

Nature of Gravity flows and Nappe deposits during the Foreland basin development in the Coniacian to Campanian time interval along NE Arabian Plate Margin (Zagros-Iran)

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The Coniacian to Campanian time interval is associated with an active tectonic regime in the northeastern part of the Arabian plate (Zagros foreland-fold thrust belt). This interval is characterized by uplift, gravity flows and slumped deposits associated with radiolarite and ophiolitic nappe. Along the main Zagros fault, this event is more intensive, where the Santonian to Campanian pelagic sediments are frequently interrupted by shedding of the pre-Santonian deposits. These gravity-flows contain lithoclasts of the underlying platform carbonates and become less developed towards outer Zagros. The lithoclasts carry fauna with a reverse age order from Coniacian to Neocomian. The sediments seem to have been eroded due to tilting of the Arabian plate margin. The pelagic marls and slumped deposits continue up to the Lower Eocene at places, and then grade vertically to shallow-water carbonates of the Jahrum Formation. Towards exterior part of the Zagros (Khamir and Genow anticlines), the slumped units no longer are present in the late Cretaceous time. A SW-NE trending cross section, introduces three tectono-sedimentary settings; a back bulge basin (Khamir Anticline), fore bulge basin (Genow Anticline) and foredeep basin (Gahkum and Khush anticlines). Thickness of the Santonian to Campanian marls and interbedding gravity flows vary from a few tens to thousands of meters along the cross section. In addition this time interval contains mafic to ultra-mafic rocks originated from radiolarite and ophiolitic nappe, which is related to the obduction of the Neo-Tethyan oceanic sedimentary cover onto the Arabian platform. In the SE-most part of the Zagros (i. e., Khush and Faraghun anticlines), these type of sedimentary features could also be influenced by Zendan fault movements during the Senonian.

Key words: *Zagros; Arabian plate; gravity flows; obduction; foreland basin*