The Bear Facts

Bear and Cara Williams have the chance to examine a rare and attractive stone

Piemontite

It is always particularly exciting when you realize that the stone you are testing is pretty rare, and even more so when it is a particularly nice specimen. This happened to us a short while ago when a client submitted a small but attractive pink stone that we were able to identify as piemontite.

Piemontite (also spelled Piedmontite), as the name suggests, is a mineral first discovered in 1853 in the Piemonte region of northern Italy. It is the manganese-rich variety of epidote, sometimes incorrectly referred to as manganoanvesuvianite, and a member of the epidote group. And for another mouthful, the chemical formula for Piemontite is $Ca_2(Al,Mn^{3+},Fe^{3+})_3(SiO_4)(Si_2O_7)O(OH)$.

It is unfortunate that facet grade specimens are so rare, as they exhibit a beautiful and pronounced pleochroism of yellowish orange – lavender – pinkish red. Facet grade material is so rare that many references do not acknowledge it exists. It most commonly forms in reddish to pink opaque masses. Our lab was fortunate to see an unusually fine and attractive specimen that reportedly came from the Shadow Lake area in California, likely a by-product of manganese mining in the area.

The stone weighed just 0.24 ct, but was a clean and vibrant pink colour. Due to the known presence of manganese as seen in its spectra, we tested for magnetic susceptibility, but found it to be negligible. Certainly, Raman analysis helped confirm identification, but the pleochroism was a strong indicator as well. With its high birefringence, we were only able to get one, non-diagnostic line on the refractometer at approximately 1.73 — very close to that of flame fusion synthetic spinel — but the pleochroism and spectra confirmed the final results.

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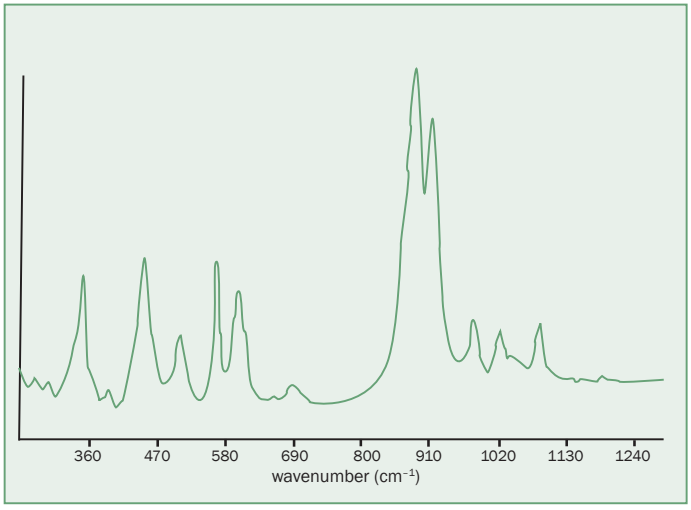
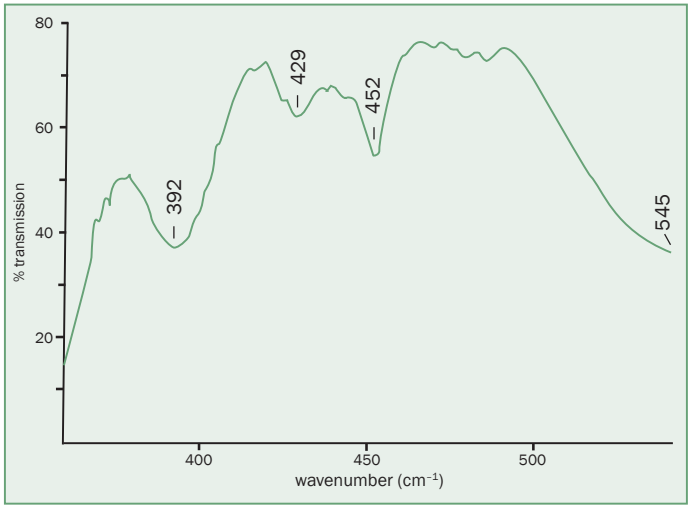


Raman spectra of piemontite.



Transmission reading of Piedmontite. Distinct manganese absorptions are seen at 392, 429, 452 and a broad band centered at 545 nanometers