عنوان مقاله:

Estimating Shear Wave Velocity by Statistical Model and Determination Rock Mechanical Reservoir Characteristics

محل انتشار:

سومین همایش ملی نفت و گاز و صنایع وابسته (سال: 1394)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

The aim of this study is to derive mechanical properties of reservoir rock using available data for the one of Iranian oil field. These mechanical properties are Young's modulus, Poisson's ratio and uniaxial compressive strength. For calculating these parameters different sources of data including, logging data, drilling data, DTCO, DTSM, VPVS, RHOB, etc. were used.If the required data are available for all wells, so the dynamic measurements are relatively simple and readily available for most of wells, than static elastic rock mechanical constants. This is because of the fact the static tests are carried out on core samples which may not be available for all wells and they also have limitation with regard to the size and the quality of the samples available for testing.In this study, the available data are petrophysical logs accompanist DTCO log for all wells, but DTSM log exists for constrained wells. So, at first, synthetic DTSM log was predicted by statistics method, then, dynamic mechanical properties calculated with appropriated equation and calibrating these parameters by laboratory tests on the cores. So, proper correlations recommended for calculating mechanical properties in this oil field.DTSM log is a very important data for rock mechanical interpretation reservoir rock, but, usually in old wells, there is lack of shear velocity data, or in other wells, only some interval may have shear wave velocity data. This proper method solved this problem in this case study

کلمات کلیدی:

DTCO and DTSM logs, rock mechanic, young's modulus, Poisson's ratio, UCS

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