

AVENTURINE LABRADORITE FROM CALIFORNIA

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In the course of the writer's work on aventurine feldspars¹ many specimens in the collection of the U. S. National Museum were studied. One of these, comprising a number of pebbles and 6 cut stones, from Modoc County, California, (Cat. No. 87268-9) proved to be so different from the majority of the specimens that it was not described in the paper above cited.

Being practically colorless and transparent, except for the inclusions which yield the red aventurine effect, the identity of the feldspar seemed worth establishing by optical and crystallographic measurements, and the results are presented in table 1:

TABLE 1

Properties	Measurements	Inferred Composition
Extinction angle on P(001)	-11°	Ab ₃₅ An ₆₅
Extinction angle on M(010)	-23°	Ab ₃₆ An ₆₄
Mean refractive index, β	1.565 (approx).	Ab ₃₅ An ₆₅
Refractive index of the glass obtained by fusing the mineral n_{Na}	1.543±0.002	Ab ₃₃ An ₆₇
Angle PAM (001A010). computed from angle 001A001 between twinning lamellas (albite law)		

The mineral is therefore a labradorite approaching bytownite.

The aventurine inclusions are very small, roughly 0.01-0.03 mm. in diameter, and less than 0.001 mm. in thickness. They are sometimes translucent with a greenish color, but mostly opaque and showing characteristic copper-red color in reflected light. They are oriented parallel to P (001) and M (010). In order to confirm the inference that these inclusions might be, not hematite as is the case in most aventurine feldspars, but metallic copper, a sample of the mineral was submitted to Dr. E. T. Allen, who found on analysis that traces of copper are actually present.

This feldspar is thus unusual in owing its aventurine character to inclusions of metallic copper.

¹ *Am. J. Sci.* [4] 40, 351-399, 1915.