JULY'97

LAB IDENTIFICATION CIRCULAR NO. 22

Gemstones which were tested and certified in the past three months are reported here in the circular. As usual the majority of gemstones were natural and synthetic emeralds and rubies . The main issue in almost all the natural stones was whether they had been enhanced or not.

LIC No. 21 of GTL had reported on **coated beryl and fractured filled rubies**. Earlier in March also, GTL received similar stones. Over the past months there has been an increasing number of these coated and fracture filled stones. Microscopic examination revealed numerous jagged 3/2 phase inclusions and distinct coloured oil in cracks. An eye visible green coloured coating with trapped gas bubbles was visible, Exposure to L.W. U.V. light produces a chalky green reaction over the surface . Visible range spectroscopy revealed a dye spectrum and the R.I was about 1.520 for the coating. In many cases colourless quartz is being used in such a manner also. Such specimens where the exact nature of the stone cannot be determined due to the coating over the surface , are being certified as "COATED SPECIMEN".

In case of **coated beads** these would be more dangerous when mixed with unenhanced samples. A good visual clue is to look for the absence of pleochroic colours which should be present in an otherwise doubly refracting stone.

Another interesting piece was an oval mixed cut brownish blue **dyed Corundum**, weighing 7.68cts, measuring (13.89x9.87x5.52)mm. Microscopic examination revealed distinct blue dye /colour along the cracks.The Chelsea filter also gave a red colour along the cracks . Silk and fingerprints and proerties indicated its natural origin.

GTL also received a parcel of **coated and fracture filled ruby rough**. The difference in lustre, weak pleochroism, gas bubbles in the coating and the fractures and an overall glossy appearance were observed and should be considered while examining rough.

We wish to bring to the notice of members of the trade that the percentage of dyed and coated specimens have increased considerably and please be alert for them.

The number of **Rough specimens** being examined have also increased. Over the years we have seen that whenever a new stone or source is found, GTL initially receives at least a few specimens for testing simultaneously. In the past three months we have examined and certified brown **Sphene,** brownish green **Apatite**, green, colourless and blue **Fluorite**, orange brown **Topaz, Malaya Garnet, Spessartite Garnet,Hessonite Garnet, Chrome Diopside, Epidote and Dyed ruby and emerald.**