

# **Reservoir Fluid Geodynamics: a New Way to Evaluate Connectivity, Baffling, Aquifer Support and Many Other Concerns**

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## **ABSTRACT**

Reservoir fluid geodynamics is enabled by new technology (downhole fluid analysis) and new science (asphaltene gradient thermodynamics) and provides the best way to determine the extent of reservoir fluid equilibration. Equilibrium strongly indicates connectivity. When only part of a field is not equilibrated, baffling is often the cause. Asphaltene instabilities with formation of viscous oil/tar at the oil-water contact can be identified. These methods enable identification of dynamic fluid processes in geologic time that directly impact production.