(+.005). This agrees with cacoxenite except that the indices are much too high, compared with those given by Larsen[5], 1.58 and 1.64. But cacoxenite is variable in both composition and optical properties, according to Doelter.[6] Larsen states that some of the fibers on a specimen from Saxony, especially near the ends, have considerably higher indices of refraction. A variation in water content might easily cause marked differences in indices. Cacoxenite has been recorded as occurring with dufrenite. Evidently this mineral, which occurs in too small quantities for chemical analysis, is either related to or identical with cacoxenite.

It can hardly be doubted but that a closer examination of many New England pegmatites would reveal the presence of more of these unusual phosphates.

A CONVENIENT METHOD FOR CHECKING THE INDEX OF A LIQUID

RALPH L. RUTHERFORD, *University of Alberta*

Liquids for determining the indices of minerals are used very extensively in petrographic investigation, especially in the study of crushed minerals and cleavage fragments. For such purposes it is essential to have liquids whose indices are known or can be easily determined. The greater number of the easily obtainable liquids for such purposes suffer changes in index through volatilization and must, of necessity, be checked before using when accurate results are desired. The check can be made by refractometers but in many smaller laboratories these are not readily available.

Powdered glass has been used by the writer for some time as a substitute for the refractometer. The glasses of known index can be obtained for a reasonable price from lens and optical glass manufacturers. A convenient form for usage is the powder which can be kept in small bottles with the index marked on the container similar to "index liquid" bottles. A still more convenient container is one with a sieve-cap of fine mesh, resembling a salt or pepper shaker, from which a small amount of the powder can be easily removed for use.

The writer has found it most satisfactory to screen the powdered glass into three sizes, namely: 100-150, 150-200, and 200-250.[1]

[5] Larsen, *ibid.* 51.

[6] C. Doelter. Handbuch der Mineralchemie, **3**, pt. 4, 534, (1914).

[1] Standard screen mesh.

The screening removes any dust and also particles which are too large, thus giving a uniform size of powder.

In using liquids that are subject to rapid volatilization the powdered glass may be placed beneath the cover glass with the mineral fragments. In this way the liquid may be constantly checked as to change in index while the actual determination of an index of the mineral is being made. This seems to be the most valuable use of the glass because the check is made on the liquid which is in contact with the mineral and not on another portion of the liquid which must be used for a refractometer.

In the above method it is best to screen the mineral fragments and use glass powder of a different size to avoid confusion of the glass and the mineral. In most cases this would be unnecessary since the glass is colorless and isotropic but in determining the index of an isotropic mineral it is better to use the different sizes.

The glass manufacturers state that the index of the glass does not vary within the melt nor with time, to any appreciable degree that would affect the above usage. The accuracy to which determination of index can be made depends upon the investigator's ability to distinguish small differences in index by use of the "Becke line" or "inclined illumination," methods.

Undoubtedly others have resorted to similar methods of checking index liquids but so far as the writer knows this method has not been mentioned in the literature.

THE PRESENT STATUS OF THE MINERAL REMINGTONITE[1]

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The mineral remingtonite, supposedly a hydrous cobalt—carbonate, was described by J. C. Booth in 1852 from the old mine at Finksburg, Carroll County, Maryland. The composition was based upon qualitative tests, the mineral being considered a carbonate because of a slight effervescence when it was treated with hydrochloric acid. It occurred associated with carrollite as a rose red, very thin coating on serpentine.

[1] Published by permission of the Secretary of the Smithsonian Institution. The present paper is the third of a series of preliminary papers on the minerals of Maryland which are being studied in cooperation with the Maryland State Geological Survey.