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ABSTRACT BOOK



LARGE-SCALE PROGRADING OOLITIC GEOMETRIES IN THE MIDDLE JURASSIC “OOLITHE BLANCHE” FORMATION (PARIS BASIN, FRANCE): NEW INSIGHTS ABOUT THEIR PALAEOENVIRONMENTAL INTERPRETATION

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The Middle Jurassic Bathonian “Oolithe Blanche” Formation is outcropping in the eastern part of the Paris Basin, where the constitutive facies are actively exploited in large quarries. In the upper part of the Formation, large-scale prograding geometries composed of well-sorted fine to medium ooid and oobioclastic grainstone are observed, in the quarries of Massangis and Ravières-Longchant (not visible anymore in the later) separated by less than 25 km in the North of Burgundy. There, some stacked sigmoidal sets with basal tangential downlaps develop over a thickness of 10 to 15 m, possibly corresponding to more than 20 m-thick object prior to compaction, with sometimes truncations on top.

These large-scale geometries were initially interpreted as platform margin progradations in the 1980's, only on the basis of local field observations. More recently, in the frame of a renewed interest considering the “Oolithe Blanche” Formation as a potential target for CO₂ storage, they were interpreted as 3D lobes of flood deltas or large washovers, cutting through shallow shoals separating shallow tidal-dominated domains from open marine zones. However, again, this interpretation is based on local facies analysis and correlations at the quarry scale and between these quarries.

A reappraisal of the observations performed and published is proposed, and completed with newly acquired data, allowing to integrate these outcrops in a larger stratigraphic framework at the scale of the Bathonian Burgundy platform. Sequence stratigraphic correlations constrained by biostratigraphy, show that these large-scale geometries may better be interpreted as giant submarine sandwaves, forming on relatively deep banks developing during a phase of generalized although limited drowning of the entire Bathonian platform. Some similar objects, although of smaller scale, are forming simultaneously on the southern margin of the platform more than 100 km to the South.

Similar giant sandwaves are reported in recent/present day clastic and carbonated settings, and may be considered as good analogues to better constrain the depositional model(s) of the upper part of the “Oolithe Blanche” Formation.