BOSSIER-HAYNESVILLE SHALE, NORTH LOUISIANA SALT BASIN: GEOLOGICAL & GEOCHEMICAL CHARACTERIZATION

SPEAKERS

Dr. Ernest A. Mancini (U. of Alabama)

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Dr. Suhas Talukdar (Weatherford/Baseline)

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Fort Worth, Texas

Speakers' Biographies

Dr. Ernest A. Mancini *is a Distinguished Research Professor in petroleum geology and stratigraphy in the Department of Geological Sciences and Director of the Center for Sedimentary Basin Studies at the University of Alabama. His research focus is on sequence stratigraphy, sedimentary basin analysis, petroleum system studies, and reservoir characterization and modeling.*

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Dr. Donald A. Goddard *is Associate Professor of research at LSU's Center for Energy Studies. As the Director of the Petroleum Technology Transfer Council (PTTC) at LSU's Center for Energy Studies, his task involves identifying and transferring upstream technologies to independent operators of this State. His research involves mature field integrated field studies as well as regional petroleum basin evaluation.*

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Dr. Suhas Talukdar *is a Senior Petroleum Geochemist with Baseline Resolution, Inc./Weatherford Labs in Houston. He's involved in petroleum geochemistry and petroleum systems studies in basins around the world working with major oil companies, NOCs and with independent producers.*

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Workshop Description

The purpose of this workshop is to report the results of the geological and geochemical studies regarding the Cotton Valley-Bossier Group and Haynesville shale beds. These rocks proved to be thermally mature and represent petroleum source rocks that generated and potentially expelled mostly gas and some oil. At their present maturity levels, they have mostly low to moderate total organic carbon contents and Type III kerogen. Original kerogen types in the immature stage, as assessed by kerogen petrography, were mainly gas-prone Type III and some oil and gas prone Type II/III. Visual kerogen data supports the predominantly gas prone nature of the source rocks. Vitrinite reflectance (Ro) values (0.94 % to 2.62%) and thermal alteration indices (TAI) (2+ to 3+) suggest that these source rocks entered the late oil window to main gas maturity window and thus have generated mostly gas with some oil. Thin section petrography of geochemically analyzed intervals documents the following rock types: black shale, muddy fine-grained sandstone, laminated fine-grained sandstone, sandy mudstone, and silty mudstone. The thickness and widespread deposition of predominantly gas-prone source rocks within this basin and their high thermal maturity led to potential sourcing of mainly gas with some oil, not only within the Bossier-Haynesville shale, but also in overlying Upper Jurassic Cotton Valley sandstone reservoirs and Lower Cretaceous reservoirs, particularly in the Hosston and Sligo formations. The Bossier petroleum system includes essentially the same underburden and overburden rocks as the Smackover petroleum system. Generation of hydrocarbons was initiated in the late Early Cretaceous with the generation of secondary, non-associated thermogenic gas commencing in the Late Cretaceous. Hydrocarbon expulsion appears minimal suggesting the Bossier-Haynesville has potential as a shale gas reservoir.

AGENDA

Registration, Lunch & Introductions

11:30 AM to 1:00 PM

1:00 PM **Geological/Geochemical Characterization of the Bossier-Haynesville Shale.**

2:00 PM Coffee Break

2:30 PM **Applications of Geochemistry for Shale Gas Assessment.**

3:30 PM **Comparison of the Bossier/Haynesville and Smackover Petroleum Systems.**

4:30 PM **Seminar End**