Tuesday, October 19, 2010

Crowne Plaza Hotel - Greenspoint (former Sofitel)
425 North Sam Houston Pkwy E

Social 11:15 AM, Luncheon 11:30 AM

Cost: $31 pre-registered members; $35 for non-members & walk-ups.

To guarantee a seat, you must pre-register on the HGS website and pre-pay with a credit card.
Pre-registration without payment will not be accepted.
You may still walk up and pay at the door, if extra seats are available.

Jeffrey E. Nunneley
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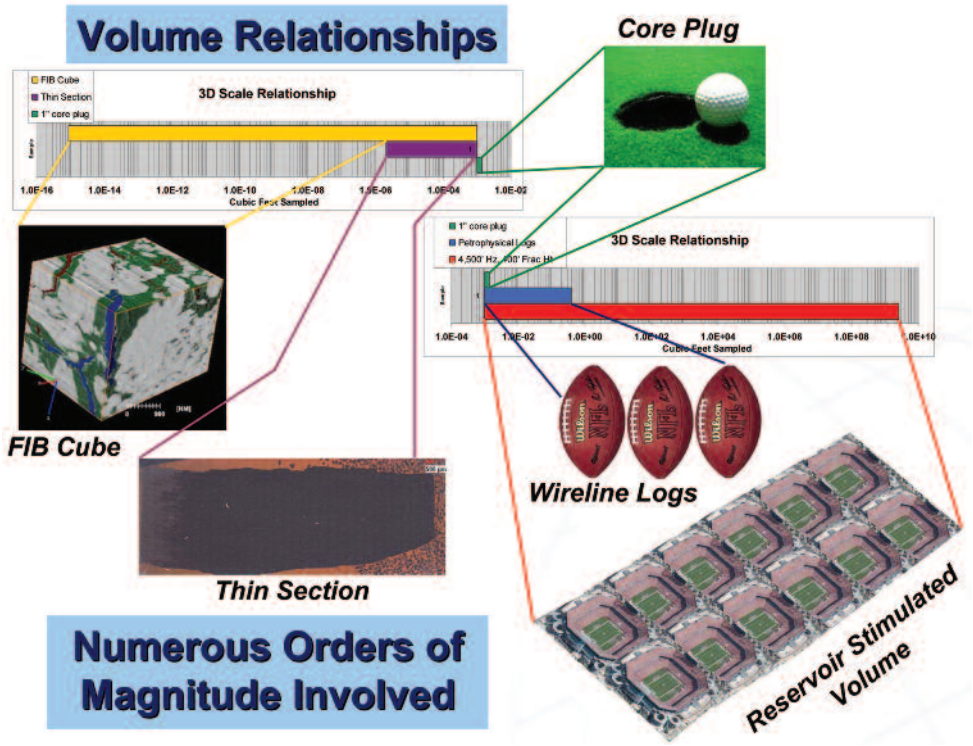
It's All Black Shale: Relating Physical Scales and Measured Values to Organic-rich Mudrocks



Organic-rich mudrocks are commonly described as black shales. They contain mixtures of various alternating microfabrics and compositions. Their sedimentary textures, structures, and mineral compositions can vary on a microscopic scale. Production variations from mudrock reservoirs occur on a much larger scale. Because of the multiple physical scales involved, it is a difficult task to relate the core analysis values of these mudrocks to petrophysical log and production values.

Many mudrock microfabrics are observed to be only a few millimeters thick. The laboratory analysis from a single 1-inch core plug can sample several individual microlithologies. Petrophysical logs generally represent rock properties from a scale 20 times greater than from a single core plug. Production volumes from a mudrock reservoir in a single well involve sampling from a scale several orders of magnitude greater than from petrophysical logs.

It is important to make meaningful relationships in measured rock properties across multiple physical scales. Laboratory improvements could include utilization of higher sampling frequencies. Petrophysical enhancements could include the utilization of tools with higher-frequency resolution. Bulk sampling of mudrocks might be advantageous when working with hydrocarbon composition data. The distribution of the critical data of importance will influence the sampling methodology which can best characterize the rock. ■

Biographical Sketch

Jeffrey Nunneley is Chief Geologist of North America Onshore for Marathon Oil Company in Houston. He is responsible for influencing and supporting the quality of technical work being generated by Marathon's onshore geologists in the exploration and production groups of North America. Mr. Nunnely began his career in Dallas with Enserch Exploration and has also worked for El Paso Production Company. He has more than 30 years of experience in trend evaluation and prospect generation in both conventional and unconventional resources across the southern United States and offshore Gulf of Mexico. He has a B.S. in geology from Texas A&M University and an M.B.A. from the University of Dallas. He is an AAPG Certified Petroleum Geologist and a licensed Professional Geoscientist in the State of Texas.