

أطروحة دكتوراه : عامر سعدي الجبوري

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عنوان اطروحة الدكتوراه

## **Sequence Stratigraphic Analysis of Lower to Middle Jurassic Succession, Western Iraq**

اسم المشرف

ا.د. علي داود كياره

جامعه بغداد – كلية العلوم – قسم الجيولوجي

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### **Abstract**

The Lower to Middle Jurassic succession of Western Iraq reflect deposition within various depositional environment, these are: fluvial, coastal plain, sabkha, shallow restricted marine, and shallow open marine environments. Detailed lithofacies(for clastics) and microfacies(for carbonates) analyses enabled recognition and subdivision of the different environments.

Several 3rd and 4th order cycles were recognized within the studied succession. Facies stacking pattern, cycle thickness and symmetry were the direct result of different effects of the major controlling factors (eustacy and subsidence) at different areas in Western Iraq. The different rates of subsidence between the Rutba area, Anah Graben(Anah-2 section), and Unstable shelf area(Melh Eltherthar-1 section) produced different effects on the Lower Jurassic sequence development. In the Rutba area were the rate of subsidence was at its minimum; eustacy was the major controlling factor. Tectonic subsidence was the major controlling factors on sequence development of the other sections were high rates of subsidence characterized these areas.

The development of the Lower Jurassic basin in Western Iraq was initiated during the early stages of the NeoTethys opening. The physiography of this passive

margin basin was controlled by the Hail Rutba Arch and the Anah Graben within the Stable shelf area. Facies architecture and pattern were controlled mainly by the interrelation ship of relative sea level(the result of total subsidence and eustacy), phisiography, and sediment supply.