

The Petroleum Geology of The Cretaceous Formations in Abu Dhabi, United Arab Emirates

M.Hamed Metwalli^{1,2*}, Naeema B.Khoury^{1,3}

1. *Cairo University, Giza, A.R. 999060, Egypt*

2. *Hungarian Academy of Sciences, Budapest, 999024, Hungary*

3. *U. A. E. University, Abu Dhabi, 999041, U.A.E.*

E-mail: hamed.metwalli@yahoo.co.nz; Fax: +202 24021016.

Abstract: The Early Cretaceous/Thamama Group is a major oil-bearing carbonate sequence which represents the economically most important reservoir unit in the studied area. The structural pattern of this part of the Arabian Shield is relatively simple with prevailing gentle folding and warping, which formed and modeled the major reservoir – traps "aggregated reservoirs" in Abu Dhabi area. The distinctive structural style is together with the tripartite development of the source–reservoir–seal. Two petroleum systems are identified in the Cretaceous successions and two major source rocks have been predicted. The development of an exploration model for the studied lithostratigraphic section requires an understanding of the source and migration conduits in the two identified petroleum systems. Accordingly, this paper is an additive effort to clarify the petroleum geology of the United Arab Emirates area.

Keywords: Abu Dhabi, cretaceous formations, source – reservoir – seal, tectonic structural, petroleum geology

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