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## Regional Sequence Stratigraphic Correlation of the Burgan and Mauddud Formations (Lower Cretaceous), Kuwait

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### SUMMARY

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A new sequence-stratigraphic framework is proposed for the Burgan and Mauddud formations (Albian) of Kuwait, where together form two third-order composite sequences, the older of which constitutes the lowstand, transgressive, and highstand sequence sets of the siliciclastic Burgan. subdivided into fifteen, high-frequency, depositional sequences, Overlain by Mauddud of sand-mud prone to the south and carbonate prone to the north with its transgressive and highstand sequence sets, subdivided into eight, high-frequency, depositional sequences at time-transgressive contact with each other.

A regional sequence stratigraphic study has been carried out on the Lower Cretaceous Burgan and Mauddud formations, integrating core and well-log data from giant oil fields of Kuwait.

The Burgan and Mauddud formations form two second-order composite sequences. The older composite sequence consists of the lowstand, transgressive, and highstand sequence sets of the Burgan Formation. It is subdivided into 15 high-frequency, third-order depositional sequences, which are characterized by tide-influenced, marginal-marine deposits in northeast Kuwait that grade into more fluvial-dominated, continental deposits to the southwest. The younger composite sequence consists of the lowstand sequence set of the uppermost Burgan Formation and the transgressive and highstand sequence sets of the overlying Mauddud Formation. These composite sequence deposits are siliciclastic-prone in south and southwestern Kuwait and are carbonate-prone in north and northeastern Kuwait. A major, second-order marine flooding surface at the top of the Burgan Formation in Kuwait is a regional chronostratigraphic boundary that can be correlated throughout the country.

The Mauddud transgressive and highstand sequence sets are subdivided into seven high-frequency third-order depositional sequences. The lower Mauddud transgressive sequence set displays a lateral change in lithology from limestone in northern Kuwait to siliciclastic deposits in southern Kuwait. The upper Mauddud highstand sequence set is carbonate-prone and thins southward due to depositional thinning.

The traditional lithostratigraphic Burgan-Mauddud contact is time-transgressive. Significant post-depositional erosion occurs at the contact between the Mauddud and the overlying Wara Formation.