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Organic facies characteristics of the Triassic Kasımlar Formation, Anamas-Akseki Platform, western Taurides, Turkey

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In the Anamas-Akseki platform (SW Turkey), the Triassic Kasımlar Formation consists of bituminous shale and bedded reefal limestones. Detailed data from thick Triassic sediments (Kasımlar Formation) made it possible to construct an organic facies framework using different zonations. Organic matter is composed predominantly of woody material, with a minor contribution of planty and amorphous material. Kerogen in the deposits is type III, as indicated by organic petrographic observations and Rock-Eval data. Total organic carbon (TOC) values are generally between 0.02 and 0.96 %, but reach 3.78 % in the formation. Tmax values vary between 284 and 454 °C, confirming the increase in maturation trends indicated by vitrinite reflectance data. Organic facies type D was identified in the investigated units. Organic facies D is related to shale and carbonate lithofacies. This facies is characterized by average values of HI around 19 (equivalent to type III kerogene), TOC around 0.51 %, and an average of S2 of 0.04 mg HC/g of rock. Organic facies D is nongenerative; the organic matter is highly oxidized, decomposed and reworked.

Keywords: Western Taurus Belt; Akseki Anamas Platform; organic facies