
Cation Replacement Studies on Heteroionic Bentonitic Clay Fractions Using Specific Ion Glass Electrodes

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Abstract: Centrifuged fractions, ranging in size from $2 \cdot 0$ to $0 \cdot 05 \mu$ of a Wyoming bentonite, Bentonita de Durango from Mexico, and Helms clay from Texas were studied. The variation in replacement of Na^+ , Ca^{2+} , Mg^{2+} , K^+ , and H^+ from these heteroionic clay systems under specific equilibrium conditions of salt concentrations was measured.

The displacement cation distribution was monitored by using specific ion glass electrodes, such as a sodium ion electrode, a cationic glass electrode, a calcium ion electrode and a Tektite electrode. Some factors affecting the exchange reactions are discussed and application of findings to drilling and production techniques is indicated.

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