

## **Problems in the Practice**

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To an inexperienced gemmologist or dealer, some of the gems moving around in the marketplace can pose serious problems, resulting in serious financial loss, if care is not taken in observation and testing.

- 1) A blue-green gem was presented for testing with a “Certificate” stating it was an Aquamarine. On examination, the following observations were made; Polariscope - unchanged opaqueness; Refractometer – 1.574-1.576; Examination with the microscope revealed swirl marks & air bubbles.

Obviously whoever examined this gem would have gone on the basis of the refractive index. In the first instance, the very small birefringence should have not been the deciding factor. The behavior on the polariscope should have alerted him. Furthermore with the wide prevalence of imitations, synthetics and doublette, a microscopic examination is mandatory for all gems. A re-examination of the R.I. confirmed that the apparent doubly refractive reading was not a distinct movement of the shadow edge.

It is advisable to be aware that synthetic gem quality hydrothermal Aquamarines have been detected in the market, with typical identifying features such as inhomogeneous growth features.

- 2) A Blue Sapphire gem stone mounted in a ring and purchased as a Blue Sapphire was presented for confirmation. The colour of the gemstone and the inclusions had convinced the buyer that the stone was indeed a Blue Sapphire. However a simple R.I. measurement proved otherwise. The R.I. was 1.716-1.730. The closeness of the R.I. to that of Blue Sapphire along with the presence of “feather-like” inclusions gave it a “look” of Sapphires which obviously misled the owner. The gem was a Blue Kyanite.

This underscores the importance of having proper gemmological confirmation of gemstones whenever a deal takes place.

- 3) The so called “Nidana gems” or gems recovered from treasures are proliferating in the market. The owner swears that the gems are more than five centuries old (assumptions) and that they have not left their sight. Therefore it has to be the real thing. One must be careful and test these gems objectively ignoring the claims of the owners. Since of late one sees many carvings of Lord Buddha from Cubic Zirconia which can prove a bit more difficult to identify.
- 4) A word of caution about Alexandrite parcels which may contain colour changing Garnets. With the polariscope you might find an anomalous double refraction so all the gems will have to be tested on the refractometer which will give the correct Chrysoberyl R.I. readings. There can be cases as of Garnets giving a single R.I. reading at around 1.750 so one must always look for the birefringence. Thereafter double check for pleochroism.

- 5) Recent radio advertisements talk about Golden or Yellow Topazes. If they are indeed being offered along with Amethysts then we should miss this bargain!! Regrettably even government institutions are selling Golden Quartz (Citrine) as Golden Topaz.

In conclusion, I can only highlight the importance of gem testing and even double checking an existing certificate, especially when it comes to expensive gemstone. In today's world many gem dealers are just waiting to cheat inexperienced gem buyers to earn a quick buck. Such transactions damage the trust in the trade nationally and internationally. The only way to prevent this from happening is to get your gemstones tested at a laboratory that is certified by the National Gem and Jewellery Authority of Sri Lanka.

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