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राजस्थान चैम्बर भवन

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LAB INFORMATION CIRCULAR No. 013

During August and September '95, a number of different stones were brought in for testing. A few interesting stones were:

1. Nat. Zircon : Transparent yellow stone similar in appearance to yellow sapphires, had a hydrostatic S.G. of 4.62, absorption lines observed at 6535, 6583, 5800, 5300 nm. Doubling of facet edges and needle like inclusions and under Ultra Violet L.W. it appeared chalky yellow.
2. Serpentine: Green yellow carvings, weighing 200 cts. each R.I. and S.G. observed were 1.54 and 2.57 (Hydrostatic) respectively. Faint band at 460 nm, yellow fluorescence under U.V. light and hardness between 4 to 5 on Moh's scale was also observed.
3. Syn. Ruby: Rubies of varying weights ranging from 1.00 to 2.00 cts. the gemmological properties R.I., Pleochroism, absorption spectrum were typical for ruby. Examination under magnification revealed some unusual features. Induced fingerprints and curved lines were distinct (in M.I. liquid) and thus proved the rubies to be flame fusion synthetics.
4. Composite Stone: (Nat. Green Sapphire | Syn. Ruby). Overall colour was purplish red. It consisted of a base of flame fusion syn. ruby to which had been joined a thin slice of Nat. Green Sapphire. Under magnification and in M.I. liquid the joining layer was revealed. Under U.V. light the upper crown part was inert while the lower crown and pavilion were strong red.
5. Green Dioptase: A very unusual stone with over saturated green colour similar to Syn. Flux Emerald. The size ranges from 0.20 to 0.50 cts. The properties were typical of Dioptase. R.I. 1.65 - 1.70, D.R. 0.050, under magnification strong doubling growth zoning and fingerprints were observed. The S.G. was 3.31 (Appx) and Hardness was 5 on Moh's Scale.
6. Syn. Sapphire: (Artificially Coloured Sapphire i.e. Diffusion Treated: Transparent well cut blue stone, the properties were typical of Syn. Blue Sapphire (A.C.S). Microscopic study revealed very tiny gas bubbles and under immersion in M.I. liquid, colour concentration along facet edges was seen.

For Gem Testing Laboratory,

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