

## عنوان مقاله:

A Review of Reservoir Rock Typing Methods in Carbonate Reservoirs: Relation between Geological, Seismic, and Reservoir Rock Types

## محل انتشار:

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## خلاصه مقاله:

Carbonate reservoirs rock typing plays a pivotal role in the construction of reservoir static models and volumetric calculations. The procedure for rock type determination starts with the determination of depositional and diagenetic rock types through petrographic studies of the thin sections prepared from core plugs and cuttings. In the second step of rock typing study, electrofacies are determined based on the classification of well log responses using an appropriate clustering algorithm. The well logs used for electrofacies determination include porosity logs (NPHI, DT, and RHOB), lithodensity log (PEF), and gamma ray log. The third step deals with flow unit determination and pore size distribution analysis. To this end, flow zone indicator (FZI) is calculated from available core analysis data. Through the application of appropriate cutoffs to FZI values, reservoir rock types are classified for the studying interval. In the last step, representative capillary pressure and relative permeability curves are assigned to the reservoir rock types (RRT) based upon a detailed analysis of available laboratory data. Through the analysis of drill stem test (DST) and GDT (gas down to) and ODT (oil down to) data, necessary adjustments are made on the generated PC curves so that they are representative of reservoir conditions. Via the estimation of permeability by using a suitable method, RRT log is generated throughout the logged interval. Finally, by making a link between RRT's and an appropriate set of seismic attributes, a cube of reservoir rock types is generated in time or depth domain. The current paper reviews different reservoir rock typing approaches from geology to seismic and dynamic .and proposes an integrated rock typing workflow for worldwide carbonate reservoirs

## کلمات کلیدی:

Hydraulic Flow Units (HFU), Petrophysical Rock Types (PRT), Seismic Facies, Reservoir Rock Types (RRT), Carbonate Reservoirs

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