

Cenomanian-Coniacian Carbonate Sequence in the Northwestern Part of the Arabian Carbonate Platform (SE Turkey): Characteristics and Implications

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The Cenomanian-Coniacian carbonate platform of the northwestern of Arabian platform (SE Turkey) records an abrupt transition from neritic carbonate deposits to pelagic deposits. Compilation of the results of litho-, bio-, and microfacies analyses revealed extensive evidence for reconstruction of marine paleoenvironmental conditions. Shallow water carbonate deposits (the Derdere Formation) are overlain by beige-dark brown, very fine-grained pelagic limestones (the Krb-A Member of Karababa Formation) which contains organic matter and abundant planktonic foraminifera. The boundary between shallow carbonate succession and pelagic unit is sharp. Litho-biostratigraphy and facies characteristics of the succession were studied by three detailed stratigraphic sections. $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ stable isotope analyses show the influence of the global Oceanic Anoxic Event (OAE2) on the different parts of the Arabian Carbonate Platform (ACP) (Rahimpour-BONAB et al., 2013; WOHLWEND et al., 2016). Anoxic and hypoxic conditions in the water column lead to major changes in the shallow water carbonate system of the ACP. Many benthic foraminifera declined during that time, but the opportunistic species (e.g., planktonic foraminifera), which are less sensitive to change in salinity, temperature, nutrients and oxygen saturation), diversified and expanded greatly (NAGM, 2015; KALANAT et al., 2015). Meanwhile, local and regional tectonics combined with sea-level dynamics led to facies differentiation in the study area.

Consequently, the investigated upper Cretaceous marine lithostratigraphic units of the ACP represent a record of the relationship between global eustatic changes and local tectonics. The results of this research provide new insights into the character of the Cenomanian-Coniacian interval in the northwestern part of the ACP and allow correlation of these deposits with global events.

KALANAT et al., 2015. doi.10.1007/s12517-015-1779-6

NAGM, 2015. Cretaceous Research, **52**, 9–24.

RAHIMPOUR-BONAB et al., 2013. Journal of Petroleum Geology, **36/4**, 33 –362.

WOHLWEND et al., 2016. doi.10.1002/dep2.15