Abstract: Comparison of the Timing of Hydrocarbon Generation for Major Petroleum Source Rocks in North and South America

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The timing of hydrocarbon generation is an essential component in assessing the critical moment in the petroleum systems approach. World class petroleum source rocks from North and South America were evaluated to determine their rates of decomposition into hydrocarbons. The kinetics of hydrocarbon generation for the Villeta-Caballos(!) and Barnett(!) petroleum systems were evaluated in detail.

Comparison of kerogen decomposition rates of petroleum source rocks reveals relative temperature and maturity differences for the onset of and peak hydrocarbon generation based on an arbitrary constant heating rate model of 3.3°/million years.

These differences reflect differences in composition and structure of source material which will affect the composition of the oil and gas generated from these sources. These data may be used to establish the critical moment limits.

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