

Gems & Gemology Data Depository

Supplementary photos to accompany the article: S. Fernandes and G. Choudhary, “Gem-quality andalusite from Brazil,” Summer 2009 *G&G*, pp. 120–129.



The assorted andalusite rough procured for this study was said to be from Brazil. Most of the rough were broken crystals or pebbles and ranged from 2 to 15 ct. Photo by G. Choudhary.



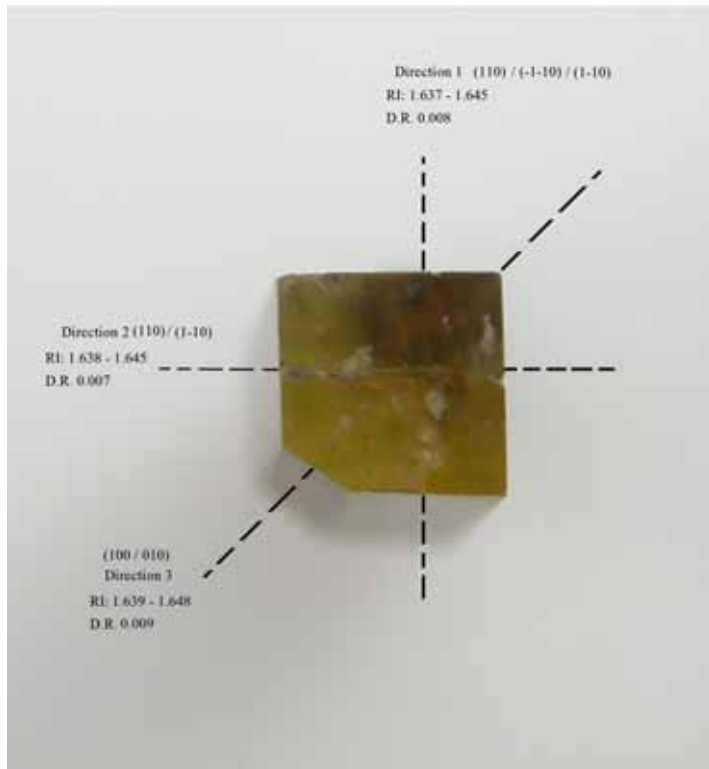
The andalusite parcel was grouped into green, pinkish brown, and green-pink combinations of variable transparency. Photo by G. Choudhary.



The andalusite specimens often showed prism faces intersecting each other at 90° and exhibited striations parallel to the c-axis. Photo by G. Choudhary.



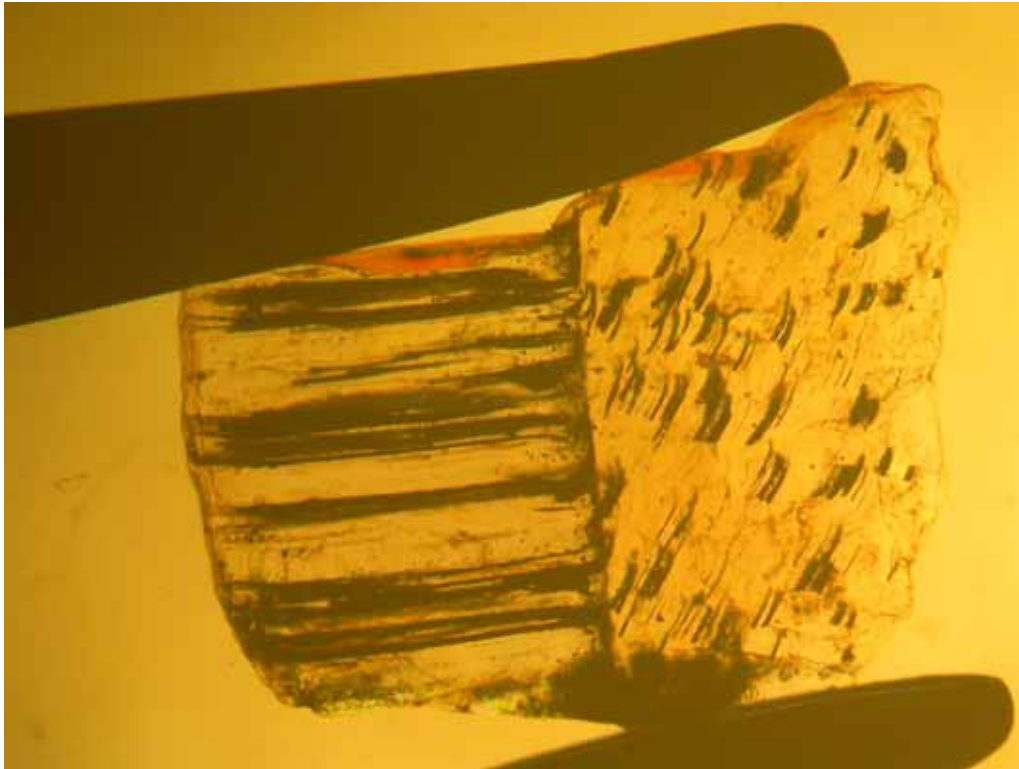
Some andalusite specimens displayed twinning, as indicated by this specimen. Photo by G. Choudhary.



To determine the variations in RI values with respect to the crystallographic axis, we polished the prism faces ($110 / \underline{110} / \underline{110} / \underline{110}$), one of the corners (representing $100 / 010$), and the pinacoidal face (001) of a prismatic andalusite crystal. Photo by G. Choudhary.



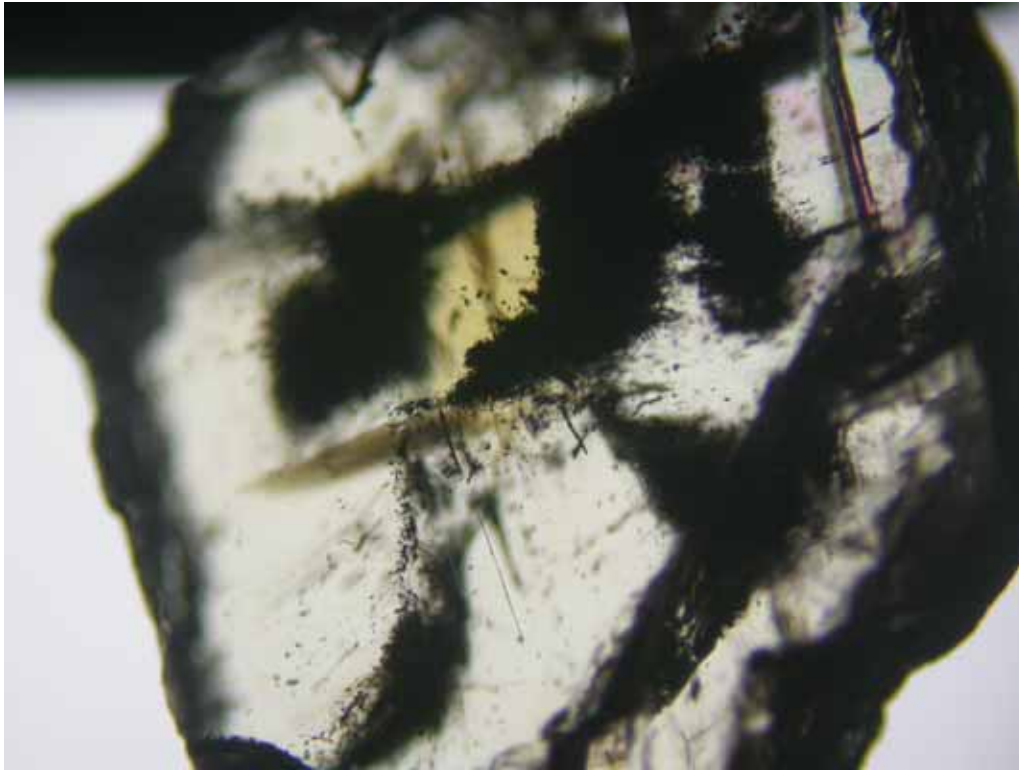
Most of the andalusite samples displayed a yellowish green glow when exposed to short-wave UV radiation, as shown here, but appeared inert to long-wave UV. Photo by G. Choudhary.



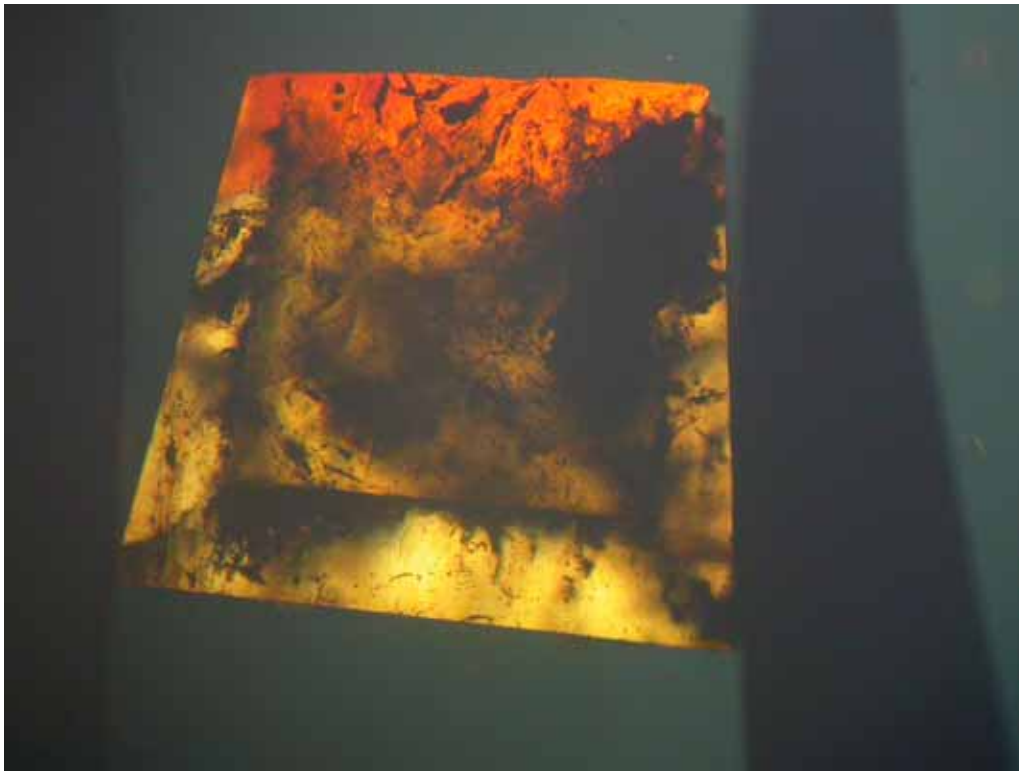
Some type 2 curved inclusions in the andalusite appeared to be bounded by a twin plane or different growth stages of a crystal. Photomicrograph by G. Choudhary; magnified 30x.



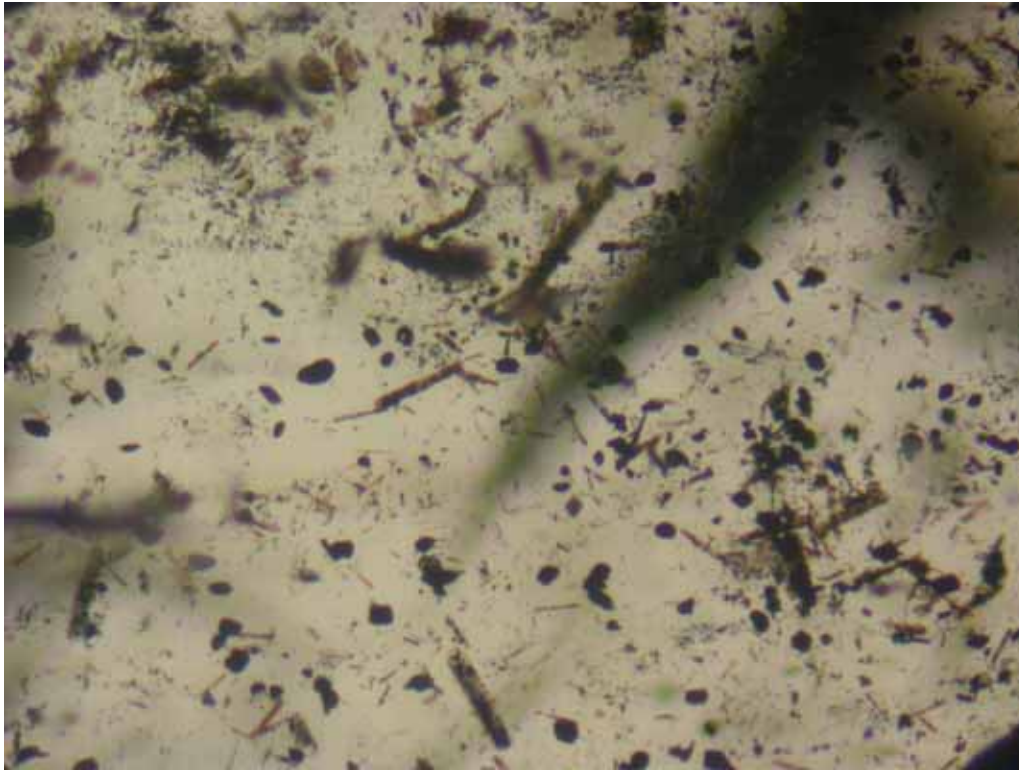
Some of the type 2 inclusions appeared curved, while others were straight and/or showed sharp angular bends. Photomicrograph by G. Choudhary; magnified 30x.



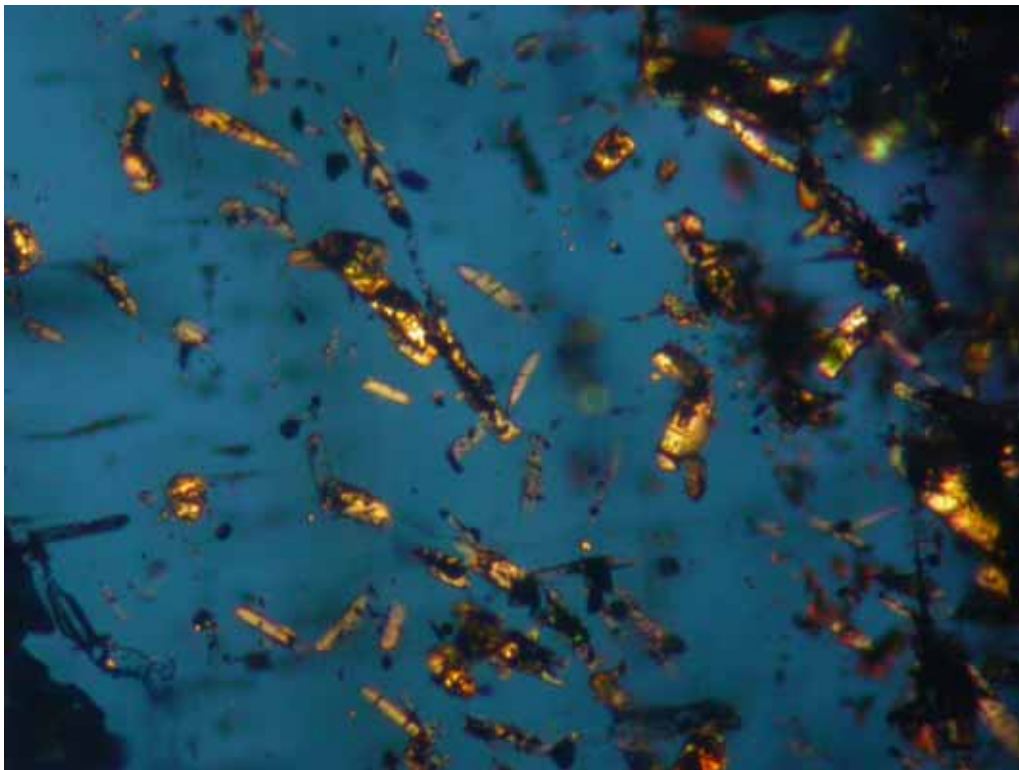
The black cross of the chiastolites consisted of granular inclusions that were arranged crystallographically, forming a square- or a rectangular-shaped core with arms emanating from the corners. Photomicrograph by G. Choudhary; magnified 25x.



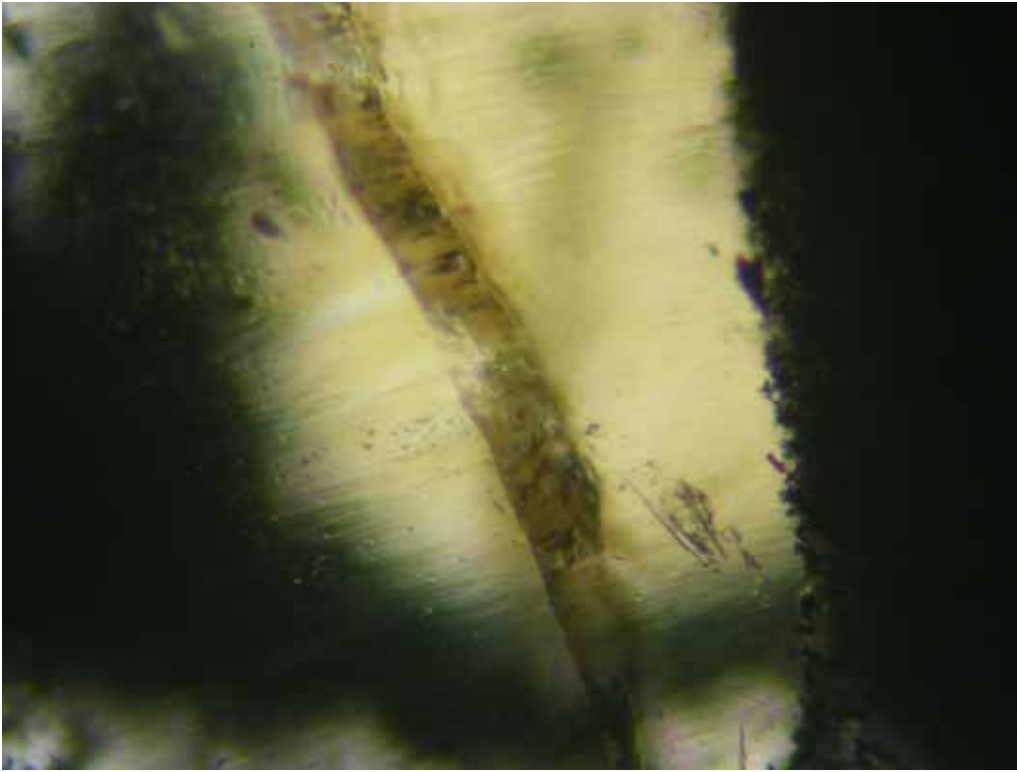
Elongated and scattered black and brown inclusions in the andalusites were confined to two-directional planes intersecting at 90° , forming a square or rectangular outline. Photomicrograph by G. Choudhary; magnified 30x.



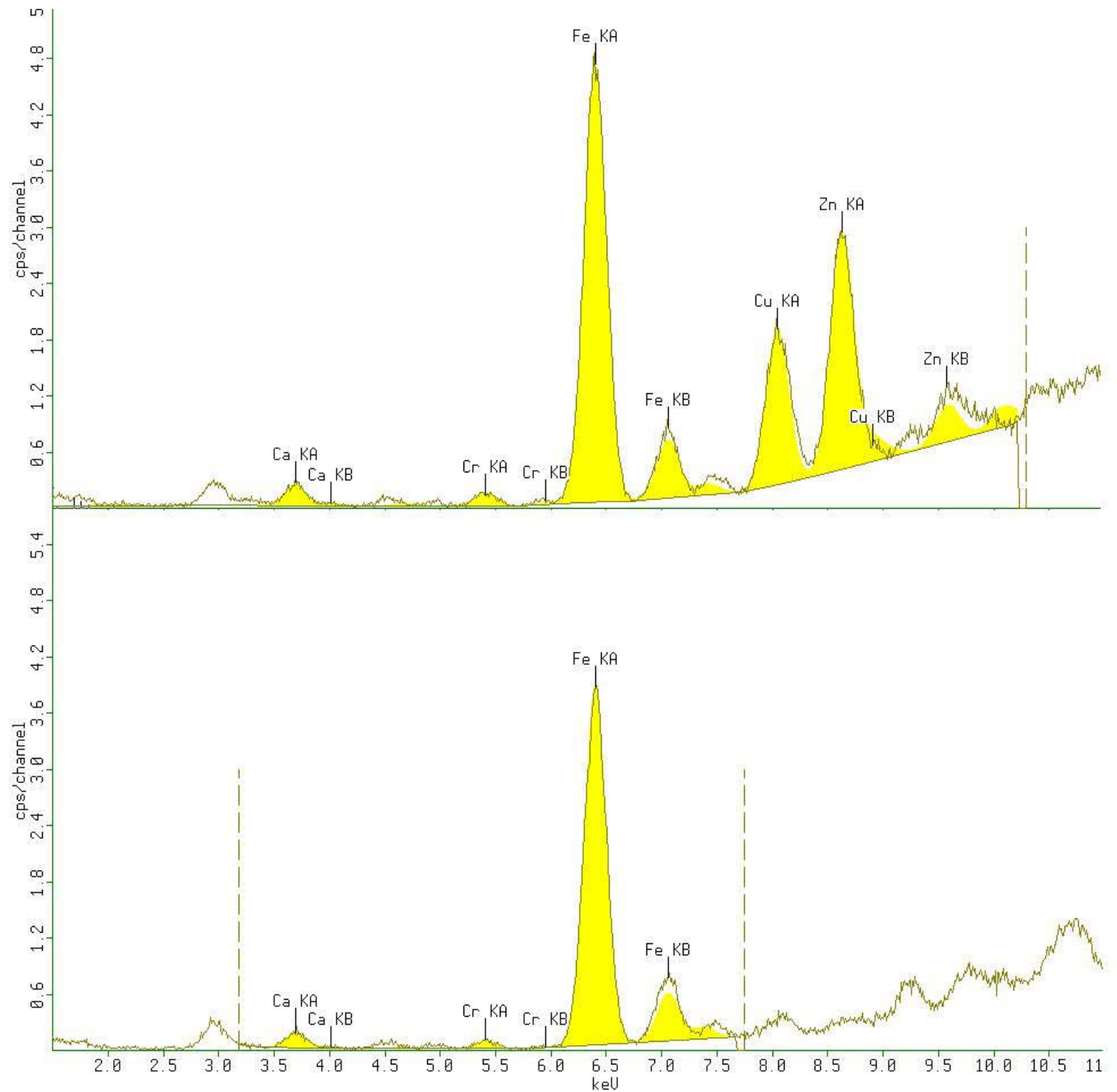
Scattered black and brown inclusions were present in the andalusite. Photomicrograph by G. Choudhary; magnified 80x.



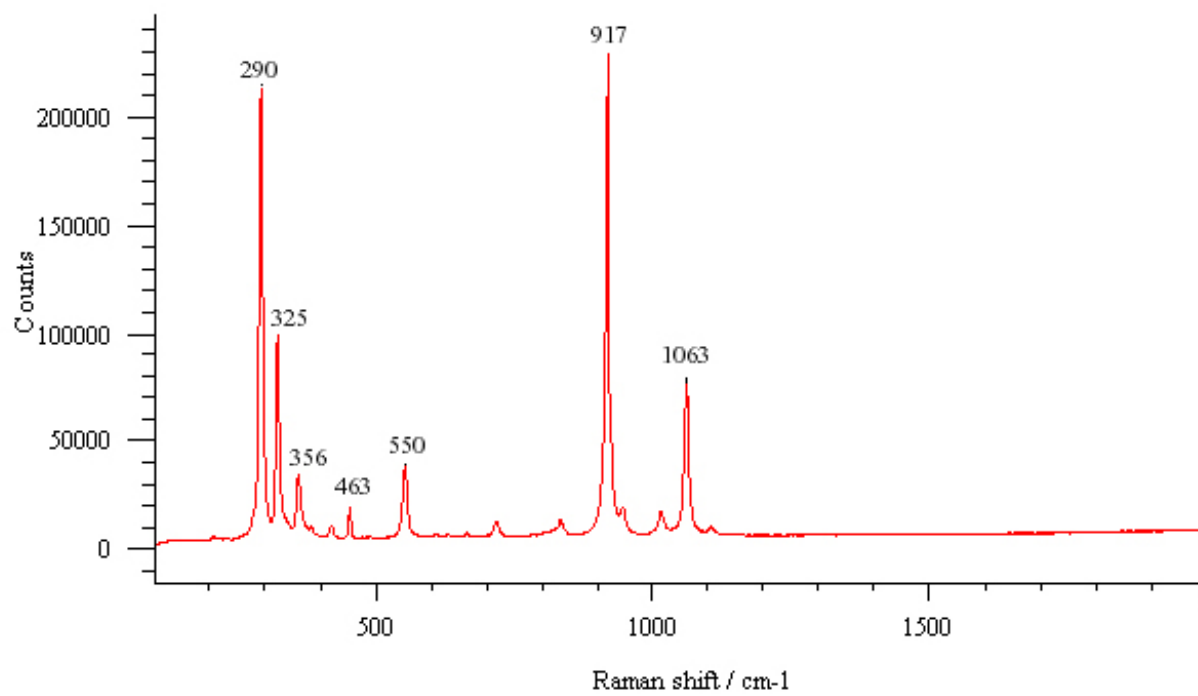
Some of the crystal inclusions in the andalusite were birefringent when viewed with crossed polars. Photomicrograph by G. Choudhary; magnified 80x.



Some chialstolites exhibited wavy color and growth zones that appeared alternately yellow and brown. Photomicrograph by G. Choudhary; magnified 45x.



EDXRF spectra revealed the presence of Fe, Ca, and Cr in addition to Al and Si as expected for andalusite (bottom); however, few cut specimens with surface-breaking type 1 inclusions containing brownish material displayed distinct Cu and Zn peaks (top), which apparently resulted from contamination from the polishing wheel.



The Raman spectrum of andalusite has several sharp peaks in the region 100–1800 cm^{-1} that are typical of andalusite.