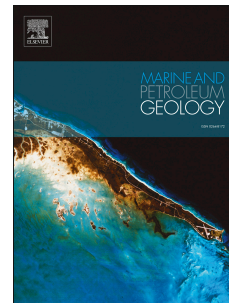


Accepted Manuscript

High-frequency cycles and sequence stratigraphy of the lower Jurassic Marrat Formation, central Saudi Arabia

Sherif Farouk, Khalid El Kahtani, Abdelbaset El-Sorogy, Essam Abd El-Motaal



PII: S0264-8172(18)30354-4

DOI: [10.1016/j.marpetgeo.2018.08.030](https://doi.org/10.1016/j.marpetgeo.2018.08.030)

Reference: JMPG 3470

To appear in: *Marine and Petroleum Geology*

Received Date: 22 April 2018

Revised Date: 25 August 2018

Accepted Date: 25 August 2018

Please cite this article as: Farouk, S., El Kahtani, K., El-Sorogy, A., El-Motaal, E.A., High-frequency cycles and sequence stratigraphy of the lower Jurassic Marrat Formation, central Saudi Arabia, *Marine and Petroleum Geology* (2018), doi: 10.1016/j.marpetgeo.2018.08.030.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

High-frequency cycles and sequence stratigraphy of the Lower Jurassic Marrat Formation, central Saudi Arabia

Sherif Farouk^a, Khalid El Kahtani^b, Abdelbaset El-Sorogy^{b&c}, Essam Abd El-Motaal^{b&d}

^a*Exploration Department, Egyptian Petroleum Research Institute, Nasr City, 11727, Egypt; E-mail: geo.sherif@hotmail.com*

^b*Geology Department, King Saud University, Riyadh, Saudi Arabia*

^c*Geology Department, Faculty of Science, Zagazig University, Egypt*

^d*Geology Department, Faculty of Science, Al-Azhar University, Egypt*

ABSTRACT

Well-exposed stratigraphic sections of the Toarcian siliciclastic /carbonate deposits of the Marrat Formation exposed at the Khashm adh Dhibi area (southwest of Riyadh city, Saudi Arabia) were studied for their facies association and controls on sequence development. Seven facies associations from tide-dominated deltaic to inner carbonate ramp were recognized. Inferences based on facies relationships, characteristics of the sequence boundary and other characteristics suggest deposition of the Marrat Formation during three 3rd order sequences. These can be further classified into seventeen 4th order shallowing-upward small-cycle sets. Correlation of the recorded sequences boundaries within the Arabian/African Plates, Europe, and global schemes, reflect a strong eustatic control during the early Jurassic age with recognizable tectonic signature of the Gondwanland rift effects that caused a long period of regional uplift and non-deposition across the Triassic/Jurassic and early/middle Jurassic unconformities.

Key words: Toarcian, Lower Jurassic, Marrat Formation, Arabian plate, Gondwanaland.

1. INTRODUCTION

Download English Version:

<https://daneshyari.com/en/article/10119945>

Download Persian Version:

<https://daneshyari.com/article/10119945>

[Daneshyari.com](https://daneshyari.com)