Karst characterization in the central area of Casablanca field, offshore Tarragona. Integration from core to seismic data.

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ABSTRACT.

Carbonate reservoirs are characterized by being highly heterogeneous in relation to distribution of porosity and permeability. Likewise, the oil reservoirs linked to Casablanca field, located offshore, in the north in Spain, present this problem. Thus, the main objective of this work is characterization of the geological units related to the karstic reservoirs using 3D seismic data, in order to link this information with the diagenetic characteristics described in Casablanca field. A workflow was built formed by the following parts: a) Comparison of the diagenetic processes and geological evolution between the outcropping analog of Castellví de la Marca in the Penedès basin and the Casablanca, b) Study of the response of the diagenetic processes in rock physics both using hand sample and well logs and c) Generation of volumes of rock properties and extraction of geobodies linked to the karstic systems of the field. We conclude that the greatest presence of 2b dolomites and therefore the greatest development of karstic systems in the study area are found in the hanging wall near the north-ern depocenter, because this area was the one that suffered the greatest interaction between the zone phreatic and vadose of the karstic systems.

Keywords: Karst system**,** diagenesis processes, seismic characterization, Casablanca oil field.