



## **The main structural elements of the Abadan Plain (SW Iran) and the N. Persian Gulf based on the integrated geophysical data.**

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The gentle structures in the Abadan Plain and the North Persian Gulf will be documented in this study based on integrated geophysical and geological work. The study area is located on the northeastern margin of the Arabian platform (SW Iran) between the Precambrian Arabian Shield to the southwest and the Zagros Fold Thrust Belt (ZFTB) to the northeast. The total area is about 22000 km<sup>2</sup>, from which approximately one third situated in the offshore. The main aims are to i) describe the structural elements based on geophysical and well data, ii) discuss the nature of the structural features and variety of the trends, and iii) examine the role of basement-involved faults and the lower incompetent layer.

Major exploration activities in this area commenced in the 1950's with gravity and magnetic surveys and followed by the various vintages of 2D and 3D seismic surveys. The economical potential of the study area has been proven by considerable oil discoveries. The area has been subjected to intensive study during last decades for discovery of new plays. However, only limited amounts of work has been published.

The study area can be considered as a wide transition zone between the Arabian Platform in SW and the Dezful Embayment in NE. Based on the present study it can be concluded the basement faulting and subsequently movements of the Early Cambrian Hormuz Salt are main factors in generation of the N-S and NE-SW trending structures. The climax of these activities occurred in Cretaceous and the Arabian-type structures are reactivated by onset of the Zagros orogeny in the late Tertiary. In addition the Arabian type structures acted as buttresses partially protecting the Zagros deformation.