either fiber by fiber or in mass with complete loss of the earlier fibrous structure. As any relation between form and crystallographic directions is lacking, the quartz has been introduced at a period subsequent to vein filling as a replacement of chlorite. No indication that muscovite has also been replaced by quartz has been noted and as the proportions of quartz and chlorite are variable within wide limits, quartz is entirely a replacement of chlorite. Pyrite, where present, either in veins or in the country rock is fresh, except for surface weathering, and its oxidation is not believed to have been a factor in the replacement of chlorite by quartz.

## ABSTRACTS

THE "TOADSTONE-CLAYS" OF DERBYSHIRE. C. S. GARNETT. *Mineralog. Mag.*, **20**, (103), 151-157 (1923).

The igneous rocks yielding the clays are mainly olivine-dolerites (diabases) and basalts. Near the surface, due to oxidation, limonitic staining may be observed. Then follow almost white clay, "green earth," "green stone rock" and slightly altered dolerite. The white clay, when analyzed and deductions made for $CaCO_3$ and $CaSO_4.2H_2O$, yields a compound having the formula $2\ Al_2O_3.6SiO_2.3H_2O$. The changes are due to the leaching action of percolating meteoric waters. W. F. H.

AN ASSOCIATION OF KAOLINITE WITH MIAROLITIC STRUCTURE. A. F. BUDDINGTON. *J. Geology*, **30**, 149-151 (1923).

The kaolinite occurs as fillings in druses in rhyolite porphyry and as an alteration of the plagioclase feldspars in a granite porphyry in the Wrangel district of S. E. Alaska. It is believed that the kaolonite and calcite have been derived through the alteration and leaching of the plagioclases by thermal carbonated waters of relatively low temperatures. W. F. H.

THE METEORIC STONE WHICH FELL AT ASHDON, ESSEX, ON MARCH 9, 1923. G. T. PRIOR. *Mineralog. Mag.*, **20**, (103), 131-133 (1923).

This stone is a white hypersthene-chondrite, containing 8.26% of nickeliferous Fe, in which the ratio of Fe:Ni is 6. An analysis of the attracted portion showed: insol. silicate 8.05; sol. silicate 5.29; troilite 1.09; Ni 12.46; Fe(+Co) 73.11. W. F. H.

THE METEORIC IRON OF KAREE KLOOF, AND THE METEORIC STONES OF LEEUWFONTEIN AND SINAI PENINSULA. G. T. PRIOR. *Mineralog. Mag.*, **20**, (103), 134-139 (1923).

KAREE KLOOF, CAPE PROVINCE, S. AFRICA: This iron is a coarse octahedrite with a ratio of Fe : Ni about 11. Fe 90.79; Ni 8.27; Co 0.68; Cu 0.03; P 0.24; S trace; insol. 0.03. LEEUWFONTEIN, TRANSVAAL: An intermediate hypersthene chondrite containing 10.09% nickeliferous Fe, in which the ratio of Fe : Ni is 7. The attracted portion gave: Insol. silicate 8.94; sol. silicate 6.54; troilite 1.81; Ni 10.72; Fe(+Co) 71.99. SINAI PENINSULA: An intermediate hypersthene chondrite containing 8.60%

nickeliferous Fe in which the ratio of Fe:Ni is 5 1/2. The attracted portion gave: Insol. silicate 6.29; sol. portion 4.29; troilite tr.; Ni 13.52; Fe(+Co) 75.90. W.F.H.

APPALACHIAN BAUXITE DEPOSITS. WILBUR A. NELSON. *Bull. Geol. Soc. Am.*, **34**, 525-39 (1923).

Upon boiling bentonite, formed from altered volcanic ash, with sulfuric acid, practically all of the $Al_2O_3$ goes into solution. Treatment with tannic acid will then cause the $Al_2O_3$ to ppt. These experiments it is claimed show "that the bentonite may very readily be the source of the alumina in the bauxite deposits of the Appalachian region." W. F. H.

NEW LEAD-COPPER MINERALS FROM THE MENDIP HILLS (SOMERSET). L. J. SPENCER. With chemical analyses by E. D. MOUNTAIN. *Mineralog. Mag.*, **20**, 67-92 (1923).

More reliable chemical and partial optical and crystallographic data are given for the following rare minerals. MENDIPITE, $2PbO.PbCl_2$. Orthorhombic, $a : b = 0.8002 : 1$. Grey, yellowish or pink in color; + elongation; plane of optic axes|| to (010) and -bisectrix $\perp$ to (100). 2V is very large while the refraction, birefringence and dispersion are all high. Sp. gr. 7.240. CHLOROXIPHITE, $2PbO.Pb(OH)_2.CuCl_2$. Monoclinic. $\beta = 62\ 3/4°$. Dull olivine green color. Strong pleochroism, emerald green parallel to length and yellowish-brown across blade. Sign - with high refraction and birefringence. $2V = 80°$ in oil. Plane of optic axes perpendicular to plane of sym. with the acute negative bisectrix near the $c$ axis. Sp. gr. 6.763, DIABOLEITE, $2Pb(OH)_2.CuCl_2$. Tetragonal, $a : c = 1 : 0.95$. Sky-blue color, optically −; $n = 1.98$. Forms observed, (001), (100), (101), (307). Marked pleochroism, deep blue to almost colorless. Sp. gr. 6.412. HYDROCERUSSITE, $2PbCO_3.Pb(OH)_2$. Rhombohedral. $a : c = 1 : 0.61$. Good basal cleav. Sp. gr. 6.80. CREDNERITE, $CuO.MnO_3$, monoclinic. Radiating fan-like groups or hemispherical masses of thin plates with black color and metallic luster. Sp. gr. 5.03. Wulfenite, pyromorphite cerussite are also recorded from this locality. W. F. H.