

DISTRIBUTION PATTERN OF FATTY ACID BIOMARKERS IN THE OILS AND SEDIMENTS OF NORTH CAMBAY BASIN, WESTERN INDIA.

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Fatty acid distribution patterns in the oils and sediments of north Cambay Basin were analysed to study the nature of source organic input, depositional environment, extent of biodegradation and oil source correlations. On the basis of fatty acid distribution pattern, the oils of north Cambay Basin can be classified in three groups: 1. Fatty acid presence upto C32 with maxima at C22-24 indicate terrestrial organic input. 2. Fatty acids upto C26 and maxima at C16 and C18 indicate mixed source input. 3. Presence of hydroxy Cis and trans fatty acids and unsaturated fatty acids indicate that these acids are biosynthesised by bacteria. The studies reveal that Kalol pay oils are generated from terrestrial source and are genetically correlated with the source rocks of OCS deposited in a sub-oxic environment. Fatty acid distribution in Kadi oils shows input from both Older and YCS source sequences. Linch pay oils have fatty acid pattern similar to that of OCS /Olpad formations. Biodegraded oils of Kalol Formation are characterized by the absence of n-alkane distribution as well as high concentrations of bacterially derived cis and trans hydroxy fatty acids.