

Facies and stratigraphic controls of the palaeokarst affecting the Lower Jurassic Coimbra Group, western-central Portugal

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An evolutionary geological/geomorphological model is proposed to explain the spatio-temporal distribution of palaeokarst affecting a Lower Jurassic shallow-marine carbonate succession (Coimbra Group; Sinemurian), outcropping in the Coimbra-Penela region (western-central Portugal), in a specific morpho-structural setting (Dolomitic Hills). Field and laboratory data allowed a detailed facies/microfacies characterization and diagenetic interpretations, with special regard to the porosity evolution. High facies/microfacies heterogeneities and contrast in porosity, becoming efficient for hydraulic circulation by meso and macro-permeability, influence and control significantly the earliest karst forming processes (i.e. inception), as well as the later degree of karstification during mesogenetic and telogenetic stages of the Coimbra Group.

Keywords: Shallow-marine carbonates, Lower Jurassic, Facies/Microfacies analysis, Dolomitization, Carbonate porosity evolution.

Sequence-Stratigraphic analysis of the Aptian deposits in the valley of the Mzymta River

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In this work, based on the example of a well drilled in the valley of the Mzymta River (Northwest-Caucasus) the possibilities of the sequence-stratigraphic method are demonstrated for the first time. This method allows us to clarify the natures of numerous repetitions in the same interval of the geological sequence (modern, ancient landslide or synsedimentary landslide, and tectonic or eustatic). In addition, the geochemical characteristics of bituminous sediments are given. The sequence that was studied in the well shows the complex polygenetic evolution of sediments since Aptian time and the oceanic anoxic event-1.

Keywords: Sequence stratigraphy, Aptian, OAE, Caucasus, Mzymta.