Particle Geometry and Optical Density of Clay Suspensions*

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Abstract: Data on montmorillonite and illite collected by A. Kahn were further analyzed to show the relationship between particle geometry and the optical density (OD) of the clay suspensions. A correction was introduced to the calculations of the minor dimension of the montmorillonite particles which took into account the volume of water between unit layers.

The assumption of disc geometry which was used by A. Kahn in the calculations of the clay particle dimension was found to be consistent with his OD measurements, thus showing that optical measurements can be used to find an equivalent radius of montmorillonite and illite when the general geometry of the particles is the same.

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