

# CIGem News (November 2009)

The Newsletter of the Canadian Institute of Gemmology (C.I.G.)

## From the Newsfront

The findings by gemmologist Robert James (International School of Gemology) that JTV's red Andesine-Labradorite is copper diffused have been confirmed by scientist Dr. Emmett; read [here](#). I applaud Dr. Emmett's contribution because it adds a new perspective to the treatment method described by Gary Kratochvil at [Jewelcutter](#) earlier in June 2008. Attention should also be paid to Ted Themelis who claims that copper-based additives do not happen to the present enhancement processes performed by the Thai treaters; see his [News & Reports](#).

After all of this perhaps consumers should stay away from new gemstones where mining localities are "secretive", never have been found (see [Sunstone Hunting in Tibet](#)) or look "too nice" to be true.

However, with all respect for Dr. Emmett's work it is unrealistic for an independent gemmologist to conduct experimental scientific research. He/she will have to rely upon observations, empirical studies, circumstantial evidence, etc. very much like investigative techniques used by a police detective.

Equally important is the exchange of news and ideas - today facilitated via internet through bulletin boards (BBS), consumer forums related to gems and social networking such as Facebook (no kidding!).

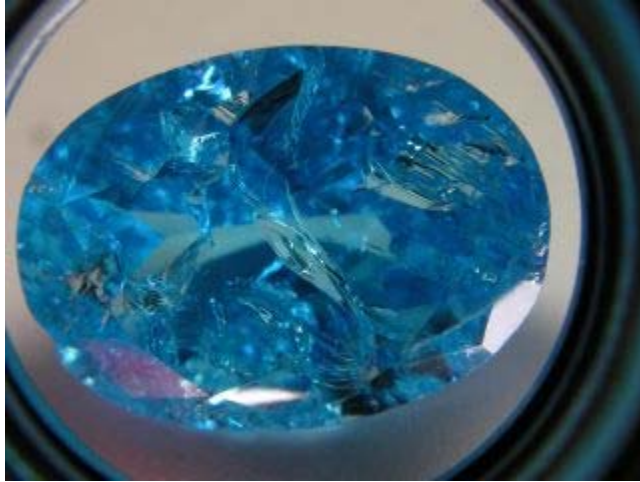
## Burma Ruby Ban and Paraiba Tourmaline

What do the two have in common: they both must be seen against a political background. Though Canada is not included in the ruby ban the decision to extend the trade-name "Paraiba" to all copper bearing blue or green elbaite tourmaline has similar implications. I must agree with other writers that these decisions will affect the livelihoods of local miners, the local gem industries and prices consumers will have to pay for these gemstones. Read David Federman's "[Open Letter to the Trade](#)"; here is the the Laboratory Manual Harmonization Committee (LMHC) [Information Sheet #6](#) which is at the center of the lawsuit for the deceptive use of the place-name Paraiba.

## Irradiated Blue Topaz

Blue Topaz sold in the US must be from suppliers licensed by the Nuclear Regulatory Commission (NRC); Canada does not have this regulation. Until recently most of the blue topaz sold world-wide was processed and treated in an electron accelerator close to where I live (Vancouver, B.C., Canada). The plant has its own dedicated power supply and actually does bulk sterilization for food producers, hospitals, nurseries, etc. 24 hours a day. Once a month a shipment from Brazil came in and was processed; just for fun occasionally they added other

gems to the batches. During a visit I received some leftovers for study purposes and found a few diamonds turned black and some other stones - no tourmalines so far. The other topaz pieces were similar to the sample shown here. This topaz was overheated and "zapped".



Typical signs of insufficient cooling are thermal cracks surrounded by numerous lightning or small disc-like inclusions visible when the stone is tilted slightly as seen in this image.

Read the interesting paper "Electron beam enhancement of colorless Topaz" by Noomie Lewinson, Accredited Gemmologist (C.I.G.), Gilleje, Denmark, download [article](#) (pdf file, 1.0 Mb) and view some more "[Zapped](#)" [Blue Topaz](#) after treatment in a 20MeV electron accelerator.

### **Copper Treatments in Tourmaline**

This is another hot topic. The concern here is that some of the Mozambique tourmalines may have been treated or polluted with copper. A treater/cutter may want to fill fissures in a non-cuprian tourmaline with copper during the polishing process to fool laboratories when they use high-tech equipment such as LA-ICMPMS. In the past laboratories claimed to be able to pinpoint the country of origin of cuprian elbaite tourmaline when using such equipment. It is therefore of utmost importance that tourmaline be thoroughly cleaned before testing.

Unlike Andesine there is sufficient supposedly untreated rough available from different sources. The testing procedures and any proof of treatment will require an extended period of time because we do not know how it is done. We have joined an international research effort to get a better understanding about the materials, in particular from Mozambique. I will keep you posted.



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