



SPECIAL REPORT
GEMMOLOGY

**A Blue Book serving both as a responsible gem lab manual,
and as the basis for a listing of recognised laboratories**

**By Hanco Zwaan, President
CIBJO Gemmological Commission**

CIBJO's Gemmological Commission will assemble at the 2024 congress in Shanghai with two main topics on its agenda. The one will be the presentation and evaluation of an updated Gemmological Laboratories Blue Book, and the other will be to discuss the idea of creating a

"CIBJO Acknowledgement of Gemmological Laboratories," for labs that comply with the requirements listed in that Blue Book.

The CIBJO Gemmological Laboratories Blue Book

Running for more than 300 pages, the Gemmological Laboratories Blue Book has become a multidimensional and comprehensive manual for gem labs.



Hanco Zwaan, President of the CIBJO Gemmological Commission.

While the Blue Book forms the basis of the Gemmological Laboratories Module in the curriculum of the recently launched CIBJO Academy, many people in the industry are still unfamiliar with its content. In part, this is because it has not been as extensively promoted as some of the other Blue

Books, but also because its subject matter is technical and often complex. That aside, it is very important.

As is the case with all CIBJO Blue Books, the Gemmological Laboratories Blue Book is continuously a work in progress. Among the more recent additions is a list of gem materials and related definitions, which I reported on in the commission's 2023 special report. It defines general terms, such as the mineral, gemstone, gemstone variety and commercial or trade names, and subsequently lists the names and definitions of gemstones. For each name, along with a short description, its status is indicated.

The list was incorporated into the Blue Book as a new chapter, and it is intended to be the basis for additional work, where we will go into further detail, particularly where it comes to criteria for distinguishing between the different varieties. This work is far from complete, but we strongly believe the information it contains will already help people in the gem trade, and well as end-consumers, to clarify the validity and status of names they encounter, and to distinguish acceptable variety names from the unclear or frequently misleading alternatives.

A manual for establishing a viable gem lab

In its entirety, the Gemmological Laboratories Blue Book spells out what is required to establish a reliable and responsible gem lab, and it lists the testing methods and expertise required for such a body to operate effectively.

The first chapters deal with management and technical



Claudio Milisenda, Vice President of the CIBJO Gemmological Commission.



Thanong Leelawatanasuk, Vice President of the CIBJO Gemmological Commission.

requirements. A lab must be organised in such a way so that it can demonstrably work independently, impartially, and without any conflicts of interest.

A gem lab must have a system of protocols in place, subject to annual review, which ensure the quality of its work. To name but a few of the required elements, viable management systems must contain quality control and technical records, procedures for the subcontracting of tests, internal audits, a review protocol on customer requests, and a policy and procedure for the resolution of complaints and for implementing corrective actions.

In terms of technical requirements, the Blue Book details the many elements that determine the correctness and reliability of testing and grading undertaken by the gemmological laboratory. Factors considered include contributions from personnel, accommodation and environmental conditions, test and calibration methods, method validation, equipment, measurement traceability and samples (produced during the handling of test and calibration items).

The technical requirements also include minimum requirements for information that should be included on a test report.

All the management and technical procedures and guidelines in the Gemmological Laboratories Blue Book align with ISO standards, and more specifically are based on, and also expanded upon ISO 17025, which is the International Standard Organisation's approved protocol for the competence of testing and calibration laboratories.

Another chapter lists required test methods, which must be applied to correctly identify a particular gem material. The listed test methods are mandatory, unless a remark indicates otherwise. Definitions of the test methods are given as well, as are key references on which the protocol is based.

CIBJO Acknowledgement of Gemmological Laboratories

During the 2023 CIBJO Congress in Jaipur, India, last year, a discussion was held on the responsibilities and restrictions of laboratories when issuing reports. One of the subjects raised related to the too many cases in which different laboratories produce different results when testing the same gemstone. Most of these relate to the geographic origin of a stone, or on the presence or absence of a heat treatment.

Given these concerns, it was felt that CIBJO needs to recognize in some manner the status of laboratories that service the gemstone industry. If implemented, such a service may have a positive impact on the quality of results, and consequently on gemstone sales.

The Gemmological Laboratories Book

A Guide for the Management and Technical Operations
of Gemmological Laboratories

CIBJO Gemmological Commission
2020-12-22



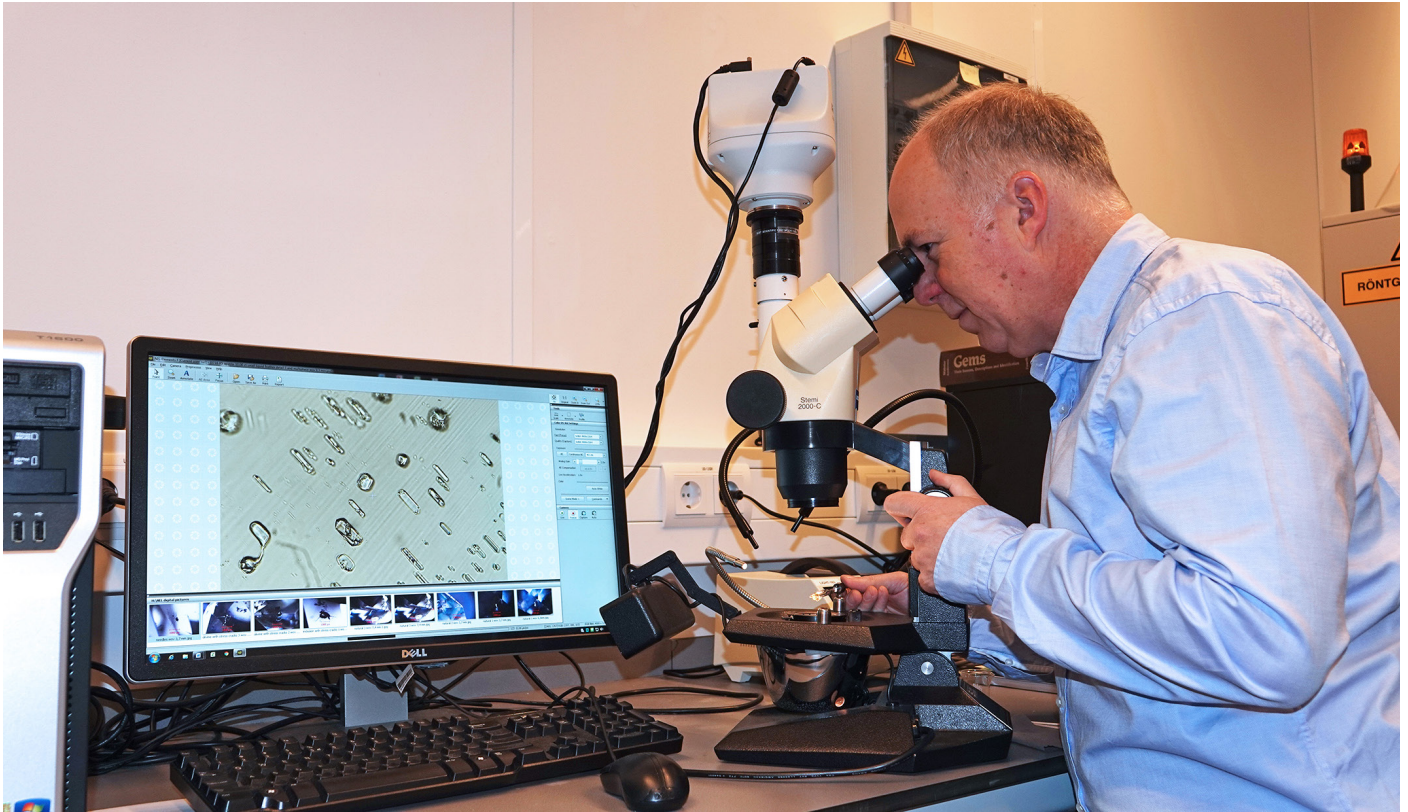
The CIBJO Gemmological Laboratories Blue Book can be downloaded at no cost from the CIBJO website by [CLICKING HERE](#):

Gemmological laboratories are increasingly deemed to be an integral part of the trade and indeed a number of labs are valued CIBJO members. The service that was proposed, however, does not relate to CIBJO members alone.

As outlined above, the CIBJO Gemmological Laboratories Blue Book should serve as a guide for the management and technical operations of gem labs. What is now proposed is that CIBJO uses the Blue Book as a set of best practice and minimum criteria to compile a list of laboratories that are in compliance with the content of the book, as well as being dedicated to implementing the necessary clauses and overall content of all other CIBJO Blue Books.

Laboratories who wish to be listed will also agree that, in the case of a result being disputed by another listed laboratory, an open and transparent discussion shall take place between the laboratories and the clients to resolve the issues.

Among the benefits of this listing is that those laboratories with quality management systems in place, which adhere to the requirements and overall content of the Gemmological Laboratories Blue Book, can be clearly identified as such to the trade and consumers alike.



Hanco Zwaan, President of the CIBJO Gemmological Commission, at work in his laboratory in the Netherlands Gem Laboratory.

It should be clear that a listing does not imply any verification or recognition by CIBJO of specific results reported in any gemmological reports. It also should be clearly stated that only the laboratory in question, or the organisation of which it is part, is legally responsible for its activities.

The listing does not regulate laboratories, but instead it seeks to encourage openness and transparency. These are critically important elements in a market where the results listed in reports often have a significant impact on the value of the item being reported upon.

At the congress in Shanghai, an in-depth discussion about this proposal is planned.

CIBJO guide to jade materials

Last but not least, members of the Gemmological Commission have been involved in a collaborative effort with members of the Colored Stone Commission, the Fei Cui Working Group and outside jade experts to create a CIBJO guide to jade materials. It is envisaged that the document will describe the relation between terms like jade, jadeite, nephrite, and, especially in China, Fei Cui.

The purpose of this guide will be to explain the use of terminologies at a global level. It is not intended to be a promotional document, but rather a factual one that will assist both the trade and the consumer to understand the terminology currently used in various parts of the world.



PHOTO CREDITS

Cover photo montage background by Krystal Ng on Unsplash.com.

ALL RIGHTS RESERVED

© The World Jewellery Confederation (CIBJO) 2024
www.cibjo.org