

## CRYSTALLOGRAPHIC PROPERTIES

Probably triclinic. Principal cleavage || to tabular development, with two others, apparently but not exactly, perpendicular to the first. Traces of these latter cleavage directions make approximate angles of  $102^\circ$  and  $78^\circ$  with each other on the surfaces of the plates.

## OPTICAL PROPERTIES

The two extinction directions in the sections make angles of about  $44^\circ$  and  $46^\circ$  with one of the cleavage directions, and of  $34^\circ$  and  $56^\circ$  with the other.  $n = 1.730 \pm .002$  and  $1.795 \pm .005$ ; the latter must be close to  $\beta$ .

## CHEMICAL PROPERTIES

Comp.  $\text{PbCa}_2(\text{SiO}_3)_3$ ,  $\text{SiO}_2$  35.10,  $\text{PbO}$  43.17,  $\text{CaO}$  21.73 = 100.  $\text{CaO}$  replaced by a little  $\text{MnO}$ . Analysis by Bradley, recalculated after eliminating the water (hygroscopic) and substituting  $\text{CaO}$  for a little  $\text{MnO}$ :  $\text{SiO}_2$  33.77,  $\text{PbO}$  43.57,  $\text{CaO}$  22.66 = 100. Pyr. Fuses with some difficulty in O.F. assuming an amethyst color; but in R.F. fuses easily and quietly at about 2 to an opaque grayish glass. In R.F. gives a pale azure-blue flame with a pale green border. With fluxes on charcoal it gives a metallic globule of lead accompanied by a lead oxide coating. It gives the characteristic Mn color tests, and is decomposed by  $\text{HNO}_3$ , yielding separated silica.

Observed on specimens of almandite, hancockite, roeblingite, nasonite, franklinite, willemite, axinite, datolite, manganophyllite, and barite from about the 1000 foot level of the Parker Shaft, at Franklin, N. J. S. G. G.

## EXCHANGES OFFERED

Exchange notices will be printed free of charge to our subscribers in this column for three months or three times a year, as desired. Goods for sale must be offered in the advertising columns.

- B. C. Beegle, 52 Chadwick Ave., Newark, N. J. Apophyllite, thaumasite, prehnite, stilbite, red quartz, heulandite, calcite.
- John Holzman, 182 Ridgewood Ave., Newark, N. J. Heulandite, prehnite, pectolite, red and smoky quartz, fine twin crystals of calcite. Write for list.
- J. P. Wintringham, 153 Henry St., Brooklyn, N. Y. Wanted: triclinic, monoclinic, or orthorhombic crystals for crystallographic measurement or for sections; pericline twins—single or polysynthetic or plagioclases of known composition. Please state what is wanted in return.