

# LAB INFORMATION CIRCULAR (L.I.C)

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Send us your comments & suggestions

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## Synthetics moving these days .....

### Synthetic Moissanite, Synthetic Alexandrite

### Tanzanite simulants

*Gemmologist, GTL*

In the past few months there have been a number of interesting gemstones which have been examined and certified through GTL, Jaipur. A few specific ones are being highlighted in this issue.

**Synthetic Moissanite:** A number of specimens ranging in size from about 0.25cts to about 2.00cts. Synthetic moissanite is basically colourless and considered a good diamond simulant, especially when studded in jewellery. It gives the same reaction as a diamond when checked with a diamond probe, and one should be aware of this simulant. Special probes are now available which can distinguish the two stones.

With a 10X lens, synthetic moissanite exhibits strong doubling of facet edges and commonly fine needle like inclusions are present.

Visually it has a much higher dispersion than a diamond as can be seen by the higher fire. The specific gravity is also lower than diamond at 3.22.

**Synthetic Alexandrite:** Rough and cut specimens of synthetic alexandrite have been examined and almost all of them exhibited a strong colour change from a bluish green to a purplish red. Most of them displayed characteristic gas bubbles. The infra red spectra was distinctive from that of the natural

**Tanzanite simulants :** With tanzanite being in strong demand, the number of simulants being used have also increased.

In Rough goods smoky quartz and tourmaline are two of the most common stones being mixed

While in cut stones violet-blue glass, synthetic sapphire, synthetic spinel, iolite and synthetic blue quartz are some of the common mixtures.

**Synthetic forsterite** is the latest among the tanzanite simulants and has been reported in a number of magazines. This a Czochralski-pulled material, R.I. 1.635 - 1.67, very strong pleochroism (similar to tanzanite).

**Enhancements** are gradually taking a front line in gem certification. More and more it is becoming important for the trader to know whether some form of enhancement has been done on the stone. At GTL, we constantly receive requests for proof of fracture filling, whether heated or diffused or even coated.

**Enhancements.....**

We are currently working out exactly what standards of certification is necessary from the point of enhancement certification and the needs of the Indian gem industry. In the dialogue between the members of the trade and the gemmologist at GTL, certain parameters have been emphasised and are being taken up in the formulation of the standards. Once finalised we will be circulating the same to all members.

**Some interesting stones through GTL .....**

A wide range of varieties are being examined at the lab. Some of the more unusual ones are being mentioned here.

**Almandine Garnet – Coated?**

Recently we received a deep red stone with an almost metallic surface lustre. At first glance it appeared very similar to Cuprite. On further examination the results indicated that the specimen was in fact an Almandine garnet. The S.G., absorption spectrum and inclusions were all characteristic for garnet.

**Synthetic Quartz** – Blue shades similar to aquamarine and tanzanite have been examined. In some stones the presence of a seed plate and in others the 'bread-crumbs' inclusions were conclusive. Some deep green coloured quartz specimens have been certified where conclusive proof was available. The colour is similar to that of tourmaline.

**Garnet-Spessartite/Demantoid?**

With interest in these two species of garnet increasing daily, we receive similar coloured garnets quite regularly for testing. In the case of spessartite, some have turned out to be hessonite while some were 'malaya garnet' (pyralspite).

In the case of Demantoid, so far all the stones have turned out to be the grossular - andradite variety (grandite) of garnet.

**Common stones moving through GTL.....**

Some of the very regular stones being certified are natural and synthetic ruby, emerald, sapphire & alexandrite; tanzanite; synthetic cubic zirconia (yellow); beryl (all colours); glass (all colours) etc. etc. etc.....

**Synthetic Rubies** are mainly flame fusion rubies with gas bubbles and curved lines. Recently a number of these stones have been certified which contain induced fingerprint inclusions also. **Synthetic Emeralds** certified are mainly flux and hydrothermal synthetics.

**Synthetic Sapphires** in all colours - some with gas bubbles, curved lines, curved colour bands or Plato lines.

**Natural & Synthetic Blue Sapphire (A.C.S.)** - diffusion treatment in sapphires were easily recognised, but of late a number of totally clean synthetic sapphires are being submitted which have been diffusion treated. In almost all stones there are either gas bubbles or curved colour bands while the cleaner stones have displayed strong Plato lines.

**27<sup>th</sup>. International Gemmological Conference & Seminar - Mumbai & Goa**

A one day Seminar was organised at Taj Mahal Hotel at Mumbai and a one week Conference at Cidade de Goa at Goa, by the Forum of Indian Gemmologists for Scientific studies, the Gemological Institute of India and co-sponsored by the Gem & Jewellery Export Promotion Council.

The Seminar held on 25<sup>th</sup>.Sept'99, was the first of its kind in India and a fitting tribute to the development of Gemmology and the growing awareness to this aspect of the Gem & Jewellery Industry. Indian gemmologists and traders had the experience of discussing crucial issues with some of the World's most renowned gemmologists.

At the Conference in Goa, a number of interesting and in-depth papers on wide ranging papers was presented. New deposits, new identification techniques and new gem materials were some of the topics covered. Dr.J.Panjikar presented on Rudraksha - A Spiritual Organic Gem and S.Fernandes presented a Review on the Recent Diamond Deposits in Madhya Pradesh, India.

Gemmologists from Jaipur who attended the Seminar included Shyamala Fernandes, Minu Vyas, Ritu Bhardwaj and Vikas Joshi.

GTL presented a Poster on the Indian Ruby - Deposits and Characterisation.

## Educational Activities

### Diploma in Gem Identification

Results - 19<sup>th</sup>. Batch

#### Congratulations to

Manish Kumar -1st.  
Abhilash A.  
Abhishek Shah  
Atri Mehara  
Sanjay Saraf  
Sunita Shekhawat  
Yogita Totuka

#### Diploma Batch - 20<sup>th</sup>. Batch

Commences on 15<sup>th</sup>. Dec'99.

Admissions closed .

#### Next Diploma Batch -21<sup>st</sup>.

Commences June 2000

Admissions are open and on  
First Come Basis

## RCCI - SDC Project at GTL

Under the RCCI - SDC Project ,  
GTL Jaipur was earlier identified  
as a Resource Organisation .  
Under this scheme in the past  
six months - April'99 to Oct'99  
following are the various activities  
conducted through GTL.

- ◆ RCCI-SDC sponsored three women candidates under the Women Entrepreneur scheme for the 19<sup>th</sup>. Diploma Batch and four needy candidates in the 20<sup>th</sup>. Batch
- ◆ Dr. R. Tripathi was appointed from 1<sup>st</sup>. April '99 on a part-time basis , for the operation and preparation of a database on gemstones on the FTIR spectroscope.
- ◆ Instruments purchased for the educational courses include three microscopes and one refractometer .

### Advanced Course in Gem

#### Identification - 1st. Batch

4 months course , 10am - 5pm

Commenced 1<sup>st</sup>.Dec.'99

#### Field Visits

- ◆ The 18<sup>th</sup>. Batch Diploma students had the opportunity to attend the 1<sup>st</sup>.National Seminar in Gemmology at Hyderabad in March'99. A number of papers were presented by Gemmologists from all over the country. Vikas Joshi, GTL, presented a paper on the **Recent Status of the Ruby Mines at Jillindghir and Bhopalpatnam**. The event was excellently organised and all kudos must go to **Satish Shah and his team**.
- ◆ The 19<sup>th</sup>.Batch of Diploma students visited the Bubani Emerald mines alongwith Dr.C.Arps and H. Zwaan on 4<sup>th</sup>.Oct'99. The students had the rare opportunity to have discussions with senior international gemmologists.

#### Trade Awards

Successful Candidates for the trade awards initiated for students of GTL are :

Durlabhji Education Trust Award  
for the Best Student for the Year

- ◆ Dr.Rekha Tripathi 1998
- ◆ Mr. Manish Kumar 1999

Bhuramal Rajmal Surana Award  
for the best Student in Practicals  
for the Year

- ◆ Mr.Trivesh Kumar Singh 1998
- ◆ Mr.Abhilash A. 1999

## Events & Updates

- ◆ Regional Office,GJEPC, J.P.D.C. and the GTL classroom shift to new premises - 3<sup>rd</sup>. Floor, Chamber Bhavan. Ph: 568029
- ◆ FTIR spectroscope installed at GTL,Jaipur. The FTIR has been installed and we are currently preparing a databank.
- ◆ Visitors at GTL : In the past months a number of distinguished persons have visited GTL and fruitful dialogues have been held.
- ◆ Chief Minister , Shri Ashok Gehlot visited GTL in May '99. He was explained the various activities at GTL and also met the students of the 18<sup>th</sup>. Batch .
- ◆ Dr.Charles Arps & Hanco Zwaan from the Natural History Museum , Netherlands were in Jaipur for a few days. During this time they visited the Bubani mines at Ajmer & garnet mines at Tonk.
- ◆ Israel Eliezeri, President , ICA visited GTL on 4<sup>th</sup>.Oct.'99. He gave us a copy of the enhancement declaration norms which they intend to follow in Israel.

*Continued from Page 3*

## Events & Updates

- ◆ **GTL wishes Vikas Joshi and Sunil Pareek all the Very Best in all their Future Endeavors.** They have been involved with GTL since 1994. Vikas joined the Indian Customs in May'99, as an Appraiser and is currently posted at Surat. Sunil left GTL in Sept.'99 to pursue his own business.
- ◆ The poster on Indian Ruby - Deposits & Characterisation has been put up at GTL, for those who wish to see the same.

## Certification Charges

With effect from 1<sup>st</sup> Sept. '99.  
Rates are per stone submitted

	Member	Non-member
Regular	150/-	200/-
OTS-single	375/-	500/-
Packet lot		
◆ 5-9 stones	100/-	125/-
◆ more than 10	75/-	100/-
Sealing Charge : 25/- per stone.		

## The Awards Function

The Awards function for the presentation of certificates to successful candidates is being held on 15<sup>th</sup> Dec '99.

Dr.K.L.Jain, Hony.Secretary General & Chairman, Nodal Centre, RCCI-SDC is the Chief Guest.

Shri.Vimal Chand Surana , Regional Convener, GJEPC , Jaipur Region will give the Welcome Address.

Shri.Rashmikant Durlabhji, Co-Convener, GJEPC,Jaipur will deliver the Keynote Address.

## About Tanzanite.....

Tanzanite is the blue variety of the Zoisite species. Other varieties include the pink (thulite) and other colours - green , yellow, brown , violet. Cat's eye varieties are also available.

Currently, Tanzanite is one of the most popular varieties in this species . Commonly the brown variety is heated to obtain the blue shade. Natural blue colours are also available though less commonly.

Tanzanite can be identified by its strong pleochroism (blue, purple, pink), it appears red through the Chelsea filter and if one has a refractometer , an R.I. of 1.69 - 1.70 is characteristic.. Inclusions when seen are fine needles, growth zoning and fingerprint inclusions and the S.G. is quite constant at +/- 3.34

*If undelivered please return to:*  
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