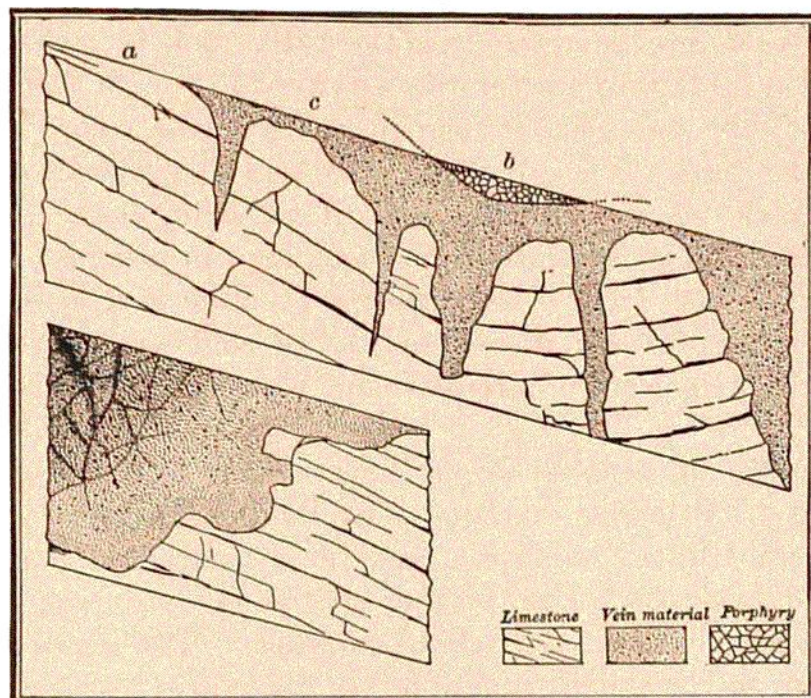


erous age, and partly through new fissures. The ores occur along the dikes, and also penetrate the limestones; the ejection of the igneous rocks, andesyte and rhyolyte, was accompanied by the upward passage of the ores; and the ores became much changed to secondary kinds by the action of the vapors. The latest eruptions of the region were of basalt.

316.



317.

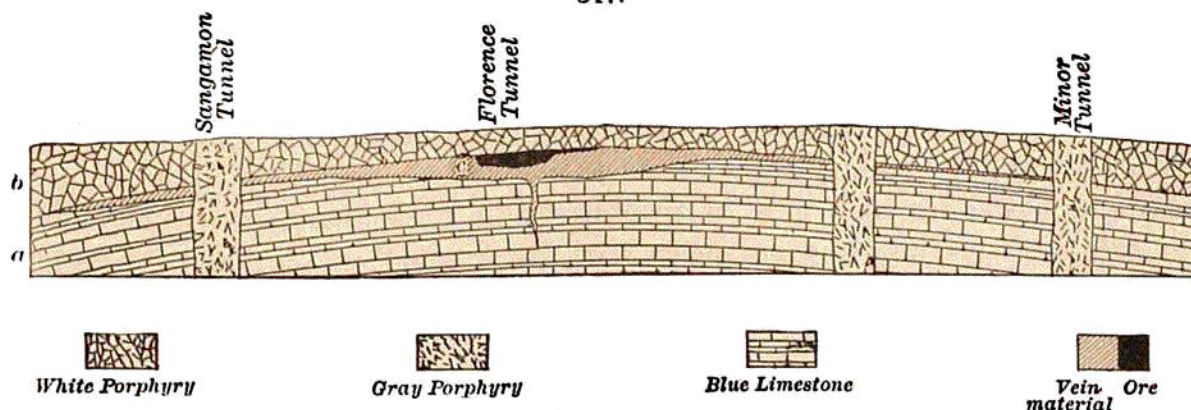


Fig. 316, two Carbonate Hill sections, Leadville, showing cavities of ore in the inclined stratum of limestone. *a*, limestone; *b*, porphyry; *c*, ore. Fig. 317, section at Printer Boy Hill mine; letters same signification. Emmons.

The abundance of *chloride* and *bromide* of silver in these western mines makes it probable that sea water contributed to the ascending vapors, and that salt (NaCl) supplied the chlorine. In the Cretaceous period, the mountain region was mostly submerged. The ores are supposed to have come from the igneous rocks. (Becker, Emmons.) This was probably true to a large extent in some cases, according to the facts afforded by the Keweenaw copper region. The hot lavas carried much of the metallic material to the surface, and as cooling commenced, the ores were condensed in, or gath-