



# PBS-SEPM NEWSLETTER

SEPTEMBER 2008

## Special points of interest:

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- PBS-SEPM 'West Texas' 2009 Calendar order forms

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## President's Column

Although I have only been a geologist in the oil industry for the past 9 years, it's amazing how much change I've seen in that limited time. Most notably, I've already experienced a 'bust' and a 'boom'. When I started my career with Texaco in 1999, WTI Crude Oil was \$12/bbl and today it is hovering around \$109/bbl. According to API, in 1999 there was a record low of 488 active rigs in the U.S. and today there are 1,967 active rigs. Certainly a lot has changed in a short period of time!

One thing that hasn't changed, however, is the importance of understanding the reservoirs we are targeting for development and exploration. Interestingly, as oil and gas prices have increased, sedimentology and its related disciplines have not become less important, but *more* important. This is because they play a key role in understanding and exploiting the myriad of emerging and established resource plays (not to mention

secondary and tertiary recovery opportunities) in the Permian Basin and beyond. As a result, the Permian Basin Section of SEPM – the Society for Sedimentary Geology – has a vital role to play by continuing to serve the geologic community through educational programs centered on this discipline.

To that end, we have some exciting educational opportunities coming up this year. In October, PBS-SEPM will host a core workshop on the Ellenburger Formation (led by Lyn Canter). Next April, we are offering a full day core workshop (led by Steve Ruppel) in association with the Southwest Section AAPG meeting here in Midland. Additionally, we are pleased to announce that the extremely popular Summer Intern / New Hire field trip will be run once again in June—with an additional installment just for New Hires to be offered in March. And of course, you can continue to depend on interest-

ing and informative luncheon talks at all our monthly meetings.

As always, the success of our society depends on volunteers, and we greatly appreciate the efforts of those who have come before us and those who have stepped up to serve for this upcoming year. I am greatly encouraged by the enthusiasm and skill of our elected Executive Board and Chairperson volunteers, and you can be confident they will serve our geologic community and PBS-SEPM with excellence in the months to come.

If you have any suggestions as to how PBS-SEPM can better serve the geologic community, please don't hesitate to contact me or one of the Executive Board members.

*Cory L. Hoffman, Ph.D., P.G.*  
President PBS-SEPM 2008-2009  
<http://www.pbs-sepm.org>

## Mark Your Calendars!

### SEPTEMBER

- **2:** PBS-SEPM Board Meeting (Petroleum Club)
- **10:** PBS-SEPM begins taking orders for 2009 calendars
- **10-12:** WTGS Symposium: "The Permian Basin: Geologic Models to the World" (Midland Center)

- **16:** PBS-SEPM Luncheon Talk featuring Dr. Tom Lehman "The Cretaceous-Tertiary Boundary in the Big Bend Region of Texas" (Midland Center; 11:30-1 PM)

### OCTOBER

- **21:** PBS-SEPM Core

**Workshop** featuring Lyn Canter <Ellenburger Group, Val Verde Basin> (Midland Center; 11:30-2 PM)

- **30:** SEG Distinguished Lecture featuring Dr. Peter M. Duncan "Passively Aggressive: Microseismic Opportunities Over an Oilfield's Life" (Midland Center; 11:30-1:00 p.m.)

## PBS-SEPM Executive Board (2008-2009)

Congratulations to the recently elected 2008-2009  
PBS-SEPM Board!

### PRESIDENT

**Cory L. Hoffman** St Mary Land & Exploration Co.

### 2<sup>nd</sup> VICE PRESIDENT

**Teri McGuigan** Independent

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### PRESIDENT ELECT

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### 1<sup>ST</sup> VICE PRESIDENT

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grateful for the  
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these fine  
corporate  
sponsors !**

## PBS-SEPM Luncheon Talk: September 16th

TITLE: "The Cretaceous-Tertiary Boundary in the Big Bend Region of Texas"

SPEAKER: Dr. Tom Lehman (Professor of Geosciences, Texas Tech University)

### ABSTRACT

The Cretaceous-Tertiary (K-T) boundary interval coincides approximately with the contact between the Javelina Formation and Black Peaks Formation in the Big Bend area of Texas. Exposures of the K-T boundary here preserve the nearest non-marine section to the Chixulub impact site on the Yucatan peninsula of Mexico. The Big Bend strata comprise a thick succession of multicolored mudstones and interbedded conglomeratic sandstones deposited in fluvial flood-plain and channel environments. The terminal Cretaceous fauna of Big Bend differed from the classical Triceratops-Tyrannosaurus fauna known from the northern Great Plains region. Instead, the sauropod dinosaur Alamosaurus and giant pterosaur Quetzalcoatlus were the dominant animals here at the end of Cretaceous time. The flora differed as well; an evergreen forest and dry tropical climate existed in Big Bend while cypress swamp and wet temperate climate was found farther north. At four Big Bend sites, the K-T boundary interval is well exposed, fossiliferous, and appears to record continuous deposition. Although environmental change is revealed primarily in flood-plain paleosol horizons and stable isotope geochemistry, the K-T boundary section here remains puzzling. There is only scant indication of the iridium abundance anomaly, and no obvious evidence for catastrophic sedimentation, even though modeling studies suggest that the supposed tsunami should have made it inland to Big Bend. The change from latest Cretaceous to early Paleocene fauna and flora here does not coincide with a striking "boundary clay."



***"Puzzling...  
there is only  
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sedimentation."***

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### **BIOGRAPHY: Dr. Thomas M. Lehman**

Tom Lehman has been a professor in geosciences at Texas Tech University since 1985. He received his B.S. in geology at the University of New Mexico in 1978 and Ph.D. in geological sciences at the University of Texas at Austin in 1985. His research interests are in sedimentary processes, petrology of clastic sedimentary rocks, paleontology, and stratigraphy. He has been involved in studies of the Cretaceous and Tertiary strata of Trans-Pecos Texas, and the Triassic through Quaternary section of the Southern High Plains for more than twenty years.

## Fall 2008 SEG/AAPG Distinguished Lecturer

**TITLE:** *Aggressively Passive: Microseismic Opportunities Over an Oilfield's Life*

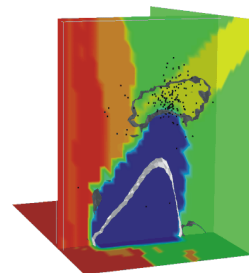
**SPEAKER:** Peter M Duncan (Microseismic, Inc., Houston, Texas )

### ABSTRACT

Passive seismic, especially microseismic monitoring, is to conventional seismic as a stethoscope is to a sonograph. It is continuous 4-D. It is accomplished by listening carefully to the sounds emanating from the earth and then diagnosing what is happening down there. Passive seismic techniques not only can create an image of the reservoir and its plumbing, but also shed light on how the fluid is flowing through the pipes.

Grasping the completeness of the passive science, one can see that it provides the opportunity to contribute over the lifetime of an oilfield from discovery to abandonment. Passive seismic can accomplish reconnaissance 3-D exploration at an attractive cost and lead to new discoveries. Microseismic monitoring of a hydrofrac can and does provide valuable information on completion and development strategy. Gas or fluid injection operations for primary or secondary recovery are prime candidates for passive monitoring to prove regulatory compliance, validate reservoir conformance and estimate recovery efficiency.

This lecture will present a view on the history and development of passive seismic techniques, a discussion of state of the art through case histories and a vision on where this technology will play a role in the smart oil field of the future.



***“Gas or fluid  
injection  
operations for  
primary or  
secondary  
recovery are  
prime  
candidates for  
passive  
monitoring”***

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### **BIOGRAPHY: Peter M. Duncan**

Peter M. Duncan is founding President of MicroSeismic, Inc. a Houston based geophysical service company. He holds a Ph.D. in Geophysics from the University of Toronto. He began his career as an exploration geophysicist with Shell Canada before joining Digicon Geophysical, first in Calgary then in Houston. In 1987 he helped Digicon found ExploiTech Inc, an exploration and production consultancy. He was named President of ExploiTech when it became a subsidiary of Landmark Graphics in 1989. In 1992 he was one of 3 founders of 3DX Technologies Inc., an independent oil and gas exploration company where he served as Vice President and Chief Geophysicist. Duncan was 2003-04 President of the Society of Exploration Geophysicists (SEG).

Please have your groups RSVP directly to Debbie Lawrence at [pbgs@pinnacleseismic.com](mailto:pbgs@pinnacleseismic.com) or by phone at 432-682-3685.

## PBS-SEPM Digital Publication Project



### **PBS-SEPM Publications ORDER FORM**



This is your opportunity to have the entire **PBS-SEPM** publication library (1955 – 2007) at your finger tips. There is a fully searchable Table of Contents—find a topic or author just by typing in the word(s). All publications are in Adobe PDF with all major articles being bookmarked, and all the figures are linked in the text for quick reference. Those areas that are off limits to geologists like the Glass Mountains or Sierra Diablos have been written up in these publications. Numerous out-of-print publications and figures and/or plates not published in the original guidebooks are now available in this library.

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Please send registration and payment information: PBS-SEPM, P.O. Box 1595, Midland, Texas 79702

For additional information **contact:** PBS-SEPM office (432) 683-1573.

## PBS-SEPM 'West Texas' 2009 Calendar



### PBS-SEPM 'West Texas' 2009 Calendar PRE-ORDER FORM



This is our second year to offer this stunning 11x17" calendar, and we have taken your suggestions and improved upon this popular item. Heavier paper and vibrant colors are but a few of the enhancements, and yet you can purchase these calendars for the same bargain price of \$15 each! We are even offering a special volume discount of 'buy 5 calendars, get 1 free!' Why wait?

Featuring breathtaking West Texas scenery, icons of the oil patch, fossils, and minerals, this calendar is sure to be attractive hanging in your home or office. Keep them for yourself or give them away as gifts to your valued customers, partners, and employees! Available for pickup in November 2008.

Not only does each calendar purchase support the educational programs of PBS-SEPM, a non-profit organization, but a percentage of the calendar sales is dedicated to provide financial aid to full-time college students (geoscience majors) wanting to attend PBS-SEPM sponsored events. So each dollar spent not only helps PBS-SEPM continue to serve the professional geologic community with excellence, but also is an investment in the lives of future geosciences professionals as well.

Fill out the form below to pre-order your PBS-SEPM 'West Texas' 2009 Calendars today!

#### Pre-Order Your PBS-SEPM 'West Texas' 2009 Calendar:

Member/Non-Member Price: **\$15.00** plus \$3.00 shipping and handling per calendar

Special Volume Discount: 'Buy 5, get 1 free' [6 calendars for \$75.00 plus \$4.00 shipping & handling per bundle of 6]

QUANTITY: \_\_\_\_\_ Will pick up calendar(s) at WTGS Office (Y/N)? \_\_\_\_\_

Sub-Total: \$ \_\_\_\_\_

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## **Society for Sedimentary Geology**

**PBS-SEPM is the Permian Basin Section of SEPM—the Society for Sedimentary Geology. However, you do not need to be a SEPM member or a geologist to join PBS-SEPM.**

**Our non-profit society relies upon the efforts of dedicated volunteers to serve the geological community—primarily through educational events. These events include monthly luncheon talks, core workshops, annual field trips, and special geological publications. Additionally, we are involved on the college campuses—reaching out to future earth scientists through scholarships, discounted memberships, and offering full-time geology students the ability to participate in professional-quality field trips at little to no cost.**

**If you would like to join PBS-SEPM, you may visit our website ([www.pbs-sepm.org](http://www.pbs-sepm.org)) to learn more about us, download a membership form, and learn how to get involved.**

## **PBS-SEPM Summer Intern/New Hire Trip 2008**



This three day trip was an amazing success, and apparently tapped into a hidden need in our geologic community—cross-discipline training programs for interns and new hires. The trip was so popular that we had 30 geologists, landmen, and engineers attend and still had 12 people on the waiting list! Special thanks to Dr. Bob Trentham, Dr. Emily Stoudt, Robert Campbell, and Chris Fling for planning, teaching, and leading this trip. A very special thanks to Executive Board members Rachel Aisner, Teri McGuigan, and Debbie Gann for their work behind the scenes to make this trip a success—they helped pull together in a month or two what would have taken most a year to do. And we certainly appreciate our generous field trip sponsors, whose donations and financial support made this trip possible:

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**Western Geophysical**  
**Dawson Geophysical**  
**Arcadis**  
**CrownQuest**  
**Whiting Oil and Gas**  
**Omni/ Weatherford Laboratories**

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