



PBS-SEPM NEWSLETTER



OCTOBER 2008

Special points of interest:

- October PBS-SEPM Core Workshop by **Lyn Canter**.
- October SEG/AAPG Distinguished Lecturer
- Spring New-Hire Field Trip

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President's Column

I foolishly decided to look at the NYMEX Crude Oil prices today and have watched them steadily slip to \$88/bbl (I guess I need to get my wells online fast!). Perhaps I should move on to something a little more uplifting...

We had a great turnout last month for our first luncheon meeting of the 2008-2009 PBS-SEPM calendar year. Dr. Tom Lehman gave an excellent talk, and I was impressed not only by the quality of the presentation, but by your participation as well in the form of asking excellent questions. I look forward to hearing more of Dr. Lehman's research in the Big Bend area as it progresses.

This month we have a special treat with Dr. Lyn Canter leading a core workshop on the Lower Ordovician Ellenburger Group of the Val Verde Basin. I trust you will make a special effort to attend what will undoubtedly be an excellent educational opportunity. Dust off that hand lens, and be sure to bring a friend!

The vast majority of our committees now have chairpersons, and I wanted to thank all of these volunteers (listed for your convenience on page 2) for their desire to serve—quite often behind the scenes. This month I especially wanted to highlight our Calendar Committee chaired by Erin Van Evera. That team of volunteers was able to get a professionally printed 'demo' calendar ready for the WTGS Symposium in just 3 short weeks. That spirit and drive is the lifeblood of any non-profit society, and PBS-SEPM is fortunate to be replete with capable and passionate volunteers like these. Thank you!

I have a special request for the geological community at large—help with documenting (locating) Permian Basin core. David Orchard of ConocoPhillips (Houston) will be working with a liaison here in Midland on this ambitious project to begin cataloguing the core that is available for Permian Basin reservoirs. The goal right now is

to provide the geologic community with a 'one stop shopping' site that lists all available core. This would include links to professionally managed databases (e.g., BEG core database) as well as searchable spreadsheets of other lesser known repositories (e.g., CEED, various supermajors, various independents, private garages???...).

For those of you who have gone through this frustrating exercise of trying to locate core, we are hoping that this database will ease your pain and provide a valuable service to the Permian Basin geologic community. So I implore you to begin thinking about the location of your favorite cores, and we'll be letting you know how you can specifically help us in the coming months.

See you at the core workshop!

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

Mark Your Calendars!

OCTOBER

- **7: PBS-SEPM Executive Board Meeting** (Petroleum Club; 11:30-1:00 PM)
- **21: PBS-SEPM Core Workshop** featuring Dr. Lyn Canter <Lower Ordovician

Ellenburger Group, Val Verde Basin, West Texas> (Midland Center; 11:30-2:30 PM; \$50/members & \$70/non-members)

- **30: SEG Distinguished Lecture** featuring Dr. Peter M. Duncan "Passively Ag-

gressive: Microseismic Opportunities Over an Oilfield's Life" (Midland Center; 11:30-1:00 p.m.)

NOVEMBER

- **18: PBS-SEPM Luncheon Meeting** (Midland Center; 11:30-1:00 PM)

PBS-SEPM Committee Chairpersons (2008-2009)

Lunch Arrangements:	Jesse White	Kinder Morgan CO2 Co.
Luncheon Program:	Robert S. Nail	St. Mary Land & Exploration Co.
Calendar:	Erin Van Evera	Samson
Honorary Life:	Dr. Emily Stoudt	UTPB
Nominating:	David J. Entzminger	Whiting Petroleum
Publications:	Richard Blackwell	Consultant
Publicity:	Rick Doehne	University Lands
Newsletter:	Saswati Chakraborty	Whiting Petroleum
Scholarship:	David J. Entzminger	Whiting Petroleum
Stratigraphic:	Dr. Bob Trentham	Director—CEED
Webmaster:	Wendy Savage	Whiting Petroleum



Corporate Sponsorships (2008-2009)

If you are interested in a sponsorship opportunity, please call Paula Mitchell for more details at (432) 683-1573.



**PBS-SEPM is
grateful for the
generosity of
these fine
corporate
sponsors !**

PBS-SEPM Core Workshop: October 21st

TITLE: "Primary Facies, PaleoKarst and Tectonic Controls on Reservoir Development, Lower Ordovician Ellenburger Group, Val Verde Basin, West Texas"

SPEAKER: Dr. Lyn Canter (Whiting Petroleum Corp. Denver)

ABSTRACT

Large hydrocarbon reserves are structurally trapped within the thick, extensive dolomite reservoirs of the Ordovician Ellenburger Group in the Val Verde Basin of west Texas. Porosity development is largely attributed to Sauk unconformity paleokarst overprint; however, primary depositional facies influence the development of subterranean cave systems as well as extensive roof collapse breccia formation. Shallow restricted shelf, constructional organic buildup, shoal, and peritidal facies are common depositional environments represented by Ellenburger Group rock types.

Multiple episodes of prolonged subaerial exposure played a key role in porosity development in the Ellenburger Group section. Four or more episodes of subaerial exposure may have overprinted these rocks, including the Middle Ordovician Sauk Unconformity, post Montoya, Pre-Woodford and Lower Pennsylvanian unconformities. With each event, these rocks were invaded by vadose and phreatic meteoric waters. These fresh waters modified and overprinted existing pore networks and created new porous zones while filling others with internal sediment and authigenic cements. Grainy facies likely functioned as freshwater aquifers. Carbonate dissolution and cave formation was significant at and along major block boundaries cross-cutting these aquifer systems. Stratiform cave systems developed in more porous and permeable facies while roof collapse breccias are concentrated in dense, overlying peritidal dolomites. Pre-existing faults and block boundaries were re-used through geologic time, causing the paleokarst breccias to be overprinted by tectonic breccias, increasing the permeability of these dense, brittle dolomites. Hydrothermal fluids may also use these pre-existing permeability pathways. Common hydrothermal diagenetic products, like late baroque dolomites, follow pre-established karst breccia related fluid pathways but do more porosity destruction than enhancement



"Carbonate dissolution and cave formation was significant at and along major block boundaries cross-cutting aquifer system."

BIOGRAPHY: Dr. Lyn Canter

Lyn is currently Senior Sedimentologist and Petrographer at Whiting Petroleum Corp. in Denver. Lyn received BS and MSc degrees in Geology from the University of Idaho and should complete her PhD in Geology and Geochemistry at the Colorado School of Mines in fall, 2008. She began her career in Denver with Agat Consultants. Her introduction to the Permian Basin came when she was senior scientist at RPI, working on the Fusselman and Siluro-Devonian Regional Geologic Assessments. As an independent consultant, she has completed regional geologic assessments of the Ellenburger Group, Siluro-Devonian, Woodford Shale, Clearfork, San Andres, and Grayburg intervals of the Permian Basin. International experience includes numerous reservoir studies of productive carbonate units in Russia, Eastern Europe and North Africa for the World Bank and Petroconsultants. She is a member of AAPG, WTGS, RMS-SEPM, and RMAG.

WHEN: Tuesday, October 21, 2008

WHERE: Midland Center

TIME: 11:30-2:30 PM

COST: \$50 (members) / \$70 (non-members; includes PBS-SEPM membership)

MARK YOUR CALENDARS, TELL YOUR FRIENDS, AND PLAN TO ATTEND!

PBGS Fall 2008 SEG/AAPG Distinguished Lecturer

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

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

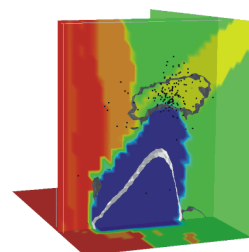
DATE: October 30th

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 recover are prime candidates for passive monitoring.”

BIOGRAPHY: Dr. 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 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.

This includes all publications, even the special publications and coveted core workshops. Can you imagine the hidden treasures you might find? Here is your chance to uncover them in this special three (3) DVD set. *Buy one or all.*

DVD I - Symposiums & Guidebooks (1955-1989)

Member- **\$75.00** plus 8.25% tax and \$5.00 shipping and handling

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DVD II - Symposiums & Guidebooks (1990-2007)

Member- **\$75.00** plus 8.25% tax and \$5.00 shipping and handling

Non-Member- **\$100.00** plus 8.25% tax and \$5.00 shipping and handling

DVD III - Core Workshops (82, 83, 85, 98) & Special Publications (A, 88-28, 96-39, 84)

Member- **\$75.00** plus 8.25% tax and \$5.00 shipping and handling

Non-Member- **\$100.00** plus 8.25% tax and \$5.00 shipping and handling

Entire Set of three DVDs

Member Price **\$200.00** plus 8.25% tax and \$5.00 shipping and handling

Non-Member Price **\$250.00** plus 8.25% tax and \$5.00 shipping and handling

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Make checks payable to **PBS-SEPM**.

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 8.5x11" (folds out to 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: \$ _____

SHIPPING: \$ _____ [N/A if picking up at WTGS office; otherwise \$3.00 per calendar or \$4.00 per bundle of 6]

TOTAL: \$ _____

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Payment: check, cash or credit card

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Make checks payable to **PBS-SEPM**.

Credit card orders may be faxed to (432) 686-7827.

Order forms/payment may be mailed to: PBS-SEPM, P.O. Box 1595, Midland, Texas 79702. Phone (432) 683-1573.



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We're on the Web!
www.pbs-sepm.org

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-grade field trips at little to no cost.

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

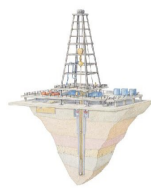
Upcoming New Hire Field Trip!!!! March 5th-9th, 2009

A PBS-SEPM Field Course designed for new hire Geology, Engineering, and Land Professionals .

This field course is specifically designed for those with 0 to 5 years of Permian Basin experience, and is pertinent to all disciplines (geology, land/leasing, engineering). While the geology and history of the Permian Basin will certainly be emphasized both at the outcrop and in the classroom, field exercises and breakout sessions will draw upon all disciplines to solve various 'real world' problems associated with the oilfield. It is this multidisciplinary focus and integrated approach that makes this course such a unique and effective training opportunity.

A 4 day field trip: March 5th thru 8th, 2009.

Led by Dr. Emily Stoudt (geologist), Dr. Bob Trentham (geologist), Robert Campbell (reservoir engineer), and Chris Fling (landman).



- Plan now and develop a team of people that can help bring your company into the future!
- Sponsorship and Registration beginning in October.
- Plan ahead and book soon!

COMING SOON: Details on next year's Summer Intern Field Trip!