

this stage that the wilkeite was altered, the zeolites developed in the pegmatites, and a large array of hydrous calcium silicates, most of them still unidentified, were formed. These include the riversideite and the plazolite.

Crystallography.—Plazolite crystallizes in small, clear rhombic dodecahedrons of the isometric system. No other forms were noted. The crystals reach a maximum size of 2 mm.

Physical Properties.—The mineral is brittle, has a conchoidal fracture, and shows no evidence of cleavage. Its density, determined with a pycnometer, is 3.129. Hardness, 6.5.

Optical Properties.—The mineral is colorless to light yellow. The luster is vitreous, almost adamantine. The refractive index as determined by the immersion method is 1.710. Some crystals show slight anomalous birefringence.

Chemical Composition.—The material selected for analysis was composed of clear, colorless, dodecahedrons free from adhering material. Analyses were made upon three different samples. Nos. I and II were made on the original lot collected; No. III upon some received later. In analysis I the presence of CO₂ was not suspected and the ignition loss only determined. In II and III the water was determined by Penfield's method and the CO₂ by difference between ignition loss and water content, since the amount of material was insufficient for a direct determination of CO₂. The other constituents were determined in the ordinary manner. The mineral is easily soluble in hydrochloric acid.

| | I | II | Molecular Ratios | | III | Molecular Ratios | |
|--------------------------------------|-----------|-------|------------------|-----|-------|------------------|-----|
| SiO ₂ | 24.13 | 23.85 | .397 | 2.1 | 25.06 | .417 | 1.8 |
| Al ₂ O ₃ | 23.66 | 22.77 | .223 | 1.0 | 24.63 | .241 | 1.0 |
| CaO..... | 40.22 | 40.13 | .716 | 3.2 | 40.13 | .716 | 2.9 |
| MgO..... | 0.12 | — | — | — | Trace | — | — |
| H ₂ O..... | } 12.21 { | 9.39 | .521 | 2.4 | 9.04 | .502 | 2.1 |
| CO ₂ | | 3.41 | .077 | — | 1.13 | .025 | — |
| Totals..... | 100.34 | 99.55 | — | — | 99.99 | — | — |

In the above ratios the CO₂ is calculated with the SiO₂ since the two apparently are contained in the mineral molecule. These ratios lead to the formula 3CaO.Al₂O₃.2(SiO₂,CO₂).2H₂O.

Constitution and Relations.—A determination of the ignition loss at various temperatures gave:

| | Percent. |
|------------|----------|
| 110°..... | 0.18 |
| 150°..... | 0.21 |
| Blast..... | 12.80 |