

CLAY TYPING AND QUANTIFICATION FROM NUCLEAR LOGS - A REVIEW

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The presence of clay minerals in hydrocarbon reservoir has a large impact on estimates of reserves and producibility. Both saturation and porosity are severely affected by clay minerals present in the rock matrix or dispersed in the pores. Permeability is also largely influenced and prevents the fluids mobility. In this work I present a review of the principal methods used for clay typing and quantification. For estimating the volume fraction of clay in a formation, the traditional approach is first to scan the GR log for minimum and maximum gamma ray reading. Then the gamma reading at any other point in the well may be converted into a clay indicator. After correlation with known models permit convert it in volume of clay. Second, the same procedure is made by the neutron porosity and gamma-gamma density logs. Results has shown that when clay is treated as a fourth mineral in the traditional well log analysis for the Sandstone-Limestone-Dolomite lithologies a quite good successful are obtained on clay properties.