

Accepted Manuscript

Structural framework and tectono-stratigraphic evolution of the eastern Persian Gulf, offshore Iran

Kayvan Orang, Hossein Motamedi, Amin Azadikhah, Mohsen Royatvand



PII: S0264-8172(17)30495-6

DOI: [10.1016/j.marpetgeo.2017.12.014](https://doi.org/10.1016/j.marpetgeo.2017.12.014)

Reference: JMPG 3169

To appear in: *Marine and Petroleum Geology*

Received Date: 29 May 2017

Revised Date: 1 November 2017

Accepted Date: 7 December 2017

Please cite this article as: Orang, K., Motamedi, H., Azadikhah, A., Royatvand, M., Structural framework and tectono-stratigraphic evolution of the eastern Persian Gulf, offshore Iran, *Marine and Petroleum Geology* (2018), doi: 10.1016/j.marpetgeo.2017.12.014.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Structural framework and tectono-stratigraphic evolution of the eastern Persian Gulf, offshore Iran

Kayvan Orang*, Hossein Motamedi, Amin Azadikhah and Mohsen Royatvand

National Iranian Oil Company, Exploration Directorate, Tehran, Iran.

Abstract:

Seismic and well data are used to constrain the tectono-stratigraphic evolution of the eastern Persian Gulf during the Late Mesozoic and Cenozoic. The structural evolution of the study area is mainly the result of the Late Cretaceous to Early Miocene Oman Orogeny overprinted by the southwestward advance of the Zagros Orogeny through the Late Miocene and Pliocene. Two structural domains can be identified; The NE-SW trending Musandam Fold-Thrust Belt (MFTB) and the NW-SE trending Persian Gulf foredeep basin. The MFTB formed as a result of multiple compressional events (Late Cretaceous, Late Paleocene to Early Eocene and Late Oligocene to Early Miocene). The first compressional event (Cenomanian- Turonian to the Late Maastrichtian) is characterized by emplacement-obduction of the allochthonous rocks onto the passive continental margin of the Arabian plate in the Oman Mountains. This event resulted in regional deformation and uplift which caused deep erosion of the Albian to Santonian units. During the Santonian to Maastrichtian, in addition to regional deformation, a NE-SW trending foredeep basin developed in front of the Late Cretaceous thrust sheets creating accommodation space for turbiditic sediments of the Gurpi Formation. During the Late Paleocene- Early Eocene, initiation of a new compressional deformation led to establishment of the Pabdeh foredeep basin. In this stage, the basin depocenter moved ~ 30 km to the west. The third compressional event began in the Late Oligocene reaching a climax in the Early Miocene. This event resulted in regional deformation and uplift which caused deep erosion of the pre-Middle Miocene strata.

Download English Version:

<https://daneshyari.com/en/article/8909154>

Download Persian Version:

<https://daneshyari.com/article/8909154>

[Daneshyari.com](https://daneshyari.com)