSW an even larger gold discovery was made outside Melbourne. Within 10 years Victoria's population rose from 80,000 to over 500,000 with Melbourne



overtaking Sydney as Australia's largest city for 50 years. The gold rush caused severe problems with shortage of labour and newspapers reported prices and wages rising. Many found easy gold such as the story of 5 men in a hole for 15 days making a profit of £1800.

Even though there is a whole chapter on the Chinese the anti-Chinese sentiment by many, the mistreatment of the Chinese and state laws discriminating against the Chinese is spread throughout the book.

The events leading up to and after the Eureka Rebellion are discussed.

The book describes the finding of the world's biggest nugget at 11pm on 10 October 1872 in the Star of Hope mine. This nugget is known as the Holtermann Nugget, it measured 150 cm by 66 cm and weighed 286 kilograms. It was photographed before it was moved and later broken up.

With the discovery of gold at the Palmer River in north Queensland warnings were given about the dry season where one could die of thirst and the wet season and the wet season where there was no way of getting back across flooded rivers. However, the lure of gold was too much and the warnings went unheeded. There is the story of the person who died of starvation with 18 pounds weight of gold under his head. Later when gold was discovered at Halls Creek in the Kimberley range in northern Western Australia the newspapers warned of the harsh conditions but these were again ignored.

The discovery of gold at Coolgardie by Arthur Bayley and William Ford in June 1892 sparked the gold rush of 1892. Nine months later by Paddy Hannan found even more gold 40 Km further east at Kalgoorlie. These goldfields were very remote being over 500 Km from the west coast and over 400 Km from the south coast in an area receiving less than 3 cm per year and having no running water with little vegetation or wildlife. The scarcity of water meant that there was no water for washing and showering with many perishing due to the harsh conditions. The water problems were finally solved by the opening of the pipeline from Perth to Kalgoorlie designed by C. Y. O'Connor. Also discussed were the use of camels and bicycles on the goldfields.

No story of Australian gold would be complete without mention of Lasseter's Reef. The final chapter is on Lasseter's Reef, telling the story of Lasseter's life and how he convinced union boss John Bailey to search for the reef. Even though there were discrepancies with his story, people wanted to believe it. It continues with the events that lead to Lasseter's death, and his claim in his journal that he refound the reef and pegged it.

The book contains 497 pages with 11 pages of bibliography. There are 37 photos and illustrations in the centre including photos or illustrations of Hargraves, Countess Lola Montez, Henry Lawson, Harrold Lasseter, Peter Lalor, Otter Holtermann and the world's biggest nugget, and illustrations of the goldfields. The book is made more interesting by stories of individual people backed up by extracts from newspapers or personal letters. These stories include the trip out from England, travelling to or from the goldfields, conditions on the goldfields, daring robberies, etc., and include people such as Lord Robert Cecil who later became prime minister of England and Herbert Hoover who later became president of the U.S.A. The book is more about stories of people and conditions of the gold rushes rather than documenting every single event. Some West Australians may be disappointed that I could not find any reference to the Golden Mile or the tellurides at Kalgoorlie, however, the book still makes interesting reading.



## **Field Trips 2011**

By arrangement members of the mineralogical society are able to go on field trips organized by the Western Australia Lapidary and Rockhunting Club inc.

If you are interested in attending these field trips please put your name on the notice board at the Lapidary and Rockhunting Club for the relevant field trip.

Please register with MINSOC Field Trip organizers prior to attending any of the following events, but only if you are a current (financial) MINSOCWA member to confirm event details.

THE WESTERN AUSTRALIAN LAPIDARY AND ROCKHUNTING CLUB INC. 31-35 Gladstone Road, Rivervale, 6103. Rivervale W.A.	
PROPOSED 2011 ACTIVITIES & EVENTS	
April 22-26	Trip to Ravensthorpe staying at Ravensthorpe caravan Park ph 9838 1050 (make your own booking)
May 15 <sup>th</sup>	City Walk (more details later)
June	Exhibition – no trips
July 9 <sup>th</sup> -24 <sup>th</sup>	long Rockhunt to Northwest Goldfields start Mt Magnet and finish Kalgoorlie
August 14 <sup>th</sup>	Moora for Chert
Sept 18 <sup>th</sup>	Hobbs Farm rocks and minerals
Oct 1,2,3	Hyden Area for wildflowers
Nov	date to be announced bus trip to Kemerton Refinery
Further 2010 activities and events will be published during the year	

OS&H – Yes, occupational, safety and health applies on field trips

Please make sure you have the normal safety gear – field boots and hard hat Plus carry extra drinking water. Take sun screen and fly repellent. Drive safely

Particularly important for group field trips:-

Please register your details with excursion organizer – name, car rego, mobile telephone

Please follow instructions by excursion organizer and if you need to leave a field trip early, advise organizer.

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Committee Members	
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Sue Koepke - Secretary/Treasurer ph 0417 990 688	Allan Hart - Newsletter Editor
Mignonne Clark – Vice President / Field Trip Officer ph 0418 955 979	Vernon Stocklmayer
Susan Stocklmayer	
Society e-mail addresses	
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Mineralogical Society WA Newsletter : minsocwa.newsletter@hotmail.com	

### **Microscope Availability**

The microscope is available for use by members from Wednesday 6<sup>th</sup> April. Please contact the secretary for availability and conditions of use.

When using the microscope there must be 2 members present at all times, at least one who has done the microscope training. Taking images home can only be done on a new USB stick.