

International Explorationists Poster Session

"Inferred Oil Migration in the ZHU 1 Depression, Pearl River Mouth Basin, South China Sea"

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Abstract

Integration of geophysical and geochemical data has revealed a possible migration path within a Tertiary sequence in the Zhu 1 depression of the Pearl River Mouth Basin. Placing the geochemical attributes of oils from four fields in stratigraphic relationship to one another within the regional framework not only provided us with clues as to the origin and migration of the oils, but it also explained differences in their physical/chemical properties. Depocenters within the Zhu 1 contain organic-rich, lacustrine facies that, upon maturation, would generate high-wax oil. This oil would be expelled into a sandstone conduit sealed by a widespread, tight limestone. Secondary migration would be focused toward the south-southeast in the direction of the Dongeha Massif. If the oil is not trapped within the Zhu 1, it would migrate into reservoirs on the massif, which are often shallow and the oil in them is subject to varying degrees of biodegradation.