Cambay Basin is endowed with hydrocarbon accumulations in multiple reservoirs of different ages. In Ahmedabad block reservoirs within Kalol Formation can be identified on conventional logs whereas reservoir rocks in Cambay Shale are predominantly shaly and unconventional in nature with no identifiable reservoir manifestations on well logs in fields like Sanand, Jhalora, Wadu and Indrora. The problem of identification and quantitative evaluation of such unconventional reservoirs is being addressed by high resolution Resistivity Imaging Tool. Identification of hydrocarbon zones is an arduous task in such reservoirs but at the same time source of hydrocarbons is also a relevant issue. The present work is to see if these reservoirs are self sourced or have migrated hydrocarbons.

Oils from unconventional shale reservoirs, developed in Chhatral Member of Younger Cambay shale in Sanand field in Ahmedabad block have been characterized and correlated with oils from other reservoirs. Source rock identification and characterization has been carried out from these and nearby wells using pyrolysis, isotopic and biomarker studies.

It has been found that oils in these unconventional reservoirs are genetically similar to the oils in conventional reservoirs from the same and nearby wells. The source rock is either absent in these shales or not mature enough to generate hydrocarbons indicating that hydrocarbons from more mature Cambay Shale or Olpad have migrated to these locales and is not in-situ generated.
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