

## **Petrophysical Model in Naturally Fractured Reservoirs of Cuba**

CASTRO-CASTIÑEIRA, O., RODRIGUEZ-LOECHES, J., BREY DEL REY, D., FARIÑAS-DURA, C. Centro de Investigaciones del Petróleo, La Habana, Cuba.

This paper describes the work accomplished for the reservoir modelation in the deposits of the northwestern region of Cuba, mainly by well log analysis. It is specified the behavior of each log that defines the characteristic electrofacies of the section, integrating the well log interpretation with petrographic and petrophysical analysis.

Carbonate rocks constitute the analyzed different formations, which are divided in more general flow units from the productive point of view.

The principal objective of the interpretation is the pore fracture determination. Thus, it was necessary the calculation of the Partition coefficient of Pirson, which depends on the total porosity, the cementation exponent of the system and from non fractured. A measure of the rock fracturation is given by the variations in the coefficient between 0 and 1, resulting particularly high in the analyzed area.

The study of the different pore dimensions is a very important aspect, standing out how the set governs the behavior of the capillarimetry curves (porosity types). The residual fluids content that reduce the effective porosity also resulted interesting.

As conclusion it can be emphasized the following:

- The model of reservoir was defined. In addition to the well logs, the integral information such as the knowledge from the geology of the area, the petrographic study of the rocks, the monitoring of the porosity type and others was also analized.

This model was applied in the simulation for the improved recovery of the deposits.