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राजस्थान चैम्बर भवन Rajasthan Chamber Bhawan
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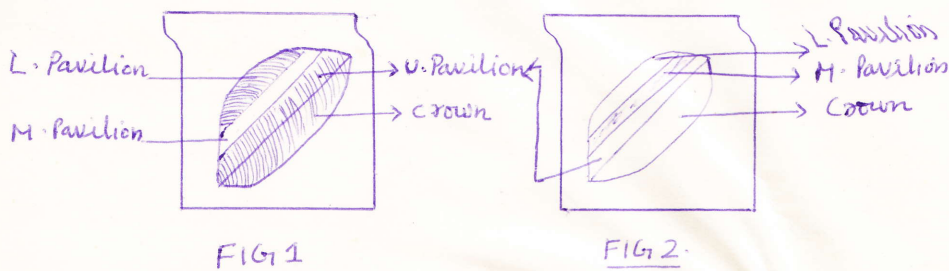
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दिनांक/Date..10/5/95.....

G.T.L. LAB INFORMATION CIRCULAR No.008/009

In the months of March and April following stones were examined.

1. Natural Emerald(Fracture filled):- This month a fairly large percentage of Emeralds were brought in for testing. The sizes ranged from 1 cts. to 8 cts. Besides standard properties, Irrescent colours along surface reaching fractures.
2. Natural Zircon:- Yellow transparent faceted stone similar in colour to a Yellow Sapphire. The properties are typical for Natural Zircon with, R.I. over 1.81 Range, yellowish under S.W. U.V. light. It shows clear Zircon spectrum(65350A) and under magnification doubling of facet edges is seen.
3. Corundum Triplet:- Transparent well cut stone with purple red colour. The properties were typical for corundum, RI-1.76-1.77 (Crown + Pavilion), spectrum: Ruby spectrum, under U.V. light crown, upper and lower pavilion shows strong red, middle pavilion showing weak red. Under magnification the crown, upper and lower pavilion show curved lines which are seen in different directions. Fig(1), middle pavilion shows silk and fingerprints and Junction plane of Flattened Gas bubbles are seen. Distinct separation planes under immersion also(Fig 2).



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4. Hexagonally cut Green Glass Rough:- Fairly big size specimen, weighing 64.07 cts. brought in for testing. The sides were roughly polished. The properties were typical of glass, with R.I. 1.52, SR, with Hydrostatic S.G. of 2.70 and showing chalky green under S.W. U.V. light. Under magnification, gas bubbles are seen.
5. Natural Beryl (Coated):- A green coloured oval drilled Beryl came in for testing. The Properties observed were, R.I. : 1) crown 1.57 - 1.58 2) Pavilion 1.54 (spot); Under Magnification : 1) Pavilion, coated green 2) crown uncoated 3) Trapped gas bubbles in green coating 4) crystals 5) Irridescent effect in cracks. Spectrum : dye spectrum ; Under U.V. light crown was inert and Pavilion was chalky green.
6. Pink Synthetic Spinel :- Octagon step cut, pink stone weighing 24.14 cts. with colour similar to Pink Topaz. Properties were typical of Synthetic Spinel, with R.I. 1.73, strong A.D.R. effect, under magnification distinct Tadpole like gas bubbles, chalky under L.W. U.V. light.
7. Green Composite:- Octagon step Green coloured, R.I. (crown and pavilion) 1.54-1.55, under magnification : 1) Phase inclusions and fingerprints 2) Trapped gas bubbles along Junction planes; Crown and pavilion gives chalky and girdle is inert under L.W. U.V. light. (Fig 3).

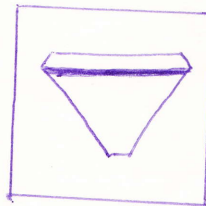


FIG 3

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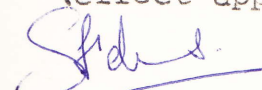
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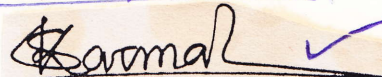
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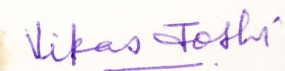
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8. Sillimanite cat's eye: Blue coloured oval cabochon, with very pronounced cat's eye effect. Properties typical of sillimanite, Biaxial optic figure seen under polariscope, R.I. 1.66 (spot), with Hydrostatic S.G. of 3.27 strong pleochroism. Under magnification fine parallel needles.
9. Actinolite cat's eye: Green coloured oval cabochon look similar to apatite, the properties were typical of Actinolite, R.I. 1.61 (spot), distinct birefringence blink observed. S.G. 3.02, under magnification fibrous appearance and weak pink under U.V. light.
10. Amazonite: Green cabochon almost opaque, properties were typical of microcline Feldspar, with R.I. 1.52 (spot) and S.G. 2.55 (Hydrostatic) cleavage cracks were seen on sight.
11. Apatite :- Blue coloured faceted oval stone, colour very similar to Paraiba Tourmaline, the properties, observed were, R.I. 1.635-1.640, giving didymium spectrum and under magnification crystals were seen.
12. Fluorite: Emerald green colour stone, with R.I. 1.44 (spot), under magnification Triangular two phase inclusions and iridescence cleavage planes, strong violet Under U.V. light.
13. Natural Colour Changing Sapphire: Brownish green Triangular mixed stone came in for testing, R.I. 1.76 - 1.77, under magnification silk and crystalline inclusions were seen. Colour change from brownish green in day light to brownish red in lamp light. (effect approximately 50%).


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