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Evaluation of Pabdeh and Kazhdumi Formations as source rocks in Bandar Abbas hinterland and Easter part of Persian Gulf

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Abstract:
Organic geochemical studies have been carried out to assess the qualities of source rocks penetrated by three wells (Suru-1,Sarkhun-1,Tusan-2) in the Hormuz strait. The Hormuz strait is located in Bandar Abbas hinterland. Rock-Eval pyrolysis is the most widely used method for screening the petroleum generation potential and thermal maturity of organic rich rocks. Pabdeh and Kazhdumi formations is recognized as a potential source rock interval in other part of Iran but in this study as rated as fair to poor quality and immature and gas prone quantity source rock based on TOC, Tmax, RO% .The samples from the Kazhdumi formation interval are rated as fair to poor quality source rock based on TOC contents of 0.15 to 0.19% and S2 yields of 0.21 to 1.38 mgHC/g Rock. The samples from the Pabdeh Formation interval are rated as good quality source rock based on TOC contents of 0.6 to 3.36 and S2 contents of 0.16 to 15.55 but is generally immature for hydrocarbon generation based on Tmax and vitrinite reflectance. Basin modeling indicates that this interval in this area does not sufficient maturity for hydrocarbon generation.

Key words:
source rock, Rock-Eval, Total organic carbon, Basin modeling