Oct. 2015

SPWLA Houston Chapter Newsletter

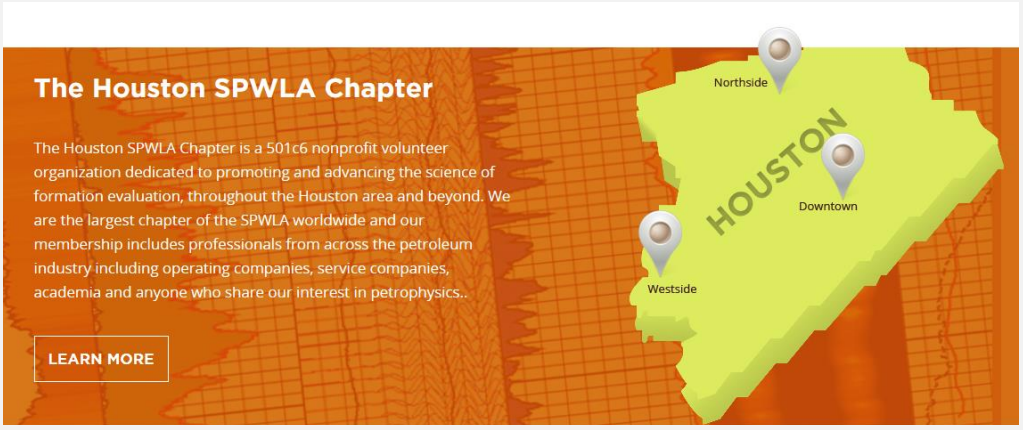
Luncheon meetings *in October 2015*	
Northside **Oct 6, 2015** Repsol - 2455 Technology Forest Blvd The Woodlands, TX 77381	Recovering Dip Data from Resurrected Dip Meter Logs **Thomas M. Howard - PayZone Inc**
Westside **Oct 15, 2015** BP Plaza Westlake 4 - Room 107, 14110 Grisby Rd. Houston, TX 77079	THE CASE FOR MAKING CONVENTIONAL PETROPHYSICAL WORKFLOWS IN HAHZ WELLS OBSOLETE **Ed Stockhausen, Chevron**
Downtown **Oct 5, 2015** Kinder Morgan, 1001 Louisiana St Houston, TX 77002	FRACTURING TIGHT ROCKS BY ELEVATED PORE-WATER PRESSURE USING MICROWAVING AND ITS APPLICATIONS **Jinhong Chen, Aramco Research Centers**

Houston Chapter News

Our new website is now live!

Our website just got a major face lift: Enjoy new functionality and design at

Spwla-houston.org



SPWLA Houston Chapter Officers 2015 – 2016	
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President's Corner

Dear Chapter Members:

Our 2015-2016 season is off to an excellent start with three very well attended speaker luncheons in September. Public holidays and tight schedules for venues meant the events were much closer together than usual but this did not stop a record number of attendees turning out for each location. Richard Koseluk's talk titled "Planning For The Future – The Pitfalls And Rewards Of Forming Your Own Consulting Company" was watched by 35 people at the Westside meeting in BP's Westlake facility; 27 people attended our downtown talk from Chris Jones (Halliburton) titled "Measurement and Use of Formation Fluid, Saturate, and Aromatic Content, with Wireline Formation Testers" and 38 people came to our new venue in Repsol's new facility in the Woodlands for the Northside talk from Doug Patterson (Baker Hughes) titled "Utilization of electromagnetic acoustic transducers in down hole cement evaluation".

In addition to our new Northside venue there are several other changes for our 2015-2016 season. We have a new website at spwla-houston.org which will help bring the chapter into the 21st century! It has a new look and feel as well as new functionality for managing bookings for our events. Please register the next time you are signing up for a talk and follow the instructions for online payment through Paypal. This automation makes the job of our chapter vice-presidents considerably easier and allows us to focus on securing the highest standard of presenters for future meetings.

For 2015-2016 the board has decided on new speaker gifts to replace the clocks that we have awarded in recent years. The new gift is a collaborative effort including a high quality fossil or rock sample mounted on a handmade wooden base and personalized with a brass plaque. The quality of the gift is a reflection of our great appreciation for those who agree to speak to our society members.

The fall is a very busy period. The speaker luncheons will return to their normal monthly slots for October and November and then please SAVE THE DATE for our annual Software Show on DECEMBER 15, 2015 at the Marriott Houston Westchase. A call for abstracts will be issued in the coming weeks and I look forward to seeing many of you there. In addition, Houston is hosting the SPWLA parent organization's Fall Topical Conference titled "Completion Petrophysics" at the Schlumberger Q-Auditorium, 10001 Richmond on November 12-13.

I would like to thank the new board members who have really hit the ground running to put together an exciting calendar of events for the coming season. I would also like to congratulate our Treasurer, Irina Borovskaya and her husband Jorge Sanchez on the birth of their baby daughter Snezhana!

If you have any questions or comments about chapter activities then please feel free to contact me directly at president@spwla-houston.org.

Robin Slocombe

Robin Slocombe
Houston Chapter President
president@spwla-houston.org

Useful links

Sign up for the Houston Chapter Mailing List [Link]

Houston Chapter
spwla-houston.org

SPWLA International
spwla.org

Join SPWLA – become a member
http://www.spwla.org/member/join

Houston Chapter LinkedIn page

SPWLA Symposium 2016

Downtown Luncheon Meeting

Oct. 5 2015 | Lunch: 11:30 | Talk: 12:00

FRACTURING TIGHT ROCKS BY ELEVATED PORE-WATER PRESSURE USING MICROWAVING AND ITS APPLICATIONS

Dr. Jinhong Chen, Petroleum Engineering Specialist at Aramco Research Centers-Houston

We propose to fracture unconventional tight rocks with microwave (or electromagnetic wave (EM)) heating. The idea is based on the fact that when the temperature of water in a confined space, e.g., within a pore inside tight rock, increases, water cannot freely expand and consequently the pressure within water-filed pores quickly elevates to the point where it exceeds the rock's tensile strength and breaks the rock. Microwave heating can rapidly increase the temperature of water in the tight rock due to the relatively large dielectric loss of innate water. This method works well for rocks with low permeability where water pressure leak off during the rapid heating is negligible in practice. We are presenting both the theory and results of our preliminary laboratory tests of the microwaving heating method for tight rocks. The feasibility and benefits of using microwave or EM heating to fracture unconventional tight reservoir are also discussed. Furthermore, the test results demonstrate that microwaving of shales pulverizes them. When the sample is pulverized, it is likely that 100% of the light hydrocarbons are released. Hence, the proposed method also may provide insight into total recoverable light hydrocarbons per kilogram rock. In addition, we demonstrate that the tensile strength of the tight rocks can be measured using microwaving heating based on the developed theory. Tensile strength is a critical parameter needed to design and model hydraulic fracturing (or crack initiation and propagation) in oil and gas reservoirs, especially in shale reservoirs. The strength is estimated from the water-pore pressure (elevated through microwave heating) when the rock sample fails. Conventional methods for measuring rock tensile strength are time consuming and require precision "machined" samples and heavy mechanical instruments.

Bio: Dr. **Jinhong Chen** is currently a Petroleum Engineering Specialist at Aramco Research Centers-Houston and works on shale gas petrophysics regarding shale gas storage and matrix-transport there since 2013. He has a PhD in NMR physics from Chinese Academy of Science in 1998 and worked as a postdoc at University of Lausanne (1998-2000) and a Salem Research Fellow at Harvard and visiting scientist at MIT (2000-2002) . Since then, he worked as a senior scientist at Sloan-Kettering Cancer Center in New York City (2002 – 2010) and at Baker Hughes in Houston (2010-2013).

Venue Details Northside

Location: Kinder Morgan First Floor Conference Room, 1001 Louisiana St Houston, TX 77002

Parking: Travis Garage across milam, in front of Kinder Morgan, Open Air parking between Kinder Morgan and Shell N 2

Cost: $30.
Lunch is included.
Please use PayPal
(click this link to pay)

Student discount rate $10
(Students use this link)

Westside Luncheon Meeting

Oct 14, 2015 | Lunch: 11:30 | Talk: 12:00

THE CASE FOR MAKING CONVENTIONAL PETROPHYSICAL WORKFLOWS IN HAHZ WELLS OBSOLETE

Ed Stockhausen, Chevron

Conventional petrophysical workflows that make use of point-by-point inversions of measured log data to determine reservoir properties at every sampled measured depth point are now obsolete. Reservoirs today are being developed using high-angle and horizontal (HAHZ) wells using a single platform or pad for multiple wells. This reality, and the fact that thin-bedded formations such as organic shale reservoirs are now being exploited, results in both resistivity and nuclear measurements that are affected by multiple layers at each measured depth, regardless of whether the conveyance is by logging-while-drilling (LWD) or wireline. A new workflow is developed to address the geometrical and tool response issues associated with HAHZ well measurements. First, we take advantage of the high "effective" resolution of the density measurement that is a result of the high relative bed dip to define petrophysical layers as thin as 2-in. true stratigraphic thickness (TST) space. Next, the true-layer log properties are determined from inversion and forward modeling. This allows us to compute the layer petrophysical properties of porosity, saturation, fluid type, and permeability using conventional petrophysical algorithms. Another unique aspect of the workflow is that properties are also determined for the non-crossed layers-those that are proximal to and within the volume of investigation of the measurement, but not actually crossed by the well trajectory, i.e., for parallel bed conditions. The reservoir hydrocarbon pore volumes and permeability can now be computed on a layer-by-layer basis free of adjacent bed and bed-crossing effects. The integration of these petrophysical layer properties are now used as input to reservoir property modeling and upscaling exercises. In a particular field case, the new workflow computed layer boundaries and porosity and permeability match core properties in beds as thin as 3 in. The use of the newly derived layer properties enables us to more accurately quantify porosity and permeability and explain the unexpected high hydrocarbon flow rates in some layers and the early water breakthrough from water injection in others. With this new information we can now place subsequent development wells in optimal positions to increase ultimate recovery.

Bio: Ed Stockhausen is a geosteering specialist for Chevron working in the global G&G Operations team based in Houston, TX, a position he assumed in January, 2014. Prior to that, he spent 17 years in Chevron's Energy Technology Company, focused on developing and deploying horizontal wellpath planning, optimized horizontal well placement, and geosteering technology globally. This involved working with both internal and external experts across the industry in the areas of directional drilling and surveying, reservoir, production, drilling, and completion engineering, reservoir geology, formation evaluation, earth modeling, and geosteering.

Venue Details Westside

Location: BP Plaza Westlake 4 - Room 107, 14110 Grisby Rd. Houston, TX 77079

Parking: Visitor parking is available at Westlake 4 overflow lot

Cost: Free! Lunch is not provided. Bring your own or purchase in BP cafeteria.

Click Here to register for the meeting

Northside Luncheon Meeting

Oct 6 2015 | 11:30-12:30

Recovering Dip Data from Resurrected Dip Meter Logs
Thomas M. Howard - PayZone Inc.

When original interpretation deliverables are suspect or no longer available, interpretable and useable dip data can be recovered from paper or electronic copies of "Vintage" field dip meter logs, i.e. four pad, single or two button tools. Satisfactory results can be obtained from a 5 inch = 100' paper log plot (or scanned tiff). Interpretations based on the resurrected data may be better than any original computer-generated interpretation, as the work flow centers on: 1) An experienced analyst manually picking, editing and interpreting "events" and 2) Integrating iterative feedback from the end-user geologist. Most picks will likely be bedding dips; however, it may be possible to speculate about some picks which are otherwise including: legitimate fractures, faults, and/or possibly stratigraphic dips. A general workflow is described followed by discussion of several examples.

Bio: Thomas "Tom" Howard is Manager of PayZone Inc.'s Borehole Image Log Analysis group, and is a co-owner of PayZone Inc. Located in Bakersfield, California, PayZone is an oil & gas consulting firm offering integrated petrophysical, geological and engineering services with emphasis on reservoir characterization. Tom has an extensive background in geology, wire-line well logging, well log analysis and working with cores, honed from a number of years spent in the waste isolation, environmental, and water well industries, before coming to the oil and gas industry in the mid 1990's. He has worked with a variety of borehole image and dipmeter logs, and cores, from California, Mid-Continent, Gulf of Mexico, and Middle East wells for structural, depositional environment and/or fracture emphasis studies. Prior to joining PayZone in 2009, Tom worked as a Senior Image Log Analyst at Halliburton, and later as Senior Geoscientist at Baker Atlas. He has published, presented and/or teaches on a variety of well logging and log analysis topics, including the use of borehole image logs for which he was a co-recipient of the H. Victor Church Memorial award from the PS/AAPG in 2008. He has a Bachelor of Arts in Earth Sciences from University of California at Berkeley. Tom is an affiliate of the SIPES Houston chapter, a member of AAPG, and SPWLA. He is delighted to serve as President of the SJWLS, the Bakersfield California chapter of the SPWLA, and is very
proud of the efforts of the chapter membership as the host chapter to the recently concluded 2015 SPWLA Annual Symposium. When he has time that is free of the demands of his profession, Tom surfs on the California coast and at exotic venues around the world.

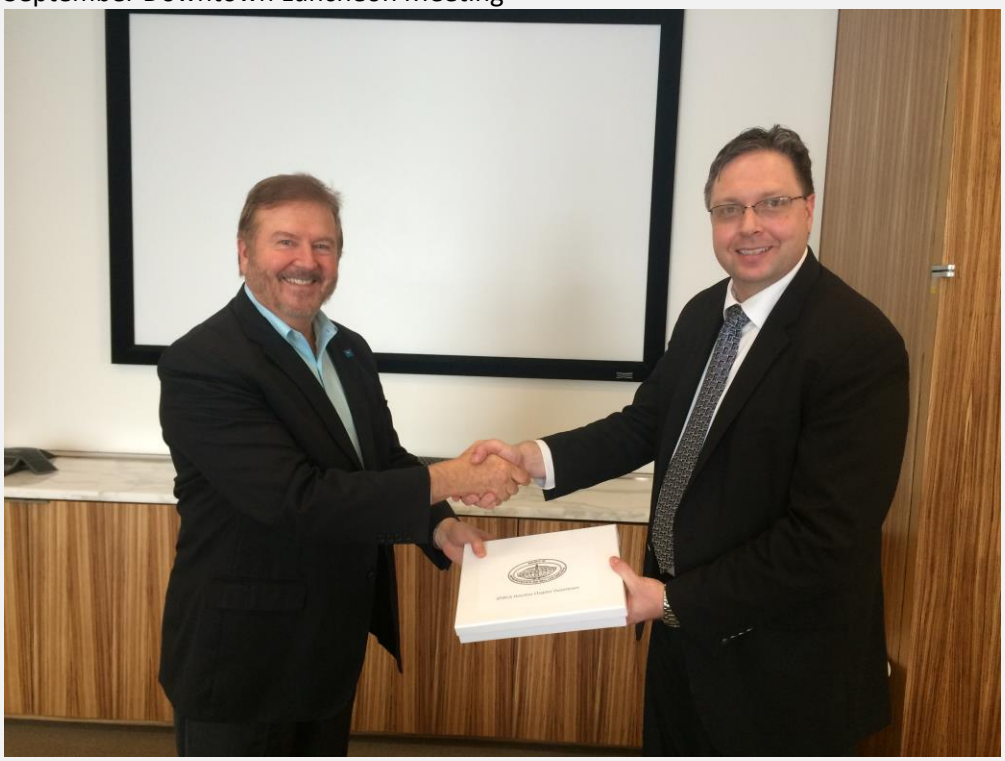
Venue Details Downtown

Location: Repsol
2455 Technology Forest Blvd
The Woodlands, TX 77381

Cost: Regular $25, Student $10 (Lunch included)
Click Here register for the meeting

Events Photos

September Downtown Luncheon Meeting



September Westside Luncheon Meeting