

TECTONIC EVOLUTION AND GENESIS OF AL-THIRTHAR, AL-HABBANIYA AND AL-RAZZAZAH DEPRESSIONS, CENTRAL IRAQ

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ABSTRACT

The object of this research is to reveal the tectonic evolution and genesis of Al-Thirthar, Al-Habbaniya and Al-Razzazah Depressions. The sequence is undergone to several stages of extensions during Mesozoic and Cenozoic Eras; also there is strike slip movement at the Cretaceous and reactive during Miocene. Many extensional structures, grabens, horsts and normal faults, in the sedimentary basin of the depressions are developed by the extensions of the northeast passive margin of Arabian Plate. The extensional structures of the lakes are trending north-south with deflection toward east. The location and development of the depressions are controlled by the extensional structures. The reactivations of some of the normal faults reach them to the earth's surface that play important role to develop the depressions due to the thinning of the sequence and raising the hydrogen sulfate-bearing groundwater through the soluble rocks, gypsum and limestone. The three depressions are same geological feature, but the uplifting in area between Al-Habbaniya and Al-Razzazah depressions with no reactivation of the normal faults beneath Al-Habbaniya depression prevented the three depressions to become one feature.

Keywords: *Tectonics, Al-Thirthar, Al-Habbaniya and Al-Razzazah depressions, extensional structures, seismic section, Iraq*