

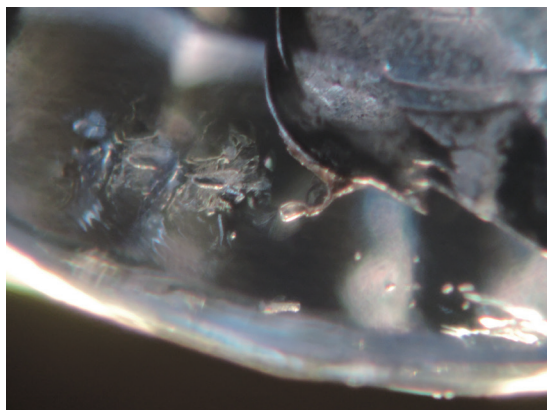
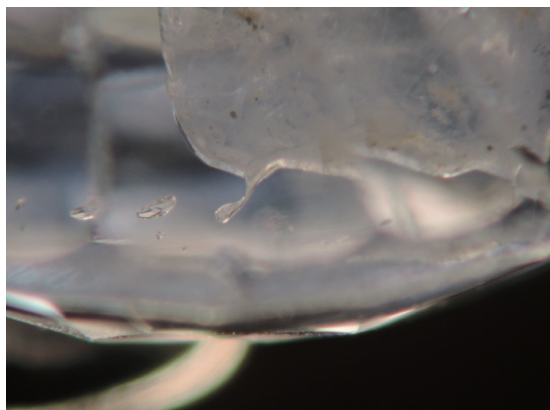
In the second set, using traditionally heated sapphires as the start material (as shown in Figs. 10-15), short and long rutile needles that were still present after conventional heating were

seen to have been completely removed following this treatment (Fig. 10). Also, many thermally induced tension cracks still remaining after the earlier treatment tended to have healed and were



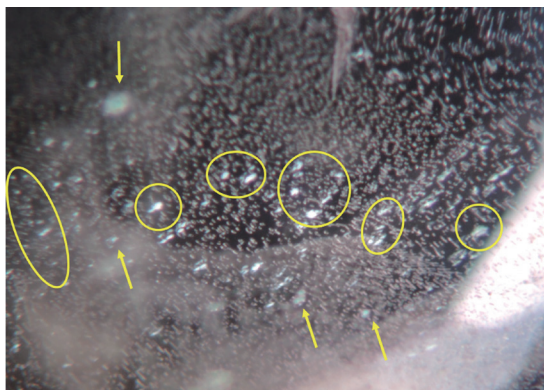
**Fig. 10** A 0.82ct sapphire that had already received conventional heat-treatment before (left) and after heat and pressure treatment (right). Notably, previously visible short and long rutile needles could be seen to have been removed during this treatment (magnified 15x). *Photo by Youngsoo Chung*

經常規熱處理的0.82ct藍寶石（左）和經加熱加壓處理之後（右）的比較。值得注意的是，在處理過程中，短而長的金紅針已被移除（放大15倍）。



**Fig. 11** A 0.89ct sapphire before and after heat and pressure treatment. Fuzzy looking tension fractures formed around negative crystals after this treatment (magnified 13x). *Photo by Youngsoo Chung*

加熱加壓處理前後的0.89ct藍寶石。經處理後負晶體周圍形成了模糊的張力斷口（放大13倍）。



**Fig. 12** Heating with pressure can show some unique characteristics, such as a shiny internal feather between liquid inclusions in the stone. This feature is rarely seen in traditionally heat-treated sapphire (magnified 20x). *Photo by Hyunmin Choi*

壓力和熱力可以顯示出一些獨特的特徵，例如寶石中液相包裹體之間具光澤的內部羽毛狀物。在傳統熱處理藍寶石中很少發現這種特徵（放大20倍）。