

PBS-SEPM NEWSLETTER

December 2020

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KEY DATES For December 2020 and January 2021

DECEMBER 2020

- **8: WTGS Luncheon, [Virtual](#)**, 11:30am-1pm, Jakob Heller, De-Risking of Unconventional Plays by Integrating Rock Physics, Seismic Modeling, Geopressure and Geomechanics
- **8-10: CO2 Conference, [Virtual & Physical](#) at Bush Convention Center**
- **10: SPE Section Meeting, [Virtual](#)**, 11:30am-1pm, Alexandre Ramos-Peon, Optimal Well Spacing in all Key Areas of the Permian Basin by Landing Zone
- **15: PBS-SEPM Luncheon, [Virtual](#)**, 11:30am-1pm

JANUARY 2021

- **7: SPE-COSG Luncheon, [The Petroleum Club](#)**, 11:30am-1pm, TBD
- **12: WTGS Luncheon, [Virtual](#)**, 11:30am-1pm, Derek Buster, The Martin County Texas Super Stack: Developing the Sweetest Spot in the Midland Basin
- **19: PBS-SEPM Luncheon, [Virtual & Bush Convention Center](#)**, 11:30am-1pm, Steve Melzer, TBD

President's Column

Welcome to the start of “The Holidays” ... that “hurry up and relax” time from Thanksgiving through New Year’s Day. This 2020 season looks quite different from every other year of our lives for most of us, including my 95-year old grandmother. For example, Black Friday is transformed into a season, rather than a day this year, and I suspect the same thing will be true for its online sister, Cyber Monday. Perhaps this is just as well, since the frequently-violent competition between shoppers has become a hallmark of the anti-Christmas behaviors that we, as a society, have come to expect from the “mega-sales” advertised at big box stores and the electronics retailers. Consumerism has replaced Christmas Spirit in our modern western world view, but with more time to get the “great deals” (which reduces pressures to grab that gift while you can), Covid-forced time at home with family, and the ever-looming, ever-increasing risk to employment in the petroleum sector associated with the current bust cycle (along with the reduction in discretionary spending by many families who are wisely saving a larger emergency fund), many people are reflecting a bit more on the importance of loved ones, rather than jumping (and pushing / shoving / fighting) to get that latest gadget. Ergo, realizing that Christmas is about the PEOPLE in your life, not the THINGS you get them.

In an attempt to keep the true spirit of the season, your PBS-SEPM Board wanted to be able to give back to you. Also, considering the Corona infection rate spikes of the past few weeks, we want to do all we can to keep you safe. Therefore, we have decided to make our December technical luncheon completely free as our gift to you, the members! The caveat, of course, is that we must make this event a virtual-only event. Go to www.pbs-sepm.org to sign up for the event, which is a talk on absolute dates of volcanic tuffs in the Midland Basin, from the Strawn formation through the Wolfcamp horizons.

With the long-observed vaccines ready to roll out, we hope to be back to in-person events in full force soon, with special emphasis on the April ROZ (Residual Oil Zone) Core Workshop and Field Trip. In the meantime, check out Midland Memorial Hospital’s own Infectious Disease Specialist, Dr. James Richardson if you are interested in getting one of the vaccines. He has a Facebook post titled “Covid Vaccines. Do you want a Maserati, Ford F-150, or VW as your vehicle?” Keep in mind that one of these (the Pfizer drug) might need to be avoided if you live in Odessa, unless officials there change their minds about getting the equipment needed to keep samples at the recommended -94°F (-70° C). (Search www.npr.org for keywords Pfizer and Antarctica to see storage requirements for these new drugs.)

We still have a couple of spots open for the spring technical luncheon series, so let us know if you would like to share your research, or if you were fascinated by a talk at WTGS or AAPG, but would like for them to go into more detail. We will see if we can convince you / them to tell the full version of the story over lunch!

Merry Christmas, Stay Safe, and See You Soon!

Mike Raines
PBS-SEPM President 2020-2021



PBS-SEPM Luncheon Talk – December 15, 2020

Hepeng Tian

Majie Fan, Kevin Chamberlain, Lowell Waite, Robert J. Stern

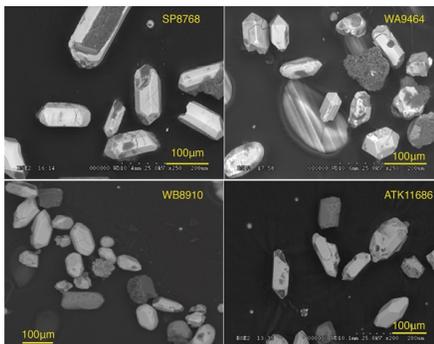
“Zircon Absolute Dates of Late Paleozoic Volcanic Tuffs in the Midland Basin, West Texas”

Department of Earth and Environmental Sciences, UT Arlington
 Department of Geosciences, UT Dallas
 Department of Geology and Geophysics, University of Wyoming

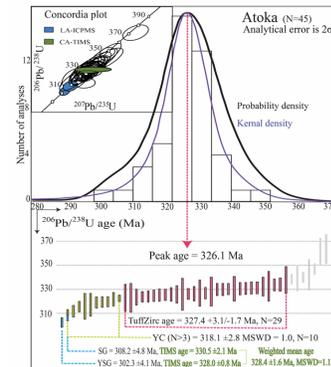
Tuesday, December 15, 2020 - *Virtual*, 11:30 a.m.
 ~Will be available virtually through [GoToMeeting](#), FREE~

Abstract

High resolution zircons absolute dates of volcanic tuffs from the Lower Pennsylvanian Atoka, the Lower Permian Wolfcamp B, Wolfcamp A, and Lower Sprayberry analyzed by both LA-ICPMS and CA-ID-TIMS will be reported by this talk. The results are the first absolute dates in the Permian Basin and they can help improve regional stratigraphic correlations for the Late Paleozoic time and shed light on the correlation between the Late Paleozoic North America regional time scale and the International Geological Time Scale. Comparing zircon CA-TIMS and LA-ICPMS dates also has implications on how to better determine zircon LA-ICPMS maximum depositional ages.



Scanning Electron Microscopy
 Images of the Zircons



Age Plot of the Atoka

Biography

Hepeng Tian is currently working towards his Ph.D in Geoscience under his advisor Dr. Majie Fan at the University of Texas at Arlington. He achieved his Master's Degree in Geology at Texas Tech University and his Bachelor's Degree in Geochemistry at China University of Geosciences.





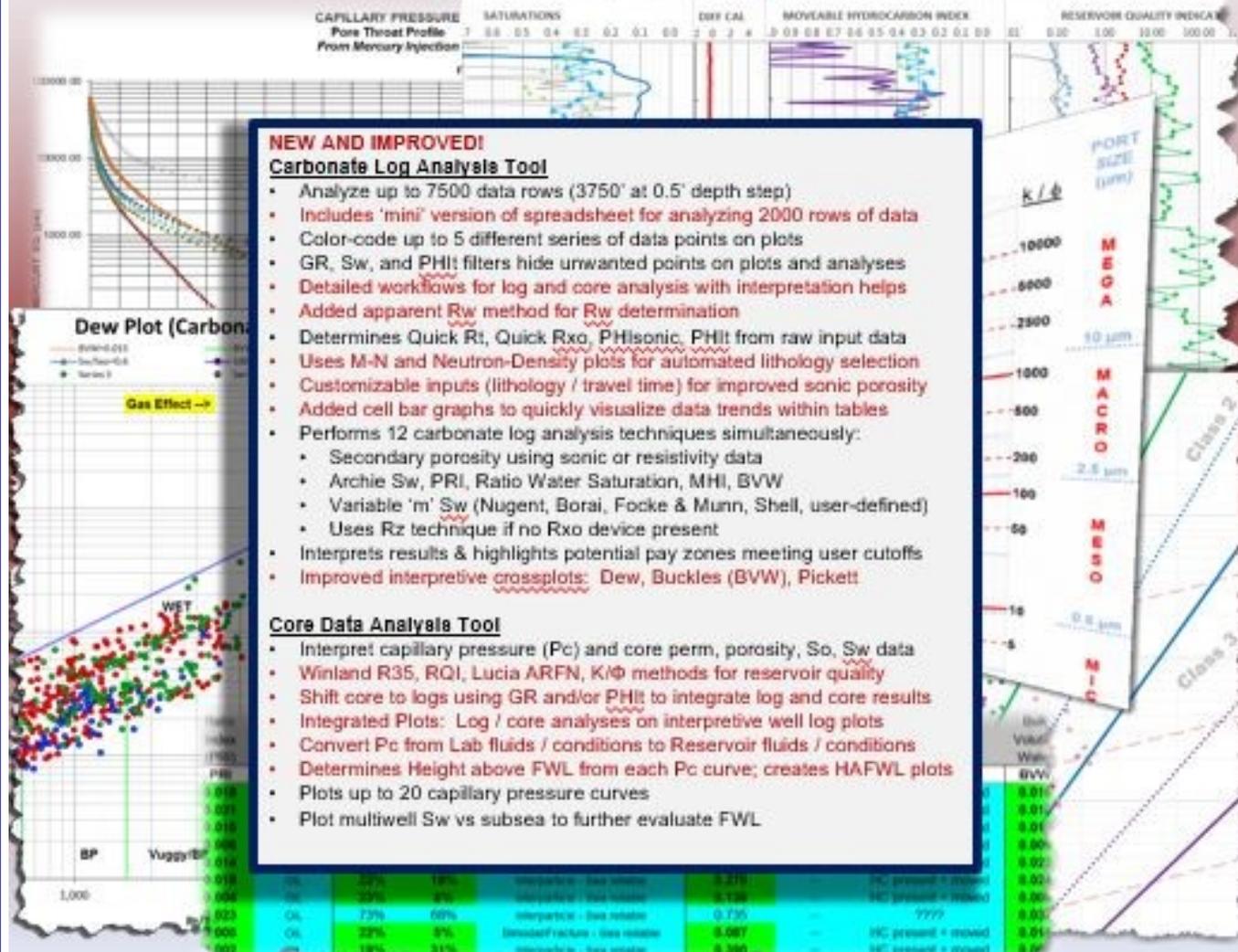
Carbonate Log & Core Analysis Spreadsheet v. 5.0

By Cory L. Hoffman, Ph.D.



Major Upgrade (January 2020)! [Designed for Microsoft Excel 2013]

Carbonate Log analysis draws heavily upon teachings of George Asquith
 Core Data analysis draws heavily upon teachings of Dan Hartmann



NEW AND IMPROVED!
Carbonate Log Analysis Tool

- Analyze up to 7500 data rows (3750' at 0.5' depth step)
- Includes 'mini' version of spreadsheet for analyzing 2000 rows of data
- Color-code up to 5 different series of data points on plots
- GR, Sw, and PHIT filters hide unwanted points on plots and analyses
- Detailed workflows for log and core analysis with interpretation helps
- Added apparent R_w method for R_w determination
- Determines Quick Rt, Quick Rxo, PHIsonic, PHIt from raw input data
- Uses M-N and Neutron-Density plots for automated lithology selection
- Customizable inputs (lithology / travel time) for improved sonic porosity
- Added cell bar graphs to quickly visualize data trends within tables
- Performs 12 carbonate log analysis techniques simultaneously:
 - Secondary porosity using sonic or resistivity data
 - Archie Sw, PRI, Ratio Water Saturation, MHI, BVW
 - Variable 'm' Sw (Nugent, Borai, Focke & Munn, Shell, user-defined)
 - Uses Rz technique if no Rxo device present
- Interprets results & highlights potential pay zones meeting user cutoffs
- Improved interpretive crossplots: Dew, Buckles (BVW), Pickett

Core Data Analysis Tool

- Interpret capillary pressure (P_c) and core perm, porosity, S_o , S_w data
- Winland R35, RQI, Lucia ARFN, K/Φ methods for reservoir quality
- Shift core to logs using GR and/or PHIt to integrate log and core results
- Integrated Plots: Log / core analyses on interpretive well log plots
- Convert P_c from Lab fluids / conditions to Reservoir fluids / conditions
- Determines Height above FWL from each P_c curve; creates HAFWL plots
- Plots up to 20 capillary pressure curves
- Plot multiwell Sw vs subsea to further evaluate FWL

Carbonate Log and Core Analysis Tool (\$50) – includes free 'mini' version and any in-version upgrades (5.x) \$25 for Students with proof of Student ID

Quantity: _____ Will Pick up at PBS-SEPM Office (Y/N)? _____

Sub-total: \$ _____

Shipping: \$ _____ [N/A if picking up at PBS-SEPM office]

Total: \$ _____

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To purchase online, click on [link](#) and pay with credit card

PBS-SEPM Publications



PBS-SEPM PUBLICATION HIGHLIGHT



“Basin to Shelf Facies Transition of the Wolfcampian Stratigraphy of the Orogrande Basin”

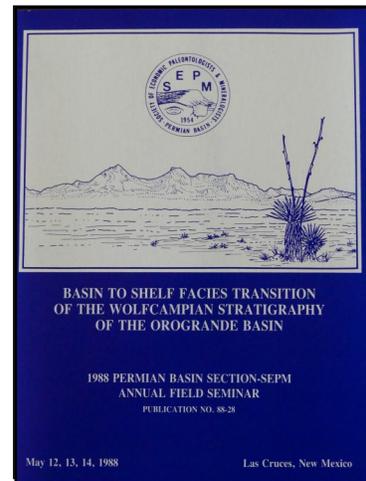
\$8.75 Members \$13.13 Non-Members

Synopsis of the Late Paleozoic Depositional History of the Orogrande Basin, New Mexico & Texas

Section I: Road Logs

- Field Trip Index Map
- Road Log from Midland to Van Horn to El Paso to Las Cruces to Dona Ana Mountains Roundtrip and Las Cruces to Alamogordo, Tularosa, LaLuz, and Cloudcroft

Section II: Technical Papers covering depositional environments, history, and patterns as well as sedimentology and stratigraphy of the Lower Permian (Wolfcamp) with authors: David LeMone, James Pol, James Wilson & Clifton Jordan, David Schodebek & Henry S. Chafetz, Greg H. Mack, W.C. James & William R. Seager, and S.J. Mazzullo



Entire PBS-SEPM publication library (1955 – 2007)

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.

DVD I - Symposiums & Guidebooks (1955-1989)

Member- **\$125.00** plus 8.25% tax and \$5.00 shipping and handling
 Non-Member- **\$150.00** plus 8.25% tax and \$5.00 shipping and handling

DVD II - Symposiums & Guidebooks (1990-2007)

Member- **\$125.00** plus 8.25% tax and \$5.00 shipping and handling
 Non-Member- **\$150.00** 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- **\$125.00** plus 8.25% tax and \$5.00 shipping and handling
 Non-Member- **\$150.00** plus 8.25% tax and \$5.00 shipping and handling

Entire Set of three DVDs

Member Price **\$275.00** plus 8.25% tax and \$5.00 shipping and handling
 Non-Member Price **\$300.00** plus 8.25% tax and \$5.00 shipping and handling

Payment: check, cash or online with credit card

Make checks payable to PBS-SEPM & send order form to: PBS-SEPM, 2900 Front St, Midland, TX, 79701
To purchase online, click [HERE](#) and pay with credit card

For additional information contact: PBS-SEPM office (432) 279-1360 or info@pbs-sepm.org.

Corporate Sponsorships (2020-2021) - PBS-SEPM is grateful for the generosity of these fine corporate sponsors !

Platinum Sponsor



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? Send us an e-mail to share your idea, your PBS-SEPM Executive Board wants to hear from you!



Snowy Midland, Feb 2020 MRT

PBS-SEPM Executive Board (2020-2021)

President:	Mike Raines	raines.ma@gmail.com
President-Elect:	Daniel Scott	dscott@sm-energy.com
First Vice President:	Jessica Pontiff	jpontiff@concho.com
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Luncheon Chairman	OPEN POSITION	
Webmaster	Frank Fullbright	fafullbright@paalp.com

“To appreciate the beauty of a snowflake it is necessary to stand out in the cold.”

**-Aristotle
(384 BC—322 BC)**

**Aristotelian
Philosophy, Theory of
the Soul, Virtue Ethics**

Introduction to Multi-Discipline Virtual Learning

PBS-SEPM has always strived to bring Geoscience to the forefront across multiple disciplines, not just the oil and gas industry. A Geoscientist can be thought of being a jack of all trades, whether it be physics, chemistry, engineering, biology and numerous others, which is why it is important for our organization to include these disciplines throughout the year in our monthly luncheons, our field trips, as well as in our special courses and publications. While we have many digital and hard copy publications written by fellow geologists from 1955 to 2007 that provide a strong basis, we also like to host events that pass on the technical skills from one geologist to another, such as evaluating cores, identifying sequence and stratigraphy, and field geology.

With this in mind, PBS-SEPM has decided to form a working relationship with RPS Energy and their Nautilus Training Alliance (NTA), where they would like to provide multi-discipline courses at a discounted rate. They recently had a 2020 program relaunch to take into account travel and meeting restrictions due to Covid-19, and now offer distance learning courses along with their classroom and field classes. The instructors lead webinar sessions that comprise of recorded presentations, Q&A sessions, and chat rooms with fellow participants for group activities. Also, materials such as workbooks or logs are available once signing into the course while materials such as cross sections and seismic are mailed directly to the participant. The course subjects fall under:

1. Geophysics & Seismic Interpretation
2. Structure & Tectonics
3. Basin Analysis
4. Stratigraphy, Clastics, and Carbonates
5. Petrophysics
6. Reservoir Development
7. Unconventional Resources
8. Production and Reservoir Engineering

This working relationship will allow PBS-SEPM to request a certain course or courses within these subjects to our membership and provide a new way to develop a skill set or acquire new ones. We at PBS-SEPM will continue to host our annual events and field trips, but we also wanted to broaden the access to learn during this difficult time. If this year has taught us anything, it is that Geosciences is a tight knit community of people with a passion for understanding the physical world through collaboration. A membership with PBS-SEPM provides a platform for common collaboration and social space for the Geoscientist of any and all backgrounds.

Please let us know if you have a specific interest in any of these subjects or what you think is most applicable for the PBS-SEPM membership at info@pbs-sepm.org.

Have a great holiday season,
Daniel Scott
President Elect 2020-2021





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Midland, TX, 79701

Web: www.pbs-sepm.org
Phone: 432-279-1360
Fax: 432-683-8739
Email: info@pbs-sepm.org

If you are interested in a sponsorship opportunity, please call PBS-SEPM for more details at (432) 279-1360 or e-mail info@pbs-sepm.org.

“Kindness is like snow - it beautifies everything it covers.”

**-Kahlil Gibran
(1883-1931)**

Writer, poet, visual artist,
philosopher

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.

PBS-SEPM prides itself on its success in providing high caliber speakers as well as exceptional core workshops and field trips. PBS-SEPM also provides scholarships to graduating high school students in western Texas and New Mexico. These scholarships are on occasion, offered to college students that have declared their desire to pursue a degree in the geosciences. Through continued support from the industry, PBS-SEPM can continue to provide excellent educational opportunities for the oil and gas industry.

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

Scholarship and Distinguished Speaker Events (2020-2021)

Wendell J. Stewart Fund: so named for the famous sequence stratigrapher, was initially funded by the family, and then later through PBS-SEPM members who have contributed over the years. In the past, the scholarship was established to award high school students intending to pursue a college education in the geoscience field (declared major), and had evolved to include college students actively pursuing a geology degree when there were no other qualified candidates. Funding for this scholarship has waxed and waned over the years with the changes of the petroleum industry and because this scholarship is set up in such a manner that only the interest can be used to distribute funds, most scholarships in the last 30 years have been awarded through the PBS-SEPM main budget and not the scholarship fund.

We are proud to announce that we had two receivers for the Wendell J. Stewart Scholarship Fund in May 2020: Vanessa Armendariz, an undergraduate petroleum geologist at UTPB, and Heather Dudley, a paleontology graduate student at Sul Ross.

Robert Read Distinguished Lecturer Fund: was founded to honor a bright, young geologist who had been an active member of both PBS-SEPM and WTGS and was tragically killed by a drunk driver. Donations from various members of both societies contributed to a membership donation fund that both encourages our continuing education efforts by helping offset the cost of bringing in a distinguished lecturer, usually in geosciences, but not required.