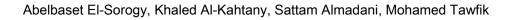
## Accepted Manuscript

Depositional architecture and sequence stratigraphy of the Upper Jurassic Hanifa Formation, central Saudi Arabia



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## ACCEPTED MANUSCRIPT

1	Depositional architecture and sequence stratigraphy of the Upper
2	Jurassic Hanifa Formation, central Saudi Arabia
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8	
9	Abstract
10	To document the depositional architecture and sequence stratigraphy of the Upper
11	Jurassic Hanifa Formation in central Saudi Arabia, three composite sections were
12	examined, measured and thin section analyses at Al-Abakkayn, Sadous and
13	Maashabah mountains. Fourteen microfacies types were identified, from wackestones
14	to boundstones and permits recognition of five lithofacies associations in a carbonate
15	platform. Lithofacies associations range from low energy, sponges, foraminifers and
16	bioclastic burrowed offshoal deposits to moderate lithoclstic, peloidal and bioclastic
17	foreshoal deposits in the lower part of the Hanifa while the upper part is dominated by
18	corals, ooidal and peloidal high energy shoal deposits to moderate to low energy
19	peloidal, stromatoporoids and other bioclastics back shoal deposits. The studied
20	Hanifa Formation exhibits an obvious cyclicity, distinguishing from vertical
21	variations in lithofacies types. These microfacies types are arranged in two third order
22	sequences, the first sequence is equivalent to the lower part of the Hanifa Formation
23	(Hawtah member) while the second one is equivalent to the upper part (Ulayyah
24	member). Within these two sequences, there are three to six fourth-order high
25	frequency sequences respectively in the studied sections.

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