

MEETING OF DECEMBER 6th, 1886.

NOTES ON AQUA-MARINES FROM MOUNT ANTERO, COLO.

BY REV. R. T. CROSS (by invitation).

I have in my possession a number of aqua-marine beryls from Mount Antero in Chaffee Co., Colorado. They were found about two years ago by Mr. N. D. Wanamaker of Salida. I had deferred writing these notes until I could visit the locality and get more material, and study the mode of occurrence, but in this I was disappointed.

According to Mr. Wanamaker's account they were found in the decomposed metamorphic granite of Mount Antero (Sawatch Range, Continental Divide) above timber line, in a comparatively level spot, and most of them in one pocket and near together, as though some one had dug a hole and hid them in it. I saw one about three inches long and a half inch or more thick, of good color, but with flaws and without any good termination. This is now in the possession of some person in the east. Another, which I did not see, was of about the same size and was sold to a mineral dealer in Leadville and lost track of. I sent several smaller ones with good terminations to an eastern collector.

I have now eight crystals with terminations, about a dozen that are tolerably clear but without terminations, a few with phenacite crystals attached, and quite a number that are not clear, but are of good color and illustrate the growth of the crystal.

When picking out some that I purchased I found a very few that were partly decayed and that had attached

to them what seemed to be small quartz crystals. On close inspection the angles struck me as being not exactly right for quartz, and knowing that phenacite was often mistaken for quartz (phenacite means deceiver) I jumped to the conclusion that they might be phenacites and a product of decomposition. Mr. Whitman Cross confirmed my guess and placed the crystals in the hands of Prof. Penfield of the Sheffield Scientific School, who has fully described them.

The color of the aqua-marines in my possession is bluish-green. The longest is one and three-eighths inches in length, and three-eighths of an inch in diameter. The lower third is translucent, the upper two-thirds transparent. This crystal, like the others, is finely striated on the prism, but the plane OP is very smooth and brilliant.

The next crystal is of very nearly the same size, is clear through its whole length but has only an imperfect termination. Another is three-fourths of an inch long and has a very fine termination. It has the planes P, $2P$, and $2P_2$, the first two planes being very small, the last quite large. Another crystal is one-half of an inch long and one-fourth of an inch in diameter, and shows, better than any other that I have, two peculiarities. (1.) The edges between the prism and the termination are slightly rounded and rough. Probably this is caused by several planes that make a very slight angle with the prism. (2.) Starting from the termination, very straight and very slender lines run down part way through the crystal, toward the base. They appear to be lengthened cavities. It occurs to me that they are the striations on the surface of the core, or original crystal over which more material was afterward deposited. This view is confirmed by the fact that the striations on some of the crystals extend only part of the length of the crystal.

I have one crystal, one and one-quarter inches long and three-quarters of an inch in diameter, but it is quite imperfect.

Some of the crystals have a very distinct core. One crystal, for instance, is a half inch in diameter. The central part, or core, is a quarter of an inch in diameter and is transparent, while the outside layer, looked at lengthwise, is opaque.

In some cases the core projects at the broken end of the crystal in a globular form, reminding us of the rounded masses of tourmaline described in Hamlin's monograph on the Tourmaline. These globular masses are harder than the outside layers.