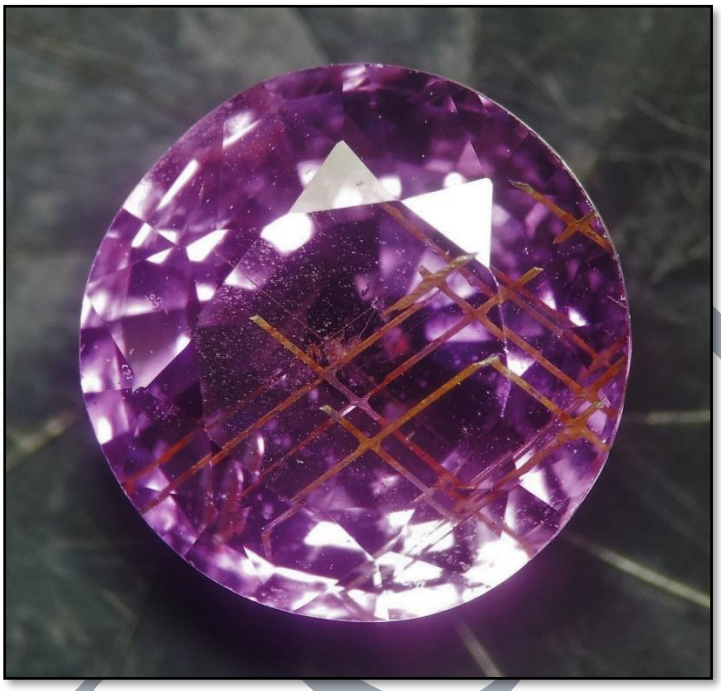
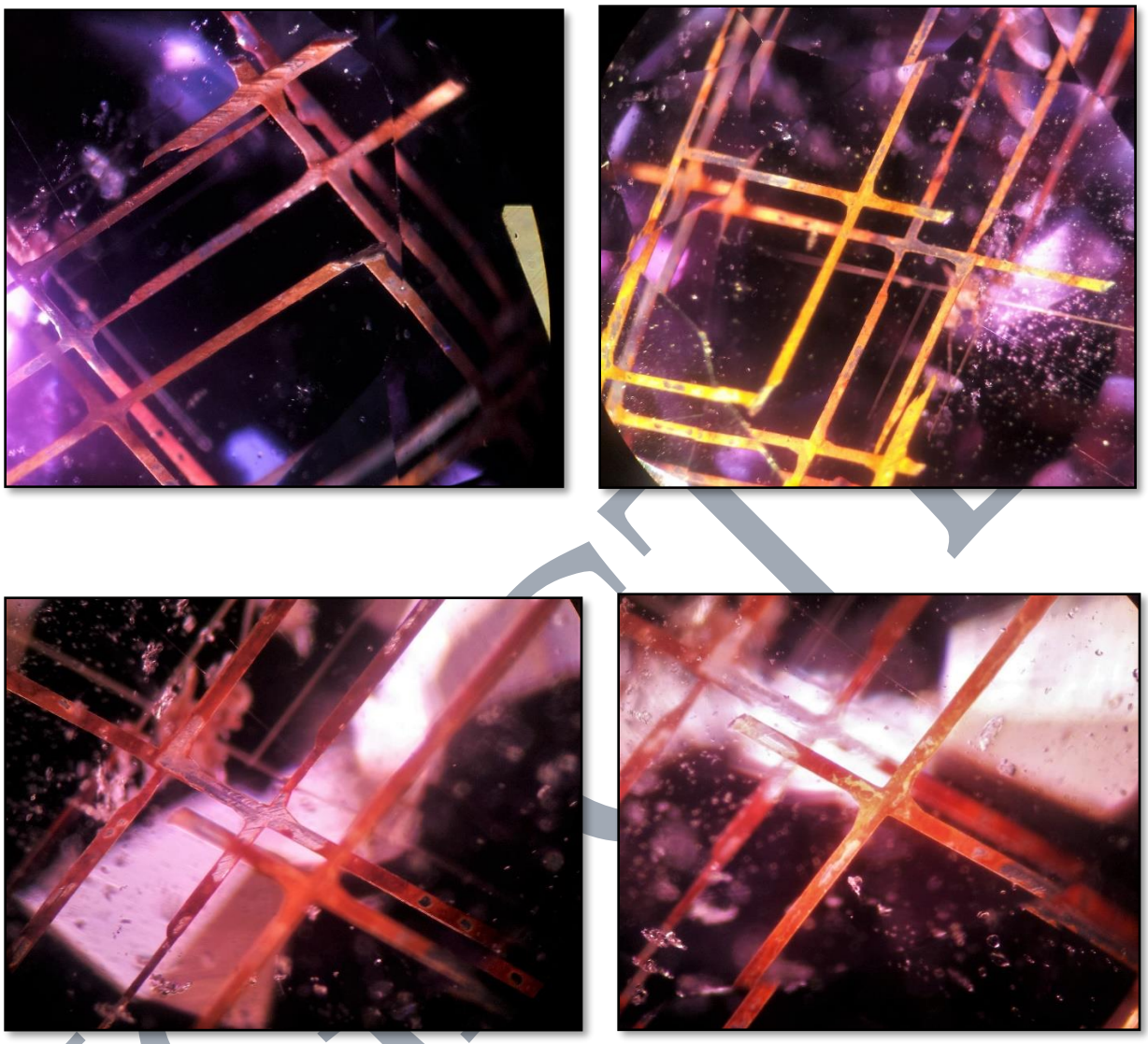
PURPLE NATURAL SAPPHIRE WITH LATH LIKE TUBES

Meenakshi Chauhan



One of the most characteristic feature observed in Natural sapphires are twin planes/lamellae. Polysynthetic Twin planes in a Natural Corundum are formed parallel to the rhombohedral faces, which are thus in 3 directions intersecting at the angle of 86.1 and 93.9 degrees. In a Sapphire, from one viewing direction, only 2 twin planes can be seen intersecting each other.

At the intersection of these twin planes, needles are often observed containing mineral Boehmite formed due to exsolution, which are actually hollow tubes formed at the intersection of twinning planes. Only two intersecting tubules can be formed in a same plane.



Flat lath like tubes in sapphire. Note vacant section of tubes is quite evident.

A Natural Purple Sapphire, 1.78 carats, 6.92 – 7.09 x 4.13mm, Round mixed cut examined. Lath like flattened tubes were observed in a plane, intersecting each other at the angle of around 90 degree. These flat lath like tubes, partially filled with yellowish material, were readily visible with unaided eyes. Microscopic observation revealed that these lath tubes were not forming scaffolding and were rather intersecting each other within the same plane. These lath tubes were almost void and were probably epigenetically partially filled with limonite. Other inclusions observed under magnification were colourless crystals and fingerprints. No indications of heating were observed in the stone.

** Stone's courtesy: Amit Soni*