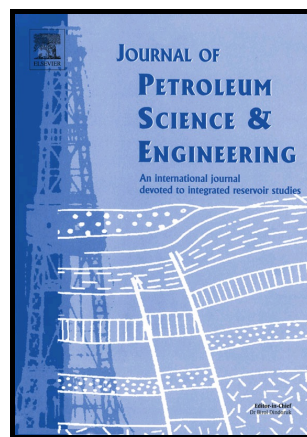


Author's Accepted Manuscript

Organic geochemical characteristics of oils from the Offshore Jiza-Qamar Basin, Eastern Yemen: New insight on coal/coaly shale source rocks

Mohammed Hail Hakimi, Wan Hasiah Abdullah, Abdulghani F. Ahmed



www.elsevier.com/locate/petrol

PII: S0920-4105(16)30466-1
DOI: <http://dx.doi.org/10.1016/j.petrol.2017.03.022>
Reference: PETROL3910

To appear in: *Journal of Petroleum Science and Engineering*

Received date: 22 September 2016
Revised date: 25 December 2016
Accepted date: 8 March 2017

Cite this article as: Mohammed Hail Hakimi, Wan Hasiah Abdullah and Abdulghani F. Ahmed, Organic geochemical characteristics of oils from the Offshore Jiza-Qamar Basin, Eastern Yemen: New insight on coal/coaly shale source rocks, *Journal of Petroleum Science and Engineering* <http://dx.doi.org/10.1016/j.petrol.2017.03.022>

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 galley proof before it is published in its final citable 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.

Organic geochemical characteristics of oils from the Offshore Jiza-Qamar Basin, Eastern Yemen: New insight on coal/coaly shale source rocksMoha mmed Hail Hakimi^{1*}, Wan Hasiah Abdullah², Abdulghani F. Ahmed¹¹Geology Department, Faculty of Applied Science, Taiz University, 6803 Taiz, Yemen²Department of Geology, University of Malaya, 50603, Kuala Lumpur, Malaysia

*corresponding author. Tel. +967773999410. ibnalhakimi@yahoo.com

Abstract

Coals, coaly shales and oil show samples from Late Cretaceous sections in the offshore Jiza-Qamar Basin (Yemen) were analysed using organic geochemical analyses to investigate the source of organic matter input and the genetic link between oils and potential source rocks in the basin. The coals and coaly shales have high TOC contents between 6.90 and 77.62 wt. % and Hydrogen Index (HI) values are largely above 300 mg HC/g TOC, indicating that the Late Cretaceous coaly shales and coals as expected are organically rich, and predominantly contain Type III-II kerogens.

The oil shows are classified as paraffinic–naphthenic–aromatic (P–N–A) oil with high wax contents, suggesting that the oils were generated from coal and coaly source rocks that were deposited in a deltaic–coastal environment. This is supported by bulk geochemical characteristics and biomarker compositions. A variety of biomarkers *n*-alkanes, regular isoprenoids, terpanes and steranes indicate that the oil shows were derived predominantly from source rock containing higher plant derived organic matter and were deposited in fluvial to deltaic environments under relatively oxic conditions. The biomarker characteristics and stable isotope compositions of the oils are similar to those of the Late Cretaceous coal and coaly shale rocks. The new data presented in this paper suggests genetic link between oil shows and coal/coaly shale rocks in the offshore Jiza-Qamar Basin and provides new evidence for the oil generative potential of the Cretaceous coals and coaly shales in the basin.

Keywords: Coal/coaly shale; Oil show; Oil-source rock correlation; Geochemistry; offshore Jiza-Qamar Basin; Yemen

Download English Version:

<https://daneshyari.com/en/article/5484408>

Download Persian Version:

<https://daneshyari.com/article/5484408>

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