

Reviews

"Excellent! Many thanks. Yes indeed your book was invaluable; especially all the detailed mine sites. Photos and text all wonderful too, a terrific book!" -Prof. Mike Searle, Dept. Earth Sciences, Oxford University, England

"There is far more in this book than the title would suggest and it is a photographic feast. It covers the history of the area, its geological evolution, mineralogy and crystallography; it provides a cornucopia of fine photographs of mines, minerals and gems, and local life, almost all taken by the author. He describes himself as a 'non-trained geologist', but he has enjoyed the co-operation of Burmese university geologists and several eminent geologist/gemmologists in the field during his nine visits between 1996 and 2004. He is an internationally recognized expert on the heat treatment of gemstones. The book is divided into five wide-ranging chapters with six appendices and a bibliography of over 400 references.

In Chapter 1 – Geology of Mogôk – he describes (with the aid of diagrams) the geological evolution of the area from the break-up of Gondwanaland to the collision of the Indian and Asian plates, and the major regional structural features. He provides a new geological map of the Mogôk area (a collaborative work with Burmese geologists). The local rocks are described under the following broad types: Igneous, Mantle and Metamorphic, with excellent photos of hand specimens, field outcrops, mines and photomicrographs (PPL and crossed polars) of thin sections.

In Chapter 2 – Genesis of Ruby, Spinel, Sapphire and Peridot – he discusses the classification of Mogôk gems and divides them, according to their mode of formation, into conveniently tabulated Metamorphic, Igneous and Skarn or Contact origins. There is a useful map showing mining areas where ruby, sapphire, spinel, peridot, pegmatite gems, mixed gems and alluvial gems respectively are dominant. The main part of the chapter deals in detail with the crystal form and habit, chemistry and inclusions of the above gems, with an excellent series of photos of gem minerals in matrices.

Chapter 3 – Gem Mining in Mogôk – starts with a short history outlining mining developments from pre-history to 1886, under the British from 1886 to 1947 and then under various Burmese administrations after independence. He divides mining into primary workings (largely in syenites and marbles) and secondary (mainly alluvial workings). Mining methods include sinking shafts, sluicing, open-pit operations and recovery from twisted holes, cavity fillings and tunnelling. Sorting methods include washing by hand and in pulsating jigs, and recovery from discarded material – the 'kanase' tradition (largely carried out by women). There are maps of smuggling routes out of Burma and annual production tables. There is a detailed photographic coverage of these operations.

Chapter 4 – The Gem Mines of Mogôk – starts with a very useful map of the Mogôk area divided into ten sub-areas (running from East to West) showing the locations of the mines. Detailed maps of each area are accompanied by photos of mines showing working methods along with lists of the gem minerals recovered from them. There are excellent photos of crystals in matrix and cut stones from the mines.

Chapter 5 – Profiles of Mogôk Gems – is arranged alphabetically and gives details of some sixty gem species with their gemmological properties and lists the mines and rock assemblages in which the gems are found. Each species' description is accompanied by very good photos of cut stones showing colour varieties.

There are six appendices: (A) List of the Pain Collection of Mogôk gemstones in the Natural History Museum, London; (B) A short account of gem enhancement methods; (C) A brief description of gemstone identification techniques; (D) Tabulated properties of Mogôk gem minerals including colour; (E) List of Burmese gemmological jargon; and (F) Detailed list of Mogôk gem mines.

This book is probably the most comprehensive account of the Mogôk Stone Tract so far produced and is claimed to be correct to 2007. This is a volume for gemmologists, geologists, lapidaries, jewellers and many others with an interest in the Burmese scene. The book is expensive, but worth the money for the photographic pleasure and detailed accounts of the mines." - E.A.Jobbins, *The Journal of Gemmology* 2010

"Have you ever wondered what gem treasures lie along the little explored mountain belt separating Thailand from India that makes up the mysterious country of Myanmar (Burma)? The mountain ranges of Myanmar are part of the massive metamorphic fold belt that wraps around the head of the Indian sub-continent as a result of its collision with Asia. It is a powerful ongoing collision that is causing some of the most vigorous tectonic uplift and mountain building on the planet today.

Ted Themelis' superbly-presented massive 352 page volume is a must-read for anyone planning to do any geological or gemmological research in this region of the world, and especially within the forbidden treasure chest that is the Mogok gemland. At the same time, the book remains a coffee-table styled publication that would be of general interest to anyone.

The book explores through a logical series of five chapters; the geology of Mogok; the genesis of ruby, spinel, sapphire and peridot; the gem mines of Mogok, both past and present; and an alphabetical compendium of Mogok gem profiles. Ted has spared neither effort nor expense in compiling some of the best gem and specimen photography which, together with abundant maps, diagrams, historical photographs and charts, illustrate every page of this superb volume.

Amongst the abundant geological detail, the book's graphic photography also delves deeply into the culture and the lifestyles of the people living in the Mogok region, in particular the miners, who work under the most difficult conditions, together with Myanmar's other faceless poor. The book provides an historical insight into why this region is so underdeveloped and poor. Ted's descriptions and photography bring to life a little known part of the world that is either off limits or inaccessible to most of the world's population." - Dr. Robert R. Coenraads, Consultant Geologist (Australia)

"During my trip to Myanmar in May 2009, I realized how good and how important is your book *Gems & Mines of Mogok*. I found full references and information about all the gems, minerals, and rock samples I had the chance of looking at. Every detail was perfectly documented, it gave me an extraordinary help not only in my scientific work, but also in the business. I believe your book really represents a milestone in the history of gemology, not only concerning Myanmar, but also in the knowledge of gemstones origin. I really thank you for your work!" - F. Pezzotta Ph.D., Curator Mineralogy Dep., Museo di Storia Naturale, Milan, Italy (June 2009)

"I read your book on Mogok and I want to congratulate you for the hard work. Because it was not easy to synthesize all these data. The illustration in color prints is perfect and the text is of high interest for a zone of high interest but closed to foreigners. I am sure that your book will be cited for ever as for the book published by Iyer (1953). Congratulations." -Dr. G. Giuliani, IRD et CRPG/CNRS, Centre de Recherches Pétrographiques et Géochimiques, Nancy, France (April 15, 2008)

"*Gems & Mines of Mogok* by Ted Themelis is a magnificently illustrated book that is sure to be ranked among the most important reference works ever published on the geology and gemstones of Burma. It takes you on a visually exciting and emotionally riveting journey that will provide even greater appreciation for Burma's gems, and deeper understanding of how they came to be.

It not only provides an excellent reference on the history of the development of the gem resources of Mogok and surrounding gem occurrences—including the locations, types of deposits from the 1800s through the 1990s, and various mining and treatment methods—but this work provides expansive, detailed information on new sources within Burma, and encyclopedic details pertaining to the geological conditions under which they formed and how their genetic characteristics are revealed by crystal forms/habits and associative minerals and inclusions (well-illustrated by superb photos). Also noteworthy is Themelis' commentary on the difficulties of determining "origin" of Burma gems based on the varied geology of this region (again, illustrated clearly with excellent photos), and his related observations pertaining to the deficiencies and inaccuracies of many reports issued by respected laboratories. Hopefully Themelis' words will not fall on deaf ears. He also provides a refreshing insight into the value of classical gemological techniques in this high-tech world!

The appendices are exhaustive. I found his "Profiles of Mogok Gems" extremely well detailed, and his photos of private collections showing some of the rarest of Burma gems will open many eyes! New, accurate, detailed maps showing specific locations for specific gems should prove invaluable. There is also a chart that explains some of the local Burmese jargon, and of particular value to gemologists is his "Color-Grading Chart Used in Mogok Markets."

Gems & Mines of Mogok has challenged the prior understanding of the geology and geography of this complex region of the world, and created a new data base that will become the new standard for anyone interested in the geology of this region, and the magnificent gems that have been produced within it. This work takes the geologist, mineralogist, and gemologist to new depths of understanding, and should be in the library of everyone with a fascination and appreciation of the magnificent gems of Mogok." -Antoinette Matlins, USA (December, 2008)

"...Ted Themelis probably knows more about the mines of Mogok than anyone on the planet. It is obvious the kind of mind he has when you read his books. To write a book like this you need to be ultra-passionate or a little obsessive compulsive. Maybe both. Whatever the reason, we readers benefit with almost overwhelming information impossible to obtain anywhere else.... The photographs, satellite images, geological models, illustrations, geologic/topographic maps and drawings in this book are more than worth the price of the book. It is obvious this book is a labor of love and took the author seven years to complete. Although sometimes mired in technical detail, you can simply choose to read what you want. Geologists and gemologists will devour the publication. Collectors or owners of Mogok material will have a newfound respect for the material. If you have a gemological library, this should be your next purchase." -Robert Genis, Gemstone Forecaster, USA (July 2008)

"I have safely got your book and I am very happy to have ordered it. It is an excellent and very detailed description of this important mine-site and the layout is very good, too. The language is most readable, no complicated explanations, many very descriptive micro- and other photos. The maps are very informative. Most of them I have never seen before. The descriptions of the different mines with their specific gemstones is absolutely new for gemologists who have never had the chance to visit Mogok, nor may these descriptions be found by keen gemmologist in former books in libraries of the world. It will take time to digest what you and your son have worked out and written in such a masterly way not only for me, but also for all gemmologists. My congratulation, dear Ted, this book is a masterpiece of you. Congratulation also to your son who did support you superbly. Now, I wish both of you some days of rest. And I am sure, this volume will be bought by all serious gemmologists and libraries of the world. Three cheers for you!!!" - Dr. J. Ponahlo, Univ. of Vienna, Austria (Febr.2008)

"Your comprehensive book *"Gems & Mines of Mogok"* is a unique book about a gem mine, covering all aspects, in particular when it includes the king of the gems, the Burmese ruby. I liked very much your geological part and the genesis of Mogok gems. I am sure that this book is an achievement of a dream by you, and the trade in general benefit from your knowledge." - Israel (Eli) Eliezri, Tel-Aviv, Israel, (Febr.2008)

"I have finished reading your book *"Gems & Mines of Mogok"*. It is truly one of the most exciting book I have ever read, a chef d'oeuvre. A mine of information that certainly no one has ever done it before in a so secluded, remote and restricted country whose got a watchful eye on foreigners. I have got no doubt you were given the Carte blanche to conduct this magnificent and extremely detailed work. It is the companion of any travellers (you have beaten the lonely planet traveller guide! a bible... The pictures are so evocative - they talked for themselves even if one is completely illiterate. It is loaded with so much information that one is ready to depart for explorations. Well documented on the past, present and future makes you a down to earth and the most authoritative expert. Each chapter of your book is a jealously guarded treasure..... I have stuck the great Gem poster on to my bedroom wall and it is well presented with diagrams and comments on chapter 5. The history, lore & mines of Mogok (Myanmar) CD is once again fantastic and well executed documentary that

tells a lot about Myanmar , Bravo and Chapeau (French expression)! The music transports you on to a twilight zone and for some reason I can't get it out of my head but mostly it remind the viewers of the richness and diversities in term of human beings and a fragile country. After this you feel so much for the Myanmar people that we are driven by a mysterious force to help them and do more." B.Padu, UK (June 2008)

"Both [Mogok] books are excellent. My family and myself were always involved with business of rubies and sapphires from Mogok. Never had an idea of so many other beautiful and important colored stones from Mogok as well. It's really an eye opener to me. The details and the compilation of all the stones in the back chapters of the book is very good. Going through both the volumes I can see and feel the hard work you have put into writing and publishing the books. It's a great service to the gemstone industry and one of the best reading material on Mogok. Because of my personal bonding and attachment to Mogok I like both the books a lot and I offer you my personal compliments on your accomplishment." -Jayesh Patel, AIGS Bangkok (July 2008)

"Gems and mines of Mogok" steps you into a marvelous and secret world of corundum where new scientific adventures awaits for the future. A corundum geological reserve for geologists and mineralogists, described to be part of our Humanity heritage. A compilation, resulting of years of experience and research on Burma 's "Mogok Stone Track" and Iyer works that open the eyes now for gemologists and geologists. The diagram is ready going from the microscopic to the panoramic views for understanding why sapphires, rubies and other gemstones are found together in a marble but with different stories and separate parental fluids. A key region for understanding how corundum forms in magmatic and metamorphic environments. Everything is ready now to start a high research on the basis of Ted Themelis book. I shall keep your book in a prominent place in my library with the magnificent illustrations, the informative writing on the geology, gemmology and historical exploitation of these mines that is of high interest for professional as well as for the layman. Congratulations." - Dr. G.Giuliani, IRD et CRPG/CNRS, Centre de Recherches Pétrographiques et Géochimiques, Nancy , France (Oct.2008)

"The Mogok area in Burma is famous for producing high quality rubies and sapphires. This book gives an overview of not only the geology, mining and properties of rubies and sapphires, but also of many other, sometimes lesser known, gemstones from this area. The author managed to bring together a wealth of information, maps and (color) photographs on this topic, which is even more impressive when bearing in mind that it usually is extremely difficult to get Burmese government's permission for a (short) visit to Mogok.

Chapter 1 deals with the geology of Mogok. It gives a clear overview of the geological events that eventually lead to the right conditions to form ruby. Spectacular geomorphologic features are shown and various secondary processes causing accumulation of gemstones are well explained. Various (gem bearing) rock types are thoroughly described, showing a rich variety of minerals and gems present in marbles, skarns, and pegmatites (among other crustal igneous rocks), but also in mantle rocks.

Subsequently, in chapter 2, the Mogok gems are classified as being of metamorphic origin or igneous origin, while a substantial group of gems were formed at the contact zones between metamorphic and igneous rocks, in skarns. A large section deals with descriptions of ruby, spinel and sapphire, and their inclusions, followed by information on origin determination. Specific localities are given, where stones of good quality can be found. Importantly, Themelis emphasizes that commercial origin reports on rubies and sapphires reflect an opinion on the country of origin and do not necessarily guarantee a high quality stone. The inclusion descriptions give a good idea of what can be encountered in ruby, spinel and sapphire. In this respect it is somewhat unfortunate, though, that quite a few images are shown of inclusions that were not identified.

The first two chapters give a very interesting compilation of geological data and theories on the formation of various gems, but note that the use of technical language could not be avoided. Although the author states that the chapters on geology and gem formation should be considered as primarily addressed to non-geologists, basic geologic knowledge will be needed to be able to read these chapters.

As the title of the book clearly indicates, a large part comprises information on prospecting, mining, and details on the various gem mines in the Mogok area. Interestingly, in addition to the previous chapters, the section about exploration and mining also reveals many details on the local geology. Highly informative are the parts on the history of mining, and the methods used, and current mining activities, with production figures of especially rubies, and additionally, sapphires and spinels. The information on production and smuggling routes, provide insights that should be very useful to politicians, who are involved in the decision-making around bans on the import of Burmese gems.

The gem mines of Mogok are grouped into 10 different areas. The mines of each area are precisely indicated on topographical maps (including coordinates in an appendix), and discussed in detail, with listings of gems that were and still are found there. It is made clear that apart from ruby, sapphire and spinel, peridot is an important gem, besides an amazing variety of gems, recovered from a relatively small area. Very rare gem varieties can be encountered, such as Johachidolite, Poudretteite, Chondrodite, and, of course, Painite. Beautiful panoramic photos of both folklore and landscape (more were put on a CD delivered with the book) complete the picture of this, in many ways, rich area. While Burma still remains a closed country under the repressive ruling junta, this book really opens up the Mogok area, which is a big achievement by the author. Therefore, 'Gem mines of Mogok' is highly recommended to all gem enthusiasts and mineral connoisseurs." - - Dr. Hanco Zwaan, National Museum of Natural History, Leiden , the Netherlands (Oct. 2008)

"I have read those 2 books I have purchased from you concerning MOGOK. Those are very comprehensive, helpful and very well done. They illustrate very well Mogok and all type of mining. Regrettably we cannot go to Mogok to witness all the stunning information noted in your books. Congratulation and wishes that a similar type of book concerning Muzo and Emerald was done such as yours" - P.Roux , Monaco (Oct. 2008)