

X-RAY DIFFRACTOMETER STUDIES OF DEHYDROXYLIZATION

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ABSTRACT

A technique has been developed for obtaining the position and intensity of a diffraction maximum while increasing the temperature of the sample at a regular rate. A small furnace, mounted on the horizontal shaft of the North American Philips X-ray Diffractometer, holds and heats the sample while the goniometer is run back and forth across the maximum in an arc of about one degree two theta. The top of the resulting envelope represents the position and intensity of the maximum while the bottom represents the background.

This technique has been applied to the study of the dehydration and dehydroxylation of clay and mica minerals by following the changes in the (001) spacings which take place on heating.