



PBS-SEPM NEWSLETTER

September, 2009

High Lights in this Newsletter

- Where is that Core!
Help with the Permian
Basin Core location pro-
ject.

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President's Column

This is my first digital PBS-SEPM newsletter, but as some of you may already know, you have provided me with a second term to serve our society as President.

This coming 2009-2010 year for PBS-SEPM offers some exciting opportunities and events. Before this newsletter goes out, the Executive Committee and Calendar Committee will have already made some very difficult choices from the stunning digital images for the 2010 calendar. Thank you to all of you that submitted your best photos. Evan van Evera, Calendar Chair, Teri McGuigan and Cathie Party will be preparing the calendar for sale at the WTGS Fall Symposium late in October.

PBS-SEPM offers a one-half-day from 8:30 until 11:30 development opportunity on November 3rd at the Midland Center. Jay May will facilitate an "Introduction to Seismic Fundamentals" class.

The class offers a basic overview of seismic and then concentrates on tying the subsurface geology to the seismic. Cost and registration materials will be on our PBS-SEPM website by the end of this month.

The Southwest Section of AAPG is meeting in Dallas, May 16-18, 2010.

The PBS-SEPM Spring Field Trip is planned. Dr. P. Holterhoff, Department of Geosciences, Texas Tech University is field trip leader. His research has focused on the Eastern Shelf Permian section, April 30 to May 2. This Permian field trip is a fantastic opportunity to see the Permian section on the "other side" of the Permian Basin. It may not be as imposing as the exposures in the Guadalupe Mtns, but it is important to understanding the entire geologic setting. Just think, you can hammer on both Pennsylvanian and Permian outcrops, gain a broader understanding of the

Permian Basin and support the activities of both the PBS-SEPM and WTGS.

Are you new in town or have just "drifted away" from active involvement? If that is the case, I invite you to take the opportunity to join an exceptionally talented and enthusiastic group of professionals at PBS-SEPM who are not in your present circle of acquaintances. It doesn't have to be a long term commitment. I cherish the friendships and ties that have enriched my personal and professional life through participation in PBS-SEPM activities.

As you read successive issues of this newsletter, I hope that you will freely offer suggestions on content, as well as form. Please note that I have taken the liberty to increase the font size for my generation of increasingly wiser and presbyopia-challenged readers

Fred H. Behnken, Ph.D.

President PBS-SEPM 2009-2010
<http://www.pbs-sepm.org>

Mark Your Calendars!

September

- **8:** WTGS Luncheon, Midland Center 11:30—1 pm
- **10:** PBS-SEPM Executive Board meeting to select photographs for the 2010 Calendar LaBodega 11:30

- **15:** PBS-SEPM Luncheon, Midland Center, 11:30 am: Dr. Trentham and Dr. Stoudt, UTPB: see abstract inside

October

- **9-11:** WTGS Fall Field Trip

— Pennsylvanian Section of North - Central Texas

- **20:** PBS-SEPM Luncheon Mtg: George B. Asquith, Ph.D. Title "Well Logs and Log Interpretation" Texas Tech University.

PBS-SEPM Executive Board (2009-2010)

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Do you have an idea for an interesting luncheon talk? Have a core workshop you'd like to present? Have some suggestions on how PBS-SEPM can better serve the geologic community? Just click on the e-mail above and drop us a note—your PBS-SEPM Executive Board would love to hear from you!

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



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PBS-SEPM Luncheon Talk: September 15th

TITLE: Everything You Always Wanted to Know about UTPB Geology Program, But Were Afraid to Ask.

SPEAKERS: Dr. Emily Stoudt and Dr. Bob Trentham (UTPB, Odessa)

ABSTRACT: UTPB is a regional UT system university that is oriented toward the prominent geological employers of the Permian Basin, i.e. Petroleum and Environmental. We teach a Graduate Geology program that features: Petroleum Geology, Carbonate Petrology and Classification, Carbonate Depositional Systems and Sequence Stratigraphy, Clastic Petrology and Classification, Clastic Depositional Systems and Sequence Stratigraphy, and Advanced Subsurface Methods. Also available to graduate students are: Geology of the Permian Basin, Core Description and Cutting/Sample Description, and GIS/GPS.

Our Undergrad Program includes Physical, Historical, Structural Geology, Mineralogy, Igneous and Metamorphic Petrology, Paleontology, Sedimentary Rocks, Stratigraphy, GIS/GPS, field geology or the equivalent 6 hours. Electives include; Oceanography, Earth Resources and the Environment, Environmental Geology, Core Description and Cutting/Sample Description and Geology of the Permian Basin.

Our faculty have varied interests. Dr Emilio Mutis-Duplat is interested in hard rock geology, Field Geology, Structural Geology, Environmental Geology, ores and mineral exploration, and volcanology. Dr Emily Stoudt's areas of interest are— carbonates, sandstones, physical geology, invertebrate paleontology, and sequence stratigraphy. Dr Bob Trentham has expertise in petroleum geology, CO₂ flooding and sequestration, sequence stratigraphy, sedimentary rocks, field geology, and Permian Basin geology. Our newest full time faculty member, Dr Lori Manship is interested in Vertebrate Paleontology, GIS/GPS, Historical Geology, Oceanography and Meteorology.

In order to better serve our students, we have recently added a research, state of the art petrographic microscope with digital camera, and 2 high grade binocular microscopes with digital cameras. All new microscopes have computer attachments. We also have 20 brand new student petrographic microscopes and 20 new student binocular microscopes.

Our curriculum includes Field Trips to classic outcrops in West Texas and South-eastern New Mexico and Central Texas – This semester we will be going to the Guadalupe's for a 3 day graduate petroleum/carbonates depositional environments and reservoir identification; a 2 day Big Bend trip for physical and historical students; A one day trip to Kent and Davis Mountains, and other trips.

BIO: Bob Trentham, Ph. D and Emily Stoudt, Ph.D.

Dr. Bob Trentham is the Director of the Center for Energy and Economic Diversification, and a Senior Lecturer in the Geology at the University of Texas of the Permian Basin, teaching classes in Petroleum Geology, Sedimentation Stratigraphy, Geology of the Permian Basin, and Hydrology. He received his BS and MA at City College of New York and his Doctor of Geological Sciences at UT El Paso, all in geology. He has been a production and exploration geologist, and worked in the Permian Basin for over 20 years for Gulf, Chevron, and as a consultant. He has experience in a variety of carbonate and clastic reservoirs and has been responsible for both new field and new pool discoveries.

Dr. Emily L. Stoudt has spent her professional career studying the petrography, sequence stratigraphy and diagenesis of carbonate rocks. For 27 years, she applied this information to solving problems related to exploration and production of hydrocarbons. Currently she is a tenure-track faculty member at Univ. of Texas of the Permian Basin. She teaches physical geology, paleontology, and graduate classes in carbonates and sandstones. Her research interests include all units in the Permian Basin, as well as the Cambrian and Ellenburger of central Texas and the Cretaceous of Texas.



***“The Voyage
of Discovery
Consists Not
in Seeking
New
Landscapes
But in
Having New
Eyes.”***

*Marcel Proust
French Novelist
(1871-1922)*



PBS-SEPM Luncheon Talk: October 20th

TITLE: Well Logs and Log Interpretations

SPEAKERS: Dr. George B. Asquith, Texas Tech University, Lubbock

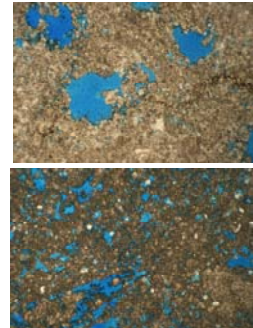
ABSTRACT: The talk is designed to illustrate the importance of knowing the rock and pore type of a zone when doing log analysis. Two examples of Pennsylvanian ooid grainstones reservoirs one from the Oklahoma Panhandle and the other from southeast New Mexico used in the log analysis.

The Pennsylvanian Virgilian ooid grainstone from the Oklahoma Panhandle using conventional log analysis appears to be a straight forward example of a thick (33') ooid reservoir with a thin oil column (10'; $S_w = 16\% - 26\%$) above water ($S_w = 100\%$). This interpretation is based on the assumption that the entire 33 feet is an ooid grainstone with intergranular porosity. A more detailed log analysis reveals that the lower 23 feet does have intergranular porosity, however the upper 10 feet is oomoldic and WET. The sample description from the mud log is as follows: Ooid grainstone with abundant oomoldic porosity decreasing oomoldic porosity with depth. No shows of oil or gas NO fluorescence or cut. The water saturations calculated in the upper 10 feet are wrong because the assumption of the pore type was incorrect.

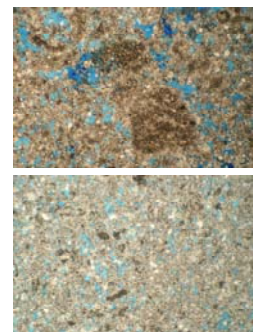
The second example is a Pennsylvanian Canyon ooid grainstone from southeast New Mexico. In this example there are two wells one which had a water-free completion [918mcf/gpd + 3bopd NO WATER] and the other well IP'D WATER No shows of oil or gas. Like our first example the pore type in the well that IP'D WATER was assumed to be intergranular when the Canyon is oomoldic. During the presentation all the method used in the log analysis of these two examples will be outlined in detail.

BIO: George B. Asquith, Ph.D.

George B. Asquith is the former Pevehouse Chair of Petroleum Geology and Emeritus Professor of Geosciences and Center for Applied Petrophysical and Reservoir Studies Director at Texas Tech University. He received his B.S. in geology from Texas Tech and his M.S. and Ph.D. from the University of Wisconsin-Madison. His 25 years of petroleum industry experience include work as research geologist, Atlantic-Richfield Co.; staff geologist, ALPAR Resources; chief geologist, Search Drilling Co.; district geologist, Pioneer Production Corp.; and project leader, Mesa Limited Partnership. His industry projects have included the determination of the reservoir architecture and remaining gas reserves in the Hugoton and West Panhandle fields and exploration and reservoir characterization of selected reservoirs from the Gulf Coast (onshore and offshore), Permian, Alberta, San Juan, Williston, Arkoma, Cooper (Australia), Neiva (Colombia), Maracaibo (Venezuela), and Anadarko basins. He has authored 123 publications including 5 books in the fields of petrophysics, computer geology, and carbonate and clastic sedimentation and petrology. His book, *Basic Well Log Analysis for Geologists* won the AAPG best book award in 1984 and is the top selling book in the history of AAPG. During 1991-1992, *Log Evaluation of Shaly Sandstones: A Practical Guide* was one of the top 3 selling AAPG publications. His numerous awards include the Distinguished Service and Best Paper Awards from the Society of Professional Well Log Analysts (1994); Leveson Award for best paper at the AAPG Southwest Section meeting (1996); AAPG Distinguished Educator Award (1997); Educator of the Year Award presented by the AAPG Southwest Section (1999); West Texas Geological Society Distinguished Service Award (1999); and the Monroe Cheney Science Award from the Southwest Section of AAPG and Dallas Geological Society (2001).



If we neglect to investigate the origin and type of porosity in carbonate reservoirs,, we risk getting "wet"



PBS-SEPM Core Repository Location Project

Help Us Help You Find That Core!

In mature petroleum provinces such as the Permian Basin, one of the most valuable and underutilized tools for enhanced reservoir characterization and additional hydrocarbon recovery is core from the producing interval. Most of us have encountered the very common problem of finding out that cores were taken from wells important to our projects, but having no idea whether these cores still exist, where they are located if they do exist, and who to contact about viewing them if they are found.

To address this problem, PBS-SEPM has formed a committee to identify core storage facilities, find out what individual operators have done with their cores, and compile search and access information for the various facilities and operators. We have made a start (see PORTALS TO INFORMATION next page, but now we need to ask your help.

These are our goals:

- Compile a list of public and commercial core storage facilities, as well as existing portals into core inventories
- Request that the Society's members contribute their knowledge about where cores are located, particularly if they know what the various operators have done with their cores
- Research all locations and operators for contact information, method of searching for specific cores at each site (online database, etc.), and some estimate of how much Permian Basin material is at each site.
- Publish the information and post it on the Society's website
- Cooperate with other efforts related to geologic data preservation, including AAPG's Preservation of Geoscience Data committee and the National Geological and Geophysical Data Preservation Program of the USGS.

— David Orchard, chairman PBS-SEPM Core Location Committee



“Most... have no idea whether these cores still exist, where they are located if they do exist, and who to contact about viewing them if they are found.”



PBS-SEPM Core Repository Location Project (Cont.)

The following lists of portals and core repository facilities represent our first results.

PORTALS TO INFORMATION

PTTC has a portal to the holdings of several public repositories. You can sort by repository and display their holdings in map view. <http://inside.mines.edu/Research/PTTC/Core%20Locator/>

AGI has a list of repositories of various geologic data, including cores. It provides contact information and accesses data through a map interface. <http://www.agiweb.org/ngdrs/overview/datadirectory.html>

Tony Troutman's website <http://www.carbonates.us/cores.htm> has a list of storage sites, including several state repositories.

PUBLIC AND COMMERCIAL STORAGE FACILITIES

The **USGS** has a storage facility in Denver that has Permian Basin material. Their collection can be searched online at <http://geology.cr.usgs.gov/crc/>. 303-202-4851.

The **Bureau of Economic Geology (BEG)** holds Permian Basin cores in their Midland, Houston, and Austin facilities. See <http://www.beg.utexas.edu/facilities.php> for information and contacts. Their catalog is called **IGOR** which has a link on above address. IGOR will be replaced soon by a more advanced database.

New Mexico Bureau of Geology and Mineral Resources has Permian Basin cores in Socorro. Request a list of the collection at <http://geoinfo.nmt.edu/libraries/subsurface/home.html>

CEED (Center for Energy and Economic Diversification) at **UT Permian Basin** (<http://ceed.utpb.edu/>) has Texas and New Mexico cores. 432-552-2020.

The **International Sample Library at Midland** has cores and core chips. Their collection is not in a database and must be searched through index cards. 707 Connell St, Midland, TX , 79701. 432-682-2682.

We Need Your Assistance !

Now we need your help. What do you do when you need to find a core? Do you know of any repositories that aren't in the above list? Do you know what your employer or other operators have done with their core?

Please contribute any such information to this effort by contacting the committee: David M. Orchard, Chair, david.m.orchard@conocophillips.com, 832-486-2314; Dr. Emily Stoudt, stoudt_e@utpb.edu, 432-552-2244; and Andrew Parker, andrew.parker@whiting.com, 432-686-6784 office.

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We're on the Web!
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“ We usually find oil in new places with new ideas. When we go to a new area, we can find oil with an old idea. Sometimes, also, we find oil in an old place with a new idea, but we seldom find much oil in an old place with an old idea.”

Parke Dickey, 1958, in
Dickey, 2002, p. 36.

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. Thanks to our Education Committee we are involved in MISD 5th grade geology presentations to interest elementary students in pursuing a career in geosciences. We would like to increase our exposure on 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, discover how to get involved and download a membership form.

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Individual sponsors are advertised on the PBS-SEPM website and each Newsletter. Cost is \$85/year. If you are interested in an individual sponsorship opportunity, please call Paula Mitchell for more details at (432) 683-1573.

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