The Determination of Quartz in Sedimentary Rocks Using an X-Ray Diffraction Method

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Abstract: An X-ray diffraction method for determining quartz in sediments is described which is both rapid and precise, with a coefficient of variation of 1 · 9 per cent. Samples are ignited at 950 ° C prior to X-ray analysis. This removes the interference of clay peaks, increases the relative intensity of the quartz peaks and reduces the initial matrix variation of samples. The peak area ratio of quartz (4 · 26 Å) to an added standard boehmite (6 · 18 Å) is measured. Quartz content is obtained from a working curve constructed using similar rocks of known free silica content, which were analysed by the method of Trostel and Wynne (1940).

Clays and Clay Minerals; December 1969 v. 17; no. 5; p. 323-327; DOI: 10.1346/CCMN.1969.0170509

Clay Minerals Society (www.clays.org)