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**Relative sea-level changes and sedimentary facies development of the lowermost Cretaceous (Berriasian–Valanginian) cycles in the north of Ar Riyad city, Saudi Arabia**

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**Abstract**

A new high-resolution stratigraphic framework for the thick and well-exposed Lower Cretaceous rocks of Saudi Arabia has been provided. The studied successions consist mainly of carbonates with minor interbedded siliciclastics, forming the Silayy, Yamamah and Buwaib formations in the study area (north of Ar Riyad city). Based on the integrated sedimentary facies analysis, a relative sea-level curve for the Berriasian–Valanginian interval has been established, including stacking pattern of the different facies cycles. Two transgressive–regressive facies cycles have been identified and documented in the studied sections. The first cycle started during the middle Berriasian (~143 Ma), comprising the Silayy and Yamamah formations. It terminated at the Yamamah–Buwaib formational contact during the early Valanginian

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