



रत्न परीक्षण प्रयोगशाला

रत्न तथा आभूषण निर्यात संवर्धन परिषद

वाणिज्य मंत्रालय, भारत सरकार द्वारा प्रायोजित, जयपुर

Gem Testing Laboratory

THE GEM & JEWELLERY EXPORT PROMOTION COUNCIL

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G.T.L. LAB INFORMATION CIRCULAR No. 010

In May 1995, a number of different stones were examined and certified. A few interesting stones were :-

1. Synthetic Green Spinel: Transparent and well cut, the colour of these stones was similar to Chrome Tourmaline, but all other properties were typical for synthetic Spinel. R.I. 1.73, chalky green under u.v. lamp and under magnification tadpole like gas bubbles and stress cracks. It also gave a strong A.D.R. reaction under polariscope.
2. Synthetic Alexandrite: Purplish green coloured stone, which exhibited clear colour change from purplish green to purple red. R.I. 1.74 - 1.75, under magnification: curved lines and gas bubbles, chalky orange under U.V. and also shows an alexandrite spectrum.

A number of tanzanite came in for testing, colour shades were varied, all properties were typical for tanzanite, (a variety of zoisite)

SPESSARTITE GARNET

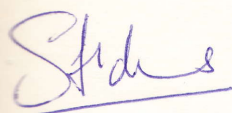
Better known ⁱⁿ the trade as "Hollandine" and "Mandarin", this vibrant orange coloured garnet seems to be quietly inching its way up to becoming one of the more popular gemstones. Currently two distinct colours of spessartite are being met with, namely, a pure orange and a reddish orange.

Basically Spessartite is a Manganese rich variety of garnet, which may or may not contain a percentage of Iron. The darker brownish/reddish orange colours, is due to higher percentages of Iron i.e. it contains an admixture of almandine.

P.T.O.

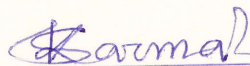
Visually, some of the Spessartite colours are similar to those seen in the Hessonite variety of Grossular garnet. These are apt to cause some confusion. In this case, separation between the two is purely a technical one as can be seen by the comparative properties tabulated below.

	Spessartite	Hessonite
S.G.	4.12 - 4.20	3.40 - 3.78
R.I.	1.79 to 1.81	1.73 to 1.76
Absorption Spectrum	4320 nm (band) 424, 412 nm, Iron rich also show 505, 525 and 575 nm.	No characteristic spectrum



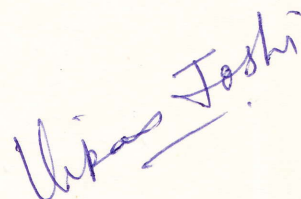
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