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2010-2011**

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SPWLA - Houston Chapter News

October 2010

October 2010 Luncheon Meetings

Westside BP Plaza Terrace Room Wednesday, October 6, 2010	Linear Pressure Gradients – Myth or Reality? <i>by Hani Elshahawi, Shell</i>
Northside The Greenspoint Club Wednesday, October 13, 2010	Formation Density Measurements in Cased Wellbores for Gas Saturation Analysis <i>by James Hemingway, Schlumberger</i>
Downtown Hess Office Wednesday, October 20, 2010	Formation Testing Goes Back to the Future <i>by Mark Proett, Halliburton</i>

2010 SPWLA Houston Chapter Golf Tournament

Dear SPWLA Houston Chapter Sponsors,

Thank you very much for your continued support to our Chapter. We would like to invite your company as a sponsor of the 2010 Annual Fall SPWLA Houston Chapter Golf Tournament. Please, find below the details of the tournament that were sent to our 1400+ members. The following Sponsorship options are available:

<u>Option</u>	<u>Cost</u>
Drink Cart (2 Available)	Pick up the tab
Tournament Awards (3 Places)	Pick up the tab
Hole Sponsor	\$500
Special Hole Prizes	Provide the prize and pay for trophy
Closest to the Pin (2 Available)	
Longest Drive (1 Prize)	
Ditty bags, give aways, anything else you'd like to hand to the players	

What you get:

- Your company logo and names on the registration sign
- Your company logo on Drink cart/Hole/Award ceremony
- All sponsors will be recognized at the award ceremony

Payments can be done by check at the time of event. We are looking forward to hear from you. If you have any questions, please contact Jesus Salazar at president@spwla-houston.org

2010 SPWLA Houston Chapter Golf Tournament (continued)

Annual SPWLA Houston Chapter Golf Tournament

Location: Cinco Ranch Golf Course

Date: Friday October 8th, 2010

Time: 12:30 registration, 1:30 start

Format: 4-person scramble

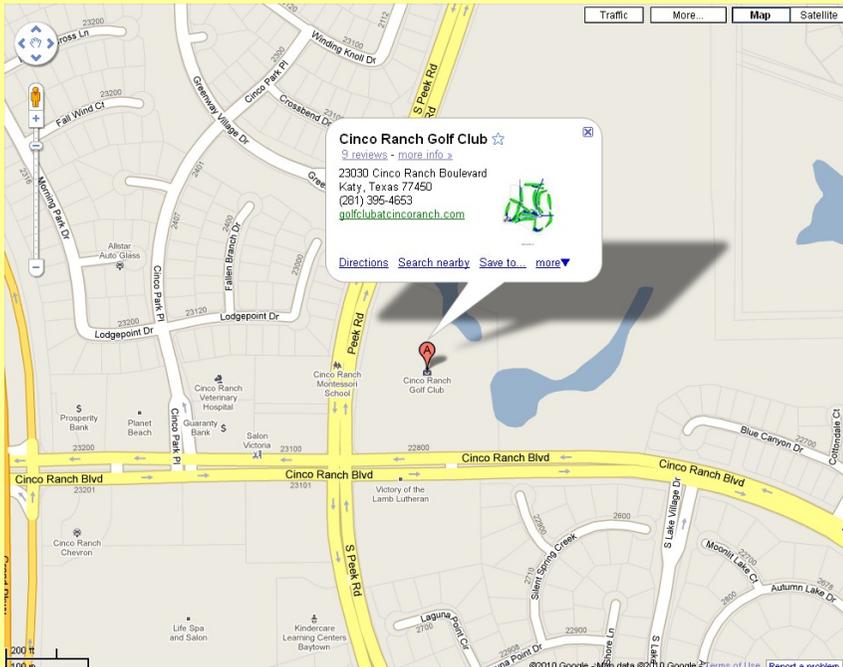
Price: \$60 per player, includes:

- Range balls
- Golf cart
- Dinner and drinks
- Extra play at later day Monday-Thursday

Reservations: Send an e-mail to Loren Roberts at secretary@spwla-houston.org

Pay at location. Bring your friends & colleagues. Limit - 80 players, so hurry up to RSVP!!!

Directions:



From Downtown: Take I-10 West, Exit Grand Parkway (Hwy 99). Turn Left onto Grand Parkway. Follow to Cinco Ranch Blvd and Turn Left on Cinco Ranch Blvd . The golf club will be on the left.

From Sam Houston Toll Road: Exit 1-10 West and follow directions to Grand Parkway. Turn left onto Grand Parkway and follow to Cinco Ranch Blvd and turn left. Golf Club will be on the left.

From Westpark Toll Road: (EZ Tag required)
Follow to Grand Parkway and merge right onto Grand Parkway (Hwy 99). Turn right onto Cinco Ranch Blvd and follow to golf club.

Want to contribute to the SPWLA Houston Chapter Newsletter?
Contact: Thaimar Ramirez at ramir@conocophillips.com

President's Corner

October 2010

Dear Members,

The Houston Chapter is in full motion for the 2010-2011 term. We kicked off this year with three excellent talks during the luncheons. Since two of our venues were "sold out" pretty quickly, we encourage members to RSVP early. We are all very busy and our schedules change rapidly, so if you have a last minute meeting or that important business lunch that you can't miss, please inform the corresponding VP about your change of plans. Each meeting always has a waiting list with people willing to take your spot. We would like to remind you that due to scheduling problems the Northside meeting is not always on a Wednesday. Please make sure that you check email announcements or the website before you head to the meeting.

The 51st Symposium in Perth was just couple of months ago, but it's time to be thinking about the 52nd Symposium that will be hold in Colorado Springs. The abstract submission is now open with Wednesday October 28 as deadline. Papers on all topics in formation evaluation are welcome. For author's instruction go to the [Meetings](#) section of the SPWLA website.

In the Houston Chapter, not everything is about serious highly technical seminars; we also like to have fun. Now that the hot-humid season is gone and the nicer fall weather is upon us, let's get out and play some golf. The 4th Annual Golf Tournament will be held on Friday October 8th at the Cinco Ranch Country Club. This is always a great networking opportunity with industry peers and to reconnect with old colleagues and friends. The tourney format is of 4-person scramble, registration begins at 12:30 P.M. and tee-time is at 1:30 P.M. There is still chance to sign up individually or by team for this wonderful event. If you are interested in attending just send an email to Loren Roberts at secretary@spwla-houston.org.

The board of the Houston Chapter of the SPWLA and its members would like to express a note of condolences to the family of Mrs. Vicky King. Vicky passed away on September 13 after a long battle with cancer. She was the longtime Executive Director of our mother society the SPWLA. She was responsible for co-organizing more than 30 annual symposiums and as many other topical conferences. Her dedication for the SPWLA was remarkable for so many years. She will be missed but always remembered in our hearts.

For more information about the luncheon seminars, Golf Tournament, and other Chapter's activities check our website <http://www.spwla-houston.org/index.shtm>

Jesús M. Salazar
Houston Chapter President

Westside Luncheon Meeting

**BP Plaza Terrace Room,
1st floor next to the cafeteria**
501 Westlake Park Boulevard,
Houston, TX 77079
Parking: BP Plaza Garage
Lunch: 11:30 **Talk:** 12:00
Wednesday, October 6, 2010

Linear Pressure Gradients – Myth or Reality?

By Hani Elshahawi, Shell

RSVP Alexander Kostin before 3:00 p.m. Tuesday, October 5

westvp@spwla-houston.org

Abstract

For decades, formation-testing practitioners have adopted the practice of connecting straight lines to pressure trends in order to define reservoir fluid gradients and contacts. This practice was convenient for a long time due to the general unavailability of sufficiently precise pressure and density measurements, but the underlying assumption of constant density in the hydrocarbon column is often simplistic or even invalid. It is widely accepted now that reservoir and fluid complexities are the norm rather than the exception. We have missed these realities mainly because we did not look hard enough for them, because we did not have the enabling technologies to do so, but also because simplicity is usually more convenient than complexity.

In principle, the linear approximation of the reservoir pressure gradient is only valid if the reservoir fluid density varies over the fitted interval by an amount less than the accuracy of the measurement and of the fitting technique. Based on the examination of thousands of data sets, it is safe to say that this basic assumption is frequently violated. Even more disturbing is the widely observed practice of extrapolating linear trends beyond the existing data set to establish fluid contacts without independent corroborating data.

In this presentation, we show that nonlinear hydrocarbon gradients are the rule rather than the exception. Any attempt to force linearity or to extrapolate a pressure data set in a manner that is inconsistent with this understanding can lead to incorrect fluid contacts and inaccurate estimates of in-place hydrocarbon volumes, which have further implications in terms of well locations and proposed development schemes. We propose guidelines for the extraction of fluid gradient and contacts and establish criteria for the range of validity of conventional techniques.

Biography

Hani Elshahawi leads FEAST, Shell's Fluid Evaluation and Sampling Technologies center of excellence, responsible for the planning, execution and analysis of formation testing and fluid sampling operations. He has over 20 years of experience in the oil industry and has worked in both service and operating companies in over 10 countries in Africa, Asia, and North America during which he has held various positions in interpretation, consulting, operations, marketing, and technology development. He holds several patents and has authored close to a hundred technical papers in various areas of petroleum engineering and the geosciences. He has been active with the SPE and the SPWLA. He was the 2009-2010 president of the SPWLA and is 2010-2011 distinguished lecturer for the SPE and the SPWLA. His private email is Elshahawi@gmail.com.

Northside Luncheon Meeting

The Greenspoint Club

16925 Northcase Drive,
Houston, TX 77060

Price: \$30 (with reservations)

Lunch: 11:30 **Talk:** 12:00

Wednesday, October 13, 2010

Formation Density Measurements in Cased Wellbores for
Gas Saturation Analysis

by James Hemingway, Schlumberger

RSVP Rob Hengel before 9:00 a.m. Wednesday, October 13

rhengel@restechinc.com

Abstract

Logging measurements in cased wellbores are almost always more difficult to make and tend to be more sensitive to the logging environment than the equivalent measurements in open hole. Petrophysical analysis in cased wellbores generally relies on measurements such as sigma and carbon/oxygen which were originally designed for cased hole use. However, measurements such as neutron porosity have been well adapted to both open-hole and cased-hole conditions through the use of proper environmental corrections. Acoustic measurements are now made behind casing with coherence processing providing compressional and shear velocity. Within the past decade resistivity measurements have become commonplace in cased holes allowing for water saturation calculations to be made using techniques similar to that used in open hole. These saturation calculations rely on a measured porosity, resistivity, and usually a shale index, along with knowledge of formation water salinity and other parameters.

Not all open-hole measurements are possible in cased wellbores. It is not likely that an equivalent measurement for the SP, magnetic resonance, dielectric permittivity or electrical image logs will be developed in the foreseeable future. One key measurement which is possible but has been underused in cased hole is formation bulk density. But this measurement has environmental limitations due to the use of gamma ray sources which typically result in a very shallow depth of investigation. The problem we have faced in the past with the cased-hole density measurement was how to know when the data was accurate vs. simply responding to cement or fluid in the annulus.

The techniques developed in this paper will provide quality indications that reliably predict when the formation density measurement is valid and can be incorporated into a petrophysical evaluation. The range of application of the Cased Hole Formation Density (CHFD) measurement is limited but now we have the capability of accurately assessing the quality of the measurement and incorporating only reliable formation data into our interpretations. In environments where CHFD can be used, we will be able to make much more accurate measurements of gas saturation, especially in low porosity formations.

Biography

James Hemingway started with Schlumberger in 1980 as a field engineer and has held various log analyst and engineering positions with Schlumberger since 1982. Jim has authored many papers about pulsed neutron spectroscopy logging and formation evaluation. He has been heavily involved in reservoir monitoring of Enhanced Oil Recovery operations using techniques designed for use in cased wellbores. James received a BS degree in chemistry from Emporia State University in 1978 and a BS degree in chemical engineering from Texas A&M University in 1979. In 1997, he joined the Formation Evaluation department at the Schlumberger Sugar Land Product Center working on the RSTPro* (carbon-oxygen) tool and "Three-Phase Holdup" interpretation techniques. He moved to Paris in 2001 as a new technology advisor responsible for developing applications of new technology for formation evaluation. He has been based in Houston since 2010 as a Petrophysics Advisor focusing on unconventional resources.

Downtown Luncheon Meeting

Hess, Room 330 (3rd floor)
Check-in at security required

500 Dallas Street
Houston, TX 77002

Lunch: 11:30 Talk: 12:00

Wednesday, October 20, 2010

Formation Testing Goes Back to the Future

By Mark Proett, Halliburton

RSVP Randy Mitchell before 3:00 p.m. Tuesday, October 19

ramitchell@hess.com

Abstract

The first method of open-hole formation testing and sampling was introduced more than fifty years ago and is still called drillstem testing (DST). Now, an entirely new method of obtaining samples during the drilling process has been introduced, which is a product of a long line of technological advancements. In this talk we discuss a new formation testing tool that obtains samples during the drilling process. This new service introduces innovative technologies that are essential to obtaining representative samples. Pressure-testing-while-drilling tools were introduced more than seven years ago and have established the viability of using a probe to connect to the rock and measure pore pressure. Obtaining representative samples requires a pump to move the reservoir fluid from the rock pores into the tool at a sufficient rate to flush the invading drilling fluids from the near-wellbore region and fill a sample chamber. Because this is performed during the drilling process, operational issues require the sampling process to be performed quickly to be of practical service. In addition, fluid sensors are needed to quantify the sample contamination and to determine when to fill the sample chambers.

This talk provides details about these new technologies and their implementation, specifically, how sufficient power is generated downhole to pump samples quickly while maintaining the sample quality and integrity. A new oval-shaped probe design is also used to speed the sampling and improve sealing efficiency. Fluid sensors include high-accuracy density, compressibility, resistivity, dielectric, and bubble point. These fluid properties enable rapid identification of the fluid type and contamination estimates. Because mud-pulse telemetry is the primary method used in real-time data communication, the tool must compress the fluid sensor data for uphole data transmission in real-time to enable rapid decisions to be made at the surface regarding fluid contamination and when to command the tool to collect samples. Commands sent by means of downlinks can instruct the tool to change pumping rates or to automatically change rates in response to the pumping pressure to optimize the sampling process.

This talk also reviews a field test to demonstrate this new technology. Planning tools are used to estimate the pumping times, and these estimates are compared with the field tests. The same planning tools are used to estimate the time saved in comparison to wireline pumpout sampling tools. In addition, comparisons are made using wireline sampling in similar conditions. The talk presents conclusions concerning the application of this new sampling tool and its future effect.

Biography

Mark Proett received his Bachelor of Science in Mechanical Engineering from the University of Maryland and a Master of Science from Johns Hopkins University. He has been involved with the development of formation testing systems since the early 1980s and has published extensively, authoring 40 technical papers in the area of formation testing, petrophysics, data integration of well logs, and reservoir characterization. His papers have been presented at international conferences such as SPWLA (Society of Petrophysicists and Well Log Analysts), SPE (Society of Petroleum Engineers), and AAPG (American Association of Petroleum Geologists). He has been awarded 42 US patents, most of which deal with well testing and fluid flow analysis methods. Mark has served on the SPWLA and SPE technical committees and served as the Chairman for the SPE Pressure Transient Testing Committee. He has also served as an SPWLA Distinguished Speaker in 2004/2005 and was elected to the position of Vice President (North side) of the Houston Chapter of SPWLA for 2005. More recently, he was selected to serve as an SPE Distinguished Lecturer for 2006/2007 on the subject of formation testing while drilling with 22 presentations to local SPE chapters in 8 countries. In 2008 Mark received the SPWLA Distinguished Technical Achievement Award.