



GAA

Gemmological Association of Australia

The Australian Gemmologist

July – December 2017

Volume 26
Number 7 & 8
combined



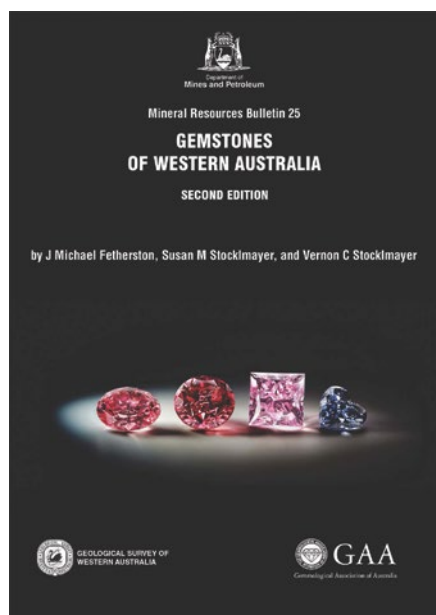
In this issue:

Australian cassiterite and chrysoberyl: gem and mineral specimens from the Natural History Museum, London

Riverina emerald deposit revisited

Investigation of the porosity of some opaline siliceous materials

Report on the International Gemmology Conference, Namibia October 2017



Gemstones of Western Australia Second Edition 2017

Mineral Resources Bulletin 25

By J. Michael Fetherston, Susan M. Stockmayer and Vernon C. Stockmayer

Published by the Geological Survey of Western Australia (GSWA), Department of Mines and Petroleum (DMP)*. Mineral Resources Bulletin 25 is a joint publication between the GSWA and the Gemmological Association of Australia (WA Division).

The second edition of *Gemstones of Western Australia – Mineral Resources Bulletin 25* (A4 print) by the same authors as the first edition of 2013 (which sold out early in its print run — both hardback and softcover), is presented in a similar format and design but is revised with extended explanatory material, updated locality detail, high quality photography, figures and maps. The language is more succinct although the book's size has increased from 306 to 356 pages. Both editions are heralded by striking cover photographs of Western Australian diamonds: the 2013 edition shows a parcel of fancy yellow rough from the Ellendale field while the second has a snapshot from the 2014 Argyle Pink Diamond Tender with cut Argyle red, pinks and blue diamonds.

The second edition categorises gemmological groupings across the mineral/rock continuum into sections from 'diamond' through the more common mineral suites (i.e. beryl group, topaz group, quartz group) to 'precious metals', and 'decorative stones'. Each section is divided into chapters devoted to specific mineral suites – for

example diamond, or as the case provides, rocks of a gemmological kind – banded iron formation (BIF) i.e. tiger iron, tiger eye (hematite/crocidolite); Chinese writing stone; mookaite; orbicular granite; tektite; zebra rock and others evocative of Western Australia (WA), and favoured by lapidaries. In this regard, it's good to see the enlarged section on 'ornamentals', and 'decorative stones'. There is obviously room for designers, architects and builders to incorporate the wealth of WA material into their creative works. The book's frontispiece is a superb photograph of tiger iron from the Ord Ranges, Pilbara Region.

Mineral Resources Bulletin 25 has a comprehensive contents page, and, as a useful quick guide for the skimming reader, there is one appendix at the back (p. 333-349) which lists gem localities within their relevant geological setting (tectonic unit) and mineral field.

Mapping coordinates are given but not GPS data. Also listed are mines, mineral deposits, prospects and general information. All in all, the appendix provides an easily read summation of the content, supplemented by two detailed indexes.

On first reading I felt like writing on each chapter but that seemed akin to taking away the discovery of the intriguing information to be found, something like reading the plot before the book. There is much to be discovered. I have chosen therefore to comment on aspects worthy in my view of mentioning.

Chapter 1 gives a broad summary of the book's scope including geological and mineralogical setting, and a discussion on the specifics of gemstones – their colour, shape, hardness, and what to look out for. Furthermore, as a sensible inclusion into the book, is a discussion on field and vehicle preparedness and bush survival, essential matters for working within a State of 2.5 million sqkms much of which is remote, rugged and extreme.

Chapter 1 is followed by Section 1 on diamond, which oddly is chapter 2. The discourse however is comprehensive (15 pages) giving a worthy outline of the WA diamond industry, the resource, its history, prospectivity and development.

Section 2 reviews gemstones associated with pegmatites (beryl, tourmaline, feldspar, topaz etc.) and the now highly sort after lithium minerals – spodumene, lepidolite and petalite; although these are now valued as industrial product for the globally expanding electronics industry. Section 3 incorporates siliceous materials, mostly quartz in its many forms and gemmological varieties; and opal and fossilised wood. The chalcedony group is treated in most detail which is to be expected as in some respects, this family of siliceous materials

represent a 'type stone' for Western Australia.

Section 4 relates to marine and freshwater organic materials with emphasis given to the Northwest and Abrolhos Islands pearling industry, and the history of periculture (pearl related aquaculture) in State waters. Other organics are cursorily mentioned but there are some beautiful examples shown of shell, opercula and even shark teeth carvings. These have given rise to a bespoke local fine jewellery industry. This same comment also applies to the next section (5) on precious metals – gold and silver in jewellery.

Section 6 gathers the other minerals and gemstones - andalusite, chrysoberyl, cordierite, the corundum family, copper, garnet etc. The short discussion on each is illustrated with geological sketches, elegant photographs and some superb descriptive figures. Section 7 is similar in its coverage, but devoted to the decorative and ornamental stones, comprising 82 pages, as outlined above.

It is reasonable to ask "what might be missing, misleading or difficult with this second edition?" My response is — nothing much, with the most obvious being its bulk. It would be a problem carrying this 1 kg, 300+ page 'tome' in the field, but carrying it is a must for a fulfilling, educative experience. Moreover, as indicated earlier, Appendix 1 is useful giving gemstone localities based on the Western Australian 1:100,000 geological map series with Easting and Northing coordinates. It is advised on pages 8/9 to consult the State's comprehensive mineral resources and geological data bases (including maps) which are outlined and available for download on-line. I agree, and furthermore it is my view, it would be best to carry the appropriate maps. Notably, if GPS coordinates only had been provided you could well be taken to your chosen site - probably via a convoluted track – but you would lose the context of the site's topography and geological setting. That information is invaluable so be properly prepared, that is also the authors' advice.

On the other hand, the book may have been intended as an office reference or for home reading to inform, encourage and aid in planning before the thrill and enjoyment of being "out there and discovering". It fulfils that role as well.

Notably while it is about rocks and minerals in their natural setting, this book is neither a journal of gemmology or mineralogy, nor of lapidary or jewellery, it is simply a richly informative guidebook.

The second edition of the *Gemstones of Western Australia* will fire the interest and curiosity of many people, mostly but not exclusively those enthused by gemmology, mineralogy, fossicking, rock-hunting and lapidary/jewellery.

Book reviews

It is also for the inquisitive geologist, 'explorationist', and as I observed earlier – for designers, architects and builders who all will gain from a reading of this professionally written and produced publication.

Mike Featherston and the Stockmayers have made a valuable contribution to the knowledge of Western Australia's natural resources and to the status of earth science for this region. The editors and other publication specialists are acknowledged for their collective effort in bringing this colourfully illustrated edition about. It is a commendable outcome.

Information Centre <http://www.dmp.wa.gov.au/>
GSA Publications. Tel: +61 8 9222 3459

Softcover, colour, 356 pages. Cost \$A55

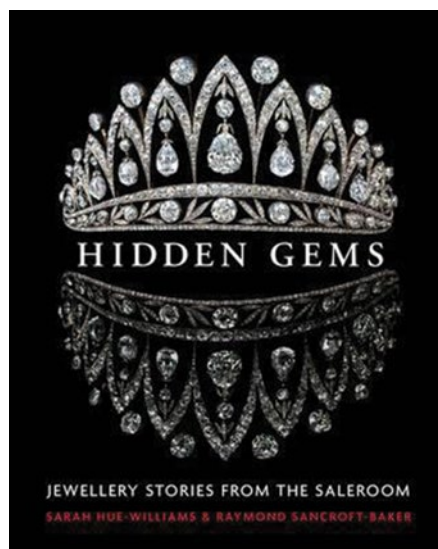
A discount is offered if five or more copies purchased together, the cost being \$A40.

ISBN: 9781741686906 (paperback)

ISSN: 0510-2014

*As at 1 July 2017 the DMP was replaced by the Department of Mines, Industry Regulation and Safety (DMIRS), www.dmirs.wa.gov.au. The Geological Survey is a Branch of this new Department.

Colin Sanders BSc(Hons) MSc



Hidden gems. Jewellery stories from the salesroom

Sarah Hue-Williams & Raymond Sancroft-Baker

Walking down Bond Street in London on a recent trip, I was greeted warmly by Colin, the doorman, outside Christie's. Little did I realise at the time, the fascinating stories that were hidden within!

With a foreword by Lord Linley, son of Princess Margaret, this narrative book about the relationships and circumstances that surround the gems is a tribute to Christie's on their 250th anniversary year. It is written by two of Britain's leading jewellery experts – Sarah Hue-Williams, award-winning gemmologist and jewellery historian, and Raymond Sancroft-Baker, former European jewellery director of Christie's. They have given the chapters short titles based on their content and arranged them alphabetically. The forty stories all have some exciting or amusing aspect and are designed to appeal to gem aficionados and lay people alike.

The illustrations are luscious, including the cover picture, of the superb diamond tiara by Carl Fabergé which was largely unworn and in pristine condition – 'a true hidden gem'.

Far from being just a coffee table book, we learn about the intricate process for valuing different gems and jewellery, pricing being as much an art as an empirical science.

Embedded in this book, like pearls in an oyster are interesting facts such as:

- A measure of weight for pearls is known as a grain (4 grains = 0.2g).
- The earliest diamond mines, around 600 BC, where the river gravels found in the ancient Kingdom of Golconda, they produced many of the most famous diamonds ever found including the Koh-i-Noor, the Regent and the Hope.
- 'Artists such as Botticelli, Donatello, Durer and Holbein also trained as goldsmiths'.
- Princess Diana's 12 carat Ceylon sapphire and diamond engagement ring was chosen by her from Garrard's prêt-à-porter range purely because she liked it. Princes William and Harry selected a ring and a Cartier Tank watch as mementoes, and later swapped these with each other. Prince William subsequently gave the ring to Catherine Middleton.
- When Nicholas, Alexandra and their children were assassinated on 17 July 1918, seven kilograms of precious gems were found hidden in their clothing.
- Harry Winston, credited with inventing 'the rock', a single large solitaire in a ring, had no formal education in gemmology or design.
- Copywriter Frances Gerety who worked for a Philadelphia advertising agency had to think of a signature line and the first thing that popped into her head was 'A Diamond is Forever' to be used in an advertising campaign for De Beers.
- The dress circle of the Metropolitan Opera House in New York became known as 'The Diamond Horseshoe'.

- Former U.S. Secretary of State, Madeleine Albright, wore brooches as a secret code, flowers and butterflies for progress, crabs for slowness and insects for bad news.
- A new client thought she was bidding in US dollars not UK pounds!

If I had to choose a favourite chapter, it would be difficult because there really are no low-lights, however, 'Charity begins at home' left a lasting impression. The familiar adage 'death, debt and divorce' can be reasons for people to sell their treasures to auction houses, but in the case of a member of Indian royalty selling a rare Indian *sarpech* (or head feather), set with diamonds, the reason was disaster in the form of an earthquake. The entire proceeds of the sale were donated to help pay for new homes and a hospital for the people of the surrounding villages.

As to the best advice for choosing a piece of jewellery: 'The real test is whether the piece sits comfortably against the skin. It should feel smooth to the touch and be carefully finished. Remember that there is an additional buyer's premium, something that is easy to forget in the heat of the moment.'

This is not just a book of stories, there is also much information about the design periods in the history of jewellery, which you just seem to absorb through osmosis! I heartily recommend this book to you.

Format: Hardback

Date of first publication: April 2016 (Reprinted 2016, 2017)

Dimensions: 224 x 269 x 28 mm

Publisher: Unicorn Press

Place of publication: Norwich, United Kingdom

ISBN: 978 1 910065 99 0

Number of pages: 304

Carol Resnick