Thursday, December 20, 2007

Petroleum Club • 800 Bell (downtown)
Social 11:15 a.m., Lunch 11:45 a.m.

To attend this meeting you can register online at www.sipes-houston.org, call (713 651-1639), fax (713 951-9659), e-mail (bkspee@aol.com), or mail your reservation to Mrs. B.K. Buongiorno (1001 McKinney, Suite 801, Houston, TX 77002) by Tuesday December 18, 2007. Payment is required by regular mail or pay at the door with check or cash. Members and Affiliates who register by that date pay $30. The cost is $35 for guests and new registrations at the door. No-shows will be billed.

SIPES
Luncheon Meeting

by ***Lawrence Bruno***
Core Laboratories

Drilling Mud Tracers for Formation Evaluation and Reservoir Engineering Applications

Properly executed drilling mud tracer programs can provide "gold standard" answers to several important petrophysical and reservoir engineering questions. When tracers are used in water-based muds (WBM) in conjunction with conventional coring, in-situ water saturation (S_w), formation water resistivity (R_w) and clay bound water (CBW) can be accurately determined. Successful tracer studies require tight controls on 1) mud design, 2) mud monitoring and mud sampling during drilling and coring operations, 3) low-invasion coring procedures, 4) wellsite core handling and 5) laboratory measurements.

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The best drilling mud tracers have the following characteristics: 1) they do not naturally occur in the formation, 2) they are fully soluble in the mud filtrate, 3) they are biologically stable (i.e., they are not a food source for bacteria), 4) they are chemically stable and non-volatile, and 5) they can be accurately detected at very low concentrations.

Tritiated water (HTO) meets all these criteria. Because it is not naturally occurring, background (signal to noise) issues are eliminated. Simply put, the amount of HTO found in the core is directly proportional to the quantity of filtrate water that entered the rock during coring operations. HTO is safe to use and can be detected at extremely low concentrations. Very small quantities of HTO are required because of the excellent detection levels. ■

Biographical Sketch

Lawrence Bruno is the General Manager-United States for the Petroleum Services Division of Core Laboratories. He is currently responsible for all of Core Laboratories' core analysis and geological studies in the United States. He has broad knowledge of rock/petrophysical relationships and drilling/completion engineering practices. He has 22 years of industry experience dealing with formation evaluation, as well as sedimentological and diagenetic studies. Lawrence has published articles dealing with rock-based petrophysical models, in addition to topics involving modern and ancient carbonate and siliciclastic depositional environments and diagenesis. He has taught graduate level courses and industry schools dealing with integrating geologic and core analysis data. He holds an MS degree in geology from the University of Houston.