

was collected by W. W. Leach. Analyst, Dr. C. W. Dickson, Queen's University. In column IIA, the molecular proportions of this analysis are given.

III. Analcite tinguaite, San José, Tamaulipas, Mexico. H. S. Washington, analyst.<sup>1</sup>

For comparison two other analyses of analcite rocks are given in columns I and III. No. III is an analcite tinguaite described by G. I. Finlay.<sup>2</sup> It is clear, however, from his description that analcite is only an accessory mineral in the rock; and, further, he himself states that: "analcite, chiefly, results by weathering." In the phonolites, a closely related rock of the tinguaite, analcite is also known to occur as a primary mineral:<sup>3</sup> but it was in basic rocks like basalts and monchiquites that this zeolite was first recognized as primary.

A comparison of the analysis in column II with trachytes in general shows that it is fairly typical of this type. The silica is a little below the average, but is too high for leucite rocks like wyomingite and leucitites.<sup>4</sup> The alumina and alkalis also come within the range of the trachytes though the alkalis are a little above the average. The soda is not high enough for the phonolites or tinguaite. The high per cent. of water is of course due to analcite. As is usual in the trachytes the potash predominates over soda, while in the phonolites and tinguaite, on the other hand, we find soda predominating.

If we adopt the new classification of igneous rocks as proposed by Cross, Iddings, Pirsson and Washington,<sup>4</sup> the rock is classified as follows. The standard mineral composition, or *norm*, is first calculated and by means of the relative percents of the minerals so found it is placed in its class, order, range and subrange. Dr. Berkey, of Columbia University, very kindly assisted the writer in these calculations.

1. Geology of the San José District, Tamaulipas, Mexico. G. I. Finlay. Annals New York Academy of Sciences, XIV, 247-318, 1904.

2. General Geology of the Cripple Creek district. Cross. U. S. G. S., 1772, Part II, p. 16.

3. Rosenbusch p. 364.

4. Quantitative classification of igneous rocks. 1903.