

Target Exploration

Energy Geosciences Research & Development

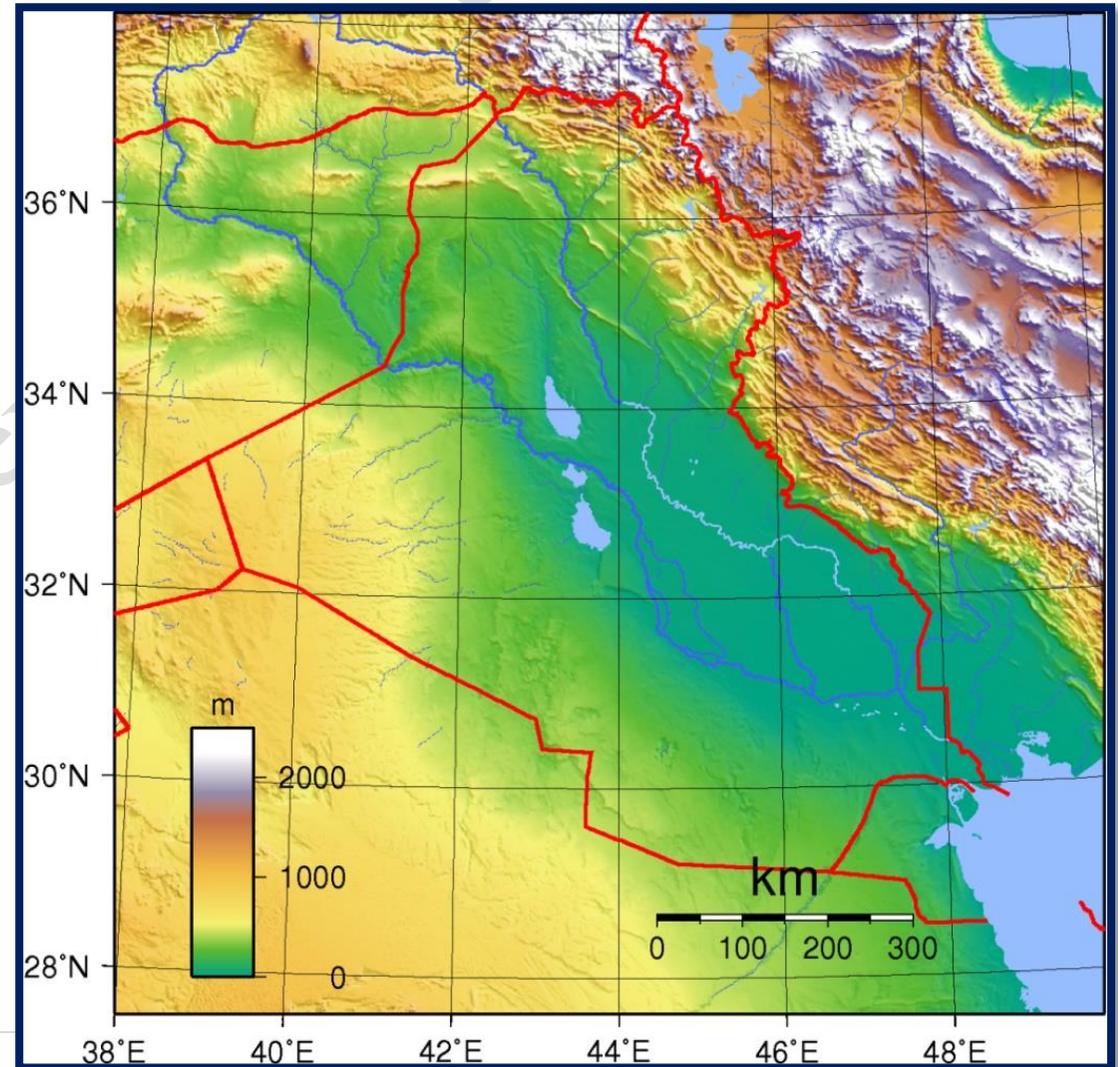


Geodynamic Evolutions Of The Sedimentary Basins Of

IRAQ

Target Exploration Report Tar13

This is a comprehensive reference for Petroleum Explorationists on the tectonic, hydrodynamic, stratigraphic and sedimentary facies of source, reservoir and cap rocks evolution of the sedimentary basins of Iraq and surrounding countries.



The aims of this study are:

1. Construct a geodynamic, tectonic and hydrodynamic evolution models of the sedimentary basins of Iraq, and
2. Illustrate types, distribution hydrodynamics of subsurface fluids in the reservoir facies at the tectonic regimes of Iraq.

To achieve these aims: The research scientist (1) Collected published geological, geochemical and geophysical data, (2) Researched, interpreted and re-documented the tectonic histories, stratigraphic sequences, sedimentary facies and their distribution in Iraq and adjacent areas, (3) Sampled, analysed the subsurface pressures, and chemical characteristics of formation waters and associated hydrocarbons and (4) Interpreted the hydrodynamics in the Triassic-Recent rocks of Iraq.

Part one of this study describes the tectonic-geophysical and geological framework of the Arabian plate and the Mesopotamian basin itself. The concept of sequence stratigraphy is used to define the major sequence units. On this basis, we review the stages of evolution of the facies formed during the Mesozoic and Cenozoic Periods in the north-east of the Arabian plate and its margin. The volume concludes with geodynamic model of the regional deformation of Iraq.

Part two of this study documents the hydrodynamic framework as shaped by the sedimentary facies and geodynamic evolution, the fluid contents and their relations with regional cap-rocks of the Mesopotamian Basin. The author suggests a model that characterizes types, pressures and distributions of subsurface waters for each formation as a result of geologic history. Then interpreted the stratigraphic positions of reservoir to cap rocks, their diagenesis and function as migration conduits of formation fluids (waters and hydrocarbons) in a geodynamic history framework to explain the deposition, maturation, generation, migration and accumulation of HCs in the regional reservoirs of Iraq.

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