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**Evidence for the Origin of the Source Rock of the Amposta Oil Field (Mediterranean Offshore Tarragona Basin)**

The source rock of the Amposta oil field located in the Mediterranean offshore has been the subject of much discussion. Isotopic data show a strong correlation between extracts from the candidate Mas d'Ascla Formation source rock samples, onshore Maestrazgo-1 well and Amposta oil. This isotopic signature is confirmed by GC-C-IRMS <sup>13</sup>C results, demonstrating that the Mas d'Ascla marls Formation is the source rock of the offshore Amposta oil field. The Mas d'Ascla marls Formation outcrops in the adjacent Maestrat basin (Iberian Chain). The type section displays a transgressive-regressive stacking pattern and has been interpreted as a third order depositional sequence. This sequence is formed by 128 cyclic parasequences grouped into two large parasequence sets: transgressive and regressive highstand systems tract. This formation was deposited in a deep-outer ramp zone in transition to basin of a carbonate platform similar to a distally steepened ramp type with anoxic episodes, tempestites and slumps. Geohistory and thermal modeling carried out in two onshore and offshore wells is consistent with the plausible contribution of the Ascla Fm as the source rock of the Amposta oil field.