

The "ELLA GRA Process - Concepts and Methods for the Prediction of Reservoir Hydrocarbon Type Using Ratios of Gas Chromatography C1-C5 Gases"

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ABSTRACT

The presentation will help provide greater understanding of the application of gas ratio analyses for the purposes of predicting the hydrocarbon type from which the gases were liberated during drilling. Using the various ratios described and contained in this presentation, it becomes possible to predict and interpret the hydrocarbon source types (not to be confused with the source rock). This is possible based on the premise that rock cuttings from any particular formation "produce" the gases, or the hydrocarbon vapors they contain, into the drilling mud. These same gases are detectable at the surface with the use of Gas Chromatography. It is reasonable to assume that the same formation, if completed, would produce gases of a similar composition. The use of ratios becomes a help in "fingerprinting" the source hydrocarbons. The presentation begins with an overview of basic concepts, then presents various analytical tools and techniques, discusses data applications and concludes with examples of how the ratios are integrated into and enhance reservoir description using the techniques presented.