

APPARENT CLEAVAGE IN CRIPPLE CREEK
TELLURIDE (CALAVERITE)

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Every mineralogist who visits the Cripple Creek district is astonished by the frequency with which assayers report sylvanite. Lately the writer has had the privilege of looking over about fifteen hundred specimens assembled from almost every mine in the district. A few specimens of telluride ores from the Blue Bird and Gold Coin Mines seemed to exhibit a cleavage. The telluride formed silvery scale-like coatings on the surfaces of joints in the phonolite, and the individual grains were striated on their larger surfaces by lines that strongly resembled those characteristic of sylvanite. To make the matter more certain, the mineral exhibited what appeared to be an excellent cleavage (calaverite normally showing none). Upon testing a small fragment with the blow-pipe, and parting the resulting button, no appreciable silver was obtained; and a fire assay confirmed this result. This suggested either a new gold telluride or an intergrowth with some other mineral. A number of small fragments of the material were then roasted in a muffle, and the explanation of the "cleavage" immediately became apparent. Extremely thin, transparent, anisotropic quartz films appeared, stripped of their telluride covering, and an examination of the specimens with a lens showed that these were the cause of the apparent cleavage. They occurred parallel with the surface of each telluride grain, were thinner than paper, and along them the mineral split. The films are especially remarkable for their parallel orientation and their repetition within individual grains. The latter phenomenon suggests pulsations in the deposition of the ore minerals. This would indicate that there was within the veins a quick alternation of highly heated vapors and circulating waters, if the emanation theory of Lindgren and Ransome is correct. It is quite possible, however, that hydrofluoric acid gas may have extracted silica from the wall rock as vaporous hydrofluosilicic acid, and some reaction may have taken place to cause deposition of silica.

SUPPLEMENTARY NOTE ON THAUMASITE. Edgar T. Wherry.
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Since the appearance of my note on "Terminated crystals of thaumasite"¹ there has been received in this country from Stockholm, Sweden, a number of the *Geologiska Föreningens Förhandlingar* containing an article by Dr. G. Flink on the same mineral.² The angle ρ_p of his crystals averaged $47^\circ 35'$, which, it is worth noting, is only $30'$ more than my result, and within the limit of error of my measurements; the corresponding axial ratio being $c=0.948$. The matter will be further discussed in my paper in the Proceedings of the U. S. National Museum.

¹*Am. Min.*, 2, (7), 89, July, 1917. ²*Geol. Fören. Förh.*, 39, (4), 447, April, 1917.