
LAB INFORMATION CIRCULAR

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Gem Testing Labs in India

Gemmologist , GTL , Jaipur

In the late 1960's the Indian jewellers realised the importance and need for a professional laboratory in India. A country which was one of the largest suppliers of gemstones to the world was basically a traditional family oriented industry without a technical background.

In a matter of two consecutive years India's foremost laboratories opened in 1971 & 1972 at Mumbai and Jaipur. The Gemmological Institute of India (G.I.I.) , Mumbai and the Gem Testing Laboratory (G.T.L.), Jaipur under the aegis of the Jewellers Association of Bombay and the Gem & Jewellery Export Promotion Council respectively.

Needless to say , it was G.I.I., Mumbai which was instrumental in introducing the Gemmology courses in the country and was initially responsible for the promotion of gemmology. Subsequently, a number of other institutes and laboratories blossomed in different parts of the country. India was truly on the way to becoming a to be a formidable world player.

INSIDE THIS ISSUE

- 1 Gem Testing Labs in India
- 2 GTL's The Traders Viewpoint
- 3 GTL Annual Award Function
- 4 Stone News
- 5 GTL, Jaipur

- ◆ Each lab has a different approach to certification and as a result there is a vast difference in nomenclature and certificate wording.

G.T.L.'s.....

There has always been a strong Love – Hate relationship between the laboratories and members of the Trade. However the need of the hour is for both to be more receptive to each others abilities and limitations and to maintain a constructive communication . This situation is already in progress in the major labs in India and has led to a better understanding between the two .

An overview of the GTL's in India is aimed at highlighting their status today. This will vary according to the services and facilities being provided.

- ◆ Almost all the labs have at least one set of standard equipment - polariscope, dichroscope, refractometer, microscope , visible spectroscope, U.V. lamps, filters , millimeter gauge and weighing balance.
- ◆ Advanced equipment is currently only at GTL, Jaipur (FTIR spectrometer) and IDI, Surat (Raman spectroscope). These additional equipment are now almost a compulsory requirement for accurate identification.
- ◆ Almost all the labs provide Gem Identification services with different categories.
- ◆ GII, Mumbai, IGI, Mumbai and IDI, Surat provide specialised Diamond Grading certificates .
- ◆ Some labs have only one gemmologist while others have two or three. The degree of exposure to the subject and the experience of the gemmologists is very varied and in some cases limited.
- ◆ International exposure and regular updating of information is however restricted to a few of the labs only.

The Traders Viewpoint.....

Varied responses have been received from the trade and the following will clearly indicate this. Only a few are mentioned.

- ◆ **These days the labs are very necessary , what with all the synthetics and enhancements and frauds .**
- ◆ The labs each give us a different report. How can we trust them?
- ◆ I live in Jaipur and sell my goods in Mumbai. Some of my clients insist on the certificate from Mumbai only, while others insist on a certificate from Jaipur. I don't know whom to believe.
- ◆ It is not really the lab which is acknowledged but *the experience of the gemmologist who is doing the testing.* Youngsters tend to make more mistakes and this is something we cannot afford in our business, since it costs money. But experienced gemmologists also make mistakes. In their case it is either due to lack of equipment or when some new item arrives in the market which they have never come across before.
- ◆ I feel the gemmologists make mistakes, because in our country the same person is involved in the complete testing as well as in taking lectures on a regular basis. If you visit the international labs, you will see that in most labs a gemmologist is often working on only one equipment and has just a general idea of the other advanced equipment.
- ◆ For the labs to be of service to our industry they must start certifying treatments in stones.
- ◆ I feel that if we work with the labs, we can do something in improving the quality of testing. **Personally whenever I hear of something new I call GTL, Jaipur and inform the gemmologist.** When I have a new source of rough I send a few samples for them to study and they are then returned. This way I feel I am doing my bit to keep our lab updated , especially since I travel a lot and come across new literature and gemstones.
- ◆ The testing charges have gone up so much that unless we have higher value stones or very doubtful stones, we do not test them.

- ◆ We have a retail shop and many of our customers require certificates. Though we have an in-house lab, a number of clients insist on a neutral lab certificate. So we have no option but to get them tested. So far we have had no problems / mistakes .
- ◆ Nowadays we get our stones certified at two labs only, that is GTL, Jaipur and GII, Mumbai.
- ◆ I prefer to get my stones tested at only the acknowledged labs in the country, especially when I am exporting the stones.
- ◆ Our firm is an old and respected firm in Jaipur and supply stones to different cities in India and abroad. In the smaller cities we have had a few bad experiences with labs which are run by individuals. *These are local people but somehow they do not have good equipment nor a complete knowledge and as a result due to an incorrect certificate we have had to justify and prove our name and credibility.* **We feel that just doing a course in gemmology does not automatically qualify a candidate as an expert.**
- ◆ I do not trust any lab in India to test my high value stones since they are generally origin or treatment certificates which we require and no lab here has that facility.
- ◆ **The credibility of a lab is more when it is not associated with any business activity.** Many individuals who have opened labs are also involved in the business. I do not trust such labs. I feel safer when I go to the more established labs.
- ◆ My clients require the variety name of a stone to be written, especially in the case of stones such as tsavorite, rhodolite, padparadscha and rubellite. I do not get this facility from the established labs.

The Laboratory Viewpoint.....

- ◆ Current issues of treatment are very controversial and for a hundred percent accuracy, advanced equipment and master stones are required, both of which are an expensive proposition.

April 23rd. 2002..... GTL Annual Award Function

The Awards function for the presentation of certificates to successful candidates is being held on 23rd. April 2002 at the Rajasthan Chamber Bhawan.

Ms. Anjani Oza, Chief Commissioner, Income Tax, has kindly consented to present the certificates and deliver the valedictory address.

Ms. Monisha Agarwal, Director, Rama Arts & Crafts, has consented to deliver the Felicitation address.

Shri. Kishendas Maheshwari will deliver the Welcome address.

Shri. Rashmikant Durlabhji, Regional Convener & Convener GTL, will deliver the Keynote address.

Shri. Rajiv Jain, Regional Co - Convener will deliver the Closing Address.

Successful candidates who will be receiving their Certificates

23rd. Batch : July 2001 to October 2001.

1. Gargi Dhoot - 1st Overall
2. N. Sandeep Kumar - 1st in Practicals
3. Archana Mittal
4. Gaurav Kabra
5. Manish Soni
6. Naman Singhal
7. Sushil Bhandari
8. Vishal Muchhala
9. Ravi Khandelwal
10. Rajeev Kumar Jain

24th.Batch: December 2001 to March 2002.

1. Miriam Korner - 1st Overall
2. Meena Baghla - 1st in Practical
3. Jonathan Zimmerman
4. Nitin Jain
5. Fred-Arne Andersen
6. Alok Kumar Goyal
7. Vidhi Bajaj
8. Punit Dambiwal
9. Ashish Kothari
10. Aheibam Tombi

Correspondence Course

1. Meghana S. Devli
2. Telvina Almeida
3. Subhash Chandra Saraf
4. Sukanto Banerjee

Master's Diploma In Gem Identification

1. Alok Kumar Theory : C Practicals: B
2. Arshad Sattar Bhati Theory : C Practicals: C

Certificate Course In Gem Identification

1. Shri. Ashish Dhawan
2. Shri. Nikhil Bhandari
3. Shri. Manjunath Pattar
4. Shri. Sanjay Jain

Field Visits :

The 23rd. and 24th. Batch of Diploma students visited the Jewellery units of Vaibhav Gems Ltd., Amrapali and Dwaraka's . These visits have provided them with a valuable insight into the manufacturing process of gemstones and jewellery.

Seminar on Export / Import and Customs formalities was organised for students of GTL and JPDC, Jaipur in March 2002. Shri. R.N. Agarwal of Ms. Exim Concepts and Shri. H.P. Goyal , Customs Appraiser presented the lectures.

Our Grateful Thanks

We are highly obliged to **Shri. Rahimullah Khan**, (Ms. Vaibhav Gems Ltd.), **Shri. Satish Saklecha** **Shri. S.K. Ajmera** and **Shri. Rajesh Ajmera**, (Amrapali), for providing In - House Training for students of the Master's Diploma. Their continued support and encouragement is deeply appreciated.

Trade Awards : Successful candidates for the awards initiated for students of GTL are :

GJEPC Award for the Best Overall student in Each batch :

- Ms. Gargi Dhoot 23rd. Batch
- Ms. Miriam Korner 24th. Batch

Durlabhji Education Trust Award for the Best Overall Student for the Year 2001 - 2002

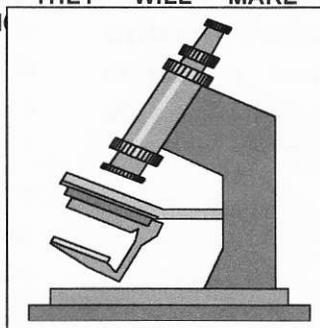
- Ms. Gargi Dhoot

Bhuramal Rajmal Surana Award for the Best Student in Practicals for the year 2001 - 2002

- Mr. Subash Kumar Saraf

CONGRATULATIONS TO ALL OUR STUDENTS AND WE WISH THEM ALL THE VERY BEST IN ALL THEIR FUTURE ENDEAVOURS.

WE HOPE THEY WILL MAKE A VALUABLE CONTRIBUTION TO THE JEWELLERY TRADE.



NEW TITLES AT THE GTL LIBRARY

TIMINGS: 10 AM. TO 4.30 PM.

NAME	AUTHOR
Gemstone Properties & Identification	Dr. Jayshree Panjekar & Shri Ramchandran
Gems & Gem Industry in India	Dr. R.V Karanth
Diamonds in India	Dr. T.M. Babu
Diamond Grading Manual	GAGTL
Jewellery and RefPrice Guide 2 nd Edition	Michael Poynder
The Microworld of Diamonds	John I. Koivula
Red Coral	B Liverino
Gemstones Quality and Value Vol 3	Yasukazu Suwa
Rough Diamonds	Nizam Peters

You are welcome to visit the GTL Library on all working days between 10 am. & 4.30 pm. There are a number of books on gem & jewellery related topics. These books are meant to be referred here only and cannot be issued out.

Gemstones

Actinolite cat's eye : Deep rich green, transparent, similar to Tourmaline. Biaxial optic figure and strong pleochroism –green/yellowgreen /brownish green. Strong birefringence blink with RI. of 1.605 – 1.640. Specific gravity of 3.00, and a moderate to weak line at 505 in visible spectroscopy. Magnification revealed fine two direction cleavage cracks, parallel needle like inclusions, transparent crystals and strong doubling.

Diffusion Treated Ruby: At GTL, Jaipur we do not commonly encounter this stone. A doubt arose when no RI reading was visible and slightly weaker pleochroism seen for a deep purple red colour corundum. Under SWUV lamp, the stone showed a patchy yellow colour just

near the surface. Magnification revealed a pitted girdle, healed fingerprints and on immersion, it showed distinct characteristics of Diffusion treatment viz.. patchy coloration and dark girdle outline .

Dyed Grossular Garnet : An aggregate variety of grossular garnet is being heavily dyed to a purplish pink shade to imitate the colour of *Burmese Rubies*. These stones are being certified on a regular basis which seems to indicate they are available in plenty. We recently checked a beautiful "ruby and diamond " necklace. The "ruby" turned out to be heavily dyed grossular garnet. All the properties were characteristic for garnets.

Stone News - what's moving these days

Some interesting stones through GTL.....

Vesuvianite : Olive-green transparent to translucent stone. In visual appearance the variety available is very similar to an oily shade of peridot and apatite. The R.I. is generally observed as a single reading at 1.72, an AGG reaction under the polariscope and an S.G. between 3.30 & 3.40 and a sharp spectrum band centred at 460nm. Inclusions appear to be dendritic in nature.

Prehnite : Greenish yellow, translucent to semi-translucent, doubly refracting stone with an R.I. of 1.62- 1.65, strong birefringence of about 0.030. No characteristic feature in visible spectroscopy and specific gravity measured by hydrostatic method was constantly around 2.91. Magnification showed wisp like fingerprints and two directional fibrous inclusions.

Fuschite : A green coloured semi-translucent stone with the colour of emerald and the structure similar to that of nephrite. This stone was being traded as emerald. The specimens showed an AGG reaction under polariscope and a blurred RI reading was observed around 1.58 – 1.59. specific gravity of 2.92 and a broad band at 600 nm with sharp line in red end of the spectrum. Magnification showed some fibrous structure with lot of cracks and black crystalline inclusions. Our thanks to Dr. Hanni of SSEF for identifying this mineral.

Gem Testing Laboratory , Jaipur

A look at the activities.....

- **Synthetic Amethyst / Citrine** : The method of synthesis is almost the same as was done by nature billions of years ago, and it is therefore very difficult to separate natural stones from their synthetic counterparts, especially when the stones are clean. Without using highly technical instruments GTL was not able to certify their natural origin conclusively. Now with the installation of the Fourier Transform Infra Red Spectrometer costing Rs.30 lacs, GTL is in a position to certify these stones. Since the price of the instrument is very high the testing charges had to be increased to Rs.500/- for non-members and Rs.450/- for members per stone.
- **Diploma in Gem Identification** : The 25th. batch commences from 15th.May 2002. Details are as follows:
Duration : 3 ½ months ; Timings : 9.30 am. to 1.30 pm.
Fees : Rs. 12000 .00 + Rs.3000.00 (Refund); Total Rs.15,000/-
Admissions are open.
- **Master's Diploma in Gem Identification** : The current batch is in progress with six students. New admissions will commence effective June 2002.
- **Certificate Course in Gem Identification** : A very popular course among business people. This course can be completed in a maximum time of five months and a minimum time of 2 months. It is designed to give a complete knowledge of the subject without exam pressure . Classes are generally scheduled 2.30 to 4.30 pm. Admission can be taken anytime.
- **Diploma in Gemmology - Gem A (Great Britain)** : GTL Jaipur is a centre for the examinations on behalf of Gem A. Exams are held annually in January and June . For the June 2002 exams, four candidates have registered.
- **Rough Gemstone Identification Course in Hindi** : This course has been designed due to the many requests from the industry. It is in the final stages of preparation and will be launched shortly.
- **GTL identity cards.....**We have introduced the identity cards for the benefit of ex-students who would like to take advantage of the rebate in Testing Charges. Effective 1st. May 2001 those who wish to avail the discounted 'member charges' must produce their identity cards while depositing the stone for testing.
 - The cards are available at GTL during office hours at a fee of Rs.10/- per card.
 - The GTL ian is requested to fill in the same alongwith a photograph and get your signature attested at GTL.
 - Please note we will NOT consider any rebate without the Identity card after 1st. May 2001.
 - Outstation students may please note that the cards will not be mailed to them. They have to collect the same from GTL and get their signature attested.
 - This card will be valid for the individual student only and cannot be passed around.
 - You are requested not to give your cards to anyone else. In such cases the privileges of the identity card will be withdrawn at the discretion of GTL.
 - Thank you for your co-operation.