Liquids-Rich Reservoirs - New Developments Seminar

Presented by **Dr. Brent Thomas, B.Sc., M.Eng., D.Sc., P.Eng.**

Weatherford LABORATORIES

Thursday, March 9th 2017 @ 7:30AM-9:30 AM - Breakfast Provided
Location: Calgary Petroleum Club - 319 5 Ave SW, Calgary, AB.

- **Increased confidence with in situ fluid characterization.**
- **Utilizing lean gas injection to maximize liquid yields relative to early time production.**

The Seminar: Liquids-Rich Reservoirs - New Developments

Production from very low permeability reservoirs, possessing volatile hydrocarbon fluids, continues to present challenging problems. High differential pressures resulting in phase transition in situ can provide significant complexities in the characterization of the reservoir fluid. Indeed, upon achieving a characterization that satisfies all the necessary conditions, many reservoir engineers still wonder, “Can we trust this fluid to represent the reservoir fluid?” It seems that most reservoir and production engineers would welcome a defined protocol whereby their confidence in the in situ fluid characterization might be increased.

Another result of down-hole phase transition effects is the changing liquid yields at surface. Some wells exhibit prolonged high liquid yields, in some cases much higher than one might expect based on the laboratory PVT testing. Many wells exhibit significant decreases in liquid yield during the first year, if not during the first months, of production. With the significant difference in value between energy as a gas compared to energy as a liquid, the decreasing liquid yields relative to early-time production impart a certain anxiety for the E & P companies. Many operators observe, “If only there was something that we might do to recover these apparently ‘lost liquids’.” The mature science of lean-gas injection may be used to recover these apparent lost liquids. This seminar presents a defined protocol whereby more accurate characterization of reservoir fluids can be achieved, whether for bubble- or dew-point systems. Also presented are the preliminary, qualitative and economic results of a lean-gas cycling scheme applied in the Eagleford shale as well as a detailed exploration of the science of lean-gas cycling and how to test and determine if this strategy may be applicable to Liquids-Rich assets in Western Canada.

The Instructor: Dr. Brent Thomas, B.Sc., M.Eng., D.Sc., P.Eng.

Dr. Brent Thomas is Weatherford Labs’ Technical Advisor for Phase Behavior and EOR Research and a project engineer working in the area of numerical analysis, phase interference in porous media and gas injection. He received his PhD from Washington University in Chemical Engineering. Dr. Thomas has over 25 years of domestic and international experience in the area of numerical simulation, gas injection, phase behavior, solids precipitation, and chemical and thermal applications. He has authored/co-authored over 130 technical papers and received the 1992 “Best Technical Paper of the Year” award from CIM (Experimental and Theoretical Studies of Solids Precipitation from Reservoir Fluids). He was selected as a “Distinguished Author” for the Petroleum Society of CIM in 1995. Dr. Thomas was chosen to be a “Distinguished Lecturer” for the SPE in the area of Gas Condensate reservoirs.

Breakfast Seminar Registration Form

Seminar: **Liquids-Rich Reservoirs - New Developments**
Presented by: **Brent Thomas, B.Sc., M.Eng., D.Sc., P.Eng.** Weatherford Laboratories (Canada) Ltd.
Thursday, March 9th 2017 @ 7:30AM-9:30AM
Hot breakfast served @ 7:30AM and Seminar starts @ 8:00AM

Cost:
$45/person - Early Bird Tickets RSVP before Friday, March 3rd
$55/person - After March 3rd / or at the door.

Registration Policies:
1. Deadline for early bird registration is Friday, March 3rd - Contact Julia (403)693.7828 or julia.goodsir@ca.weatherford.com to process payment.
2. We will accept cash, cheque and visa / mastercard at the door.
3. Payment in full is due at the time of registration.
4. Confirmation of your registration will be sent to you via email. Registration is limited to the first 125 paid registrants and is on a first come first serve basis.
5. Questions call or email Julia Goodsir at (403)693.7828 or julia.goodsir@ca.weatherford.com

Personal Information:

First Name:_____Last Name: _____
Company Name:_____Address:City:_____Province:_____Postal Code:_____
Phone Number:_____
Email:_____

Payment: you will be contacted by phone or email to confirm your attendance and for credit card information.

Signature:_____

Please send registration form to julia.goodsir@ca.weatherford.com