



# SPWLA

## —Houston Chapter News

### April 2009 LUNCHEON MEETINGS

#### **President**

JOE COMISKY  
Apache Corporation  
2000 Post Oak Blvd. #100  
Houston, TX 77056  
Office: 713-296-6286  
joe.comisky@usa.apachecorp.com

#### **Vice President - Westside**

JOSE G. SILVA  
Techsia Inc.  
10777 Westheimer  
Houston, TX 77042  
Office: 713-260-9686  
jose.silva@techsia.com

#### **Vice President - Northside**

DEAN JACKSON  
Baker Atlas  
17015 Aldine Westfield  
Houston, TX 77073  
Office: 713-625-6846  
dean.jackson@bakerhughes.com

#### **Vice President - Downtown**

ANDY MAY  
Devon Energy  
99 Tree Crest Cir  
The Woodlands 77381  
Office: 713-265-6126  
andy.may@dvn.com

#### **Treasurer**

PAUL CONNOLLY  
EOG Resources  
1325 Bagby  
Houston, TX 77002  
Office: 713-651-6700  
paul\_connolly@eogresources.com

#### **Secretary**

JESUS SALAZAR  
Conoco-Phillips  
600 N. Dairy Ashford  
Houston, TX 77079  
Office: 281-293-1610  
jesus.m.salazar@conocophillips.com

#### **Editor**

DON HARTMAN  
Devon Energy  
1200 Smith, Suite 3300  
Houston, TX 77210-4616  
Office: 713-286-5842  
don.hartman@dvn.com

#### **Associate Editor**

LINDA MURDOCK  
Landmark Graphics  
Houston, TX 77042-3051  
Office: 713-839-2587  
linda.murdock@halliburton.com

#### **Webmaster**

JEFF ALFORD  
Schlumberger  
1325 Dairy Ashford  
Houston, TX 77077  
Office: 281-285-4938  
webmaster@spwla-houston.org

---

#### **Westside**

BP Plaza  
Wednesday, April 8

#### Log Examples for Engineers and Geologists

by Chester Young

---

#### **Northside**

Halliburton  
Wednesday, April 15

#### Core Measurements are Ground Truth, Right? Maybe!

by Mike Globe

---

#### **Downtown**

Hess Office  
Wednesday, April 22

#### 4D NMR - Applications of the Radial Dimension in Magnetic Resonance Logging

by Jack LaVigne

---



**April 2009**

Dear Chapter Members,

Please keep in mind our next few local events before the 50th Anniversary in June. The first is the nomination and balloting process for the 2009-2010 Houston SPWLA Board. All positions are currently open and our Chapter Secretary, Jesus Salazar, has already received several nominations. We encourage you if interested to please send us a brief biography and statement describing who you are and your desired position. There is still some time left to send your information to [secretary@spwla-houston.org](mailto:secretary@spwla-houston.org) ASAP so we can get you on the ballot. I can honestly say that being on the Board for the past 2 years as both President and VP has been a rewarding experience and I look forward to working with our members to help build our Chapter for the future. An email ballot will be sent for your consideration on April 15th.

Our second event (not counting the usual monthly meetings) will be our Spring Topical Conference focusing on "Shale Gas Evaluation and Completions". It goes without saying that our discipline of petrophysics provides a central role in evaluating and developing these challenging resources. In fact, many members and associates of the Houston Chapter have been instrumental in pushing the technical envelope of these plays and we are happy to share their expertise with you on Wednesday, May 13th at the Chevron auditorium downtown. Our next newsletter will provide you with all the specifics.

Don't forget to check <http://www.spwla-houston.org/> for more information on the local meetings and events and <http://www.spwla2009.com/> for information on the 50th Annual Symposium.

**Joe Comisky**  
**Houston Chapter President**



**Erle was  
fiercely independent.**

**At Halliburton  
we still are.**

**E**rle Halliburton built his service company from scratch. He couldn't be bought. He couldn't be discouraged. And the rest is history. But the key to Erle's success was the repeat business of the many independents he served. Halliburton crews would travel any distance and get the job done right. Customer satisfaction was everything. And America's independents weren't disappointed. Though Erle's long gone, he's well represented by the independent-minded people who work here today. If you need us, just call. No job is too big, small, conventional or complex.

Halliburton has the energy to help. To find out how, visit us at [www.halliburton.com](http://www.halliburton.com).

**HALLIBURTON**

*Unleash the energy.™*





## Westside Luncheon Meeting

*Log Examples for Engineers and Geologists*

*by*

*Chester Young*

---

Date:	Wednesday, April 8	Place:	BP Plaza Conference room on 3rd floor. 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 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

This presentation will discuss several topics that are of interest to Geologists and Engineers who are utilizing LWD Data to perform analyses in their daily jobs. Topics include:

- Fracture Density and Lost Circulation,
- Sediment Deformation on Image Logs
- Unconformities as Pressure Barriers.

Each topic will provide some basic understanding of the concept and, where necessary, the technology involved.

Fracture density can increase near faults and can create avenues for fluid migration when drilled overbalanced. An example will be discussed where the reason for fluid loss was determined to be due to an increase in fracture density near a fault drilled overbalance. The interpretation was made with an understanding of this process and based on gamma ray/resistivity data only.

Soft sediment deformation is a common diagenetic process but can affect dip picks when utilizing low resolution gamma ray and bulk density image logs. Recognition of the problem will be discussed utilizing both high definition resistivity image logs and lower resolution gamma ray and bulk density image logs.

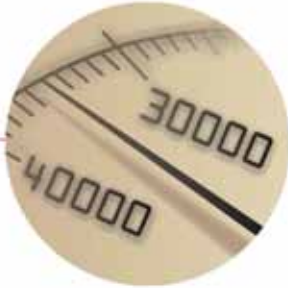
Barriers to subsurface pressure equilibrium can be created at unconformities. Several techniques will be discussed to trend gamma ray and resistivity data and recognize such surfaces.

It will be shown that, depending on the scale of the geologic feature, the good vertical resolution of LWD measurements and the minimal invasion close behind the bit simplify many interpretations.

### Biography

**Chester Young** joined Baker Hughes INTEQ in January 1989 and is currently a Senior Geologist in the Formation Evaluation Group. He is also responsible for LWD Log & Data Quality for the Gulf Coast Area and provides geological insight to the group. He graduated with a BS degree in Geology from Louisiana State University with scholarships from Mesa Petroleum and Louisiana Land & Exploration. He is a lifetime member of Phi Eta Sigma Honor Society and a Distinguished Honor Graduate from the U.S. Army Signal School. He is a 25 year member of AAPG and is a Board Certified Petroleum Geologist. His hobbies include RVing, birding and wildlife art.

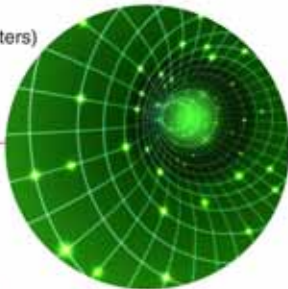
**Highest pressure:**  
30,440 psi (210 MPa)  
LWD world record  
Gulf of Mexico, 2006



**Highest temperature:**  
379°F (193°C)  
LWD world record  
North Sea, 2005



**Highest dogleg:**  
61° per 100 feet (33 meters)  
LWD world record  
Middle East, 2007



**Deepest offshore:**  
34,189 feet (10,421 meters)  
Including deepest  
LWD data transmission  
Gulf of Mexico, 2005



## Going to extremes for you

As the world record holder in several **directional drilling services** categories, Weatherford knows that, when it comes to reliability, you have to go to extremes. That's why we build our MWD/LWD and rotary-steerable systems to withstand hostile environments better than the rest.

### From routine to extreme, we deliver.

Weatherford's drilling systems greatly reduce well construction costs with faster ROP, higher LWD logging speeds and smoother boreholes—making them ideal for both routine and extreme applications.

To learn more about how our full suite of directional drilling, LWD and rotary-steerable systems are engineered for reliable and repeatable performance, visit [weatherford.com](http://weatherford.com).

Our business is built **All Around You.**

Drilling | Evaluation | Completion | Production | Intervention





## Northside Luncheon Meeting

*Core Measurements are Ground Truth, Right? Maybe!*

*by*

*Mike Globe*

---

Date:	Wednesday, April 15	Place:	Halliburton Patio Cafe (Bldg D) 3000 N. Sam Houston Parkway East	Reservations	none required
Time	Lunch: 11:30 am Talk: 12:00 Noon	Price:	Select food and pay; typically \$3-6	Parking	Enter Halliburton and proceed to the "T" just past Bldg A, turn right to park.

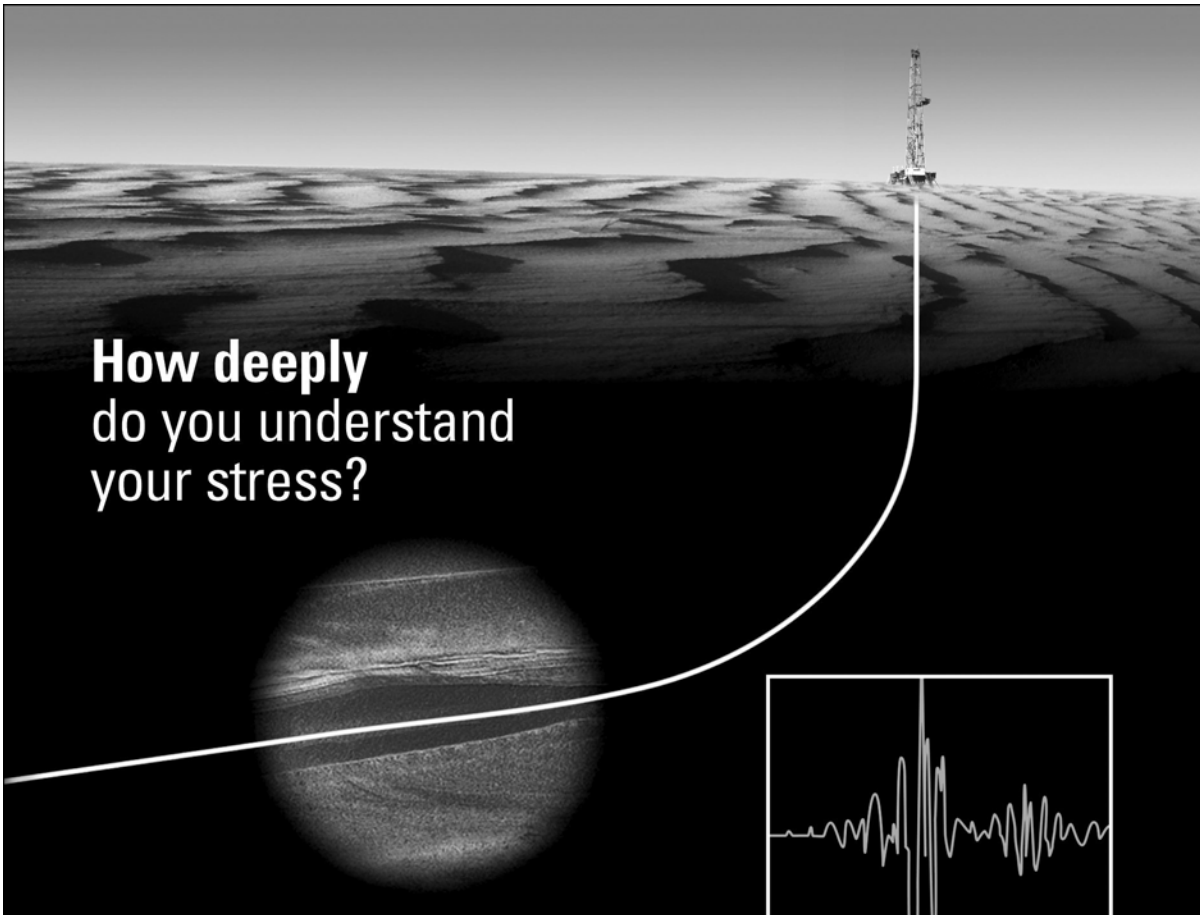
---

### **Abstract**

Core measurements are typically regarded as the "ground truth" in the construction and calibration of petrophysical interpretation models. Porosity, permeability, and saturation values from logs are routinely compared to results from core in an effort to validate results. But just how much uncertainty is there in core-based values? This presentation will show multi-lab measurements of porosity, permeability, and mercury injection capillary pressure values on a control set of core plugs, and examine the differences in results.

### **Biography**

**Mike Globe** graduated from The Ohio State University with a degree in Physics. He started in the industry as a field engineer for Schlumberger, and has worked as a petrophysicist for Gulf Oil Company, Transco Exploration, and Anadarko Petroleum. He is currently the petrophysics department for Cobalt International Energy doing pore pressure prediction, reservoir quality prediction, and petrophysical analysis.



**How deeply  
do you understand  
your stress?**

The new Sonic Scanner\* acoustic scanning platform enables accurate measurement of the stress-dependent properties of rocks near the wellbore. Now you can make advanced acoustic measurements axially, azimuthally, and radially. The Sonic Scanner multiple depths of investigation, excellent waveform quality, and simple presentations all help to reduce the complexity of sonic logging, without compromising the depth of information.

Get the most comprehensive understanding of your rock, improve your fracture planning, sand control, and perforating design. See stress on a whole new level, with an extra dimension.

**Understand your reservoir**

\*Mark of Schlumberger © 2007 Schlumberger. 07-FE-074

**Sonic Scanner**

[www.slb.com/understand](http://www.slb.com/understand)

**Schlumberger**



## Downtown Luncheon Meeting

*4D NMR - Applications of the Radial Dimension in Magnetic Resonance Logging*

by

*Jack LaVigne*

---

Date:	Wednesday, April 22	Place:	Hess Office One Allen Center 500 Dallas Street	Reservations:	Make reservations as early as possible. Call 713-609-5960 and leave a message for SPWLA Reservations or email at Kkemp@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

Invasion frequently causes fluid saturations to vary over the first few inches of formation away from the wellbore in wells drilled with oil-base mud (OBM). Observing these variations helps distinguish formation hydrocarbon from mud filtrate and accurately quantify fluid volumes. Therefore it is crucial that NMR distributions be measured independently for each shell. For deeper shells this poses a significant challenge due to the inherently lower S/N of the raw data.

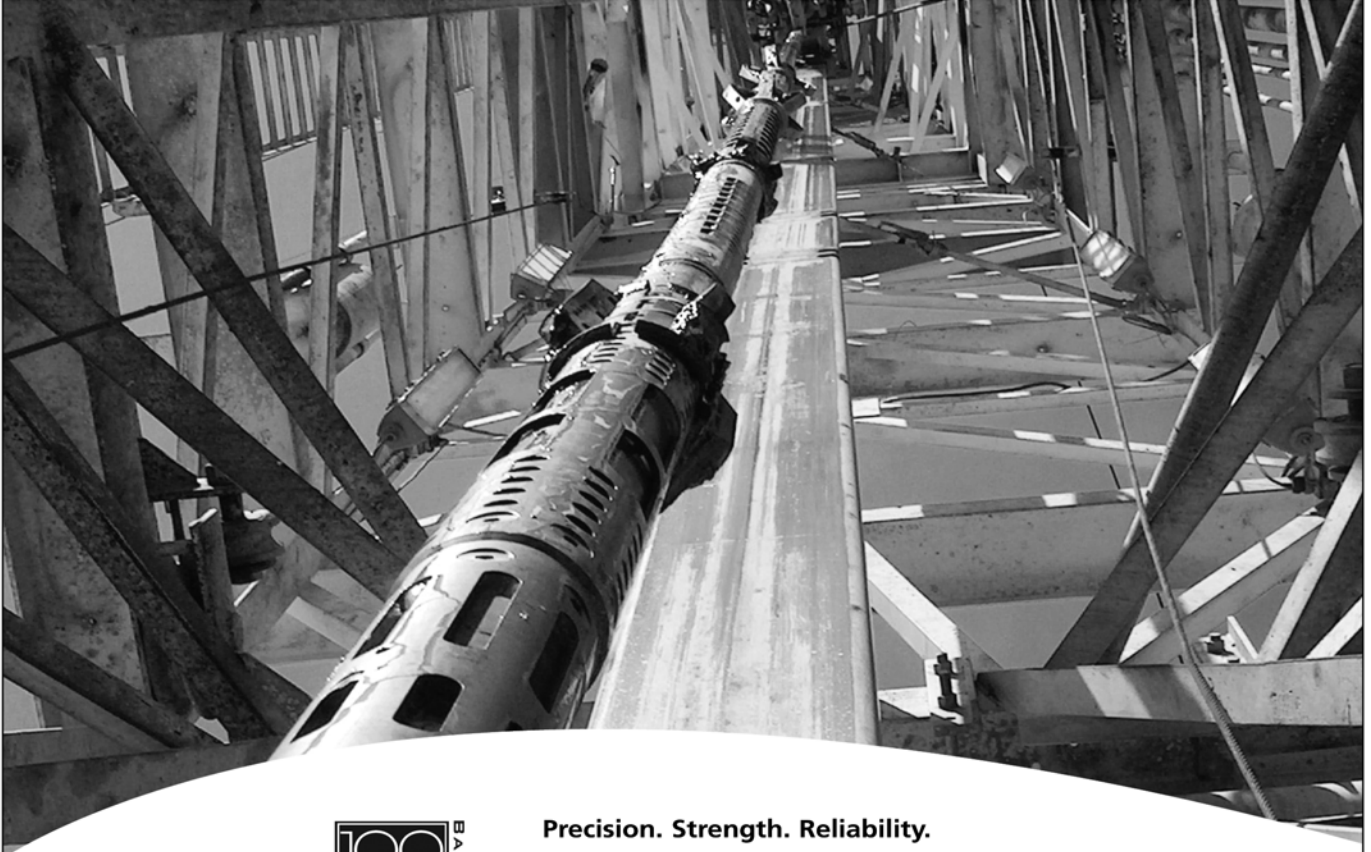
We propose a novel inversion scheme that maintains the integrity of radial information from multi-shell NMR data while optimizing precision. This is achieved by performing a constrained simultaneous four dimensional (4D) inversion of all data acquired at each depth of investigation (DOI). The first three dimensions are molecular diffusion rate (D), longitudinal relaxation time (T1) and transverse relaxation time (T2). They serve to discriminate fluid type. The fourth dimension is radial variation and can be used to provide a radial image of fluid volumes. The 4D inversion is based on the premise that bound fluid volume does not exhibit a radial variation. During the inversion, bound fluid components are constrained in the DOI dimension while free fluid components are allowed to vary. This produces a consistent bound fluid for all shells with dramatically improved precision. In addition, this inversion maintains critical radial NMR information

### Biography

**Jack LaVigne** is a petrophysical advisor for the Formation Evaluation department at Schlumberger Sugar Land Product Center in Sugar Land, Texas. He holds a BEE degree from the University of Minnesota, graduating in 1971. Jack began with Schlumberger in 1976 and has worked as a field engineer, log analyst, and interpretation development engineer. He is currently responsible for the development of NMR answer products.



## How did we make the Best – Better?



Fast, one-pass acoustic

### Precision. Strength. Reliability.

The XMAC<sup>SM</sup> F1 high-performance acoustic logging service from Baker Atlas is not only the most accurate in the industry – but now logs even faster.

Only one logging pass is needed to acquire monopole, dipole and cross-dipole data – and depth corrections between runs are not required.

And with a compressional strength of 45,000 pounds, we can log even your most complex wells pipe conveyed.

You can better evaluate your reservoir, reduce your risk and maximize your hydrocarbon recovery while saving valuable rig time by choosing the best acoustic logging service in the industry – XMAC F1.



**Baker Atlas**

The BEST Choice

**Real-time  
fluid analysis,  
clean PVT samples.**

**MRILab™** service uses magnetic resonance imaging to distinguish between oil-based mud filtrate and native crude. And it gives you real-time, laboratory-quality estimates of your crude's viscosity and gas/oil ratio. You get the measurements in minutes, while the **RDIT™** assembly is downhole.

Halliburton has the energy to help.

Call your representative about running the new

MRILab service with RDIT tool or visit us at

[www.halliburton.com](http://www.halliburton.com).

*Unleash the energy.™*



**HALLIBURTON**

Production Optimization

© 2009 Halliburton. All rights reserved.

**Our focus is Client Satisfaction!**



**And our ISO 9001:2000  
Quality Management System  
Proves It!**

As the recognized leader in core analysis and formation characterization, Core Lab's Houston Advanced Technology Center is pleased to announce that our Quality Management System has been ISO 9001:2000 certified. Our laboratory provides state of the art measurements with unmatched quality control and equipment calibration standards.

At Core Lab every job concludes with a customer feedback survey. We are constantly working to enhance customer satisfaction and continue to improve our performance.




**Core Lab**  
RESERVOIR OPTIMIZATION  
**ISO 9001:2000**

No one has more customer focused core and reservoir fluid based solutions for optimizing your reservoir.


To learn about our customer focused Quality Management System, please contact Core Lab.  
(713) 328-2673 psinfo@corelab.com

© 2008 Core Laboratories. All rights reserved.



**The World Leader in  
Digital Data Conversion  
and Management**

- 400,000 Wells in digital format — Over 1,000,000 Logs
- 56,000 Directional Surveys
- 1,300,000 Rasters
- Over 38,000 Gulf of Mexico Wells
- All Gulf of Mexico Logs provided in OTF since 1996 — LWD & Wireline
- Well Log & Map Digitizing using IHS Energy's Proprietary Data Capture System
- Petrophysical Data Processing providing Workstation-Ready Data



**IHS ENERGY** | Contact us at: 504.581.3282

[www.IHSLogNet.com](http://www.IHSLogNet.com)

## PathFinder® LWD Sonic Services

**Highly reliable, accurate and versatile, the PathFinder LWD Sonic Service provides wireline quality compressional and shear slowness data.**

- Standard PathFinder Sonic tools provide real-time compressional and fast shear slowness data.
- Extended measurement e-sonic tools operate at 7 kHz and 15 kHz frequencies to provide slow shear measurements and real-time compressional measurements.

**Reliability, Accuracy, Versatility. We Deliver.**

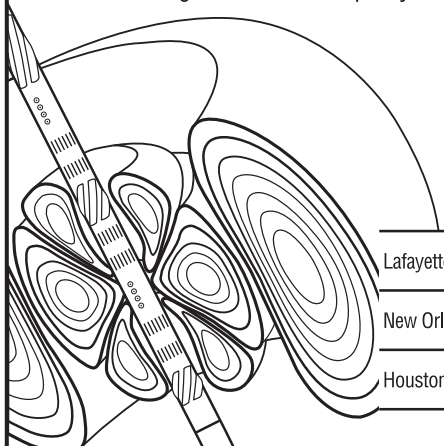
For more information contact your local  
PathFinder Representative

**PATHFINDER**®

[www.pathfinderlwd.com](http://www.pathfinderlwd.com)

## LEADING EDGE FORMATION EVALUATION

- New MPR™ system provides increased resistivity accuracy
- Re-entry services enhance asset value
- Reservoir navigation for optimum horizontal well placement
- Coring services obtain quality formation samples



**INTEQ**

Lafayette: (318) 856-7201

New Orleans: (504) 525-1197

Houston: (713) 625-4200



*"Setting The New Service Standard"*

Providing:  
**OPEN HOLE LOGGING** Services  
to Mid-Continent Areas of  
**Oklahoma/Arkansas**  
**Kansas and North Texas**

*Tucker Wireline delivers:*

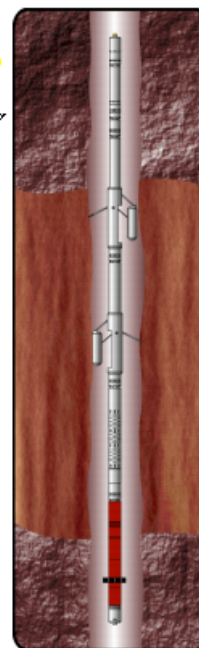
- **"One-Run"** Stack Technology
- **Quality** Data in customer formats
- **Efficient, Reliable Service**
- **Web Based** delivery of logs

**Contact**

U.S. Business Development Team  
**Tucker Wireline Services, U.S.**  
Houston, Texas  
Office: 281-442-9095 ext. 206  
Email: [infoUSA@TuckerEnergy.com](mailto:infoUSA@TuckerEnergy.com)

**Tulsa Sales:** 918-252-5416, Ext. 141  
**Tulsa Operations:** 918-252-5416, Ext. 160  
**Oklahoma City Sales:** 405-514-0643

[www.tuckerwireline.com](http://www.tuckerwireline.com)



**Quad Stack**  
55.1 ft

Technical Training  
and Consulting  
for the  
Energy Industry



## SMOLEN ASSOCIATES

JAMES J. SMOLEN

2122 N. Fountain Valley  
Missouri City, Texas  
U.S.A. 77459-3647

281-438-1141  
281-438-8846 FAX  
[smolen@pdq.net](mailto:smolen@pdq.net)

## NMR Petrophysics, Inc.

- Independent NMR Job Planning, Data Processing, QC, Interpretation of all data types, (MRIL, Prime, CMR, CMR Plus), from all service companies.
- Synthetic NMR from standard logs
- NMR Training, Log-Core Integration
- Petrophysical Studies, Integrated Studies

**IN-HOUSE & CUSTOMIZED TRAINING ON NMR JOB  
PLANNING, QC, PROCESSING & INTERPRETATION**

[www.nmrpetrophysics.com](http://www.nmrpetrophysics.com)

[brian@nmrpetrophysics.com](mailto:brian@nmrpetrophysics.com)

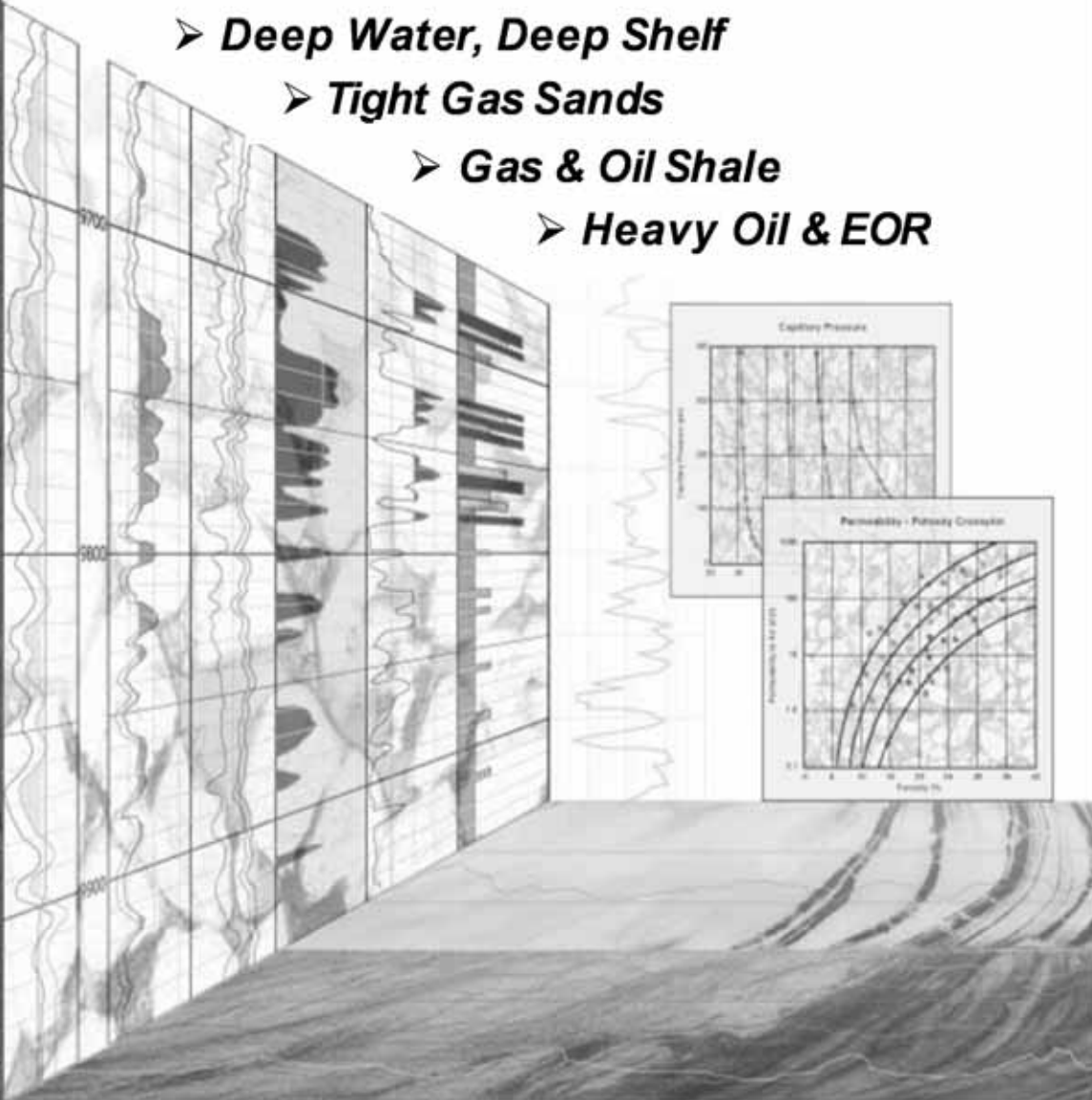
281-468-7755

RESERVOIR MANAGEMENT PRODUCTION ENHANCEMENT RESERVOIR DESCRIPTION

## ROCK-BASED PETROPHYSICAL SOLUTIONS

Core Lab offers a unique approach to petrophysical evaluations for even the most challenging reservoir.

- **Deep Water, Deep Shelf**
- **Tight Gas Sands**
- **Gas & Oil Shale**
- **Heavy Oil & EOR**



Pay Recognition      Core-Log Data Integration      Improved Reservoir Estimates  
Completion Recommendations      Reservoir Performance Prediction

### **Answers From The Rocks**

Houston (713) 328-2121

[www.corelab.com](http://www.corelab.com)