



SPWLA

Houston Chapter News

September 2008 LUNCHEON MEETINGS

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Westside

BP Plaza
Wednesday, Sept 10

Subsurface Characterization and Reservoir Screening for CO2 Storage

by Alessandra Simome

Northside

Halliburton
Wednesday, Sept 17

Residual Hydrocarbons - an E & P Impact Overview

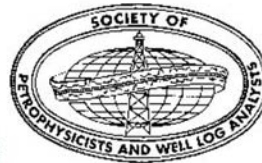
by Paul A. Connelly

Downtown

Hess Office
Wednesday, Sept 24

The Interpretation of Dip Data using Directional Mathematics - Not as Straightforward as it Might Seem

by Charles Berg



September 2008

The Houston SPWLA Chapter board would like to thank everyone for making the 2007-2008 term one of success and growth. One metric we can easily measure is the sheer number of interested people attending the monthly luncheon talks at all 3 locations. We feel very lucky and are indebted also to the individual speakers who devoted their time and effort for making those meetings a success. Among the other accomplishments of last year include the introduction of the 1st Annual Golf Tournament during the month of October at the Cypresswood Country Club, a tradition we will continue this Fall. We also continued two traditional Chapter events: the Annual Software Show in December and the Spring Topical Conference on Determining Residual Oil Saturation in May; both of which were enthusiastically attended and will be showcased again in the upcoming months.

Another major accomplishment of last year's board was the successful bid for the 2009 Annual SPWLA Symposium to be held at the Woodlands Waterway Hotel and Conference Center from June 21 to 24. This year will mark the 50th anniversary of that event and we are greatly indebted to Furman Kelley (last year's President) for successfully securing our bid. Hani Elshahawi is the General Chair for 2009 and will be assisted by a veteran Chair and current Co-Chair Gary Beck. Their effort and the efforts of those leading the various subcommittees are greatly appreciated and we as a Chapter look forward to assisting them in any capacity we can. Members of the 2009 organizing committees should also stay tuned for upcoming meetings to be organized by Hani in the next few weeks.

Of course, this is a new year for us, so I will take the opportunity now to say farewell to two former board members and to welcome some new faces. First I would like to thank former Chapter President, Furman Kelley, for guiding us through another productive year. We also thank Scott O'Beirne for his many years of service to the Chapter in a variety of roles, most recently as Secretary. I would like to welcome Jesus Salazar as our new Secretary and Andy May as our new VP of Downtown. Returning veterans include Paul Connolly as Treasurer, Don Hartman as Editor, Linda Murdock as Associate Editor, Jeff Alford as Webmaster, Jose Silva as VP of Westside, Dean Jackson as VP of Northside, and Brian Driskill as Past President. Although he does not have an official title, Ken Kemp is an invaluable resource for us and we thank him for all his assistance. I look forward to working with our board to make 2008-2009 another fun filled and successful term.

In preparing for this next year our Chapter members can anticipate a new round of monthly luncheons to be held at their usual locations. Jesus will be sending out meeting notices via email and we ask you to please RSVP to your specific organizing VP to aid in planning. Our members can also check <http://www.spwla-houston.com> for meeting information and contacts. You will notice some modifications to our website in the next few weeks which will showcase our new advertising campaign spearheaded by Paul Connolly and implemented by Webmaster Jeff Alford and Chapter member Kent Mooney.

We look forward to working with you all in the next year in helping our Chapter succeed and grow. Please contact myself or any other board members with any questions or comments.

Joe Comisky
Houston Chapter President



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Westside Luncheon Meeting

Subsurface Characterization and Reservoir Screening for CO2 Storage

by

Alessandra Simone

Date:	Wednesday Sept 10	Place:	BP Plaza Conference room next to the Cafeteria. Westlake 4 200 Westlake Park Blvd.	Reservations:		Email:	jose.silva@techsia.com
Time	Lunch: 11:30 am Talk: 12:00 Noon	Price:	Purchase lunch in cafeteria and bring to adjacent conference room.	Parking			BP Plaza Garage
Special Instructions			Everyone MUST sign in AND out at the Lobby Security desk! After receiving security badge, get your lunch and come to the 3rd floor. Follow the SPWLA signs to the conference room.				

Abstract

The need for accelerated acquisition of pore space for CO2 storage require teams tasked with the screening of potential geological sinks to do so under time pressure and often with very limited data. This paper discusses the key elements to be considered during subsurface characterization aimed at CO2 storage, some of which may differ from traditional O&G field development. In addition, it provides a few examples of reservoir screening for CO2 storage based on well known CO2 storage pilots such as the Frio pilot.

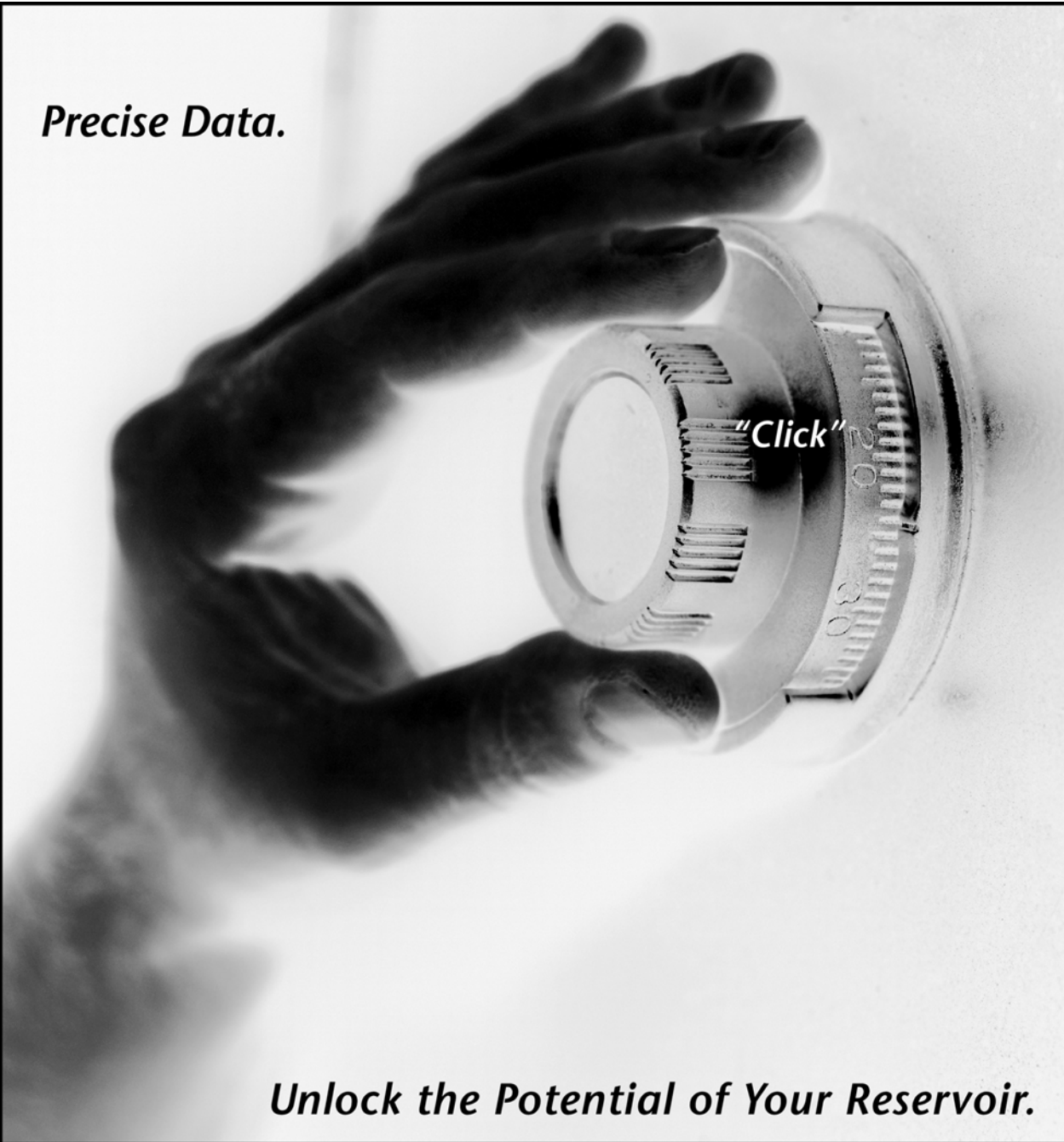
Biography

Alessandra Simone graduated from Rensselaer Polytechnic Institute, Troy NY (BSc in Aeronautical Eng) and has MSc in Energy Management from Heriot Watt University, Edinburgh, UK.

She joined Shell 1996 as a Petrophysicist in Shell Venezuela '96-'98 with the Urdaneta West License. Other assignments include Petrophysicist in the Nederlandse Aardolie Maatschappij B.V. '98-'03 (Shell-Esso) Assen, NL and Development Business Planner in Shell EP Europe '03-'07 Aberdeen, UK.

Alessandra presently is a Petrophysicist in Shell's International E&P working on CO2 storage projects.

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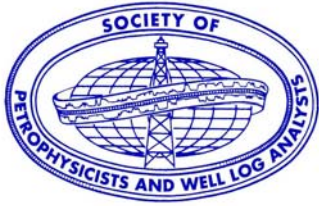
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Northside Luncheon Meeting

Residual Hydrocarbons - an E & P Impact Overview

by

Paul A. Connelly

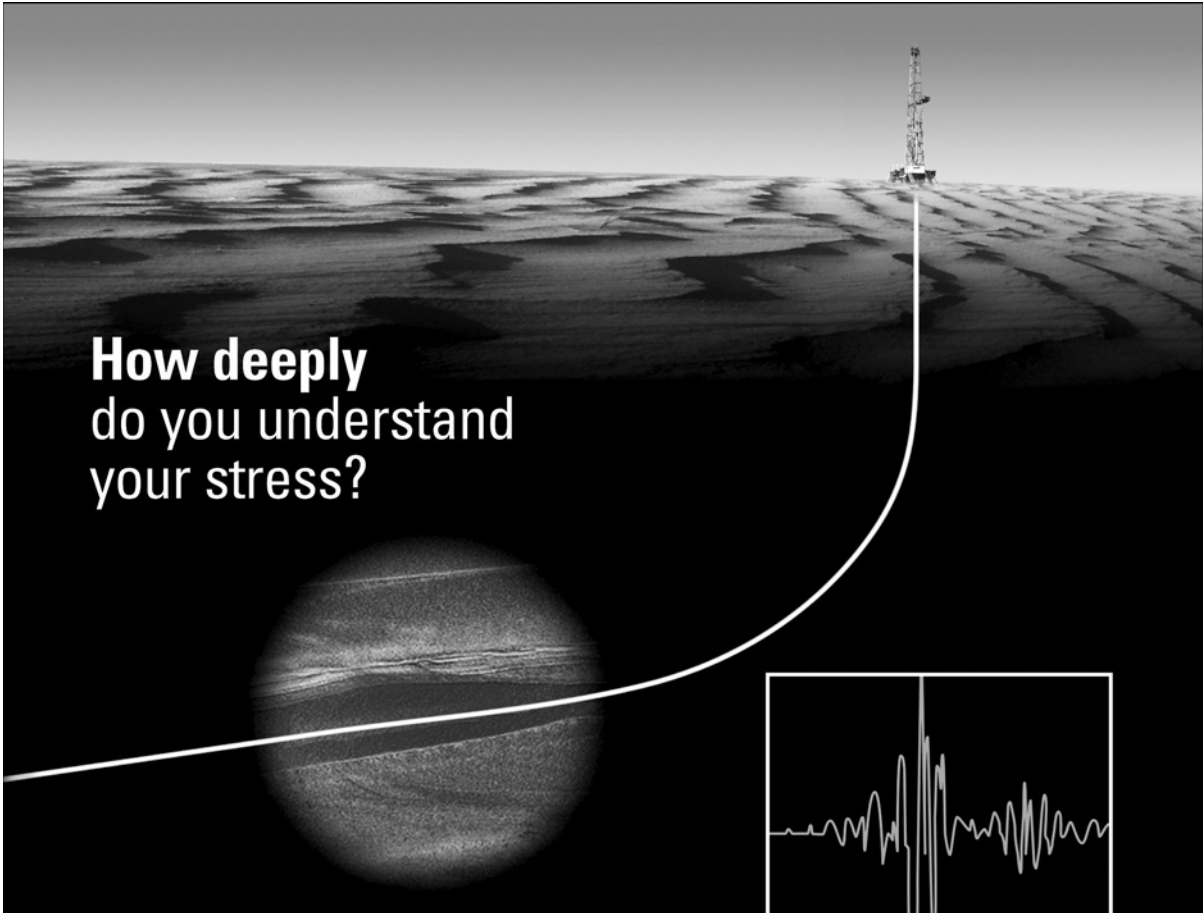
Date:	Wednesday Sept 17	Place:	Halliburton Patio Cafe, Bldg D 3000 N. Sam Houston Pkwy East	Reservations	none required
Time	Lunch: 11:30 am Talk: 12:00 Noon	Price:	Select food and pay (typically \$3-6)	Parking	Enter Halliburton, proceed to the "T" just past Bldg A, turn right to park.

Abstract

Residual hydrocarbons are those left in a reservoir in the aftermath of a natural or production-induced imbibition process which has reduced the hydrocarbon saturation to levels well below those initially present in the original accumulation. For dominantly water-wet systems, they are generally immobile under primary production, but have often been the targets for tertiary EOR projects, having been left behind in the swept portions of waterflood projects. Identification of hydrocarbons as residuals in exploratory ventures can be key to avoiding costly mistakes – running pipe on dry holes, conducting production tests of non-producible zones, and drilling seismic “bright spots” caused by residual gas saturation (“fizz gas”) in breached traps, etc. Rudimentary evaluation techniques for identifying residuals will be shown, and laboratory rock property measurements useful in understanding the expected saturation level of residual hydrocarbons in a given rock will be discussed. Finally, examples illustrating the exploration and production impact of proper identification and characterization of residual hydrocarbons will be shown.

Biography

Paul Connolly is the Chief Petrophysicist for EOG Resources, Inc. He graduated from Michigan Technological University in 1976 with a BS degree in Applied Physics, and joined Shell Oil Company that year as a Petrophysical Engineer working the Michigan Niagaran Reef trend. From 1976-1983, he held various Petrophysical Engineering assignments in Shell’s Mid-Continent Division covering the Michigan, Permian, Delaware, Anadarko, Ardmore, and Arkoma basins. From 1983-1994, Paul held various Petrophysical Engineering supervisory positions in the Shell Companies, including Division Petrophysical Engineer for areas of California and the Gulf of Mexico, Research Manager, and Technical Manager in Pecten International Company. After nearly 19 years with Shell Companies, Paul joined EOG Resources as a Petrophysical Specialist in 1994, working new venture evaluation and the Trinidad and India international projects, and was moved into his current position in 1995.



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Downtown Luncheon Meeting

The Interpretation of Dip Data using Directional Mathematics - Not as Straightforward as it Might Seem

by

Charles Berg

Date:	Wednesday Sept 24	Place:	Hess Office One Allen Center 500 Dallas Street	Reservations:	Make reservations as early as possible. Call 713-609-4427 and leave a message for SPWLA Reservations or email at ramitchell@hess.com
Time	Lunch: 11:30 am Talk: 12:00 Noon	Price:	\$15 with reservation	Parking:	Regency Parking at 1100 Smith Allen Center Visitor Garage Various outdoor lots
Special Instructions:	One Allen Center is at the corner of Smith and Dallas. The Hess lobby is on the second level adjacent to the Smith Street entrance. You will need to check in through Security. Please arrive prior to 11:30 am to allow time to check in and get to the meeting room. There are numerous parking places in the area, a few of which are listed above.				

Abstract

The mathematics involved in dip interpretation as well as deviation calculation would at first glance seem to be fairly straightforward. However, many applications, including those by large service companies, have had derivation or programming mistakes. Many of the problems stem from quirks of trigonometry, but some are conceptual in nature. This is especially true of averaging and interpolation of directional data (dips and deviations.)

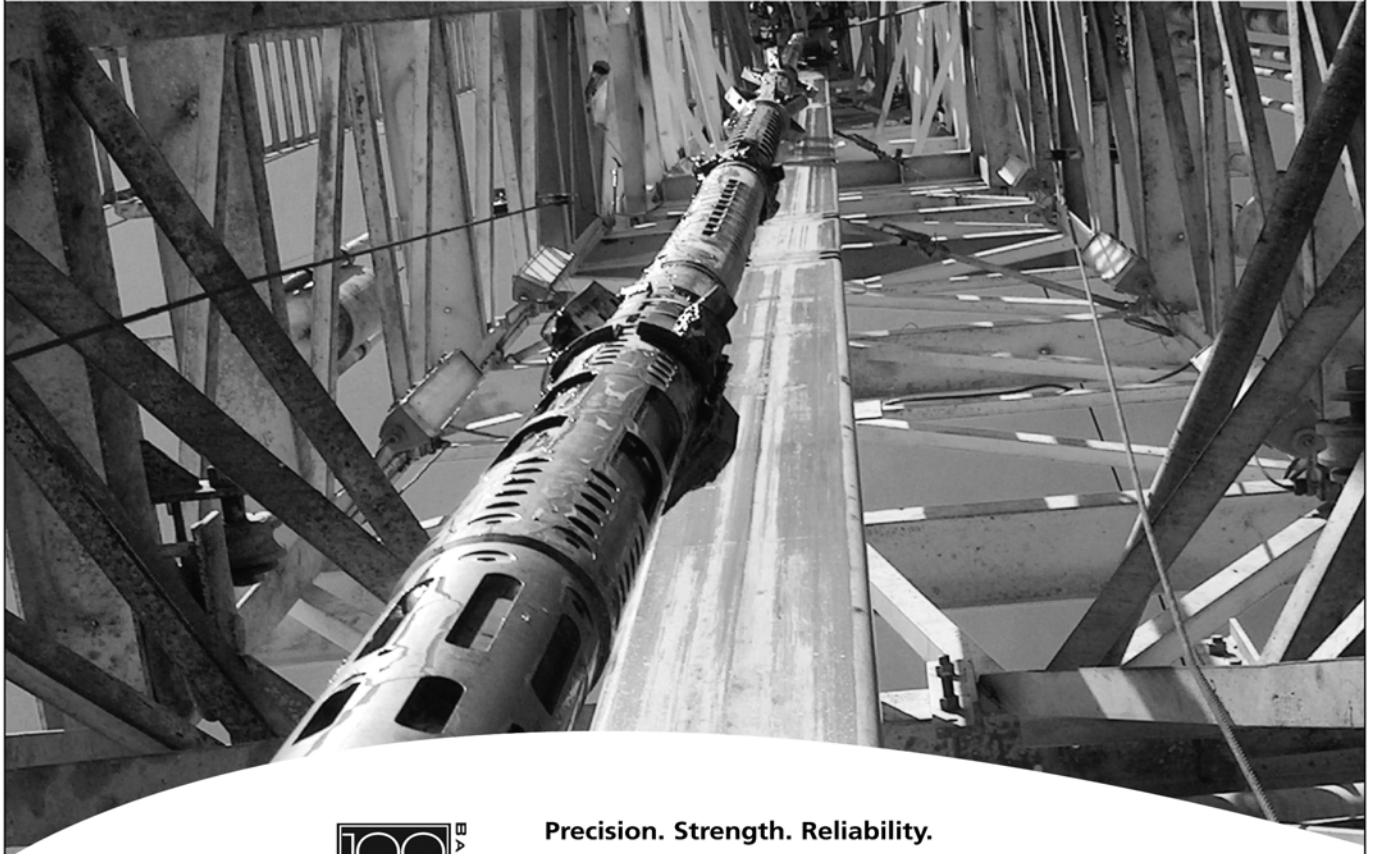
The vector sectionTM is a new structural interpretation tool used in RDA. Vector sections use normals to dip and true stratigraphic thickness to build 3-dimensional cross sections. The vector sections can then be projected onto vertical cross sections or they can be viewed in a 3-dimensional viewing window. The concept behind vector sections is simple, and no doubt someone has thought of making them before, but it is likely that the reason that they did not exist before now is the difficulty in dealing with directional mathematics.

Biography

Charles Berg is the developer of the RDA dip interpretation program and founder of ResDip Systems. RDA is a full-featured dip analysis and plotting program for both structural and stratigraphic dip interpretation. Charles has 31 years of industry experience including 16 years with ResDip systems. He also has worked as a geophysicist for Phillips Petroleum and Terra Resources, as a geologist and geophysicist for Trend Exploration and Adobe Resources, and for a few years as a geophysical consultant in the last boom.

Charles has a BS in Geology from the University of Texas at Austin, and an MS in Geology from the Colorado School of Mines. Charles is a member of SEG, AAPG, SPE, GSA, SPWLA, AAAS, HGS, and RMAG.

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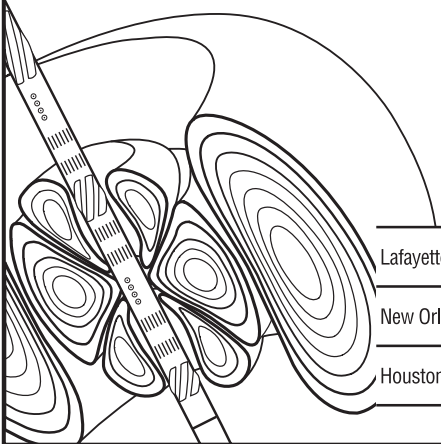
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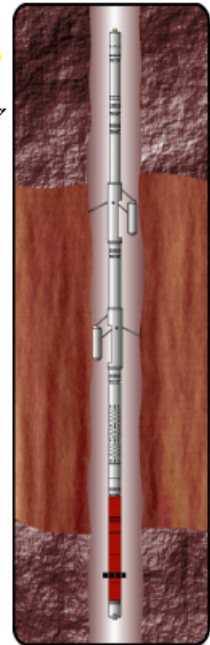
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The Resistivity Modeling Special Interest Group of the Log Characterization Consortium

The **Resistivity Modeling Special Interest Group** was one of the first SIGs to be established under the auspices of the **Logs Characterization Consortium**, an independent, member-run, not-for-profit organization that allows representatives from different organizations to come together in *ad hoc* groups to discuss technical issues without legal concerns regarding collusion.

- The next meeting of the **Resistivity Modeling SIG** is on Tuesday, October 21, 2008
- Sheraton North Houston, 15700 John F Kennedy Blvd, Houston, TX, 77032
- Room, Breakfast & Lunch are provided courtesy of Halliburton
- The agenda will be distributed by email, prior to the meeting. Please submit your presentations for the meeting!

If you are interested in attending, but do not normally receive eMails from the SIG, please contact one of the Co-chairs: Peter Day (PDay@MarathonOil.com) or Abbas Merchant (Abbas.Merchant@BakerHughes.com) so that you receive an invitation. A link to the SIG can be found on the SPWLA website, and will contain pertinent information.

An introduction to the role played by the **Resistivity Modeling SIG**, provided below, is based on material from W. David Kennedy, Baker Hughes INTEQ, to whom we are, as always, deeply indebted.

Resistivity logging using focused laterolog and induction tools started to replace unfocused normal and lateral tools in the early 1950s. One attractive feature of these technologies was the apparent ease of estimating R_{TRUE} when compared to the prior devices. In 1957, Martin, Tixier, and Dumanoir¹ claimed, with some caveats, that $R_{APPARENT}$ from induction logs in the Gulf of Mexico "can be used without correction" for R_{TRUE} . Those working in low-resistivity pay and thin beds had reason to doubt this statement, but had no means to engage in quantitative discussion.

Resistivity logging instruments were, and still are, under-characterized because of the difficulty in studying their responses. However, thanks to Moore's Law, by the late '70s it was possible to numerically model non-trivial scenarios: service companies and many oil company research labs began to include modeling of resistivity tool responses in their formation evaluation.

In the mid-1990s, two events gave rise to what became the **Resistivity Modeling SIG**: first was the commercialization of a graphical user interface for resistivity modeling developed by an oil company; second was the formation of the LCC. SIGs for LWD and the AIT were founded early on, and these had much in common with the **Resistivity Modeling SIG**; for characterizing LWD and AIT responses, modeling is really the only option. Once this was recognized, the LWD and AIT SIGs merged with the **Resistivity Modeling SIG**, which continues to address the spectrum of original interests.

The **Resistivity Modeling SIG** has met two, occasionally three, times per year since 1994. Members come from service and oil companies, consulting organizations and academia, and membership is open to all interested individuals. In addition to presentations given at each meeting, the SIG takes on special projects: Notable accomplishments are two compilations by L. C. Shen - *Comparison of modeling codes for resistivity and MWD instruments - Part 1, 1-D radial invasion*² and *Part 2, 1-D thin beds*³ - as well as the compilation by Q. Zhou of an *Updated Survey of MWD Resistivity Tools*⁴.

The **Resistivity Modeling SIG** provides an informal setting for service providers and consumers to get together and share information. For users of logging services, difficult-to-interpret logs can be presented and discussed with experts in the industry. Service company scientists and engineers receive input from customers unfiltered by sales and marketing.

With the merging of companies, and the retirement of senior staff, the SIG meetings are a venue where we hope future industry petrophysical and tool design experts will come to meet and get to know one another. We especially welcome younger formation evaluation specialists to attend our meetings, as there is no better opportunity to expose oneself to current research and accumulated wisdom in the interpretation of data from wireline, LWD and surface-array or time-domain EM devices.

1. Petroleum Technology, IX 7, 1957
2. Petrophysics, 41 3, 2000
3. Petrophysics, 43 1, 2002
4. SIG Technical Note, 2004

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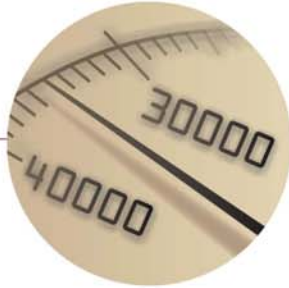
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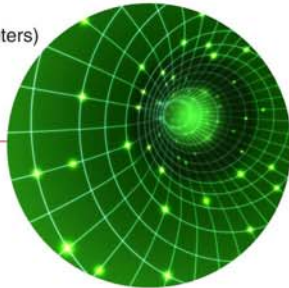
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