

HGS Bulletin

Volume 58, Number 8

Houston Geological Society

April 2016

ELECTION ISSUE

REGIONAL TECTONICS, STRUCTURE, AND HISTORY OF PETROLEUM EXPLORATION IN THE UNION OF MYANMAR

PAGE 29



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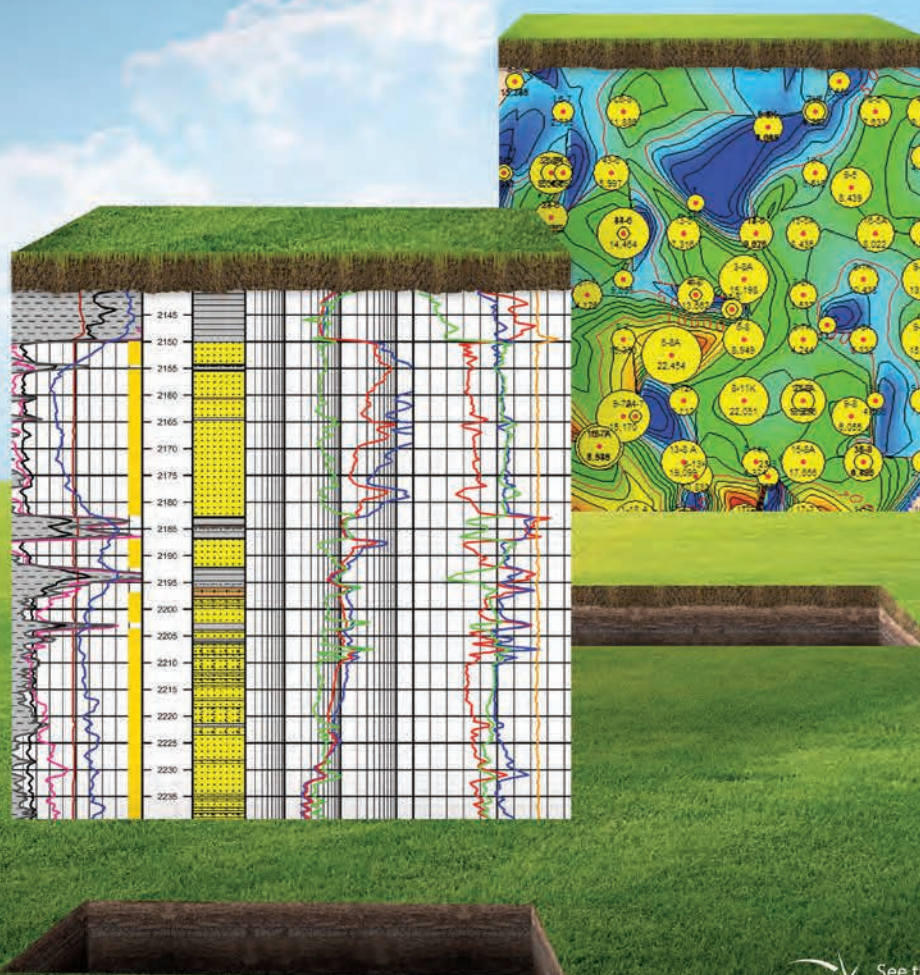
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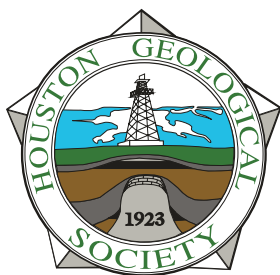
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TGS  See the energy.



The Bulletin

Houston Geological Society

Volume 58, Number 8

April 2016

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The Houston Geological Society Bulletin (ISSN-018-6686) is published monthly except for July and August by the Houston Geological Society, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916. Phone: 713-463-9476; fax: 281-679-5504

Editorial correspondence and material submitted for publication should be addressed to the Editor, Houston Geological Society Bulletin, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916 or to jonblickwede.hgs@gmail.com.

Subscriptions: Subscription to this publication is included in the membership dues (\$28.00 annually). Subscription price for nonmembers within the contiguous U.S. is \$50.00 per year. For those outside the contiguous U.S. the subscription price is \$75.00 per year. Single-copy price is \$8.00. Periodicals postage paid in Houston, Texas.

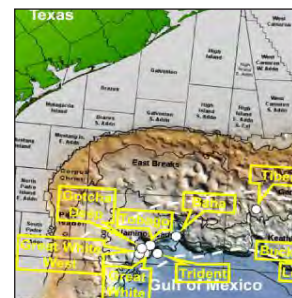
POSTMASTER: Send address changes to Houston Geological Society Bulletin, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916

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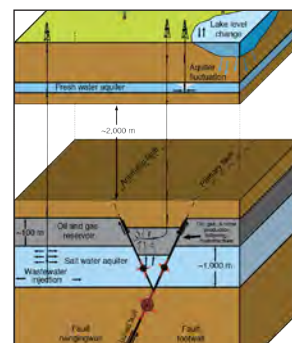
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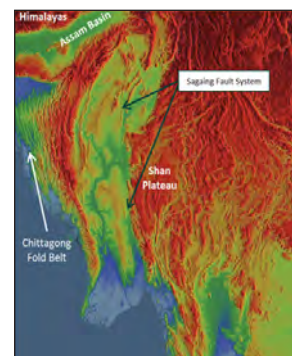
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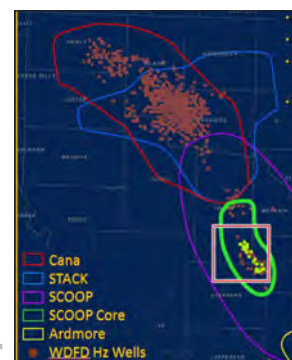
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About the Cover: Taungkalat, a remnant plug of a Pliocene-Pleistocene volcano in Mount Popa National Park, Myanmar. Photo courtesy of Inga Sevastjanova, Getech.

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The Houston Geological Society Continuing Education Committee Presents



Introduction to Petrophysics

Randy Mitchell

Petrophysical Solutions Inc.

Friday, April 1, 2016 • 8:30 am – 5pm

Date: Friday, April 1, 2016 • 8:30 am – 5 pm (Doors open at 7:30 a.m.)

Location: Shell Woodcreek Complex, Bldg. A
200 N Dairy Ashford Rd,
Houston, TX 77079

**Please make your reservations on-line through the
Houston Geological Society website
www.hgs.org**

For more information about this event,
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Pricing

Early Registration by 5 AM Friday, March 18, 2016

HGS/GSH/SPE Member: \$75.00

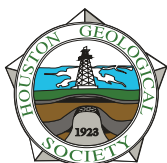
Non-Member: \$95.00

Registration after Friday, March 18, 2016

All including walkups: \$110.00

Notebook, networking lunch, continental breakfast,
coffee and break refreshments are included in the
registration price.

The Houston Geological Society Continuing Education Committee Presents



Interpretation and Analysis of Old Wireline Logs

Bill Price

Petrophysical Solutions Inc.

Friday, May 6, 2016 • 8:30 am – 5pm

Date: Friday, May 6, 2016 • 8:30 am – 5 pm (Doors open at 7:30 a.m.)

Location: Shell Woodcreek Complex, Bldg. A
200 N Dairy Ashford Rd,
Houston, TX 77079

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Penny Patterson
HGS Director, 2014-16
Penny.E.Patterson@ExxonMobil.com

Highlighting the Great Work of Our HGS Education Committees

The Houston Geological Society (HGS) is a vibrant and integral organization in our geoscience community that provides critical resources to our members through HGS technical meetings and conferences, publications, social functions, and the HGS website. As Director 2 on the HGS Board, I have been overwhelmed with the breadth and depth that HGS contributes to our geoscience community through education, networking, and support. For the last two years, I have been fortunate to work closely with seven HGS educational committees, which provide training and learning opportunities for all ages, from our young geoscientists at the K-12 level through geoscientists actively engaged in academia and industry and to our retired geoscientists that continue to contribute to advancing and transferring our scientific knowledge.

Working with the educational committees, it has been an extremely busy time and concurrently a highly rewarding experience. Here are a few highlights of the contributions that these seven committees have provided to our Houston-area geoscience community.

Last October, the HGS Committee for Houston Museum of Natural Science (HMNS), co-chaired by **Inda Immega** and **Janet Combes**, and the Earth Science Week (ESW) Committee, chaired by **Sharon Choens**, worked together and organized and hosted a two-week Earth Science Celebration. The event began with a full day of hands-on activities and demonstrations at the Houston Museum of Natural Science and was followed the next week by family-friendly field trips to some of our best, local geological sites, including the fossiliferous sites at Whiskey Bridge near Bryan, TX and High Island, TX. Earth Science Week events were highly successful in reaching out to our geoscience community with attendance exceeding 400 participants that range from family groups to Houston-area college classes. The HMNS committee also hosted the ever-popular Houston Gem and Mineral Show, which was held in November and is directed

toward K-12 geoscientists, especially Boy Scout and Girl Scouts that are working on their geology merit badges.

The Educational Outreach Committee (EO), co-chaired by **Jennifer Burton** and **Letha Slagle**, joined in collaboration with other Houston-area organizations to participate in educational enrichment events for K-12 through junior college students. These events included the Sally Ride Festival and the Houston Scout Fair. The Sally Ride Festival was held in late October and is primarily focused on middle-school girls interested in Science,

Technology, Engineering and Math (STEM). The Houston Scout Fair was held in April and is also an event that helps Scouts earn merit badges in geology. Both Educational Outreach events drew over 1000 Houston-area students and provided a robust and inspirational STEM foundation for our young geoscientists.

The Engineering Council of Houston (ECH) committee, co-chaired by **Sue Pritchett** and **Claudia Ludwig**, and

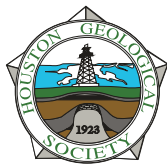
the Science and Engineering Fair (SEF) committee, chaired by **Mike Erpenbeck**, worked together to support the Science and Engineering Fair of Houston, which was held at the University of Houston. In May 2015, HGS proudly supported the Science Fair with a contribution of \$50,000 to the Earth and Science Fair of Houston Foundation. In addition, HGS members volunteered as judges for the Earth Science category. Three Science Fair participants were selected from the Senior division (10th, 11th, and 12th grades) for the HGS-sponsored, research-assistant summer internship at the Houston Museum of Natural Science. Science Fair projects completed by these young scientists are impressive and their presentations are truly inspiring; this is our next-generation of geoscience leaders.

This past spring, the Imperial Barrel Award (IBA) Committee, Chaired by **Shawn Kushiya**, worked closely with AAPG and Gulf Coast Association of Geological Societies and organized

*Science Fair projects completed
by these young scientists are
impressive and their presentations
are truly inspiring; this is our
next-generation of geoscience
leaders.*

Your Board in Action continued on page 9

The Houston Geological Society Continuing Education Committee Presents



Getting Started as a Self-Employed Geoscientist/Consultant

Jointly presented by HGS – SIPES – GSH

Sponsored by dGB Earth Sciences – dgbes.com & opendtect.org

May 20, 2016 • 8 am – 5pm

Join us for a day filled with practical experience, wisdom and insight from HGS, GSH, Society of Independent Earth Scientists (SIPES) members, and industry professionals who have successfully transitioned into creating their own business.

Tentative Agenda:

- Setting Up Your Practice as a Consultant
Robert Pledger, CPG, SIPES, Ashford Oil & Gas
- Accounting and Financial Considerations for your Consultancy
Neil Blakely, CPA, Accountant
- Legal Considerations, Contracts and Agreements for the Consultant
Charles Knobloch, Attorney, former Chair TxBPG
- Discovering Mineral Owners and Leaseholders —
Courthouse Work
Roger Soap, CPL, Landman
- Finding Work as a Consultant
Deborah Sacrey, CPG, SIPES, Auburn Energy, HGS President
- Free, Low-Cost, and Open Access Data and Software for Petroleum Exploration and Production
Susan S. Nash, Ph.D., AAPG, Director of Education and Professional Development

Pricing

Early Registration by 5 AM Thursday, May 6, 2016

HGS/GSH/SPE Member: \$60.00

Non-Member: \$85.00

Registration after Thursday, May 6, 2016

All including walkups: \$105.00

Notebook, networking lunch, continental breakfast, coffee and break refreshments are included in the registration price.

Parking \$10 with credit card across Cullen Blvd., in stadium parking structure.

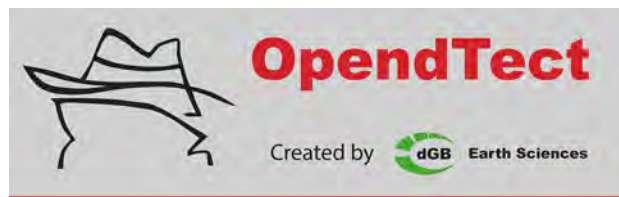
Date: Friday, May 20, 2016 • 8:30 am – 5 pm (Doors open at 7:30 a.m.)

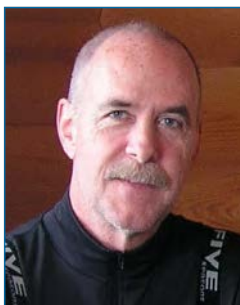
Location: University of Houston
Lecture Hall 117
Science & Research Bldg. 1

Parking: Stadium parking structure
Entrance 14, Cullen Blvd.
Houston, TX 77204

Please make your reservations on-line through the Houston Geological Society website www.hgs.org

For more information about this event, contact HGS Office
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Jon Blickwede
jonblickwede.hgs@gmail.com

The Earliest Gulf of Mexico Explorers

Those of us who explore for oil & gas tend to be intrigued by exploration in its broader sense. So as many of us HGS members have dedicated a good part of our careers to exploration of the Gulf of Mexico (GoM) region, I thought it might be fitting to remember some of the first GoM explorers.

I recently started taking an online course about pre-colonial Mesoamerica (Mexico and Central America), and one of the interesting things I've learned is that the first exploration of the GoM by non-indigenous people is speculated by some to have been by the Phoenicians, the most accomplished mariners in the world during the period before Christ. Apparently there is good evidence that the Phoenicians (based in the eastern Mediterranean) had already circumnavigated Africa by 600 B.C., so perhaps were at least capable of crossing the Atlantic Ocean. Their contemporaries in Mesoamerica were the Olmec people, who populated what is today the GoM coastal plain of southern Mexico. On some of the Olmec sculptures found at the ruins of La Venta, near the GoM coast in Tabasco State, there are depictions of men wearing headgear reminiscent of the Phoenician style, pointed shoes, and sporting full beards (rare among native Mesoamericans). This may be pseudo-history, but it's kind of fun to contemplate.

Though some of my Norwegian colleagues at Statoil might propose that the Vikings were likely the first Europeans to traverse the waters of the Gulf of Mexico, the first well-documented evidence of foreign exploration of the GoM comes from the first few decades after Christopher Columbus first set foot in the Americas in 1492. Surprisingly, Columbus never entered the GoM on any of his four voyages. The first European explorer known to navigate a portion of the GoM

was actually the Italian Amerigo Vespucci (my friends over at Eni, take pride!), in 1497, who on his way back to Europe from the western Caribbean passed through the southeastern GoM and Straits of Florida. On Vespucci's Caribbean/GoM expedition was Spanish cartographer Juan de la Cosa, who had also been a member of the crew on all four of Columbus' New World voyages. After his return to Sevilla, de la Cosa published the first known map of the Americas, the *Mappa Mundi* published in 1500 (see page 9). Note the GoM and Caribbean were shown as being one and the same, and also the difference in accuracy of different portions of the map. Cuba and Hispaniola have a fair degree of detail as they were the first places to be colonized in the Americas. In particular, Hispaniola is depicted to have more or less the same shape we know today. In contrast, the very existence of the Yucatan Peninsula seems to have not yet been recognized, probably because Vespucci supposedly only sailed through the southeastern GoM, to the east of the peninsula.



In those earliest years of exploration, the Gulf of Mexico was called different names by the cartographers of Sevilla and elsewhere. As one might expect, initially it was named the *Mare Cathaynum* (Chinese Sea). Later, acknowledging the rapidly emerging doubts about the region's proximity to Asia, it was known variously as the *Sinus Magnus Antillarum* (Great Bay of the Antilles); the *Golfo de Flórida*; the *Golfo de Cortés*, in honor of the most important of the conquistadores, Hernán Cortés; and the *Mediterráneo de América*, an interesting foreshadowing of the more recent view that both marginal sea regions were at one time in much closer proximity, and part of the same Tethyan geological realm. But since 1550, the name that stuck has been the good old *Golfo de México*. ■ **From the Editor** continued on page 9

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Houston Geological Society Bulletin

the regional AAPG-IBA competition in which graduate student teams from our local universities competed for scholarships and recognition for their university. The AAPG-IBA competition involves technical assessment of a real-world exploration opportunity that is provided to AAPG-IBA by an energy company. This competition is an excellent learning and networking opportunity for graduate students and their professors.

The Academic Liaison (AL) Committee, chaired by **Germaine Johnson**, is a new committee that is working with local colleges

and universities to ensure that our students are receiving critical training for a rewarding career in geoscience.

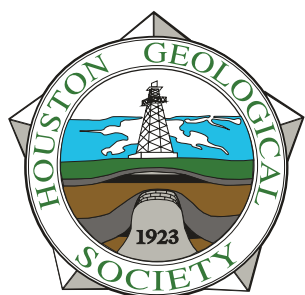
HGS has over 40 committees that serve our members and the Houston-area community. It has been a pleasure and, quite frankly, an honor to work with the seven HGS committees and to see the immense influence that HGS has on educating, mentoring, and supporting our geoscience community. ■

From the Editor

continued from page 7



Juan de la Cosa's Mappa Mundi (1500), the first known map of the Americas, including the Gulf of Mexico/Caribbean (the "big bay" on the center-left of the map). <https://olinuris.library.cornell.edu/exhibitions/maps>



PES  **GB**

Registration
opens
April 1, 2016.

Information:
office@hgs.org

Registration:
www.hgs.org

Details of sponsorship opportunities and exhibition booths are available at office@hgs.org or on the HGS website.

Africa: What's Next?

The 15th HGS-PESGB Conference on African E&P

September 12-14, 2016

The Westin Houston, Memorial City, Houston Texas

This annual conference, alternating between Houston and London, has established itself as the primary technical E & P conference on Africa with attendances in recent years exceeding 600, including industry operators, consultants, governments, and academia. There will be a large poster program in addition to the oral program of about 25 high quality talks covering aspects of E & P in all regions of Africa.

Theme 1: African Exploration in a Global Context

Session Chair: Joan Flinch (Repsol)

Theme 2: Knowledge Transfer: Emerging Exploration Concepts, Conjugate Margins and Analogues

Session Chair: Bill Dickson (DIGS)

Theme 3: Hydrocarbon Generation Through Time and Space

Session Chair: Carol Law (Soaring Eagle Energy)

Theme 4: Storage and Containment: New Insights into Reservoirs, Seals and Traps

Session Chair: Katrina Cotterill (BHP)

Interactive Seismic Showcase and Geology Workshop

Session Chair: John Moran (Anadarko)

Ongoing throughout the conference – see website for announcement of details.

Invited Keynote and Other Speakers A number of respected industry leaders have accepted invitations to deliver keynote presentations: Presenters include: opening keynote address by Bob Fryklund (Chief Upstream Strategist-IHS Energy) on *Africa Exploration – Dealing with the New Reality?*, plus Peter Elliott (PVE Consulting Ltd) on *Exploration Strategy and Performance in Sub Saharan Africa*, GlobalData on *Commercial Aspects of Exploration in Africa* and Cynthia Ebinger (University of Rochester) on *Fluid Flow in East African Rift Systems*. Further announcements to be revealed in due course; please consult the HGS website.

Short Courses 2 short courses will be held in conjunction with the conference
Duncan Macgregor – *Petroleum Basins and Recent Discoveries in North and East Africa*
Ian Davison – *South Atlantic Margins: Geology and Hydrocarbon Potential*

Conference Opening Evening Lecture Prof. Andy Nyblade (Penn State University) will present the Conference Opening lecture on *Imaging First-Order Structure of Large Karoo and Younger Basins in Central, Eastern and Southern Africa Using Passive Source Seismic Data*. The lecture will be held on the evening of Monday September 12th. Details to be announced shortly.

Conference

Early Bird registration April 1 through June 30, 2016 = \$300

Regular registration July 1 through August 31 = \$400

Late/onsite registration September 1 through September 14, 2016 = \$450

Short courses

Early Bird registration April 1 through June 30, 2016 = \$200

Regular registration July 1 through August 31 = \$250

Late/onsite registration September 1 through September 14, 2016 = \$300

A \$50 discount will be given to individuals that sign up for both the conference and a short course



The 15th HGS-PESGB Conference on African E&P

September 12-14, 2016 • Houston Texas

Exhibitor/Sponsorship Form



PESGB

Company _____

Contact _____

Address _____

City _____ State/Province _____ Postal Code _____ Country _____

Phone _____ Fax _____

Email _____ Web Site _____

Exhibitors: With the purchase of a 10' X 10' space you will get one table, 2 chairs and a waste basket.

You will receive 2 exhibitor passes good for admittance to the exhibit hall only.

EXHIBIT SPACE ORDER \$1900.00 per 10' X 10' booth space: _____ booth(s) = \$ _____

Contact Andrea Peoples at the HGS office for booth selection 713-463-9476 Booth # _____

Do you require internet access at your booth? ☐ Yes ☐ No

Do you require electricity at your booth? ☐ Yes ☐ No

(You must purchase electricity from the hotel, HGS will send out the required form.)

SPONSORSHIP OPPORTUNITIES

Tanzanite	Ruby	Sponsorship Opportunities	Actual Cost/300 Guests	Sponsorship Amount
\$10,000	\$5,000	Lunch – Day One	\$15,000	
\$10,000	\$5,000	Lunch – Day Two	\$15,000	
\$9,000	\$4,500	Day One Reception – 2 Drinks plus Food	\$11,000	
\$9,000	\$4,500	Day Two Reception – 2 Drinks plus Food	\$11,000	
\$5,000	\$2,500	CD of Extended Abstracts	\$5,000	
\$5,000	\$2,500	Meeting Room Rental	\$5,000	
\$5,000	\$2,500	Technical Session	\$5,000	
\$5,000	\$2,500	Breakfast Day One	\$12,000	
\$5,000	\$2,500	Breakfast Day Two	\$12,000	
\$5,000	\$2,500	AV Equipment and Services	\$25,000	
\$5,000	\$2,500	Am & PM Break Food & Beverage Day One	\$5,000	
\$5,000	\$2,500	Am & PM Break Food & Beverage Day Two	\$5,000	
\$2,500	\$1,250	Poster Gallery	\$2,500	
\$2,500	\$1,250	Delegate Bags	\$2,500	
\$1,000	\$500	Speaker Gifts	\$3,000	
\$1,000	\$500	WIFI	\$2,000	
\$1,000	\$500	Conference Signage	\$3,000	
\$1,000	\$500	Printing Proceedings Catalogue	\$10,000	
\$500	\$250	Note Pads, Pens	\$1,000	
\$	\$	General Fund – You fill in the amount		
Booth Space + Sponsorship TOTAL \$				

Mail completed form along with your check made out to: HGS: 2016 Africa Conference Exhibit/Sponsorship
Houston Geological Society • 14811 St. Mary's Lane, Suite 250 • Houston, TX 77079 USA

Credit Card Option: To pay by credit card contact the HGS Office +1 (713) 463-9476

Questions: HGS Office Telephone: +1 (713) 463-9476; Fax: +1 (281) 679-5504; Email: office@hgs.org



Candidates for the 2016–2017 Executive Board

Houston Geological Society Officer Election

The candidates put forth by the Nominations Committee are:

- President - Elect:** John Adamick, Cheryl Desforges
- Vice President:** Thomas Hearon, Shawn Kushiya
- Secretary:** Sasha Gumprecht, Rachel Todkill
- Treasurer-elect:** Mike Allison, Connie Mongold
- Editor-elect:** Brian Horn
- Directors (2 positions):** Mike Erpenbeck, Hunter Lockhart, Dave Miller, Nicole Pierson

HGS Election Voting Instructions

Members will be able to vote in one of two ways:
by returning the paper ballot that will be delivered in the mail,
OR
by voting online following instructions that will be delivered by e-mail.

PLEASE VOTE – Upon receiving the paper ballot or the e-mailed instructions!

The voting period opens April 10, 2016 and continues to May 10, 2016.

President-elect (two candidates)



John Adamick

Education

Harvard University – Executive MBA, 1995
Stephen F. Austin State University – Master of Science Degree, Geology, 1987
Texas A&M University – Bachelor of Science Degree, Geology, 1983

Experience

2008-2016 Senior VP Geologic Products and Services, TGS
2000-2008 VP Business Development, TGS-NOPEC Geophysical Company
1995-2000 President, Offshore Division, TGS-Calibre Geophysical Company
1994-1995 VP Marketing, Offshore Division, TGS-Calibre Geophysical Company
1993 Geologist, Onshore and Offshore Gulf of Mexico, Calibre Consulting
1989-1993 Marketing Manager, TGS-Calibre Geophysical Company
1986-1988 Geologist, Offshore Gulf of Mexico, TGS Geophysical Company
2002-2016 Board of Directors of A2D Technologies, Inc
2006-2012 Board of Directors of Aceca Ltd
2013-2016 Trustee, American Geosciences Institute Foundation
2010-2013 Board of Directors Houston Geological Society
2014-2016 Board of Directors, Camp Cullen, YMCA

John Adamick continued on page 18



Cheryl Desforges

Education

MBA Finance/International Business/ Decision & Information Sciences, University of Houston
MS Physical Science/Geology, University of Houston CL
BS Geology, Texas Christian University

Experience

2015-present Consultant
2013-2014 Eagle Hydrocarbons
2006-2013 Sabco Oil and Gas Company
2004-2006 Consultant, Ryder Scott Company, SCA Randall & Dewey, Inc.
Environmental Evaluation Partners, Inc., President
1989-1995 Consultant in both the Petroleum and Environmental Industries
1982-1989 J.M. Huber Corp.
1979-1981 Diamond Shamrock Corp.
1977-1979 Sonat Exploration Co.
1975-1977 Atlantic-Richfield Co.

Professional Affiliations

Licensed Professional Geoscientist, State of Texas # 2174
American Association of Petroleum Geologists - Certified Petroleum Geologist #2925
Houston Geological Society
SEPM Society for Sedimentary Geology
Society of Exploration Geophysicist

Cheryl Desforges continued on page 19



Candidates for the 2016–2017 Executive Board *(continued)*

Vice President (two candidates)



Thomas E. Hearon IV

Thomas E. Hearon IV received a B.S. (2003) in geology from the University of the South-Sewanee, an M.S. (2008) in geology from New Mexico State University, and a Ph.D. (2013) in geology from Colorado School of Mines. He has worked as a field geologist for Nautilus,

which is a geoscience training company that offers high quality, field- and classroom-based courses for the oil industry, and also as a project geologist in the environmental industry and as a mudlogger for Precision Well Logging. He currently works as a Senior Structural Geologist at ConocoPhillips in Houston, TX, where he provides technical service and geological consultation in structural geology to a variety of business units operating in salt-dominated basins worldwide and also directs an R&D program focused on new concepts in salt tectonics. He specializes in subsurface- and field-based salt tectonics, salt-sediment interaction, salt basin evolution, sedimentology and regional structural geology. In addition to a variety of technical service projects completed at ConocoPhillips, Thomas has completed salt-themed projects in Utah (Paradox Basin), Mexico (La Popa Basin), South Australia (Flinders & Willouran Ranges), Spain (Pyrenees), and Democratic Republic of Congo (Katanga). He is very active with the American Association of Petroleum Geologists (AAPG), where he has served on the Distinguished Lecture Committee since 2012, and the Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists (GCSSEPM), where he served as Vice President (2014) and President (2015). He is currently an Associate Editor for the joint AAPG-SEG journal Interpretation.

Statement

First, I am humbled to have been asked to run for the position of Vice President for the world's largest local professional geological society. Second, I agreed to run for the position because I would like to help fill the gap of the 'great crew change' by involving a greater number of early career geoscientists with the Houston Geological Society. Whether this is encouraging them to attend lunch or dinner lectures or to deliver a technical presentation on their topic of expertise, I think it is critical for the society's health and longevity to involve this next generation of geoscientists. If elected, I hope to expand this demographic of our membership. ■



Shawn Kushiya

Education

BS Geology, Boston College 2008
MS Geology, University of Louisiana
2010

Experience

2011-Present	Shell Oil Company, Geologist
Summer 2007-2008	Remora Energy International, Intern Geoscientist

Statement

I am honored to have been nominated to run for HGS Vice President. I have been involved with the HGS since 2011, and I have served as the AAPG Imperial Barrel Award Committee Chair since 2013. In that capacity I have been in charge of coordinating the HGS's sponsorship of the AAPG's Gulf Coast IBA competition. We are currently one of the largest sponsors of the Gulf Coast competition, and we have increased our sponsorship level during that time. By increasing our sponsorship, we have earned the ability to nominate a judge for the competition. The IBA is the AAPG's second largest expenditure annually, and it provides a good venue for current graduate students in the Gulf Coast Section to be exposed to the HGS. It ends up serving as a useful recruiting tool for future members that are looking to move to the Houston area to work in the oil and gas industry.

I realize that the monthly lunch and dinner meetings are one of the cornerstones of the HGS as an organization, and that organizing timely and relevant talks will be crucial in ensuring active membership engagement. I was asked to speak in the GCAGS U.S. Gulf Deepwater Fields Session on behalf of my company at this past year's GCAGS Convention. It was the highest attended session in GCAGS history. After seeing some of the amazing talks my colleagues and peers gave in that session, I think I have a good idea of what gives talks a broad reaching appeal, and I hope to apply some of that to locating the best and most engaging speakers for the monthly meetings. ■



Candidates for the 2016–2017 Executive Board *(continued)*

Secretary (two candidates)



Sasha Gumprecht

Education

MSc Petroleum Geoscience, Royal Holloway University of London
BS Geology, Southern Methodist University

Experience

2012-2013	Assistant Geologist, Strandline Consulting
2013	Intern Geologist, Contour E&P
2015	G&G Technical Consultant, 3GiG LP
2016 -Present	Business Development Consultant, 3GiG LP

Professional Affiliations

AAPG
HGS
SPE
SEG

Statement

“You have brains in your head. You have feet in your shoes. You can steer yourself any direction you choose.” – Dr. Seuss

After graduating with a BS in Geology from Southern Methodist University, she spent a year abroad as an English teacher in Prague, Czech Republic and Saint Petersburg, Russia. There, immersed in a sea of fur hats and vodka, she discovered that she would ultimately love to combine her passions for geology and travel into a career in international oil and gas exploration. After gaining invaluable mentorship in the exploration and production sector in Dallas, she went on to complete her Master’s Degree in Petroleum Geoscience at Royal Holloway University of London, where she focused on developing her structural geology and problem solving skills for a career in petroleum exploration.

As an enthusiastic secretary during the 2016-2017 term, I hope to build and strengthen the HGS family by reaching out to those who are taking their first steps in their careers and sharing with them the resources that are vital to their success. ■



Rachel Todkill

I earned my Bachelor of Science in Geology from Texas A&M University, graduating at the end of 2012. I then went on to complete my Master of Science in Geology at the University of Texas at San Antonio, focusing on conodont biostratigraphy in Guadalupe Mountains

National Park. I graduated in May of 2015 and began working for DrillingInfo in August of 2015. I am also an associate member of the American Association of Petroleum Geologists. I agreed to run for Secretary of the Houston Geological Society because I believe that volunteering your time is the best way to learn about the organization and the industry. ■



Candidates for the 2016–2017 Executive Board *(continued)*

Treasurer-elect (two candidates)



Mike Allison

Education

MS Geology, University of Tennessee, Knoxville, TN
BS Geology, University of Miami, Coral Gables, FL

Experience

2014 - Present IT & Business Systems Manager, Fieldwood Energy LLC
2005 - 2013 IT Manager, Devon Energy
2000 - 2004 R&D Product Geoscientist, Landmark Graphics Corporation
1985 - 2000 Chevron, Various IT Leadership and Geoscience Technical Positions
1983 - 1985 Gulf Oil Corporation, Development Geologist

Professional Affiliations

HGS (2004), AAPG (1982), SPE (2005), SIM (2015)

Professional Activities

Houston Geological Society
Active Volunteer (current)
Treasurer Northsiders Group
Continuing Education Committee

Statement

I have been a Manager for nearly 20 years with extensive experience in planning and managing budgets. I have also been involved with the HGS for over 10 years in various volunteer capacities. I would like to have the opportunity to have a more active role the HGS and serve in the capacity of Treasurer. ■



Connie L. Mongold

Education

Masters of Science in geology/ sedimentary petrology, University of California, Los Angeles
Bachelor of Arts in geology with a minor in political science; Guilford College, Greensboro, NC

Professional Experience

2016 Independent Consultant, Houston, Texas
2009-2015 Shell Exploration & Production, Houston, Texas
1997-2009 Senior Development Planner, Geoscience Lead, Subsurface Coordinator, Staff Production Geologist, Aera Energy LLC, Bakersfield, California (Shell and ExxonMobil joint venture)
1995-1997 Production Geologist, Mobil Oil, Bakersfield, California (Shell and ExxonMobil joint venture)
1992 Production Geologist, United States Department of Agriculture Soil Conservation Service
Soil Science Intern, Wetlands Projects

Research Experience

Graduate Researcher, UCLA, sedimentary petrology of Miocene/Pliocene formations of the Los Angeles and Ventura basins.
Graduate Researcher, UCLA, planetary geology of Mars and analysis of remotely-sensed Viking Orbiter II data.
Undergraduate Researcher, Guilford College, NASA JOVE Project-image processing and digital analysis of lithologic and biologic zones of Cayo Enrique, southwest Puerto Rico.

Community Service

Serving as Treasurer for AAPG's Division of Professional Affairs.
Coached and mentored teams and individuals using the Myers-Briggs Temperament Indicator.
Served as AAPG Imperial Barrel Award Chair for the global student competition committee.
Led Bible studies and mentored groups and individuals at church.

Statement

I am running for this office because I believe it is important to serve your community according to your talents. Ken and Charles are great examples of people who do this with passion and make a difference to those around them. This is my hope for us all. ■



Candidates for the 2016–2017 Executive Board *(continued)*

Director – Two-year term *Vote for two candidates*



Mike Erpenbeck

Education

BS Geology, San Diego State University
1977
MS Geology, Texas Tech University 1979
MBA, Finance, University of Houston
1989

Experience

2012-present Upstream Advisors, Group Manager
1997-2012 Ziff Energy Group, Senior Analyst; Project Manager; Director, U.S. Studies
1990-1997 UMC Petroleum, Revenue/Gas Balancing Accountant; Production Accountant
1987-1990 Various Firms, Consulting Geologist
1983-1987 Hemus Oil & Gas, Manager of Geology
1981-1983 Pilgrim Exploration, Geologist
1979-1981 Texas Oil & Gas (TXO), Geologist

Statement

I am honored to be invited to stand for election of one of the new Board Directors for HGS. My past leadership positions in HGS have been most rewarding to me and I welcome the opportunity to serve again if my fellow Members so determine me worthy.

I have 35 years' experience in the oil and gas industry, as my experience and education summarized below attest. Thus I could be considered a seasoned veteran of the "boom-and-bust wars" that characterize our beloved industry. My experience has shown me that surviving and thriving in these turbulent cycles reward us with a higher degree of creativity and a broader perspective in our strategic thinking.

Being simply the latest in a series, our current downturn presents a challenge to not only the commercial entities that employ us but also to the operations and sustainability of the professional societies that serve us and cement the identity we claim as professionals. I have served as HGS Treasurer for two years in better times and have recently been the 2015 GCAGS Convention Treasurer in these more trying times. Both required the application of the adaptive capability and broad technical and financial skills I have come to possess. My two-year stint as Chair of the Office Management Committee provided me a good overview of the organization of our Society, with its very broad capabilities, offerings, and reach. As a member of several event committees in HGS, I have learned and contributed to the planning **Mike Erpenbeck** *continued on page 19*



Hunter Lockhart

It is my sincere desire to serve on the HGS Board as a Director. Since my first encounter with HGS when I received a merit-based scholarship to pursue graduate studies, I've felt the need to serve the geological community at the local level. As Director, I would focus

my talent and energy to prepare the organization for long-term future success, while striving to serve the specific needs of early career professionals and students. New member attraction, current member retention, and interaction with other industry-related professional societies of Houston will be the center of my attention. ■



Candidates for the 2016–2017 Executive Board *(continued)*

Director – Two-year term *Vote for two candidates*



Dave Miller

Education

Bachelor of Science in Geology,
University of Wisconsin-Madison
Master of Science in Geology, University
of Wisconsin-Madison

Experience

2012–Present Statoil North America, Inc. Leading Geologist
1981–2011 Total Various international and domestic
technical and management positions.
1979–1981 Mobil Geologist

Professional Affiliations and Positions Held

AAPG
Texas Licensed Professional Geologist (#2667)
HGS: Editor-Elect/Editor 2013–2015

Statement

I am honored to be asked to run for the position of Director. My previous experience on the HGS Board gave me some insight into how the HGS functions and how important it is for the Houston geological community. HGS has always mattered and it will matter even more during the tough times that we as an industry are likely to face in the future. I look forward to the opportunity to serve the membership and to make sure that HGS continues to be there to support them. ■



Nicole Pierson

Education

MSc Geology, University of Nebraska-
Lincoln
BSc Geology, University of Nebraska-
Lincoln

Experience

2014–Present Geology Consultant - Halliburton
2013 Exploration Intern - ConocoPhillips Company
2012–2014 Teaching Assistant: Field Camp and Geology
101 Lab - University of Nebraska-Lincoln
Department of Earth & Atmospheric Sciences
2010–2012 Diatom Laboratory Assistant - University of
Nebraska-Lincoln & ANDRILL Antarctic
Geological Drilling
2008–2009 Teaching Assistant: Chemistry 100 Lecture and
Lab Sections - Bradley University Chemistry
Department

Professional Affiliations

Geological Society of America, American Association of
Petroleum Geologists, Houston Geological Society, Geophysical
Society of Houston, Women Sharing Excellence Halliburton
Chapter, Symphony North of Houston

Professional Awards and Activities

2014–Present Halliburton Consulting Community of Practice
Geoscience Group Knowledge Expert
2013–2014 American Association of Petroleum Geologists
Student Chapter President
2013 Imperial Barrel Award Mid-Continent Section
Second Place Recipient
2011 Bernard and Lillian Stracher Award for
Undergraduate Structural Geology
2010–2014 Nebraska State Museum Volunteer

Statement

My work in the oil and gas industry has focused on international exploration and development projects. Some of the study areas I've worked on include offshore Angola, onshore and offshore Mexico, Kuwait, and the Norwegian North Sea. I am eager to take the diverse workflows and methods I've learned on international projects and apply them to exploration and development in the United States.

I am excited to make and maintain new relationships within the oil and gas industry, and I'm excited to use my leadership and organizational skills to contribute to HGS. The sense of community and the impact that HGS has is something that I want to be a part of. I'm honored to be a candidate for Director. ■



Candidates for the 2016–2017 Executive Board *(continued)*

Editor-elect (one candidate)



Brian W. Horn

Dr. Horn is the Senior Vice President and Chief Geologist for ION E&P Advisors and has worked in exploration and production for 30 years with Amoco, BP, and Maersk Oil prior to joining ION in 2010. His experience includes integrating geological and engineering/production

data for play-based exploration, and development, basin and play fairway analysis, petroleum systems, regional stratigraphic and seismic correlations, prospect development and resource

potential assessments. In addition to exploration projects he has delivered exploitation/development programs generating prospects, development and reservoir characterization for (infill) drilling designed to identify and evaluate critical geologic uncertainties focused on increasing recovery efficiencies and reservoir management strategies.

Dr. Horn received his Bachelors and Master degrees in Geology from the University of Colorado and his PhD in Geology and Geological Engineering from the Colorado School of Mines, Golden, CO. ■

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John Adamick—Candidate for President-elect

Professional Affiliations

American Association of Petroleum Geologists
Society of Exploration Geophysicists
Society of Petroleum Engineers
Houston Geological Society
Geophysical Society of Houston
Houston Producers Forum
International Association of Geophysical Contractors
American Geosciences Institute

Professional Activities and Awards

Houston Geological Society

2010-2013 Director, Houston Geological Society Board of Directors
2005-2006 Honorary Life Membership Award
1999-2000 Distinguished Service Award
1999-2003 Mentor Program Chairman
1998-1999 President's Award
1997-1998 Technical Symposium Chairman for 75th Anniversary Conference
1993-1994 Graduate Scholarship Committee member
1992-1993 Candidate for HGS Secretary
1991-1992 President's Award
1988-2016 Undergraduate Scholarship Foundation, a 501c (3) organization. Member, Chairman since 2003
1989-1992 Awards Committee member, Chairman
1989-1990 Arrangements Chairman
1989-1990 HGS liaison to Texas A&M University
1986-1987 Received Graduate Scholarship from HGS
1985-1986 Received HGS Outstanding Student Award from HGS

Gulf Coast Association of Geological Societies

2001 Awarded 2nd place GCAGS/GCSSEPM Best Published Paper Award
2000 Session Chairman (Eastern Gulf of Mexico) for 2000 Convention in Houston
1991 Housing Chairman for 1991 Convention in Houston
1986 Awarded 2nd place GCAGS Best Poster Award

Society of Exploration Geophysicists

1994 Awarded top twenty-five status for oral presentation entitled "AVO as an exploration tool" presented at 1994 SEG convention.

American Association of Petroleum Geologists

2006-2010 Director, International Pavilion Board of Directors, a for-profit subsidiary of AAPG
2004-2006 Chairman of Executive Business Session, "Energizing the World in the 21st Century", AAPG Convention 2006
2000-2002 Convention Technical Program Chairman – AAPG Convention 2002
1999-2002 AAPG Mentor Program Committee member
1993-1995 AAPG Technical Program Chairman – AAPG Convention 1995

International Association of Geophysical Contractors

2001-2010 Member of Americas Data Licensing Committee, chairman 2007-2009
2004-2007 Chairman of MMS Sub-committee
2001-2003 Member of Master License Agreement Re-write Sub-committee

Candidates for the 2016–2017 Executive Board *(continued)*

Statement:

I have been a member of HGS since 1987 when I was fortunate enough to receive a graduate scholarship from the Society. I have always been grateful and have tried, in my own way, to give back to the Society through my involvement. But I've always received much more than I gave. There have been numerous HGS officers and members over time who have been instrumental in my development as a geologist and businessman. Over the years I have served the HGS in a variety of capacities and have been very active with the HGS Foundation, the Society's Undergraduate Scholarship program. In addition, I previously served on the HGS Board as a Director from 2010-2013. I've also donated my time to other professional societies such as GCAGS, AAPG, and SEG.

I'm honored to run for the position of President-Elect and believe that my past history with HGS along with the business skills I've acquired in the private sector make me a good candidate for the position. HGS is a substantial organization and it should be managed like a business. If elected, I would like to help HGS grow as the industry begins to come out of the slump we're currently experiencing. The HGS has a lot to offer geoscientists in our community and I'd like to help the Society promote this aggressively. I'm also very interested in seeing the Society expand programs to get youngsters excited about geology. ■

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Cheryl Desforges—Candidate for President-elect

Honors and Awards

2008	HGS Distinguished Service Award
2006	HGS Volunteer of the Month (February)
2005	HGS President's Award and Volunteer of the Month (February)
1990	Arthur J. Ehlmann Award for TCU Geology Alumni
1974	Sigma Gamma Epsilon, geology honor society, University of Houston
1974	Gayle Scott Award for the Outstanding Geology Senior, Texas Christian University

Professional Activities

2015-2016	HGS Vice President
2007-present	AAPG House of Delegates
2008	Gulf Coast Association of Geological Societies Treasurer
2004-2006	HGS Treasurer/Treasurer-Elect term
2005	Co-Chairman "Coastal Subsidence, Sea-level and the Future of the Gulf Coast Conference"
2003-present	HGS Continuing Education Committee, Chairman 2003-2004
2002	AAPG Convention Volunteer Liaison Committee
1985-1989	Chairman HGS Publication Sales Committee Chairman

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Mike Erpenbeck —Candidate for Director

that occurs at the grass-roots level.

The recent cycle of upheaval is the latest layer of challenge to the Society, whose base layer includes evolving technology and changing demographics in our profession. I have been involved

Statement

The Houston Geological Society, the largest local geological society in the world, is more than just a professional organization, it is a community of friends. Through its events, such as monthly meetings, field trips, continuing education, special events, it provides many avenues to meet other members, and to expand our knowledge of our chosen profession. I have personally greatly benefited from being a member of HGS, since joining it during 1975. I soon recognized that all the great opportunities I was taking advantage of were organized and executed by volunteer members. So, I started volunteering wherever I was needed. From that first volunteer effort in the Publication Sales Committee, I have been fortunate to be able to contribute to other committees, as well as to be entrusted by the HGS Membership to serve as Treasurer, and Vice President.

I am now honored to be nominated for President-elect. The President-elect position is followed by being the President of HGS. Those positions are important to ensuring that the wonderful army of volunteers in HGS have the support and encouragement they need to serve our membership. I would be honored to serve in those positions, in order to partially return what so many have given me. If elected, I will do my best to continue the long tradition of helping to ensure that our organization is in tune with the needs of our community of members, and that it provides opportunities to address those needs. ■

in discussion at all levels within HGS to sustain the viability of the Society by keeping it responsive to the needs to those of all experience levels. If you choose me to represent you as a board member of HGS, I pledge to serve to the best of my ability, bringing to bear all the lessons-learned I have acquired over my career and leadership experience within HGS. ■

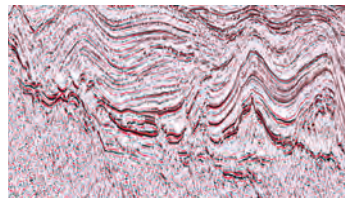


Robertson

Core Strengths

Geological solutions to geophysical challenges

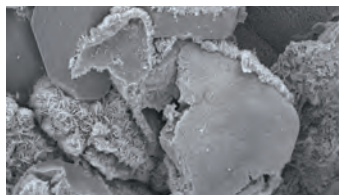
Structural Geology



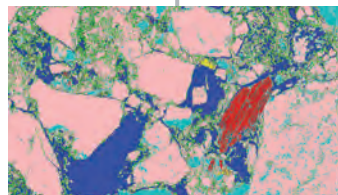
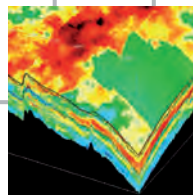
Geochemistry



Sedimentology



Biostratigraphy



Specialist Technical Services

For over 50 years our multi-disciplinary expertise, integrated solutions and advanced technologies have unravelled the complexities of petroleum systems.

We have prepared over 500 non-exclusive multi-client reports and conducted 1,000s of proprietary projects, spanning every prospective basin in the world.

Robertson understands the rocks behind the response.

cgg.com/robertson



Monday, April 11, 2016

Westchase Hilton • 9999 Westheimer
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

Cost: \$45 Preregistered members; \$50 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.

Pre-registration without payment will not be accepted.

Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

HGS General Dinner Meeting

Elizabeth Ann Watkins, Julio Tamashiro,
Nicolas Martin, Eldar Guliyev, Renato
Leite, Nhom (Vince) Nguyen, Abayomi
Aina, Mauro R. Becker
Petrobras America, Inc. Houston, TX

Marcelo Cristian Torrez Canaviri
Petrobras Bolivia, Santa Cruz, Bolivia

A Geology-Based, Non-Seismic Attribute Method to Generate Facies, Lithology, and Petrophysical Parameters in Chinook and Cascade Fields, Walker Ridge Protraction Area, Gulf of Mexico, USA

EDITOR'S NOTE: This presentation was the winner of the Gulf Coast Section AAPG A.I. Levorsen Memorial Award for Best Paper at the 2015 GCAGS Convention in Houston, as well as receiving Second Place in the Grover E. Murray Best Published Paper Award for the 2015 GCAGS Transactions.

Petrobras America's Cascade and Chinook Fields are typical deepwater Gulf of Mexico Lower Tertiary Wilcox Trend oil fields with reservoirs at 25,000 feet subsea and deeper. The absence of production analogues for these high pressure, normal temperature fields with fine- to very fine-grained, low

permeability Paleocene-Eocene sands required well production estimates to be based solely on geologic computer models generated from analyzing well logs, pressures, fluids, conventional core, seismic 3D volumes, and structure maps. Although rock-physics studies indicated

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HGS General Dinner Meeting

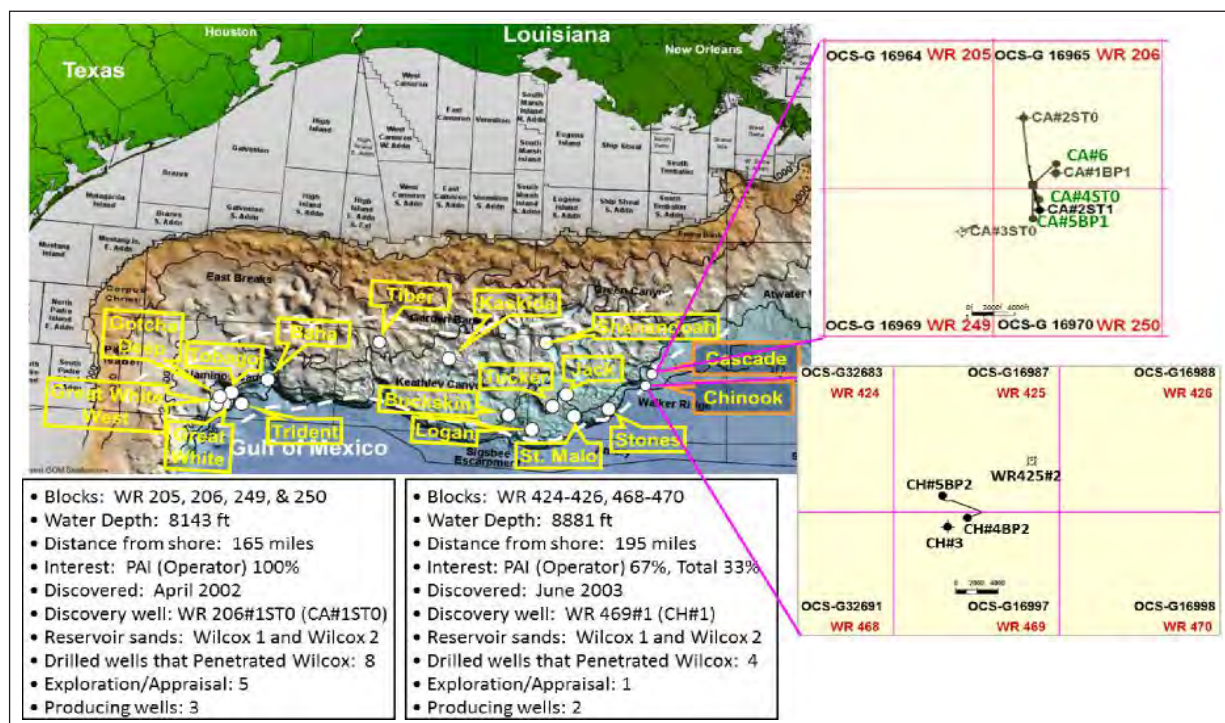


Figure 1. Location of Cascade and Chinook (and other deepwater Wilcox fields) in the Gulf of Mexico, along with a zoom-in of both fields and basic field information.



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Honoree**

A banquet toasting and
roasting Alistair will
be held during lunch
Thursday, 14 April

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Bowl competition will
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Wednesday, 13 April

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Invited speakers and extended discussion

Bill Abriel
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feasible lithology discrimination, good well attribute versus quantitative seismic attribute correlations (such as acoustic impedance) have not been obtained, so far, for characterization of depositional packages. Consequently, an understanding of the geology was used to generate lithologic parameters.

Studies of conventional core from the Cascade and Chinook reservoirs have revealed that the depositional environment was a lower submarine fan with toe-of-slope to basin distal fine-grained turbidite deposits in channelized and non-channelized lobes.

HGS General Dinner continued on page 25

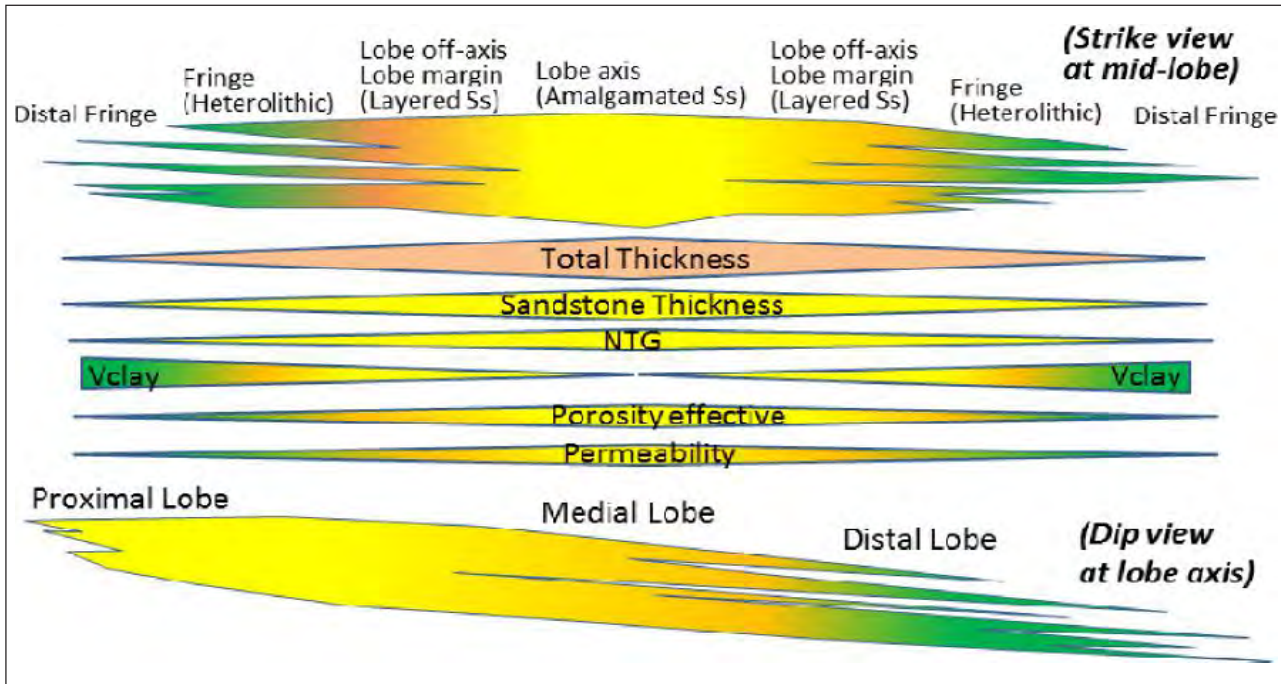


Figure 2. Key geological concepts of change in lithological parameters with the thickness of a turbidite lobe—where lobes are thicker, better reservoir properties exist.

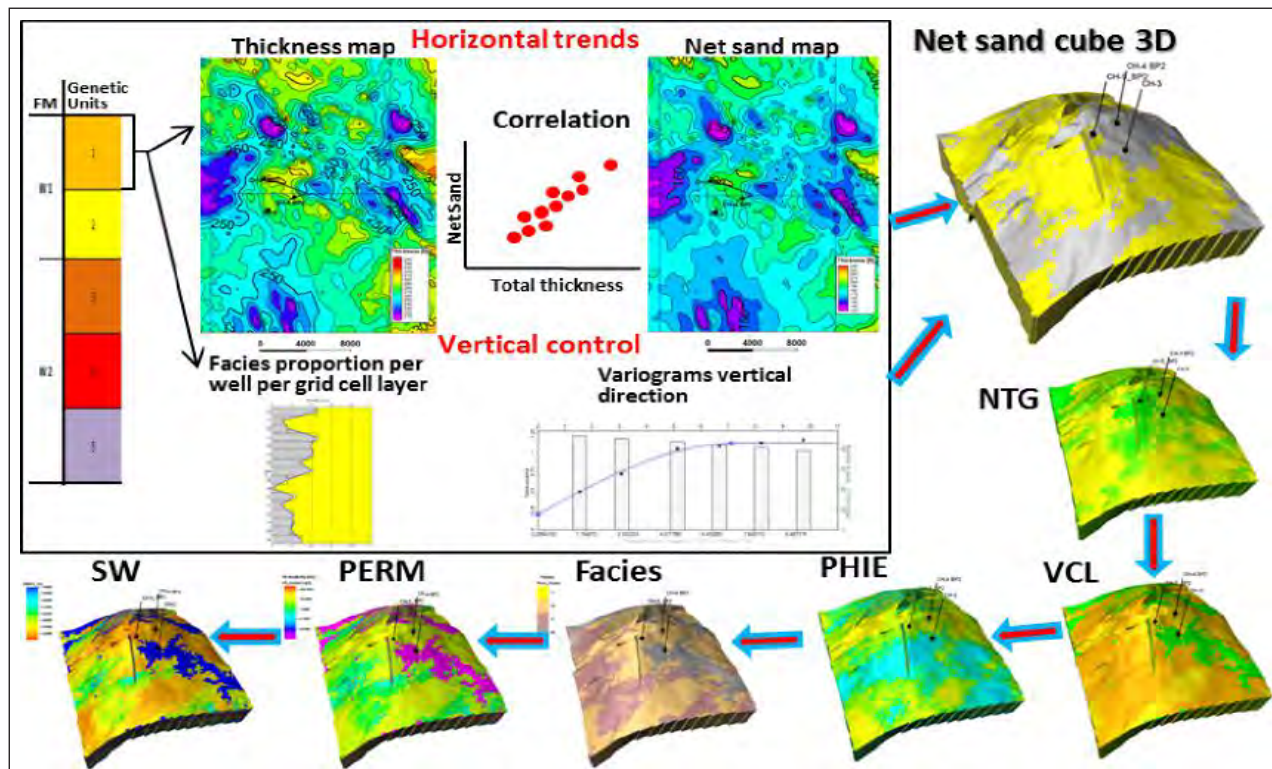
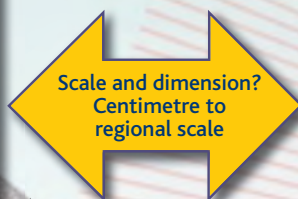
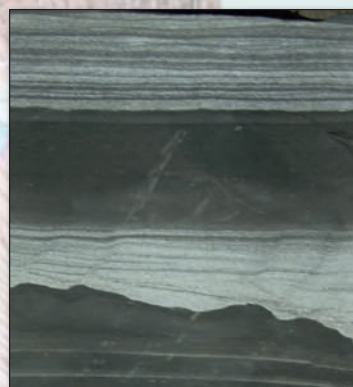


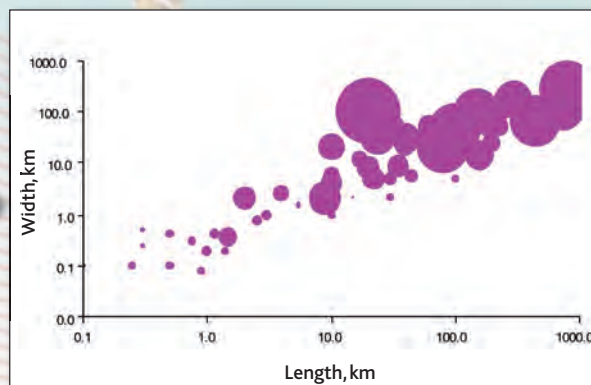
Figure 3. Workflow for reservoir properties distribution in the model for Chinook Field.

Getting into Deep Water

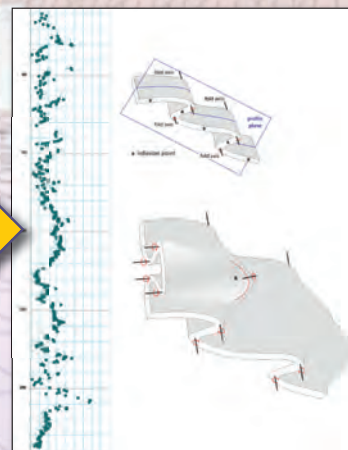
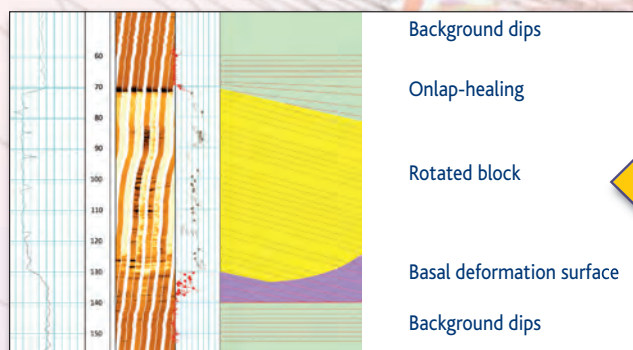
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Analogues from Tanqua Karoo outcrops in South Africa, as well as medial-to-distal turbidite fields have shown that where erosion is limited, layers with higher thicknesses are related to high sand content (high net-to-gross), lower shaliness or clay volume in the sandstones packages, and higher porosity and permeability. This principle was used as the basic guidance for the properties distribution (net-to-gross, Vclay, and porosity) in the reservoir models for Cascade and Chinook. Permeability distribution was controlled by porosity distribution according to the facies distribution and under Vclay control. Either the thickness or quality of the sand was used to determine the turbidite facies (i.e. proximal or distal; amalgamated or heterolithic). Gross isochore maps from the seismic interpretation helped populate sandy areas horizontally, while well logs helped populate lithologies vertically. The geology-based method described in this presentation was reasonably effective in generating geology computer models with parameters that were useful for the reservoir engineering analysis. ■

Biographical Sketch

ELIZABETH ANN WATKINS is a Senior Reservoir Geologist for Petrobras America, Inc. (PAI). A native of St. Louis, Missouri, she received her Bachelor's degree in geology from Washington University in St. Louis. She subsequently moved to Houston where she earned her Master's degree in Geology from Rice University. She has almost 30 years of experience in exploration, geologic operations, field development, and production. Her entire career has been based in Houston, where she has worked for Mobil, Baker Atlas and ENI, analyzing or developing various types of carbonate and siliciclastic fields throughout the Americas. For the last 8 years, she has worked for PAI in the Walker Ridge Asset Department, performing reservoir characterization and participating in the development of the Wilcox reservoirs at Cascade and Chinook Fields, U.S. Gulf of Mexico.



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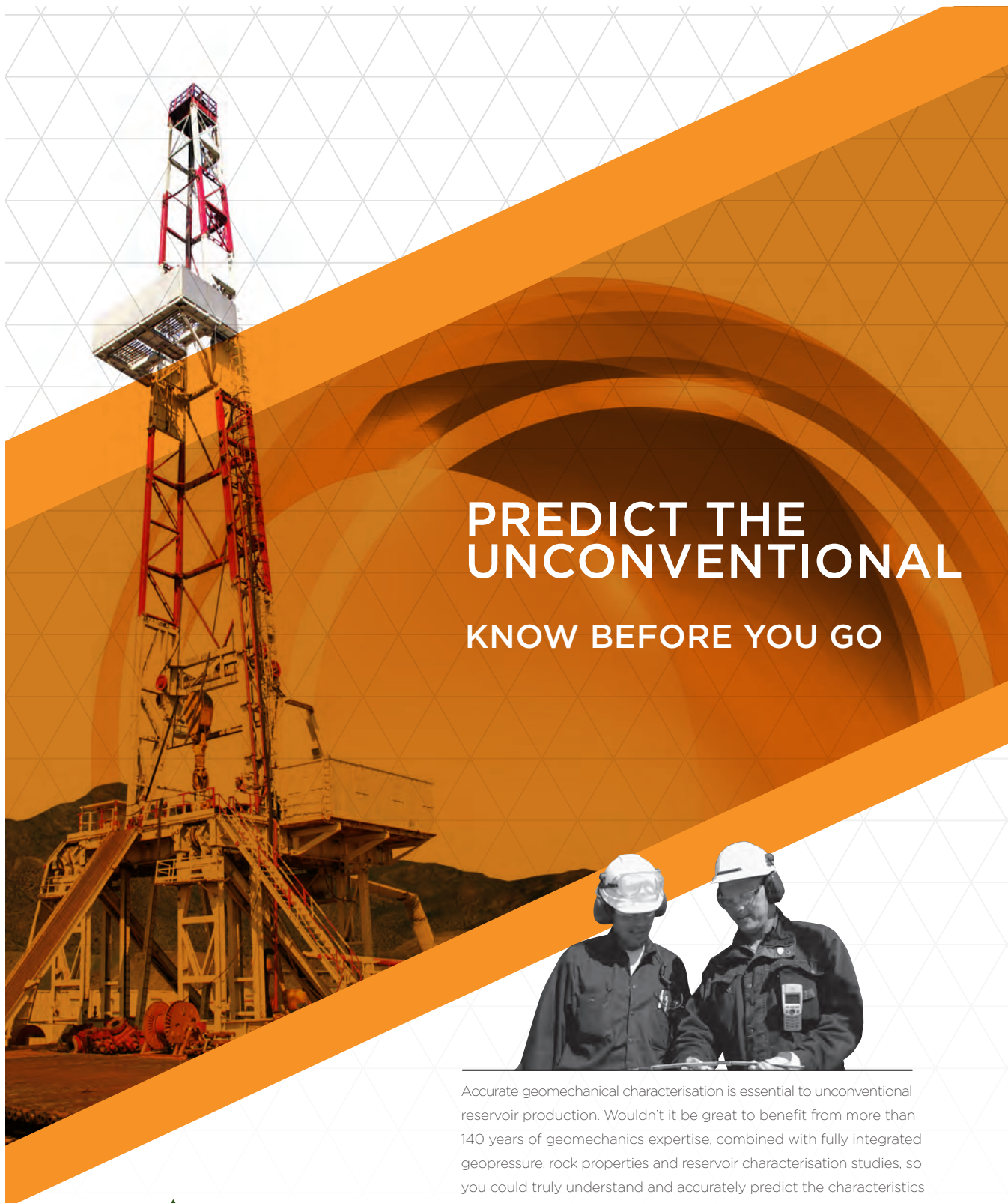
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HGS Environmental & Engineering Dinner Meeting

Heather R. DeShon

Associate Professor

Huffington Dept. of Earth Sciences

Southern Methodist University

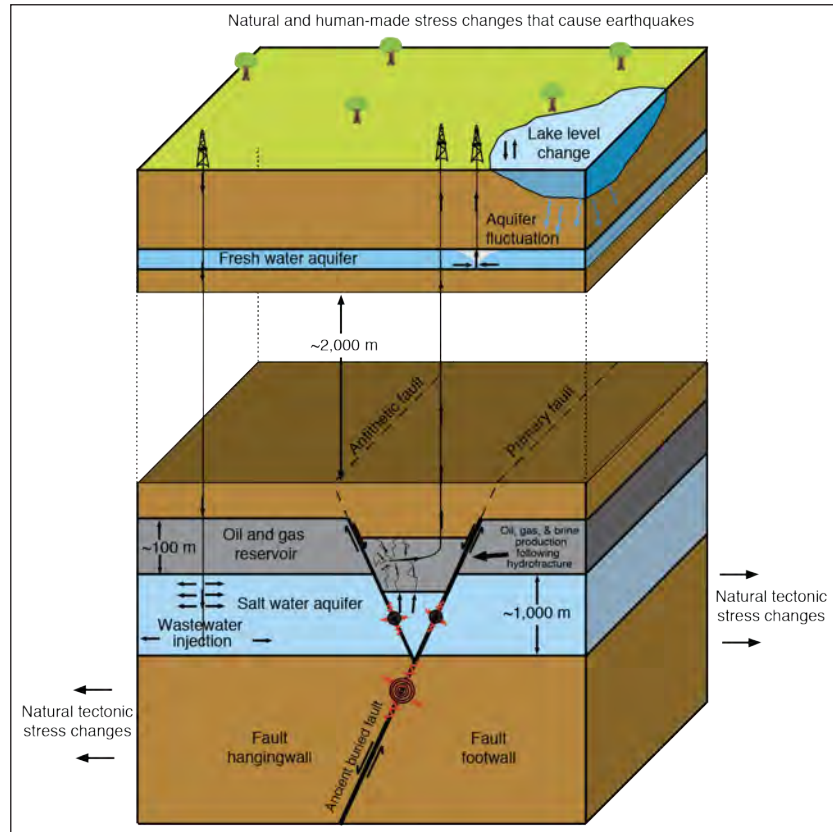
Dallas, TX

Mitigating Induced Earthquakes in North Texas

Increased seismicity rates across the central United States have raised scientific questions and local and national concerns about the impact of shale gas production on infrastructure and subsurface structures such as faults. This talk will focus on recent research on North Texas earthquakes. But the central US is not historically aseismic and intraplate faulting is not uncommon. This talk explores similarities and differences between the intraplate New Madrid seismic zone, host to the large (M7+) earthquakes of 1811-1812 and focus of the Earthscope NELE experiment, and ongoing earthquake sequences occurring in the Fort Worth (Barnett Shale) Basin. Both New Madrid seismicity and North Texas earthquakes occur along reactivated ancient faults located in the basement granites and overlying sedimentary units and release natural tectonic stresses. New Madrid has a long paleoseismic record of large earthquakes. In contrast, North Texas had no credible felt earthquakes prior to 2008 and the recent swarms have been linked to local wastewater injection associated with shale gas extraction (2008/2009 DFW; 2009 Cleburne; 2013 Azle); studies of the 2014/2015 Irving-Dallas and 2015 Venus sequences are ongoing. ■

Biographical Sketch

DR. HEATHER DESHON is a seismologist at Southern Methodist University whose research focuses on understanding earthquake initiation and rupture complexity. She uses high-resolution earthquake relocation and tomography to explore the spatial and temporal relationships between seismic source characteristics and structural variability. Her background in using local amphibious seismic networks to understand subduction seismicogenic zone processes has more recently been applied to

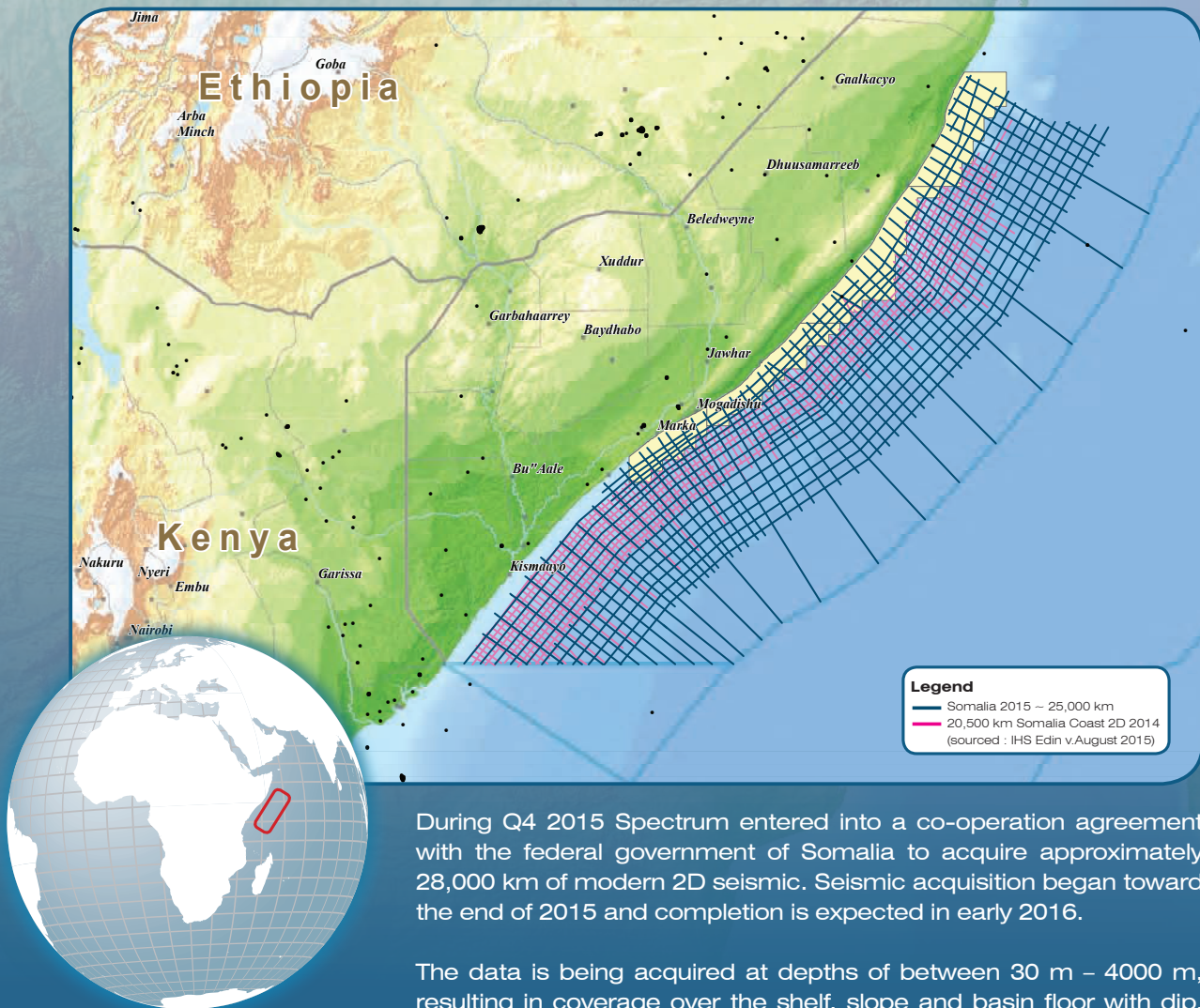


Natural and anthropogenic stress changes that may trigger earthquakes in the Azle area. Several natural and anthropogenic factors can influence the subsurface stress regime resulting in earthquakes. Natural stress changes that promote earthquakes include intraplate stress change related to plate tectonics, natural water table or lake level variations, or (not pictured) the advance or retreat of glaciers. Anthropogenic stress changes that promote earthquakes include human-generated changes to the water table (including dam construction) and industrial activities involving the injection or removal of fluids from the subsurface.

studies of intraplate seismicity and lithospheric structure in the central US. More broadly, her research interests are aimed at improving the characterization of seismic and tsunami hazard. Heather received her BS in Geophysics and Mathematics at Southern Methodist University and a PhD in Earth Sciences (Geophysics) from the University of California-Santa Cruz.

Somalia Unlocked

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HGS International Explorationists Dinner Meeting

Scott E. Thornton

Ecopetrol, Houston, TX

Department of Earth Sciences, University of Southern California

Win Swe and Soe Thura Tun

Yangon University, Myanmar

Regional Tectonics, Structure, and History of Petroleum Exploration in the Union of Myanmar

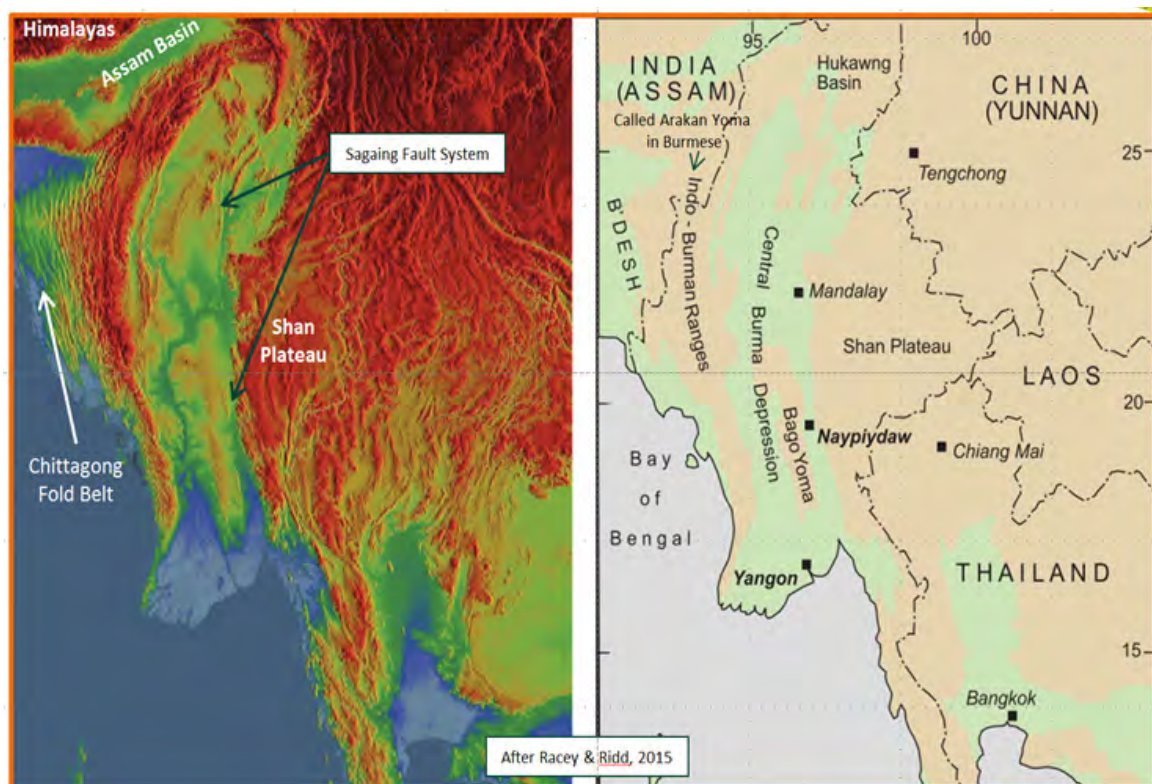


Figure 1. DEM image of the Union of Myanmar region with major structural features (after Racey and Ridd, 2015). See also Aung Khin et al., 1970 and Pivnik et al., 1998.

The Union of Myanmar (formerly known as Burma) is located in a plate tectonic setting where compressional and strike slip tectonics have formed a complex set of forearc and backarc basins (Figure 1) with significant anticlines (Figure 2) that formed from the compression and transtension as the Burma Plate moved towards the north past the Shan Plate and the Indian Plate moved north past the Burma Plate. In the Central Burma Depression (Figure 3) sandstone and limestone reservoirs were deposited, which are oil and gas bearing, and several source rock intervals have been documented, mostly deltaic-fluvial in origin (Figure 2, Harun et al., 2014). The provenance of the clastics was from the east and, with an estimate of 303–460 km of offset over time along the Sagaing Fault, a transform fault, the provenance areas are now

considerably to the south (Win Swe and Soe Thura Tun, 2007; Win Swe, personal communication, 1989).

Myanmar has had oil exploration since the first hand-dug wells were drilled in the Central Burma basin around 900 AD, using technology first used in China's Szechuan Basin. Starting in 1755, when Myanmar was part of the British colonial empire of India, early British soldier-diplomats visited some of the hand-dug wells in the Central Burma Basin, which were located around prominent surface anticlines in the vicinity of Yenangyaung. In 1755, there were 520 hand-dug wells registered by the British government. Historical estimates establish about 1 million

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US gallons of oil were produced a day in 1797 by local families organized as corporations. In 1886 the British colonial Rangoon Oil Company, registered in Scotland, was organized to explore for oil with modern techniques. This company became the foundation of the storied Burmah Oil Company. Burmah drilled the first cable tool wells in 1889 in Yenangyaung, which resulted in the “discovery” of Yenangyaung Oil Field in the Central Burma Basin. Burmah Oil Company allowed Burmans who had land rights to continue digging hand dug wells, while Burmah was drilling cable tool wells very close by (**Figure 4**). A geologist working for the company, in fact, developed the “Anticlinal Theory of Petroleum Entrapment” based on his field studies around this oil field, which later became a fundamental aspect of oil exploration from surface anticlines (**Figures 5 & 6**). For a long time, from 1886-1901, Burmah Oil Company held a colonial monopoly in the country, until the Standard Oil Company gained its first lease in 1901. Even with competition, the Burmah Oil Company enjoyed nearly exclusive success in the country, and continued to operate until the Japanese invasion of the country. As the Japanese were seeking a source of oil, British troops destroyed all producing wells with explosives. After the end of WWII, and the promised independence of the Union of Burma after the defeat of the Japanese in Burma, Burmah Oil Company enjoyed an exclusive monopoly on exploration until the Union Oil Company and General Exploration Company partnership obtained a huge lease for most of the Central Burma Basin outside of Burmah’s producing fields in 1961 and they began doing extensive field work and aerial photo analysis to assess how to proceed with their exploration efforts. With the nationalization of the oil industry in 1963 after the untimely death of Aung San, the leader in independence from Britain, Burmah Oil and Union Oil lost their leases, and the newly formed state oil company, later called the Myanmar Oil and Gas Enterprise (MOGE) assumed all operations. MOGE successfully delineated the older fields and found sizable fields from their own exploration using gravity methods and surface geology. When prospective areas onshore had no surface anticlines, MOGE acquired 2D seismic data and had more discoveries of oil. In 1988, the government opened oil and gas exploration to foreign oil companies for the onshore, and the prize block, Block F, was acquired by Unocal, who competed aggressively with the other bidders, Exxon and Mitsubishi for the most coveted block in the country. As an interesting twist of petroleum history, the Chief Geologist of MOGE at the time, Aung Din, had been trained by Unocal in 1961-62 when Unocal had essentially the same block. He had a warm place in his heart for those days, and the relationship helped in Unocal’s block acquisition. Many other companies explored the country during this first foreign involvement, but only Shell tested any significant petroleum, which was sub-commercial at the time. In 1992, Total acquired a previously-discovered gas field in offshore Myanmar in the Irrawaddy Delta, later called Yadana Gas Field,

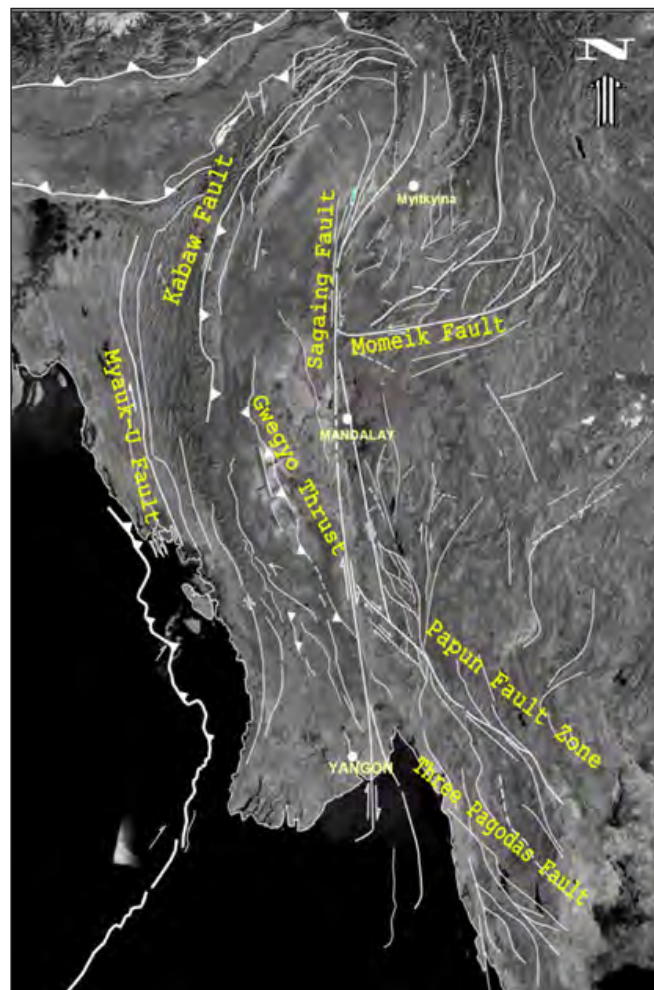


Figure 2. Structural trace map of Myanmar based on Landsat interpretation and field studies by Win Swe (1970, 1981) and others. After Soe Thura Tun (2005). See also Myint Thein et al. (1991).

which had been evaluated by Unocal in 1987. Total was joined by Unocal Corporation as a partner as MOGE valued Unocal’s relationship after their joint onshore venture in Block F (**Figures 9 & 10**). This gas field continues to produce today, with well over 5 TCF of recoverable reserves. Texaco, Premier Oil and Nippon Oil discovered the Yetagun Gas Field in 1992, and it began production in 2000. In 2000, Daewoo International acquired exploration acreage in western Myanmar offshore, where they discovered nearly 5 TCF of gas in the Shwe Project in channelized turbidite fans, including injectites (Cossey et al., 2013). Other exploration efforts, both onshore and offshore, have not yielded economic success to date, but the long saga of oil and gas exploration in Myanmar continues. Even at present, the ingenious Burmans and Arakanese continue to drill hand dug wells, or use home-built rotary machines (**Figures 5 & 6**). The most recent offshore lease sale demonstrates the continued interest of large and small companies in Myanmar’s exploration potential. Indeed, we are at the peak of oil and gas exploration in the country, with nearly all prospective acreage currently under lease. ■

HGS International continued on page 32

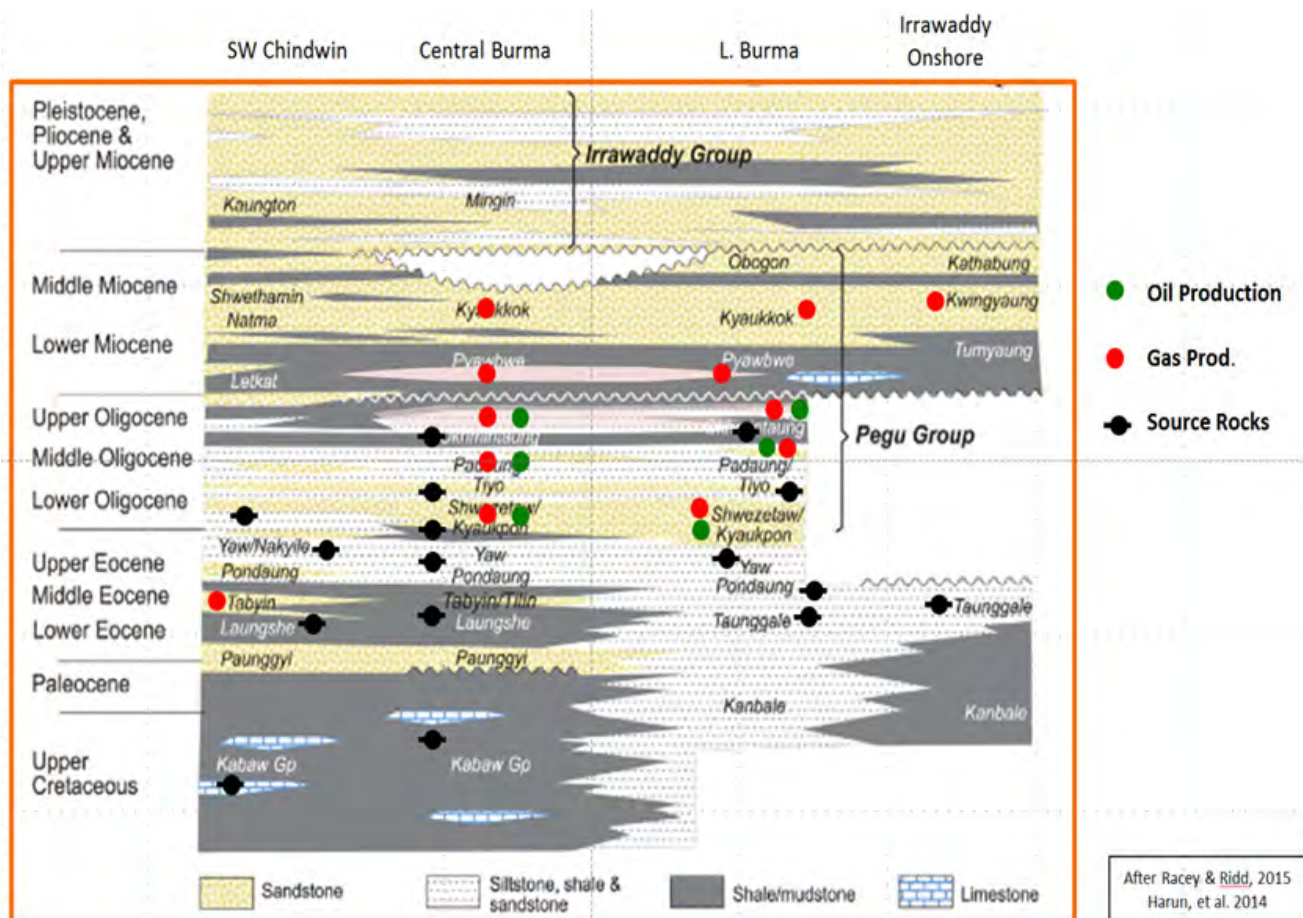


Figure 3. Reservoir and source rocks of the Central Burma Depression (After Racey and Ridd, 2015 and Harun et al., 2014).

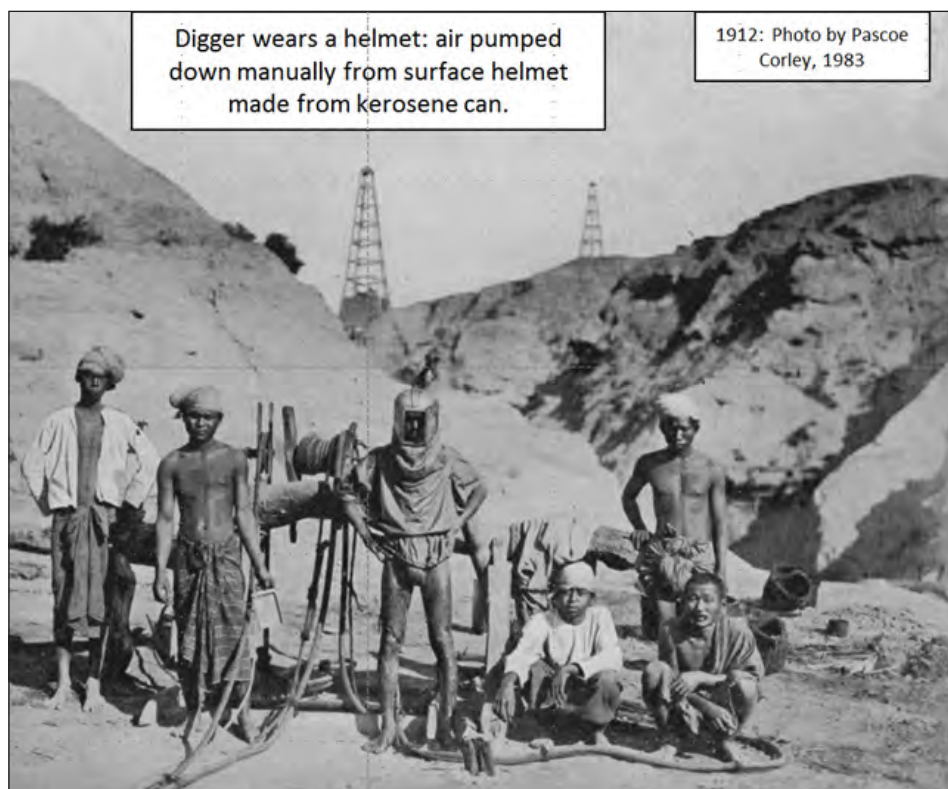


Figure 4. The Burmese had developed simple but effective drilling techniques, including the conversion of kerosene cans to helmets, to which were attached air hoses, enabling workers to hand-dig wells to greater depths, as this photo from 1912 shows (After Corley, 1983). Note the Burmah Oil rigs in the distance. Native shallow drilling claims were honored by Burmah Oil, often located within 50-100 meters of cable tool rigs.

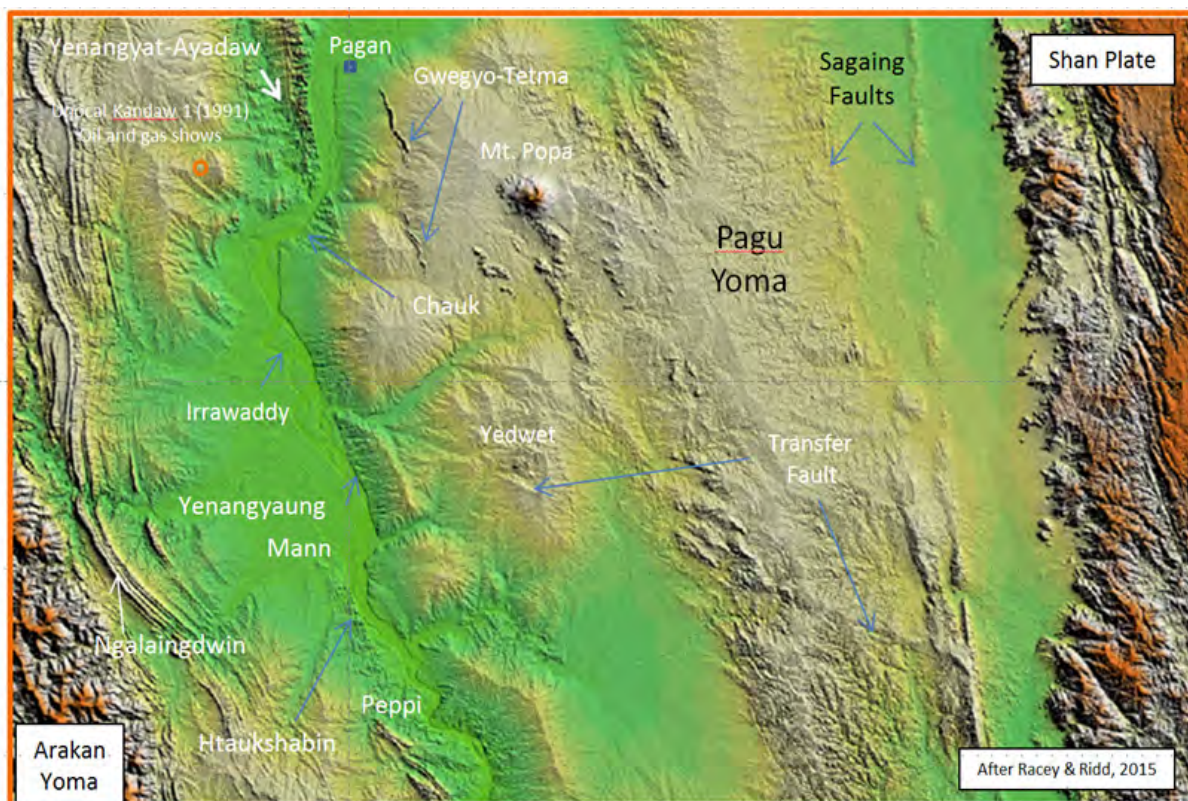


Figure 5. Major structural elements and oil fields of the Central Burma Basin. It was in this basin, containing four 100+ MMBO oil fields, where the Anticlinal Theory of Petroleum Accumulation was first elucidated by Thomas Oldham in 1855, an Anglo-Irish geologist working for the Indian Geological Survey, while performing field work on the Yenangyaung Anticline. Note the location of the Saging Fault System (Win Swe and Soe Thura Tun, 2007) and transfer faults cutting across the Pagu Yoma Fold Belt (DEM image after Racey and Ridd, 2015).

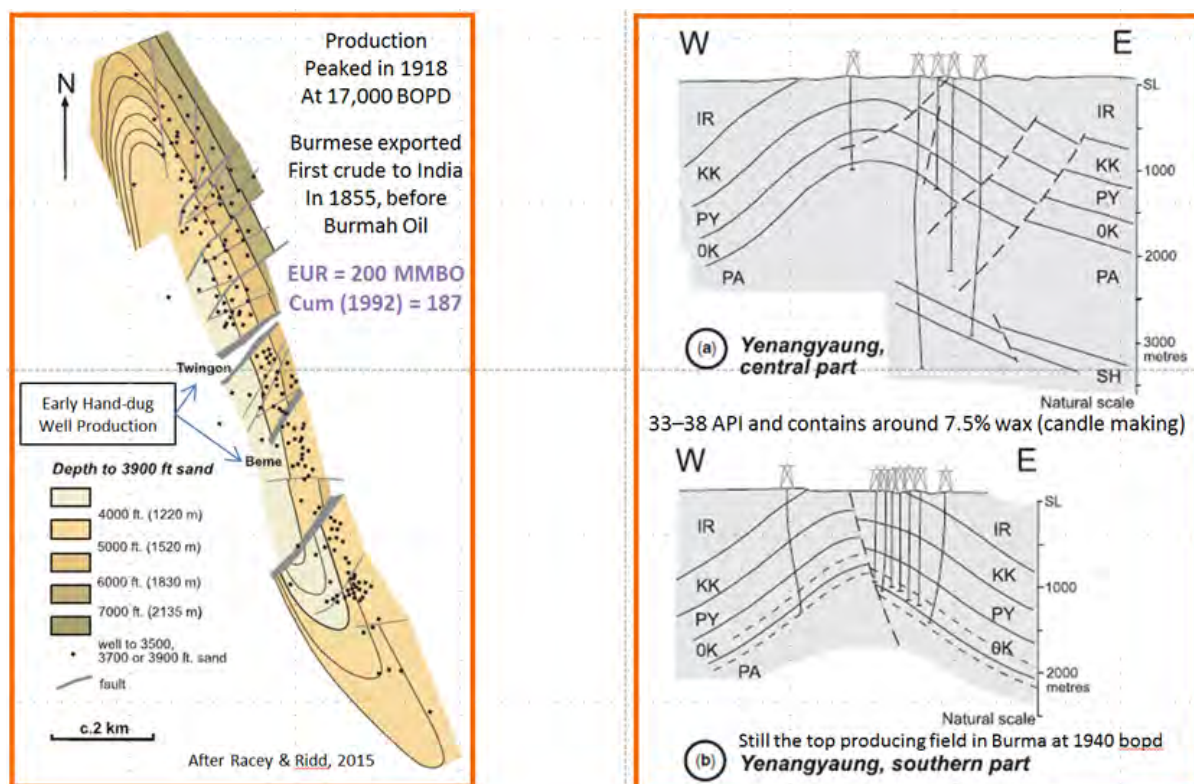


Figure 6. Yenangaung anticline, where it all began. Structure map showing locations of early hand-dug wells and cross sections of oil fields. Note the changing vergence of thrust faulting on the anticline (Racey and Ridd, 2015 after Pascoe, 1912).

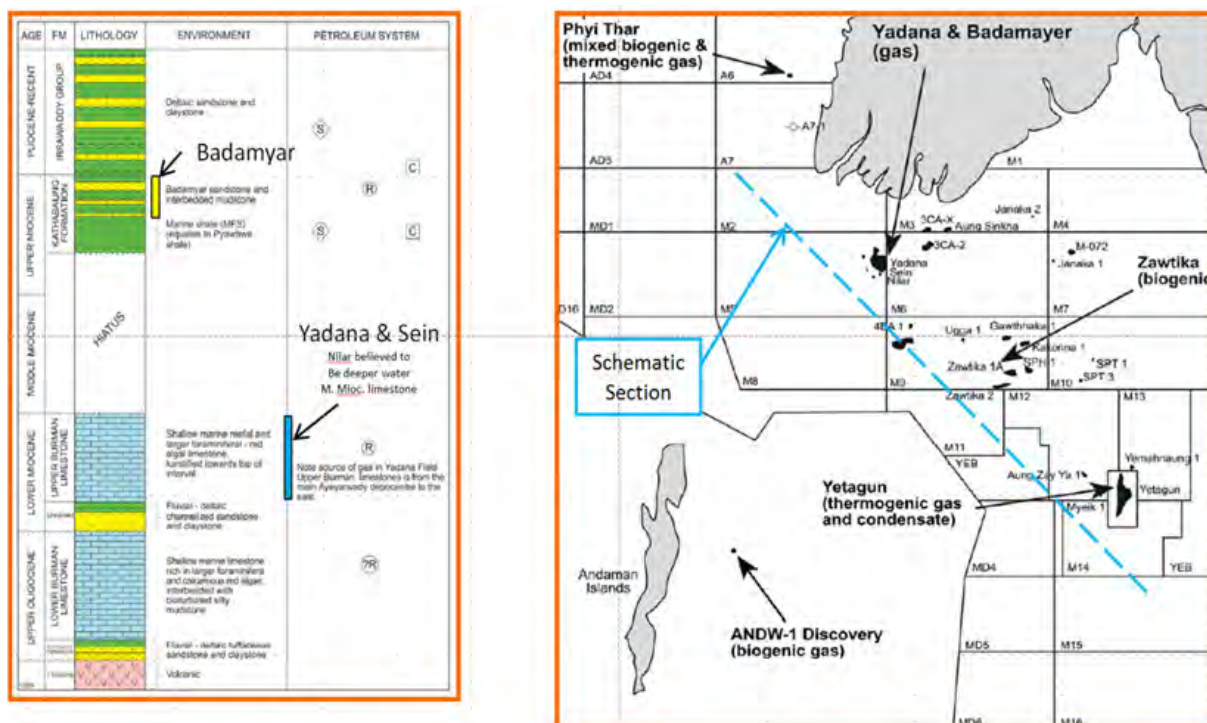


Figure 7. Stratigraphy and gas fields in the Gulf of Martaban. The Gulf of Martaban has yielded profitable discoveries by Total, Chevron, and PTTEP. The location of Yadana Field was originally discovered by the Burmese national oil company, in a well which blew out; Yadana was later safely appraised and developed by Total (Racey and Ridd, 2015).

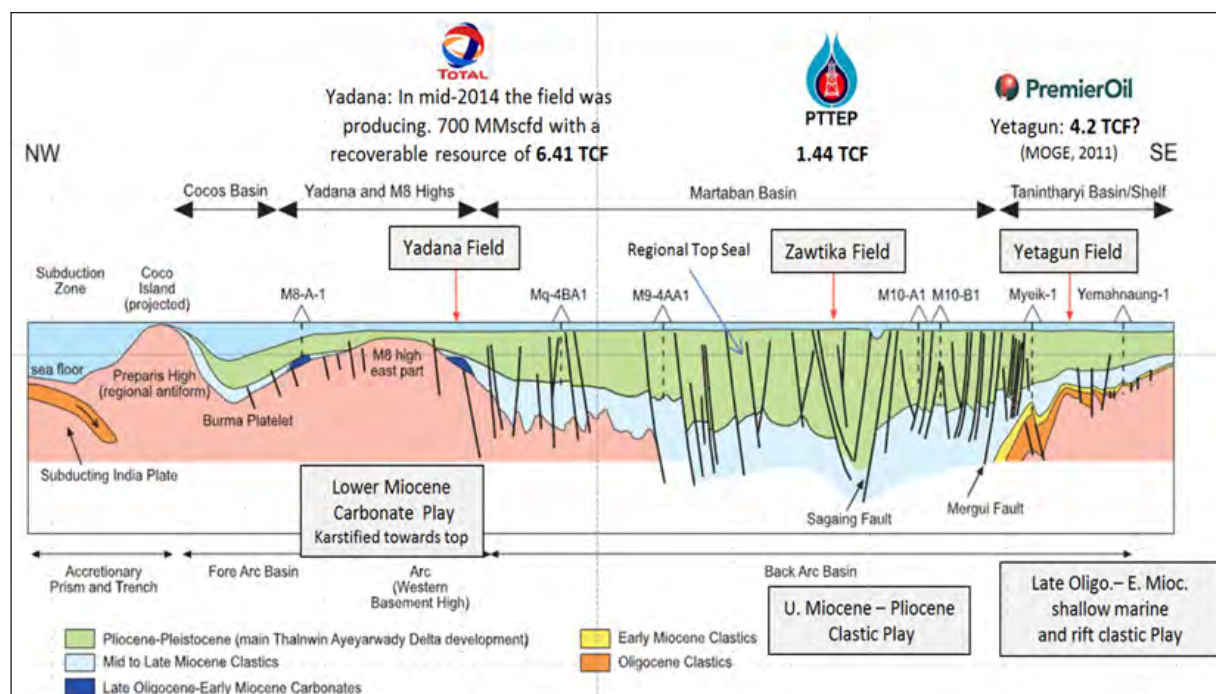


Figure 8. Regional cross-section of the Gulf of Martaban fields (see Fig. 6 for location of section). The Yadana Field is located above a basement high, and karstification of the carbonate reservoir has been attributed to subaerial exposure. High CO_2 content is related to the proximity of volcanic rocks (Racey and Ridd, 2015).

HGS International continued on page 34



For several decades however, groups of poor families have come here to explore for oil and exploit any finds. If they can collect oil they are obliged to pay local landowners a concession fee, which is set at between US \$500 to \$2,000 for the use of a roughly 20 square-meter plot.

Figure 9. Local oilfield operations onshore Myanmar include the use of handmade rotary drilling rigs (Irrawaddy Times, 2013).



Figure 10. Inhabitants of the Rakhine (Arakan) area on the Bay of Bengal have been producing oil for at least as long as the Burmese in the Central Burma Basin (around 900 A.D.). The Arakanese have used the produced oil for waterproofing boats and simple oil lamps, as well as for medicinal purposes.

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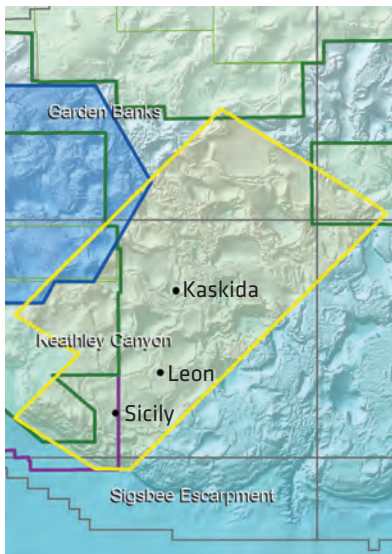
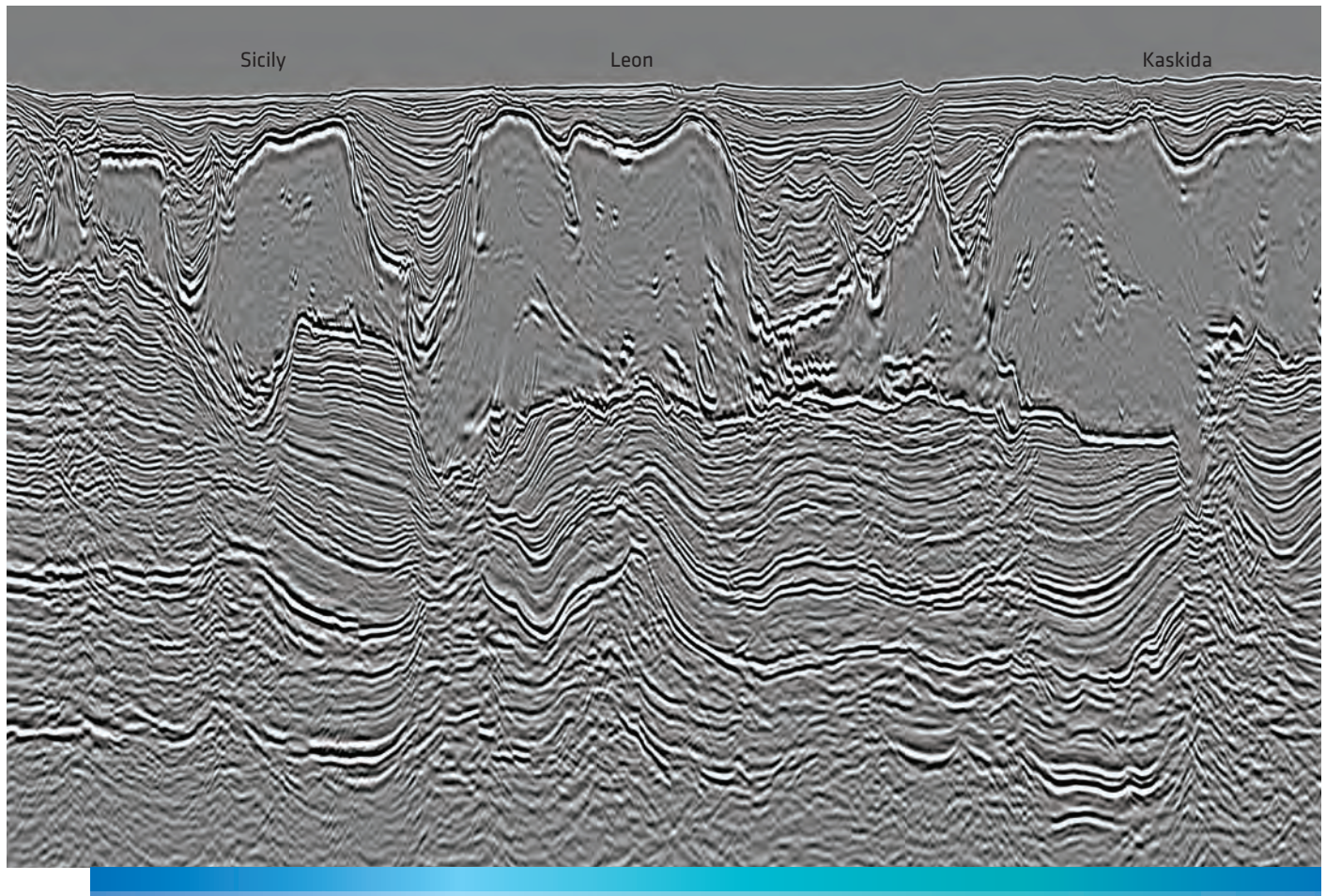
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Biographical Sketch

SCOTT THORNTON came to work Myanmar (née Burma) as a result of his position in New Ventures at Unocal. When it became apparent that Myanmar was holding its first-ever onshore bid round in 1989 after a visit by Ed Robinson from Business Development, the small International Exploration team in Los Angeles jumped on the opportunity. Scott was working for Fred Dekker in Asia Pacific New Ventures for Unocal in Los Angeles, a very experienced explorationist in the Gulf of Thailand. Scott eagerly volunteered to work on Myanmar, as he previously had been involved evaluating the offshore gas discovery, 3DA, in 1988, which later became the Yangon Field. Scott and his geophysical teammate, Mike Hursey, made several trips to Myanmar, including field reconnaissance, and chose the block he felt had the best potential. His close teammates in the venture were Philip Grove, as a New Ventures/Business Development lawyer, as well as Fred Dekker. The rest of the story will be presented in this talk. Scott has worked for Unocal and Shell for about 20 of his 35 years, and several other employers and clients. His new ventures work has covered South Asia, China, SE Asia, western South America, Australia, and, for 12 years, the South Atlantic Basins of Brazil and West Africa. He currently works on the Mexico New Ventures Team, has consulted for Pemex in Mexico for 2 years and looks forward to one last visit to Burma in his retirement to sit on Aung Din's back porch.





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HGS Northsiders Luncheon Meeting

HGS Northsiders Luncheon Meeting

Roger M. Slatt

*Institute of Reservoir Characterization, School of Geology and
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Brenton J. McCullough

*Devon Energy Co., Oklahoma City, Oklahoma
Institute of Reservoir Characterization, School of Geology and
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Carlos E. Molinares-Blanco

*Institute of Reservoir Characterization, School of Geology and
Geophysics, Sarkeys Energy Center, University of Oklahoma*

Elizabeth T. Baruch

*Origin Energy Co., Brisbane, Australia
Institute of Reservoir Characterization, School of Geology and
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Paleotopographic and Depositional Environmental Control on “Sweet Spot” Locations in Some Unconventional Resource Shales

Both the Woodford Shale (Oklahoma) and the Barnett Shale (Texas) are prolific unconventional resource shales. Both of them sit atop unconformities on the surface of underlying carbonate rocks. There is variable topographic relief of >300 ft on the unconformity surface in some areas due to incised valley and/or karst formation during periods of subaerial exposure resulting from lowered sea level. Anomalously high thicknesses of the shale can form within these topographic depressions during marine transgression. Also, it is likely that the topographic relief creates areas of restricted marine circulation, and subsequent, localized anoxic depositional environments conducive to preservation of organic matter. The occurrence of basal stratigraphic intervals of high TOC, plus the discontinuous, pod-like distribution of TOC in two 3D seismic areas support this hypothesis. In addition, it is possible that during the time after unconformity formation and prior to marine encroachment into topographically low areas, lacustrine environments may develop, which could be sites for earliest accumulation of organic-rich, mud that would generate Type I, oil-prone kerogen upon burial. Such localized, anomalously thick, TOC-rich zones are potential ‘sweet spots’ for drilling. Similar characteristics might also prevail in other ‘siliceous’ unconventional resource shales, particularly if they are underlain by carbonate rocks. ■

Reference

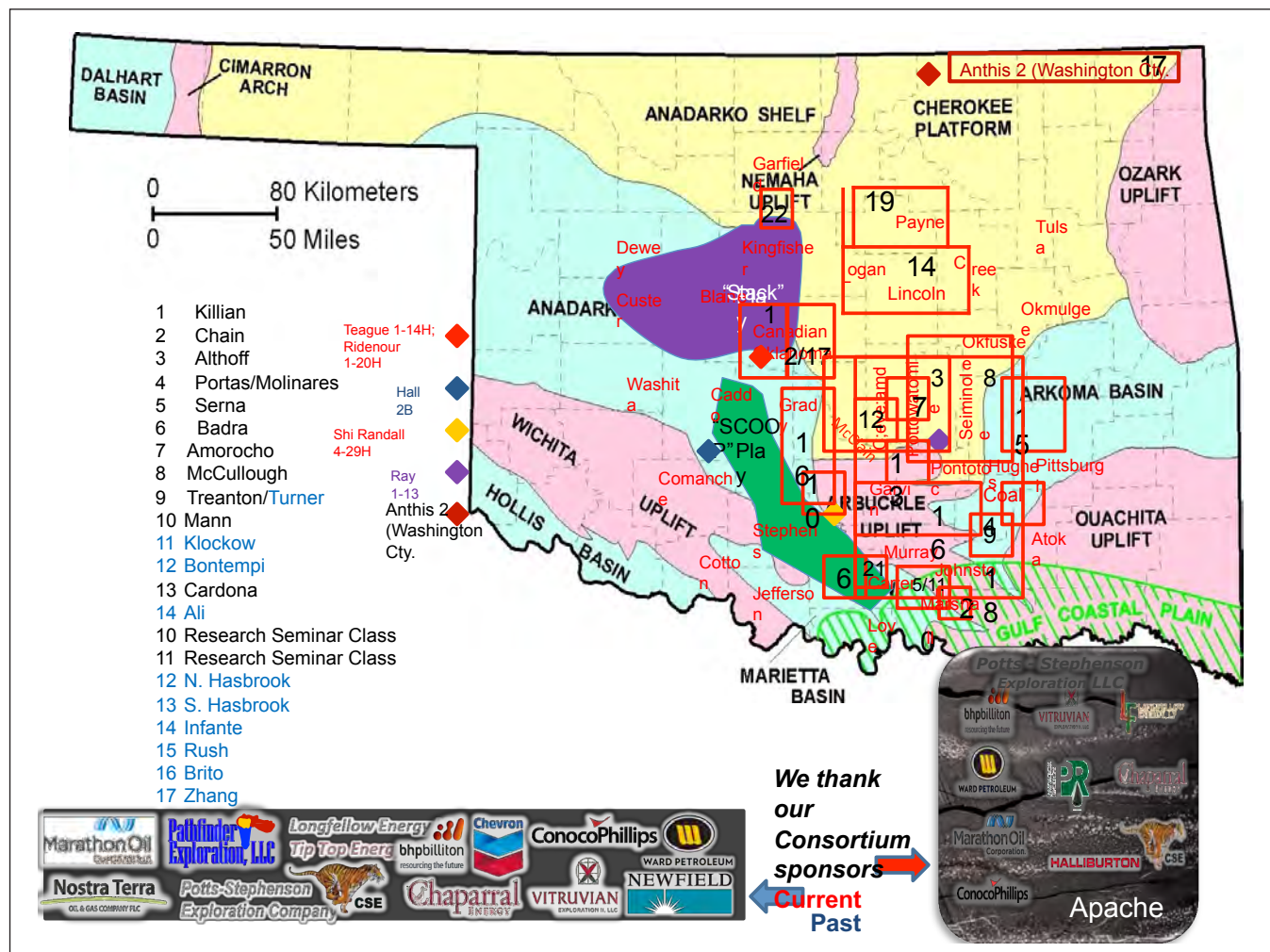
Cardonas, F., 2014, Integrated characterization of the Woodford Shale in the southern Cherokee Platform: unpublished M.S. thesis, University of Oklahoma, 98 pp.

Biographical Sketch

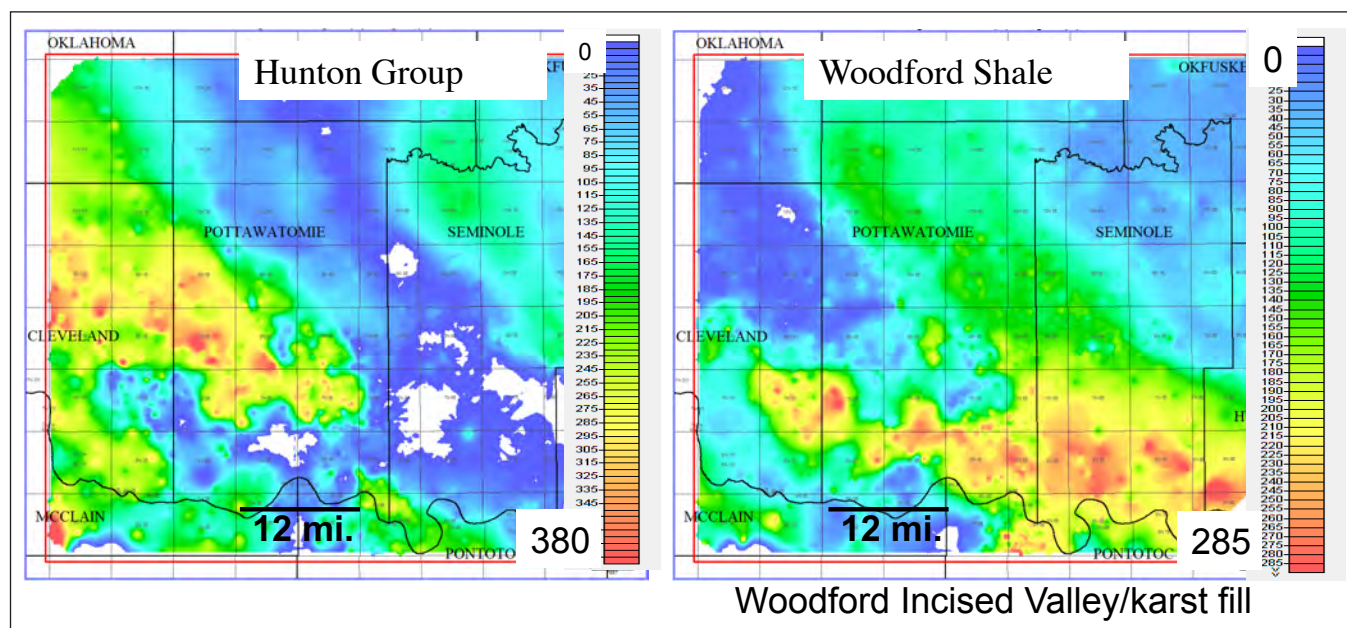
DR. ROGER M. SLATT is currently the Gungoll Family Chair Professor of Petroleum Geology and Geophysics at the University of Oklahoma. He was Director of the School of Geology and Geophysics and Eberly Family Chair Professor at the University of Oklahoma from 2000-2006. He formerly was Head of the Department of Geology and Geological Engineering at the Colorado School of Mines (1992-2000) and Director of the Rocky Mountain Region Petroleum Technology Transfer Council (1995-2000). He earned his PhD in 1970 from the University of Alaska. He has taught geology at Memorial University of Newfoundland, Arizona State University and Colorado School of Mines and worked in the petroleum industry for Cities Service Research, ARCO Research, and ARCO International Oil and Gas Co. He has written more than 150 articles, including presentations made. And he has authored, co-authored or edited six books on petroleum geology, reservoir geology, seismic and sequence stratigraphy, shallow marine and turbidite depositional systems, geology of shale, glacial and Pleistocene-Quaternary geology, and geochemical exploration. He has organized technical conferences for AAPG. Recognition that he has received includes: recipient of the AAPG Distinguished Service Award, AAPG Distinguished Educator and Honorary Member, SEG Distinguished Service Award, SPE Esso Australia Distinguished Lecturer, and both AAPG and SPE Distinguished Lecturer. More than 100 of his graduate students received their degrees during his academic career.



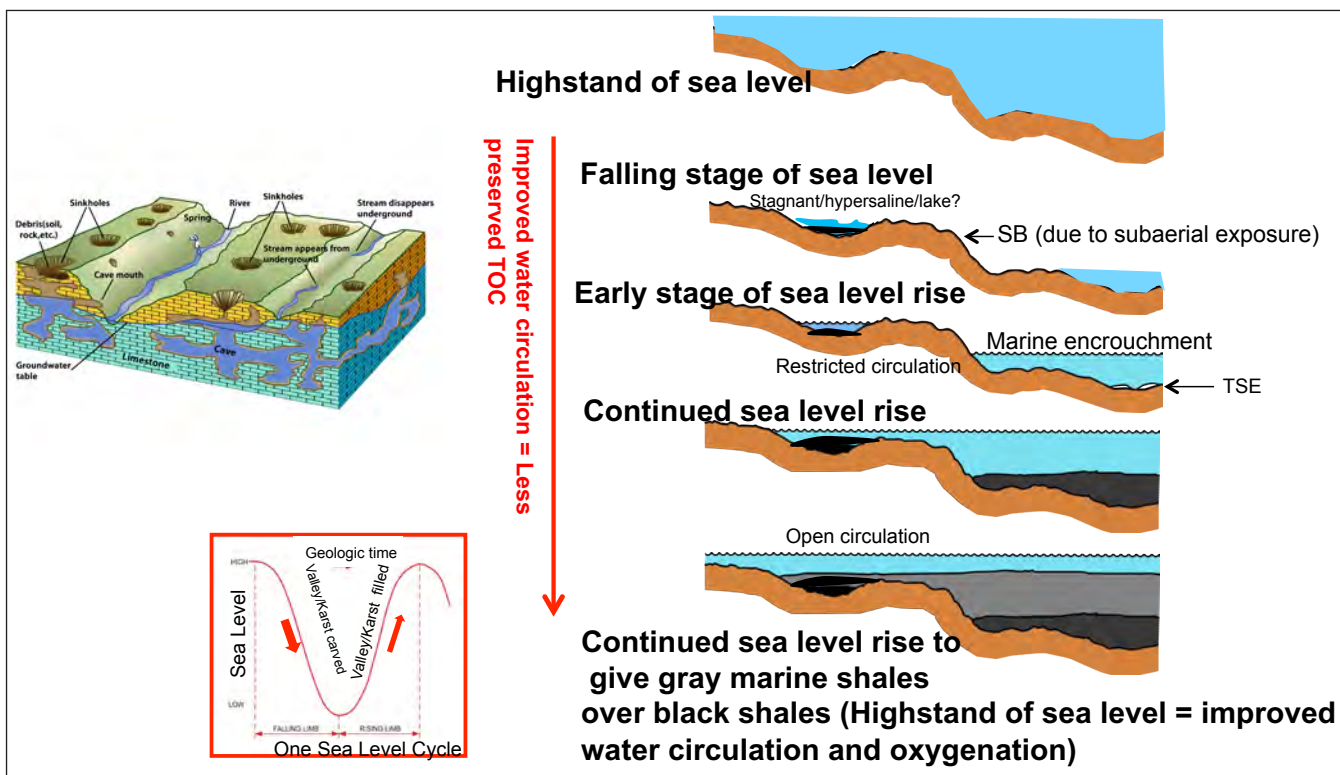
HGS Northsiders Luncheon continued on page 38



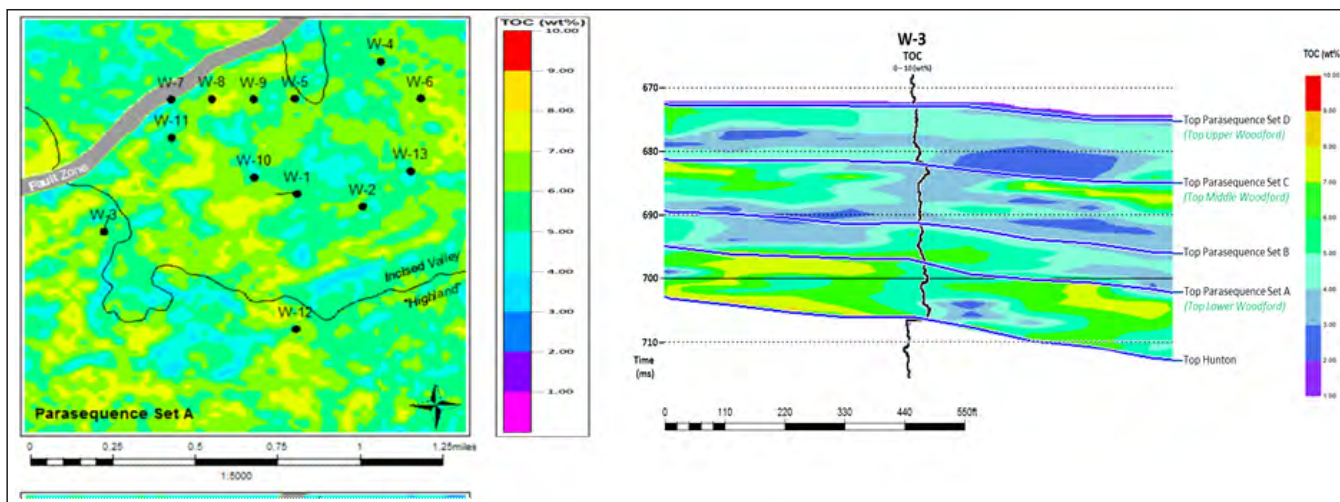
Areas of recently completed (black names) and completing (blue names) student theses on the Woodford. Consortium Sponsors are also shown.



Isopach thicknesses of Hunton Group and overlying Woodford Shale. Valley fill (Woodford) is thin where underlying Hunton is thick and vice versa

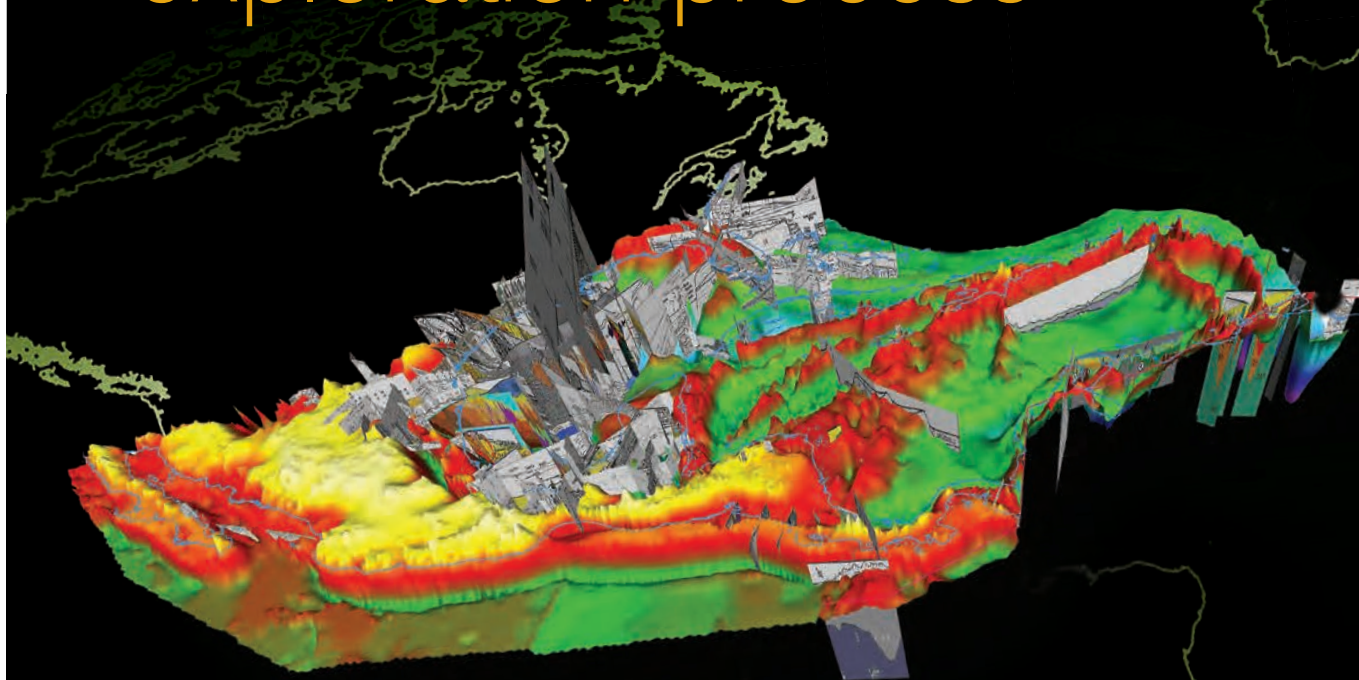


Depositional model for the Woodford through one Sea Level Cycle showing differential deposition due to irregular topography on the unconformity surface



3D seismic inversion to TOC distribution showing both laterally and vertically discontinuous TOC distributions. After Cardonas, 2014.

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HGS North American Dinner Meeting

Bob Wiener

Goh Exploration, Inc., Houston, TX
gohexp@gmail.com

Shallow Ellenburger and Pennsylvanian Section Re-exploration Using Innovative Technology and Basic Geology

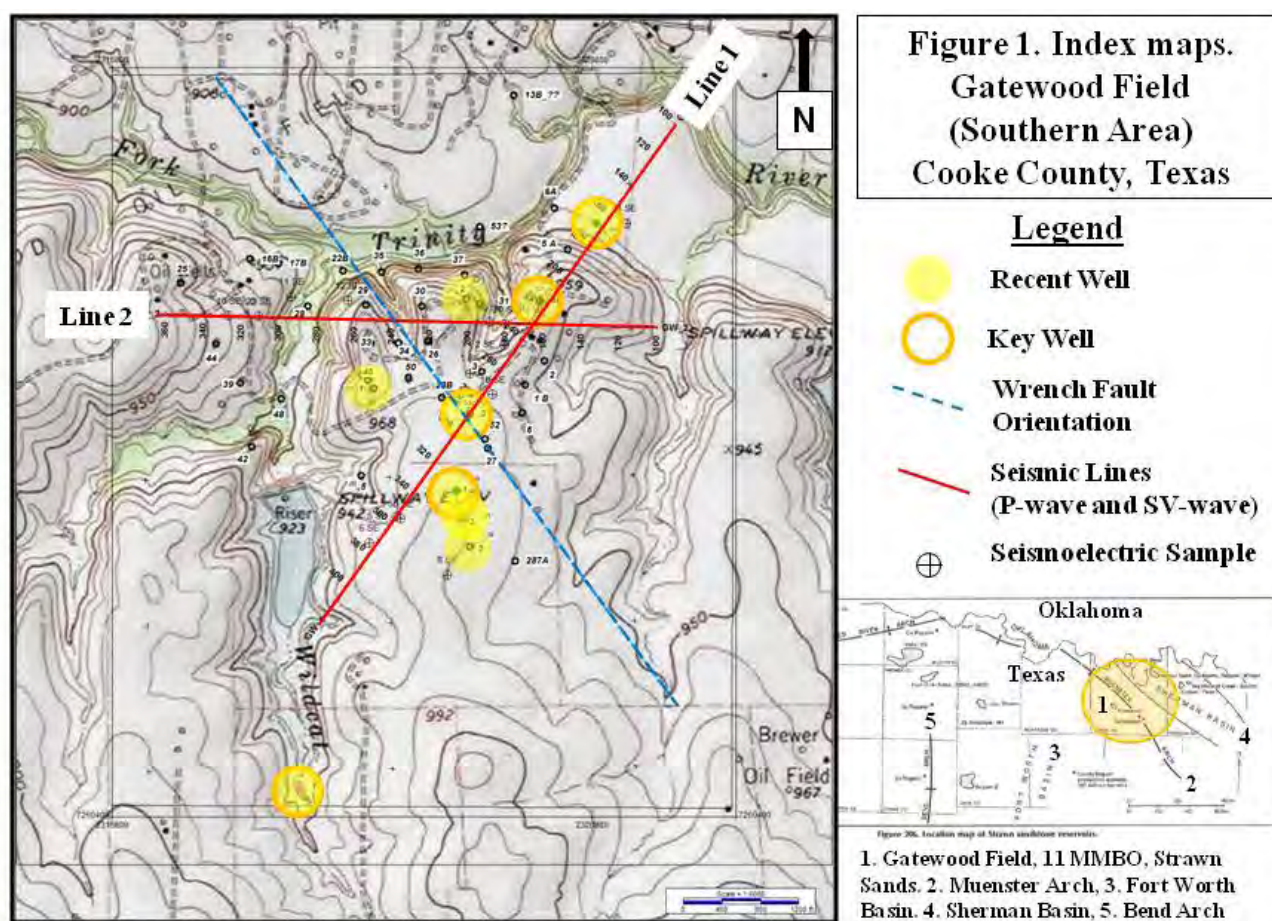


Figure 1. Index maps of Gatewood Field (Southern Area), Cooke County, Texas.

One of Texas' older producing regions is the northern part of central Texas from the Muenster Arch to the Bend Arch (Figure 1). This talk focuses on shallow, conventional oil plays across the area in the Ordovician Ellenburger Group and in the Pennsylvanian and Permian section. Since the 1920's, this area has produced hundreds of millions of barrels of oil. Hopefully hundred-thousand to million barrel fields remain to be found.

There is always prospect risk, even when re-exploring known, productive shallow oil areas. To reduce risk and improve the chance of commercial success it is important to take a fresh look at the geologic history of the area and to apply current and innovative technologies. The techniques discussed here as well as other readily available geophysical and geochemical techniques are applicable throughout this shallow oil play.

HGS North American Dinner continued on page 42

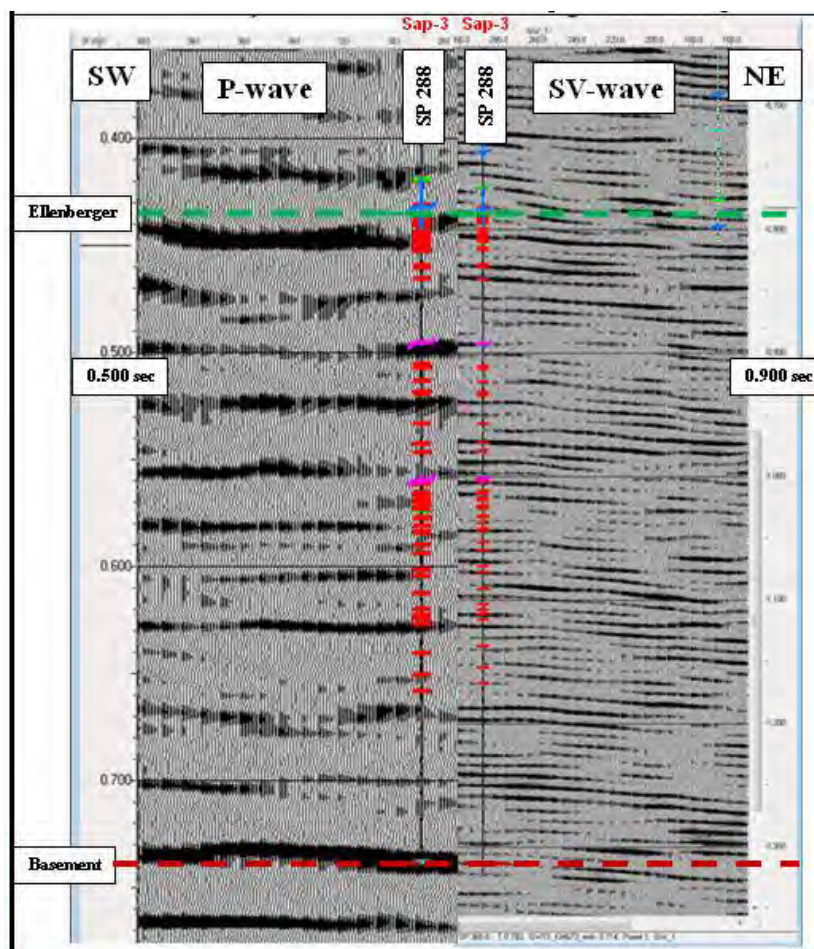


Figure 2. Seismic line 1. P-wave section on left and SV-wave section on right. Amplitude display in black-and-white wiggle trace. Red marks on well are fractures interpreted from logs.

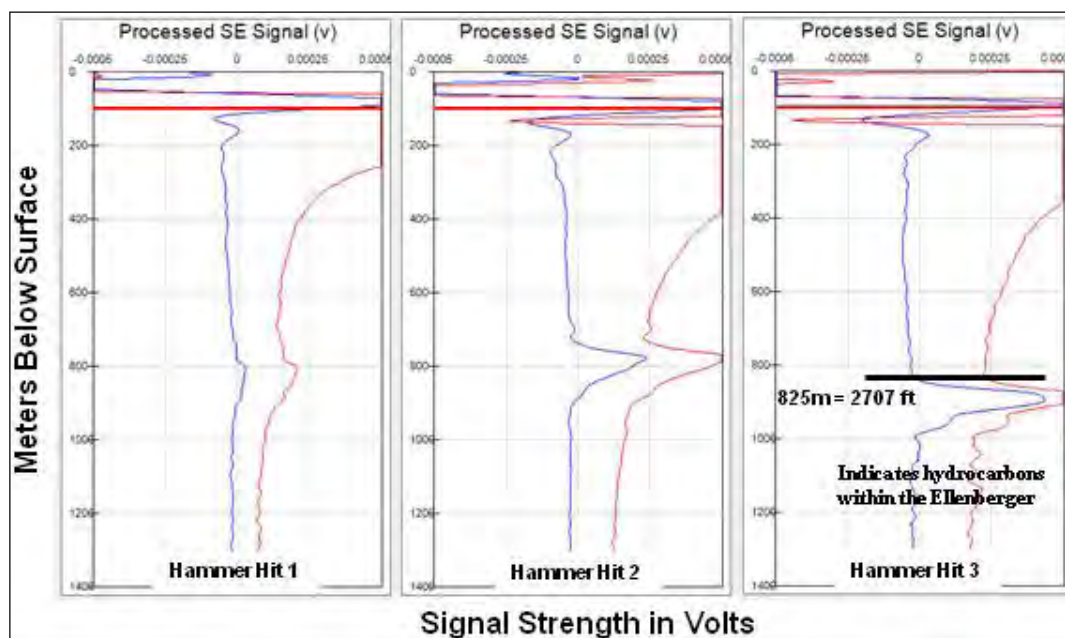


Figure 3. Seismoelectric (electrokinetic) shot #25. Indicates oil show on Line 1 at CMP 288, which is the Sappenfield No. 3 Location. Three readings are taken at each location. Major response centered at 825 meters (2707 feet) below surface.

The data used are from the southern portion of the Gatewood Field, Cooke County, Texas (**Figure 1**). One of the companies, e-Wave Operating, LLC, has allowed me to use a portion of their data to illustrate the types of innovative approaches an independent operator can take to improve their chance of success. This talk is an outgrowth of work I have done over the years for independent exploration and production companies, as well as for investors. This field has produced 11 MMBO from the Gatewood sand, which is a Pennsylvanian Strawn sand about 1,500 feet below the surface (**Figure 4**). After drilling attic Gatewood and the slightly deeper 1,700' Sand prospects based on subsurface mapping, the drilling program was paused. Sophisticated log data from the new wells were reevaluated, which include high-resolution Triple Combo logs, rotary sidewall cores, thin sections, and solvent extractions. Then, a commitment was made to purposefully explore for the sparsely drilled Ellenburger. On this part of the Muenster Arch, the Ellenburger is about 2,000 feet below the surface and about 3,000 feet thick.

To get a look at the Ellenburger, two 2-dimensional seismic lines were recorded and processed. A conventional vertical force source (VFS) of energy was used to acquire each seismic line as both compressional wave (P-wave) and vertical shear wave (SV-SV-wave) data (**Figure 2**). This may be an exploration "first." Note that the SV-SV-wave from a VFS is not the converted P-SV-wave. In addition, a seismoelectric survey was recorded (**Figure 3**). The

shear wave data produced much higher frequencies, which will be useful in tracking Pennsylvanian and Permian clastic and carbonate plays. Interpretation of the P-wave and SV-SV-wave seismic data indicate a high probability of fractured Ellenburger, and the seismoelectric recordings indicate hydrocarbons in the section. The subsequently drilled e-Wave Sappenfield #3 well was logged with a sophisticated logging program, including cross-dipole sonic and Stoneley wave fracture detection logs (**Figure 5**). The logs verify the pre-drill interpretation. ■

Biographical Sketch

BOB WIENER is a geoscientist with over 40 years of diverse exploration and production experience. He grew up in the bucolic coastal town of Narragansett, Rhode Island. After graduating from the University of Rhode Island with a BSc Degree in Geology, he joined Cities Service Company in 1974, compliments of the Arab Oil Embargo. In 1978 he transferred to Houston to work for Cities Service International and later the Gulf of Mexico Region. After career changes and a stint overseas with Conoco, Bob and family returned to Houston in 1988. Upon his return he began his independent oil and gas consulting and prospect generating businesses, Goh Exploration, Inc.

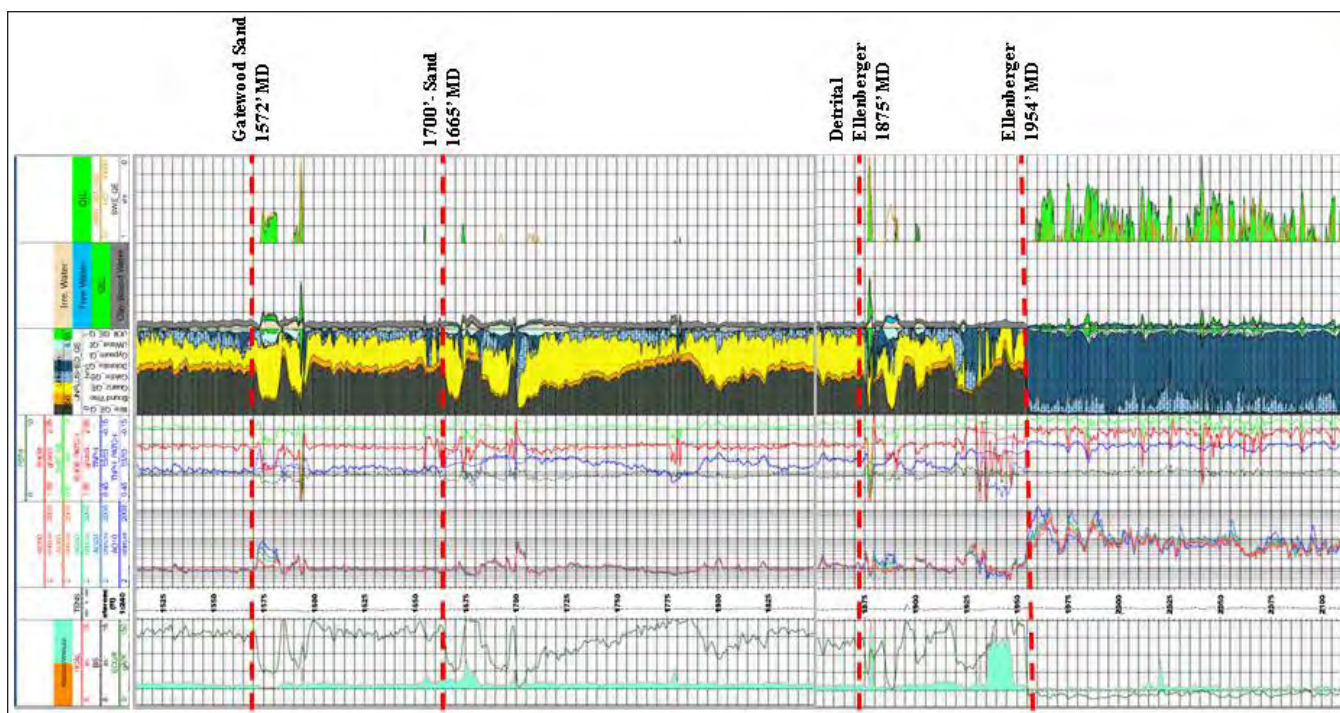
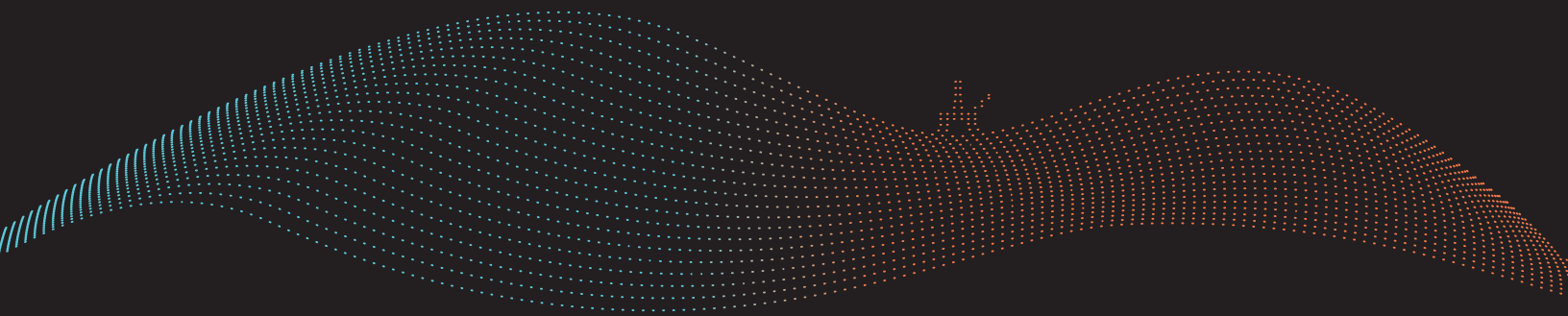


Figure 4. Schlumberger ELAN Analysis (Hydrocarbon Identification) of Gatewood Sand through upper Ellenberger section in the e-Wave Op. Sappenfield #3 well.



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Most of Bob's clients are privately owned E&P companies and publicly traded independents. He works on both US and international projects to help define geological concepts upon which exploration plays are based and to apply appropriate geophysical technology to clarify the subsurface. His goal is to generate commercially successful prospects. Recently,

he has become more active in the HGS (Co-Chair North American Explorationists Group) and the AAPG (Geophysical Integration Committee). He is a member of GSH, SEG, and is a Texas Registered Professional Geoscientist. In addition to his professional activities Bob is active in his community and is currently a Hedwig Village City Council Member.

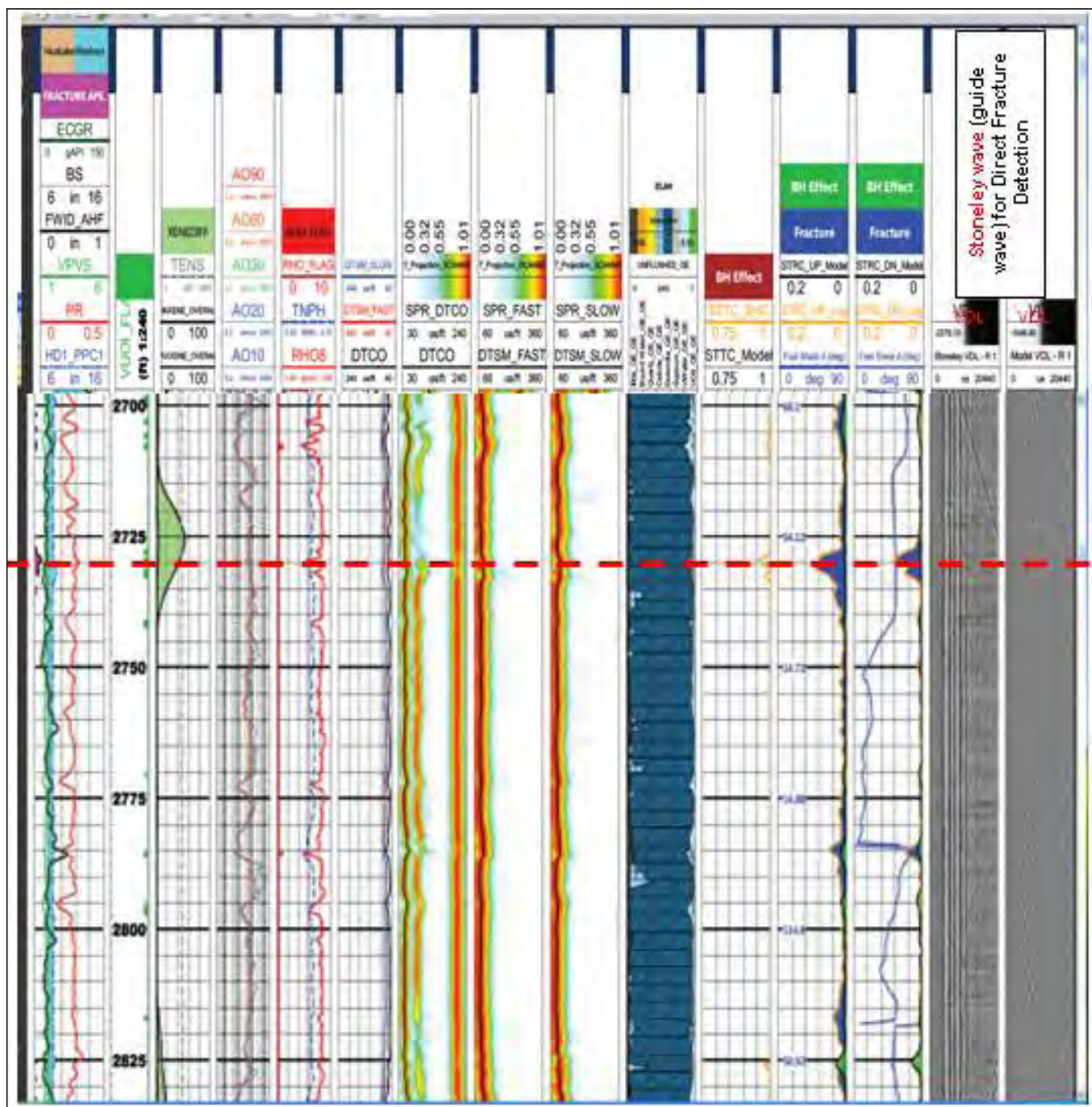


Figure 5. Sonic Scanner & ELAN Combined Sonic Anisotropy, Stonely Fracture Analysis, and Elemental Analysis for e-Wave Op. Sappenfield No. 3. Example of large fracture in the Ellenberger at @730 feet MD approximately corresponds to the seismoelectric peak at 2707 feet.



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Shannon E. Lemke

Vitruvian Exploration II, LLC
The Woodlands, TX

Integration of Geosteering and Drilling Data for Well Placement Efficiency in the SCOOP Horizontal Woodford Play

Geosteering data is generally viewed as a tool used for keeping horizontal wells in a specific target zone. However, it can also be very useful for a regional evaluation and optimization of specific target intervals when entering a play. Vitruvian Exploration II acquired acreage and production in the SCOOP (South-Central Oklahoma Oil Province) horizontal Woodford play in January 2013. Although the technical staff had operated wells in seven different unconventional plays in the U.S., they had no experience in the deep Anadarko Basin.

Vitruvian's acquisition included working interest and data in 27 horizontal Woodford wells drilled by three different operators. A regionally consistent stratigraphic framework was developed for the Woodford using approximately 35 type logs across the area. Vitruvian used this framework to build a geosteering database to analyze which Woodford intervals were being targeted by other operators before commencing their operated drilling program. Starting in mid-2014, rate of penetration (ROP) data was integrated with the geosteering data in order to identify and target Woodford zones of high reservoir quality with more favorable ROP. Vitruvian is currently using this integrated data set from more than 150 Woodford horizontal wells, drilled by seven different operators across the core of the play, to increase drilling efficiencies and well performance.

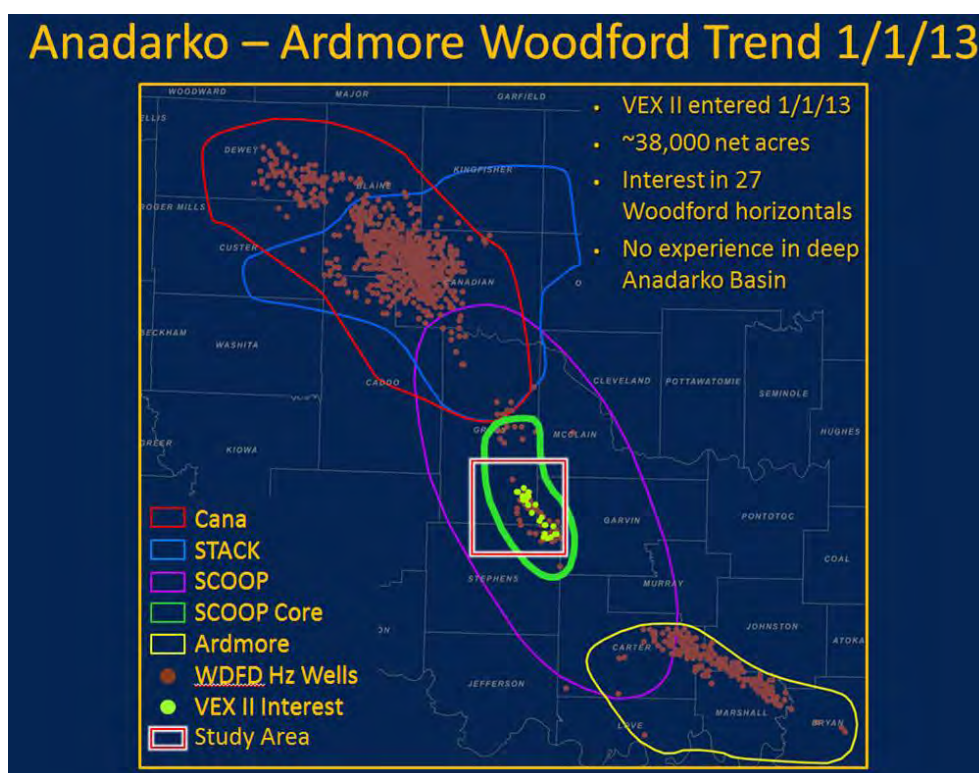
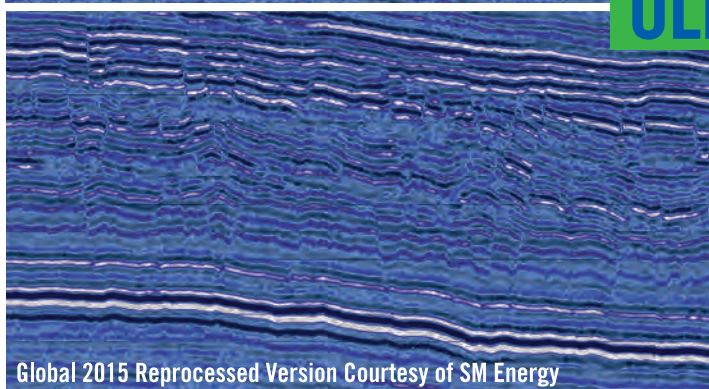
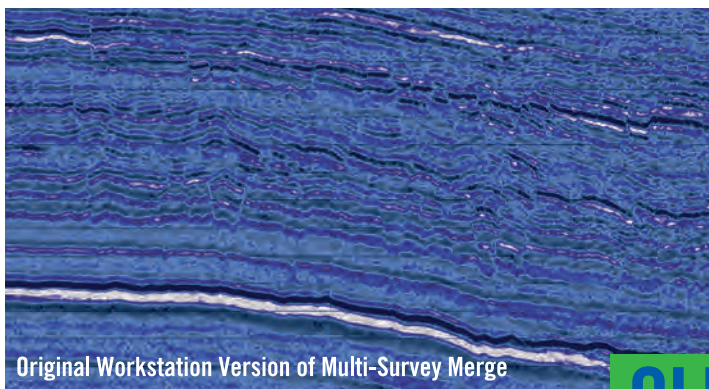


Figure 1: A snapshot of the activity level within the SCOOP horizontal Woodford trend at the time of Vitruvian II's entry into the play. The red square outlines the study area, with the green circles indicating the 27 initial wells where Vitruvian had well data.

Biographical Sketch

SHANNON LEMKE is a geological engineer who has worked for 16 years in the oil industry. She is currently a Staff Geologist for Vitruvian Exploration II, LLC in The Woodlands, where she is responsible for exploration and operations in both the Woodford and Springer Shales.

**HGS General Luncheon** *continued on page 49*



Proprietary workstation version of final stack (left) compared to Global 2015 reprocessed version (right). Note improved imagery in the reprocessed version, especially the fault clarity. South Texas Eagle Ford example courtesy of SM Energy.

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Shannon previously worked as a Senior Geologist at Vitruvian Exploration I, where she developed a horizontal Mississippian Lime project on the Bend Arch. Prior to working at the Vitruvian companies, Shannon spent 10 years as a Geological Engineer for Newfield Exploration. At Newfield, she generated and sold exploratory prospects in the Wilcox, drilled exploratory and development wells in the Lobo trend and development drilled horizontal Ellenburger wells in the Val Verde Basin.

She has been a member of AAPG and HGS for her entire career. She is a past Secretary of HGS and is the current Secretary and a Trustee of the HGS Undergraduate Scholarship Foundation. She also volunteers as a soccer coach for FFPS and delivers meals for Meals on Wheels of Montgomery County.

Shannon is a native Michigander, born and raised in Allen, the “Antique Capital of Michigan.” She earned her BS in Geological Engineering from Michigan Technological University in 2000 and has lived and worked in the Houston area for the last 16 years. She resides in New Caney with her husband, Seth, and their four children.

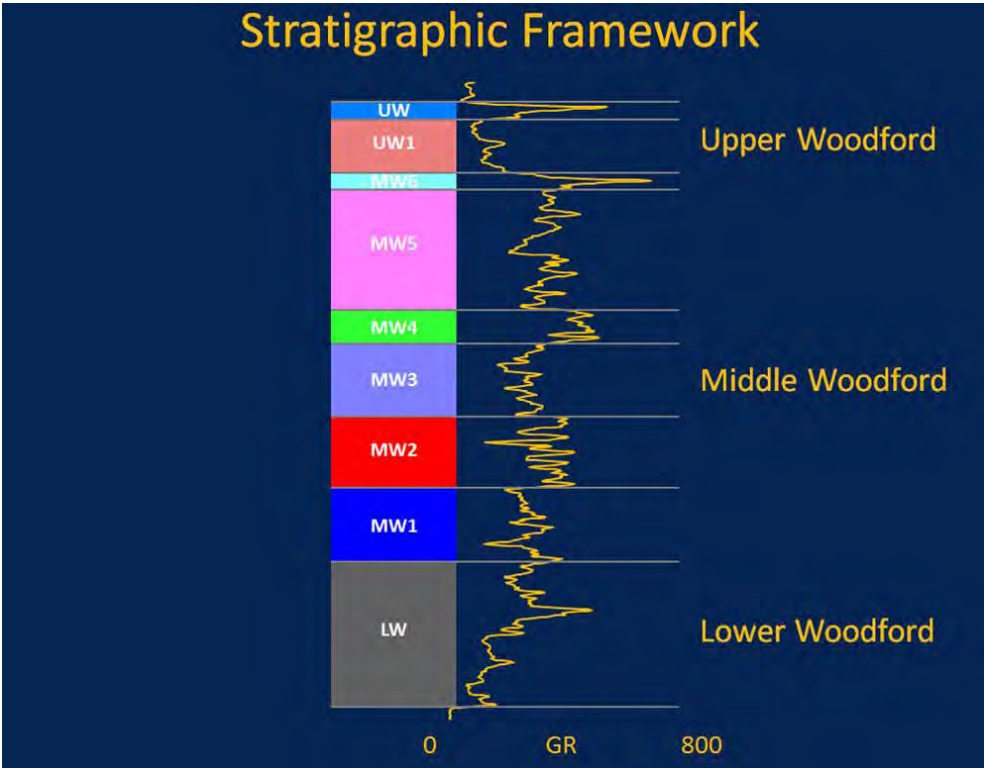


Figure 2: The stratigraphic framework developed by Vitruvian Exploration II breaks down the Woodford into nine units based on gamma ray that are regionally correlative within SCOOP. These units are the basis for the geosteering study.

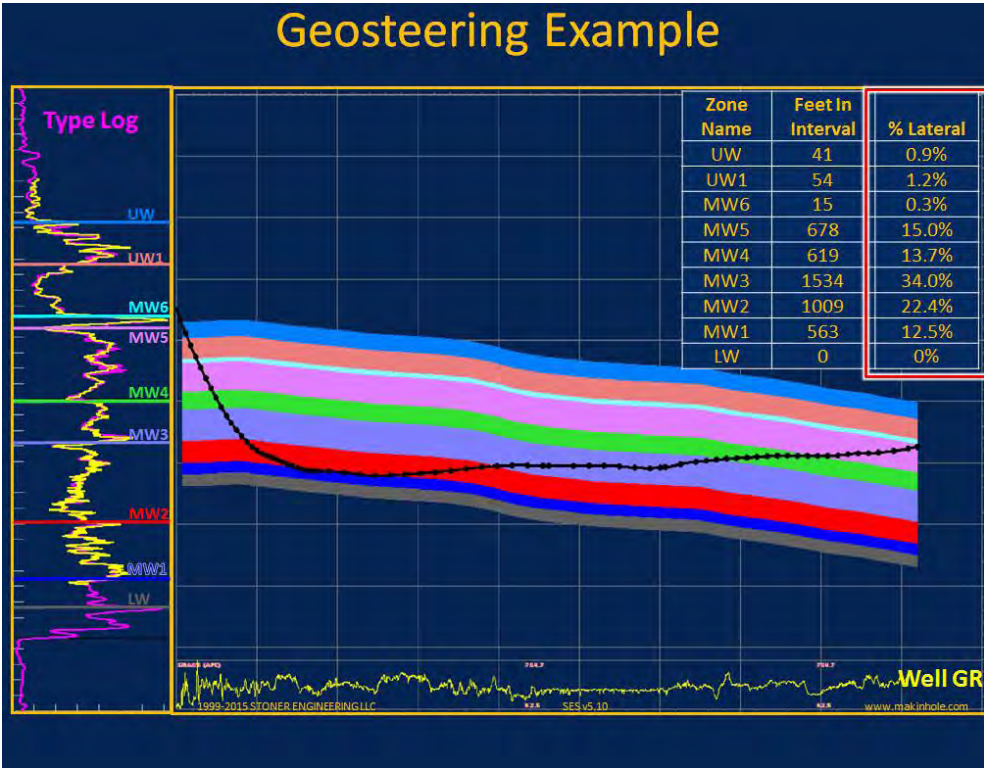


Figure 3: An example of a geosteering solution from a SCOOP Woodford horizontal well. With the use of SES geosteering software, the number of feet drilled in each interval is easily computed, allowing what was just a qualitative interpretation of where the wellbore was drilled to become quantitative data that can be used for further analysis.



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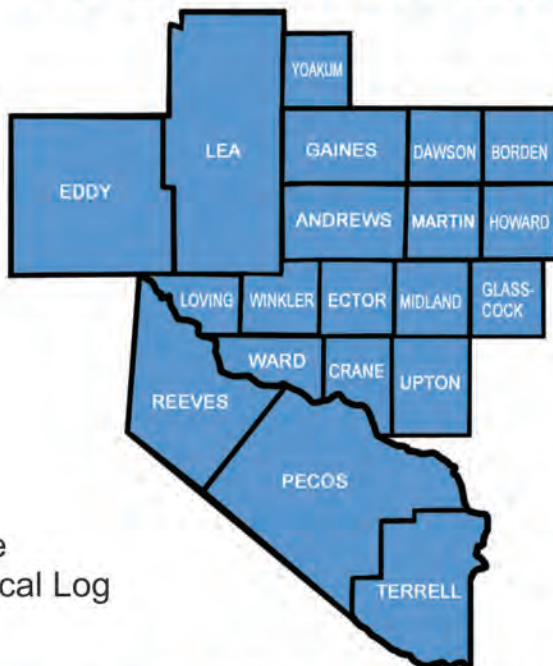


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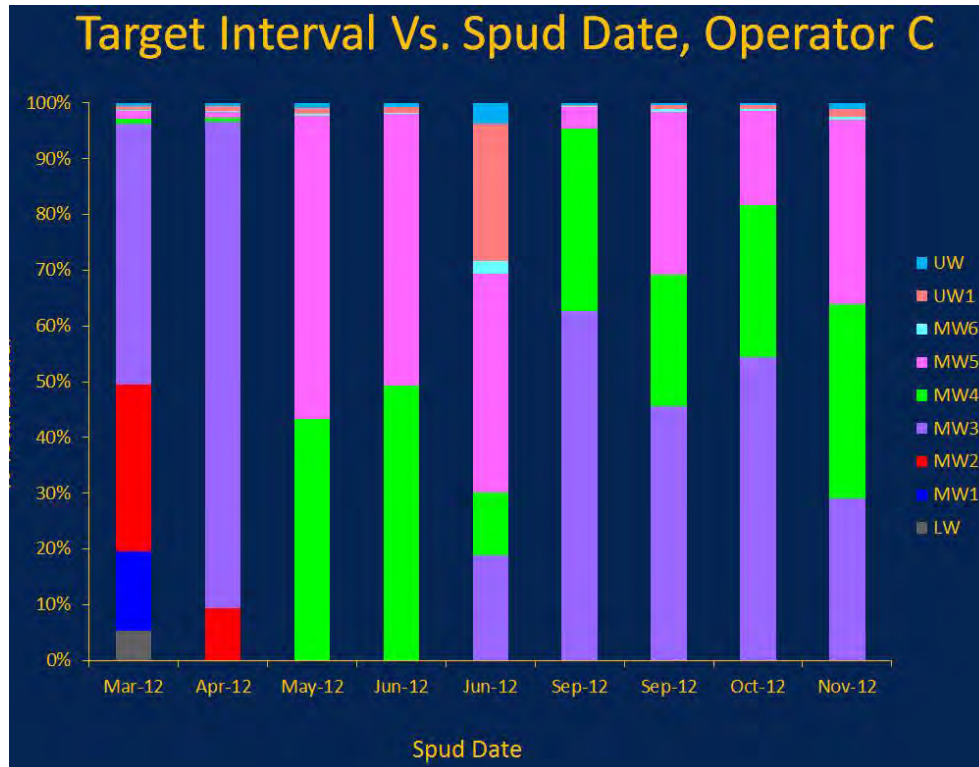



Figure 4: Using the computed percentage of the lateral in each Woodford interval, we can start to look at each well by spud date to see if the operator is changing how they target their laterals over time.



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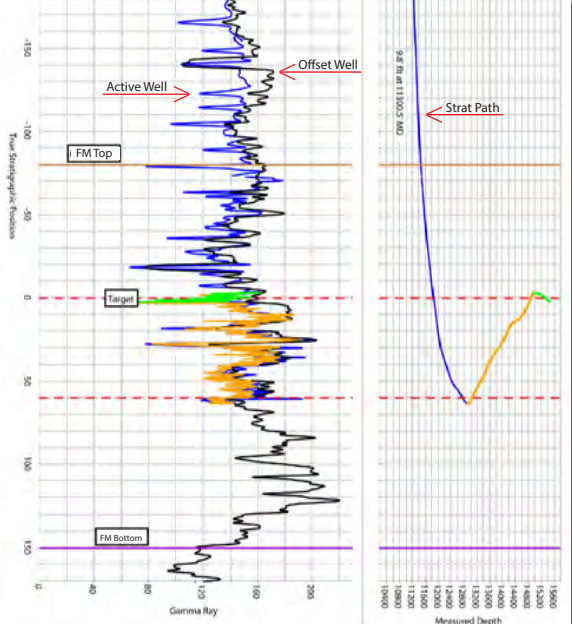
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3	4	5 HGS Board Meeting 6 p.m.	6
10	11 HGS General Dinner Meeting <i>"A Geology-Based, Non-Seismic Attribute Method to Generate Facies, Lithology, and Petrophysical Parameters in Chinook and Cascade Fields, Walker Ridge Protraction Area, Gulf of Mexico, USA,"</i> Elizabeth Ann Watkins, Page 21	12	13 HGS Environmental & Engineering Dinner Meeting <i>"Mitigating Induced Earthquakes in North Texas,"</i> Heather R. DeShon, Page 27
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AAPG House of Delegates Candidates

We are providing a brief informational summary of 36 candidates for the HGS delegation to the AAPG House of Delegates. A formal ballot will be sent to those eligible to vote by AAPG. Each voting member will be asked to vote for 29 individuals.

The House of Delegates of the AAPG is made up of delegates from affiliated societies and international regions throughout the world. They are selected by popular vote from within their respective areas and serve a three-year term.

Requirements of the delegates include:

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- Acquaintance with AAPG's current policies and programs
- Willingness to inform the leaders of their society or region regarding AAPG's program of activities, particularly as it relates to cooperative participation and service
- Ability to process requests from the AAPG Executive

Committee for information regarding eligibility of applicants for membership in the Association

- Availability to serve as local certification committeemen to process requests from the Board of Certification for information regarding applicants for Certification by AAPG
- Willingness to actively solicit applications from eligible geologists for membership in AAPG



Jeff Allen

Supporting the organizations within our unique industry is vital for our continued success. Having served The HGS, The Gulf Coast Log Library, and SIPES, I am excited to serve AAPG in the House of Delegates. I have been a member of AAPG since college.

I want to give back to the community that has supported me over the years. Recently, I have started my own company, Allen Energy LLC, to focus on conventional exploration opportunities for investors. Thank you for this opportunity within AAPG. ■



Bob Ardell

As we now enter uncharted waters in commodity pricing and industry consolidation, AAPG has some rough roads ahead. I would be glad to serve another term if re-elected and would work toward resolving the unknown questions of tomorrow. I have been a member of

AAPG for 50 years and have served in the House of Delegates for 21 years.

I received my bachelor's degree from Monmouth College in Illinois and the Master of Science in Geology from Kansas State University.



Robert Archer

With 25 years of E&P industry experience, Robert is the Chief Executive Officer of Blue Wave Oil & Gas, a start-up E&P company focused on unconventional plays. He holds a Bachelor of Science in Geological Geophysics from the University of Reading and a Master of Science in

Petroleum Engineering from the University of Houston. He is a licensed Professional Geoscientist in the State of Texas.

Prior to Blue Wave, Robert was with Zone Energy, operating an East Texas Woodbine water flood. Robert was a co-founder of Knowledge Reservoir, an E&P consulting firm delivering reservoir studies. His expertise is in the field of subsurface uncertainty quantification and integrated reservoir field studies.

Robert is professionally affiliated with the AAPG, SEG and SPE. As a HoD Alternate, he filled a Delegate vacancy in January 2016 and hopes to continue to serve. ■

I worked as a line geologist at Union Oil and Clark Oil and as an exploration manager at Kerr McGee. My 13 years of employment at Samedan Oil (Noble Energy) developing a unique exploration program in the Gulf of Mexico were very exciting and rewarding. Starting Nippon Oil Exploration as a hemisphere project was also challenging and broadening, with projects ranging from the North Slope to Tierra del Fuego, with plenty of tar sands and GOM in the mix.

If I am honored with re-election to the HOD, I think I can use my wide range of experience in the industry to further the objectives of our profession. ■



Kathleen Bennett

Kara Bennett earned her MS in geology at University of Florida, then worked briefly in the environmental industry before she came to Houston to work in oil and gas. She has been an exploration geoscientist for over 25 years, first with Gulf and Amoco; she became an exploration consultant in

1995. Kara is a long-time volunteer with HGS who has served as editor, VP, and President. She has served three prior terms as a member of the House of Delegates. She enjoys her work with other volunteers for HGS, appreciates the honor and opportunity to represent the Houston region in the House of Delegates, and hopes to continue to serve in the future. ■



Jennifer Burton

I am pleased to be considered to represent the HGS in the AAPG House of Delegates. I have served as HOD alternate in past years and have been an active member of the HGS and AAPG for the past 20 years of my career. I have a passion for educational outreach and career development and have served in both the HGS Earth Science Week Committee and more recently as Chairman of the Educational Outreach Committee. In past years, I have served on the HGS Board of Directors as Secretary and as Director. I have served on the past two Houston AAPG convention committees assisting with Teacher and Fieldtrip Programs. I have a BS in Geology from the University of Memphis and an MS in Geoscience from the University of North Carolina at Chapel Hill. I have worked in numerous capacities within both large and small E&P companies as a geoscientist, strategic planner, and business development manager. As an HGS delegate to the HOD, I believe our role is to understand and faithfully represent the society's interests and capabilities and to promote activities that strengthen communication, networking, and education of our membership. I believe that my experiences within both HGS and AAPG have given me a good perspective of the collective interests of our shared HGS and AAPG communities and that I will be a vocal representative within the HOD.

Jennifer spent the first 10 years of her career as an explorationist, development geologist and strategic planner for Anadarko Petroleum in the Woodlands, Texas. In the past 10 years she has served as a principle geoscientist and planning executive for both private and international E&P firms. She is currently serving as Director of Business Development & Geosciences for a newly formed E&P venture focused on US domestic conventional asset development. She also serves as a district committee leader for of the Boy Scouts of America and treasurer for the Klein Bengals Booster Club. ■



Martin Cassidy

With a Harvard BA in geology, and newly married, we moved to Corpus Christi in 1955 to work with Standard of Texas. We liked Texas and petroleum geology. After military duty, a MS degree Univ. Okla., two years PhD study at Harvard (ABD), with 3 children, we returned to Texas in 1962 joining Amoco. I retired in 1994, then earned a PhD at U of H.

I joined AAPG in 1963 being active in membership, the Publication Pipeline Committee, and as an AAPG delegate for the last nine years. With both domestic and international experience I can well represent the Houston geoscience community, and I look forward to doing so. ■



Gary Coburn

Professionally I have been a geoscientist working primarily in the GOM and international offshore positions. I have been employed by both majors and independents (though several of the companies have been merged over the years.) Most recently, I served as Geological Advisor for Murphy Oil - Deepwater GOM. I have a history of promoting geology in our area schools by giving several talks a year in Katy area schools and participating in the Maps for Schools program. I have volunteered for the HGS for many years and have served as President of the Houston Geological Society. I have also served as an AAPG Delegate several times in the past.

We are in a very tumultuous time in our industry. I think this is the time that we as delegates of the AAPG need to work to ensure that our local members needs and concerns are heard at the national level. I am pleased to have been a part of the AAPG since 1981. I have been through several cycles and this one is reminiscent of the 1980's crash. The AAPG helped out its members then and I have no doubt it will prove helpful now. The AAPG isn't just a name, we are an association of individual geologists. We strive to help each other as part of a professional organization and as individuals. I have enjoyed serving as an AAPG Delegate in the past and I would be honored to do so in the future. ■



Cheryl Desforges

I would be honored to continue serving as one of the HGS Delegates to the AAPG HoD. My goal is to advocate that AAPG continue to serve the needs of our membership, and that it remains a bottom up, member driven organization, rather than a top down governed organization

and bureaucracy.

I have been privileged to have been allowed to practice geology in the petroleum industry since 1975. My career path at various times has involved being an independent consultant, and working for a number of upstream oil companies and technical service companies, including Atlantic Richfield Company (ARCO), Sonat Exploration, Diamond Shamrock, J. M. Huber, Randall & Dewey, Ryder Scott, and Sabco Oil and Gas Corporation, and most recently, Eagle Hydrocarbons, before once again becoming a consultant. My career has offered me opportunities to develop skills in many facets of geologic evaluation spanning rank wildcat and regional trend exploration to field exploitation, as well as SEC reserve audit preparations, acquisition screening and divestment marketing. My education includes a BS degree in Geology from Texas Christian University and a MS degree in Physical Science/Geology and a Master of Business Administration from the University of Houston. I am a licensed Professional Geoscientist in the State of Texas and an active member in a number of professional organizations, including AAPG, HGS, SEPM, and SEG. I have held various volunteer and elected positions including HGS Vice President 2015-2016, Treasurer-Elect/Treasurer 2005-2007; Committee Chairman for several committees: Finance 2004-2005; Continuing Education 2004-2016; Publication Sales 1985-1989; Conference Co-Chairman 2005 "Coastal Subsidence, Sea Level and the Future of the Gulf Coast"; Regional Science Fair Awards/Interns Selection Committee 2004-2015, GCAGS Houston 2008 Treasurer, AAPG HOD 2007-2010. ■



Craig M. Dingler

Craig is a hydrogeologist for Clean Harbors Environmental Services, with previous experience in the petroleum industry and academia. He is a Texas licensed professional geoscientist, and member of the Houston Geological Society, American Association of Petroleum Geologists, and

the National Ground Water Association.

In AAPG, he has served the Division of Environmental Geosciences as VP and member of the advisory board. He was DEG technical chairman for the Houston 2006 AAPG annual

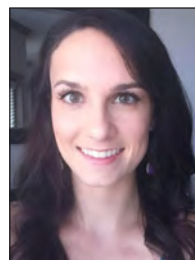
convention and DEG vice chairman for the Houston 2011 meeting. He is a past-president of the HGS and also served as treasurer, Bulletin editor, and chairman of the environmental and engineering geologists group. He has BS and MS degrees in geology from SUNY-Oneonta and the Univ. of Idaho, respectively. Craig has been an AAPG Delegate since 2010. ■



Nabel Eldam

I joined AAPG in 2007 when I was a student at the University of Texas at Austin where I got my BS and MS in geosciences. Serving as the UT AAPG-Student Chapter president for two years, I primarily focused on increasing membership, finding funding to send students to conferences, and

bringing in short courses. Upon graduation, I started my career as a geologist at Marathon Oil where I have worked the Anadarko Basin, Eagle Ford, and most recently the Kurdistan region of Iraq. AAPG has provided a key role in developing young geoscientists into professional geologists and I would like to further foster that work. I am excited for the prestigious opportunity to serve as a member of the AAPG House of Delegates. ■



Kristen Frederick

Kristen Frederick received a BS in Geology from The University of Texas San Antonio in 2011 and an MS in Subsurface Geoscience from Rice University in 2013. For the last three years she has been working as a Production Geologist at Shell

Oil Company in the Integrated Reservoir Modeling studies team in Houston. Kristen joined AAPG and HGS as a student member in 2011 and is currently seeking an opportunity to serve her petroleum geology community as a delegate to the HoD. She offers a fresh perspective and is passionate about mentorship and cultivating a society of young leaders. ■



Steve Getz

Steven L. Getz worked more than nine years as a geophysicist with Cities Service Oil Company before working as an oil and gas consultant for twenty-six years. From 2005 through 2010 he was the Chief Geologist for Allen Hoffman Exploration. Since 2011, he has worked for Fortesa

International in their onshore Senegal acreage and Petrotrin of Trinidad and Tobago. Mister Getz is the current Chairman of

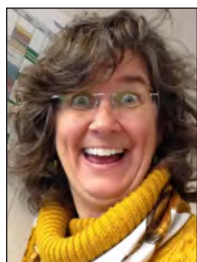
the HGS International Group and past chairman of the AAPG Geophysical Integration Committee. He has served three terms in the AAPG House of Delegates and looks forward to continuing representing the AAPG in that capacity. ■



Tarek Ghazi

Tarek Y. Ghazi graduated from Stanford University with a BS and MS in geology, after which he enjoyed a long and diverse career with Conoco, which included stints in uranium exploration and production, oil and gas exploration research, and global new ventures in Casper, San Antonio,

Ponca City, Dubai, and Houston. After Conoco, Tarek has held various positions in geoscience software and consulting services that have culminated in his current post as VP of Technical Services at C&C Reservoirs, Inc. Tarek has also been an active volunteer for the SPE, AAPG and the HGS in a variety of elected and appointed roles, and is proud to stand for reelection as an AAPG Delegate. ■



Gretchen Gillis

Gretchen Gillis is Geological Consultant for Aramco Services Company. After 7 years in exploration and development, Gretchen worked for 13 years at Schlumberger, founding the Schlumberger Oilfield Glossary and writing "80 Years of Innovation," an award-winning book about Schlumberger. Gretchen served as 2007-2010 AAPG Editor, receiving the AAPG Distinguished Service Award in 2011. She co-chairs the AAPG-SEG Cooperation Committee and serves on the GeoScienceWorld board, URTEC Executive Advisory Council, and, since 2010, the AAPG House of Delegates. Gretchen earned a B.A. in geology from Bryn Mawr College and a M.A. in geological sciences from The University of Texas at Austin. ■

Gretchen served as 2007-2010 AAPG Editor, receiving the AAPG Distinguished Service Award in 2011. She co-chairs the AAPG-SEG Cooperation Committee and serves on the GeoScienceWorld board, URTEC Executive Advisory Council, and, since 2010, the AAPG House of Delegates. Gretchen earned a B.A. in geology from Bryn Mawr College and a M.A. in geological sciences from The University of Texas at Austin. ■



Lisa "Rusty" Goetz

With your help, I would like to continue to serve as an active member in the Houston AAPG House of Delegates. I have been a member of the AAPG since 1980 and have served in the HOD for the last 2+ years. During my first HOD term I was a member of the 2014-5 AAPG executive officer

nomination committee and attended two of the annual HOD meetings at ACE conventions. In addition, I have been active in supporting the IBA program as a university team mentor

for the past 5 years. I feel strongly that we need to reach out to both students and young professionals and include them in the business and successful management of the AAPG's resources.

Professionally I am completing my ninth year with Marathon Oil Company where I am currently a Regional Geologist in the North America Resource Exploration group. Previously I had worked 30 years for Conoco-ConocoPhillips in mineral and petroleum exploration both domestically and internationally and on both conventional and unconventional assets. I graduated with a BA with honors in Geology from Lafayette College in 1975 and earned an MA in Geology at UT Austin in 1977. ■



Jaka Hardiwinangun

Hello, my name is Jaka. I joined AAPG in 2014, and have attended several AAPG workshops since then. I would like to volunteer my service as a member of the House of Delegates as a way for me to assist other members in the Houston area, while also getting to know more about AAPG in

the process. I'm originally from Jakarta, Indonesia, but I have been working in the oil & gas industry in Houston for the past 10 years. I received my BS in Geology degree from the University of Michigan (2003), followed by my Certificate in GIS from Northern Michigan University (2005). I started working for IHS in 2011 as an oil & gas contract analyst for the Latin America regional group, and then additionally in 2014 as an editor as well where I'm responsible for covering E&P activities in Bolivia & Chile. Prior to IHS, I worked as a GIS analyst for various oil & gas companies in the Houston area. ■



Paul F. Hoffman

After earning his BS in Geology from UT Austin, Paul Hoffman joined Cities Service in 1975. He served ten years with Ladd Petroleum, ultimately as GC Region VP. In 1991, he established and managed a Gulf Coast office for Duncan for 12 years, then managed E&P for Cox & Perkins,

and in 2008, became President of Allen-Hoffman Exploration. He has served seven terms in AAPG's HoD and serves on the HoD Honors & Awards Committee. He served as HGS Secretary, Director, Vice President, and President. He serves on the HGS Foundation Board and is a member of SIPES.

He earned his PhD from the University of New Mexico in 1980;

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his MS in geology from the same university in 1977; and his BS in geology from the New Mexico Institute of Mining and Technology in 1973. ■



Michael Jones

I would be grateful for the opportunity to serve as one of our representatives in the AAPG House of Delegates. I have been a member of both AAPG and HGS since joining in 1999 while a student at Texas A&M. I have served the HGS as Secretary and also as chairman of the North

American Exploration Group. During this time, I received the HGS Rising Star Award in 2005 and the President's Award in 2008. I have also served on the boards of the Gulf Coast Geological Library and SIPES where I am currently both National Secretary and a National Director representing the Houston Chapter.

I have thirteen years of experience as an independent geologist exploring for oil and gas and consulting in the Gulf Coast. Prior to founding Charger Exploration in 2010, I worked as a retainer geologist with Scout Petroleum prospecting in South Texas from 2003 to 2010. I completed a BS in Geology from Texas A&M in 2001 and a MS in Geology from Texas Tech in 2003. ■



Barry J. Katz

Barry Katz received his BS in geology from Brooklyn College in 1974 and his PhD from the University of Miami in 1979 in marine geology and geophysics. After receiving his doctorate he joined Texaco's Bellaire Research Center where he held numerous technical and supervisory positions. He

continued with Chevron after the merger in 2001, where he has been part of Chevron's Energy Technology Company. He currently serves as a team leader and Chevron Fellow. His work has focused on the applications of geochemistry. He has been engaged in both research and technical support, working in approximately 50 basins. Barry has authored more than 75 papers and has edited four books. He serves as a senior associate editor of the *AAPG Bulletin* and as a member of three other editorial boards. He was named an Honorary AAPG Member in 2011 and is completing his first term as a member of the House of Delegates. He has served as *Bulletin* Editor and President of the Houston Geological Society. ■

David Kronman

(Candidate biography and headshot not available at press time). ■



Rosemary Laidacker

I would like to continue to serve as a HGS delegate to the AAPG House of Delegates. I am honored to have served two terms in the HoD. During my terms of service I have been active by attending the monthly meetings and Annual AAPG conventions.

I have come to realize how important it is to attend the annual conventions to vote as a representative from the HGS on issues brought up for vote. I am proud to be a volunteer for the HGS, most recently I have been the Chairman of the Continuing Education Committee. In my tenure as HGS Chairman of the Continuing Education Committee, I was awarded the President's Rising Star Award and the Presidents Award. I also Co-Field Trip leader for the HGS sponsored Spindletop Field Trip at the 2014 AAPG Annual Convention. I have been a member of the AAPG for decades.

I earned a Bachelor's degree in Mathematics from Lamar University and a Master's degree from the University of Houston, concentrating in Geology and Geophysics. I started my career as a geophysicist at Cities Service Oil Company and went through their training program. Other companies I have worked for include Total Petroleum, and Greystone Oil. Most recently I worked at Chevron as a contract employee. During my consulting tenure I have worked for a number of smaller companies. I know that HGS needs for members to volunteer, it couldn't exist without them. I feel that by being a volunteer I am paying back all the others who made the HGS possible. I would consider it a privilege to be re-elected me as a AAPG HoD delegate from Houston. ■



Stephen Levine

Stephen Levine is a geoscience manager for SK E&P Company and has been in the oil and gas industry for thirty-four years. Prior to joining SK (2011-present), Stephen had worked for Tenneco Oil Co. and ConocoPhillips with roles as a geologist and geophysicist. He has been an AAPG

member since 1978 and a delegate to the house for nine years. He previously served as delegate foreman of the Houston HoD and is the current Secretary/Editor of the AAPG HoD.

He has served in the HGS in multiple leadership roles including HGS *Bulletin* Editor (2001-2002) and HGS President (2004-2005). He presided as Chair of the 2011 AAPG Annual Convention in Houston and served as GCAGS Transactions Editor for the 2015 GCAGS Convention in Houston.

Stephen received a BS and MS in Geology from Texas A&M

University in 1980 and 1982. Stephen is a licensed professional geoscientist (#5031) in the state of Texas. He will continue to work hard to represent the Houston area AAPG members should he be selected to serve. ■



Hunter Lockhart

Hunter Lockhart grew up in Dallas, Texas and completed his BS in Geology at Texas A&M University. Unsatisfied with the only moderate increase in relative humidity, he then ventured further south to Houston where he completed his MS in Geology from Rice University, where he studied the evolution of the South Australian margin and also interned at BHP Billiton working on the New Ventures team, during which time he worked the Great Australian Bight basin.

Hunter joined BHP Billiton upon completion of his graduate studies and has exploration, development, and operational experience in the GOM, the Permian Basin, and the Alaskan North Slope. He is currently an exploration geologist with the Caribbean Regional team at BHP.

Hunter is a board certified Geoscientist-in-Training in the State of Texas and is also an active member of AAPG, SEPM, TBPG, HGS, and WTGS. Hunter is also the Gulf Coast Section leader for the AAPG Young Professionals. ■



Claudia Ludwig

Education:

B.S. 1966 Geology Lamar University, Texas
M.S. 1971 Geological Oceanography, Texas A&M University

Employment:

Michigan Wisconsin Pipeline

Worldwide Energy
Phillips Petroleum
Independent Consultant 1982 to current

Professional Affiliations:

Houston Geological Society
AAPG
MTS
SME

WGA (former)
RMAG (former)
PGS (former)

HGS Awards:

Gerald Cooley Award
Honorary Life Member
Distinguished Service
President's Award

Service:

AAPG House of Delegates
AAPG Program Subcommittee for OTC Program Committee
OTC Program Committee
Chairman Houston Section of MTS
MTS Program Subcommittee for OTC Program Committee
HGS Field Trip Committee
HGS Advertising Committee
ECH President
SEFH President ■



William "Bill" Matthews

It would be a privilege to serve as Delegate in the HoD. I offer perspectives from wildcatting for an independent to technical and leadership roles with leading oilfield service firms. I have worked conventional and unconventional plays with oil companies in North America to projects with clients from Asia-Pacific to South America.

Bill earned his BS in Geology from Emory University (1981) and Master's from Rice University (1983). He worked for Moncrief Oil for the first third of his career then moved to technology roles at Landmark Graphics and then with Schlumberger. Currently, he is a vice president with DrillingInfo and based in Houston. Bill has been a long standing member of both the AAPG and SEG and is a licensed professional geologist in Texas. ■



Evelyn Medvin

Evelyn Medvin has 35 years of experience as a geoscientist, currently VP for Core Laboratories focusing on understanding client needs, technological challenges, cross company integration and providing fit for purpose solutions for reservoir optimization. A graduate of the University of Oklahoma, she worked for Cities Service /Occidental Petroleum, Schlumberger & Coherence Technology Company.

She is a member of AAPG, HGS, IPAA, SPE and NOIA; serves as a member of the board for IPAA's Petroleum Academies, served on the PROWESS committee of AAPG, AAPG House Delegates and

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continued from page 57

is on the NOIA Membership Committee. She enjoys mentoring young people in the Oil & Gas Industry. Evelyn is a proud mother and grandmother. ■



Ron Meers

I would be pleased and honored to continue serving as an AAPG Delegate from the Houston Geological Society. I have served as a Delegate or Alternate Delegate over the last few years and have enjoyed representing the local members of the AAPG in legislative and membership

related matters. I have been a member of the AAPG since 1974 and have seen how the Association has changed as it responds to member needs.

I recently retired from BHP Billiton Petroleum after 30 years of service working multiple basins around the world. Prior to BHPB, I worked for Gulf Oil and Northern Natural Gas in the Permian Basin. In addition to the AAPG and HGS, I am a member of AAPG's Division of Professional Affairs (#3088) and am a Registered Geoscientist with the State of Texas (#17). My geology degrees are from West Texas State University (BS) and Texas Tech University (MS). ■



Bonnie Milne-Andrews

I would be honored to serve, once again, as a Houston delegate to the AAPG House of Delegates. I served as the Foreman for the House of Delegates several years back which capped several rotations delegate. Currently, I am Chairman of the Houston Geological Society Directory Committee.

Earlier volunteer roles include serving as an HGS Director, HGS International Committee and Houston SIPES Board of Directors as Secretary. I graduated from the University of Iowa with a Master of Science degree in Geology, specializing in carbonate rock depositional systems. I joined the Amoco Corporation where I was involved with numerous domestic and international projects. After leaving Amoco, worked as Business Development Manager, Americas for Schlumberger's NExT. Following that I worked for Swift Energy (Manager, Geoscience Eagle Ford Shale), Hyperdynamics (Manager, Geological Operations, and West Africa Deepwater) and Repsol Services USA in the North American Upstream Business Development Team. ■



Kenneth W. Mohn

Kenneth Mohn received a BS (1983) and an MS (1986) in Geology from Stephen F. Austin State University. He began his career with Strata Reserves as a field and wellsite geologist. In 1987 he joined TGS Offshore Geophysical Company where he worked in data management, project management

and business development on projects in the Gulf of Mexico, Africa, Canada and South America. In 2002 Kenneth joined Fugro Multi Client Services as Vice President of Exploration where he started the group in Houston to develop and manage multi-client seismic surveys and related geological studies for North Central and South America. In 2013, Kenneth joined MultiClient Geophysical where he is currently managing projects and business development in the same NSA region. Kenneth has served in the House of Delegates in the past and he is a member of the Houston Geological Society, The American Association of Petroleum Geologists, the Society of Exploration Geophysicists and the Geophysical Society of Houston. Kenneth is a licensed Professional Geologist in the State of Texas. ■



Clint Moore

Clint Moore has been an elected HOD Delegate since 1989, and written many Bylaw amendments for the HOD, which have advanced the average members' voice in the operations and leadership of the Association. His institutional knowledge and extensive experience with our bylaws

has proven to be invaluable to the HOD in many instances. For his dedicated service, he received the HOD's "Distinguished Member of the House" Award in 2001, a HOD Chairman's special service appreciation award in 2011, the HOD's "Long Service Award" in 2012, and has served on the Constitution & Bylaws Committee many times (past Chairman), as well as on other HOD committees. He is past Treasurer of AAPG (2004-06), past President of HGS (1994-95), and past GCAGS Representative to the AAPG Advisory Council (1999-2002). For his commitment and dedicated work effort, he's been awarded five AAPG Certificates of Merit, the AAPG Distinguished Service Award (2010), the AAPG Search & Discovery Award (2011), and the DPA Distinguished Service Award (2001). Most recently, he proposed and helped develop the new Military Veterans Scholarship Program which awarded its first geoscience scholarships this year to deserving veterans. Clint would be honored to continue to serve and represent his fellow Houston AAPG members in this important role as an HOD Delegate. ■



Robert Pledger

I have been an active member of the HGS, the AAPG and SIPES throughout my career and would like to continue serving as a member of the House of Delegates representing the membership of the AAPG for the next three years.

I am currently an oil and gas consultant engaged in prospect generation and evaluation and as President of Ashford Oil & Gas Company, LLC. Prior to 2008, I was President of Benchmark Oil & Gas AB, a Swedish public Company and served on their Board of Directors. I have a wide range of areas of experience include the Gulf Coast, Alaska, West Texas, Kansas, Oklahoma, New Mexico and California as well as numerous countries internationally. My prior employment includes Sun Oil Company, May Petroleum Company, General American Oil Company of Texas, and Shenandoah Oil Corporation. I have served twice as Chairman of the Houston Chapter of Society of Independent Professional Earth Scientists (SIPES) and on its' National Board of Directors; District 4 Representative for the American Institute of Professional Geologists (AIPG); and the Houston Geological Society, as a Director, Vice-President, and Chairman of the Continuing Education Committee. I am active in the American Association of Petroleum Geologists and have volunteered to serve on numerous committees. I was a field trip leader to Spindletop and Chairman of the Short Course Committee for the AAPG 2002 Convention.

I have an undergraduate degree from Lamar University in Geology and a Master's Degree in Business/Finance from the University of Dallas. I am a certified geologist by the AAPG, the AIPG and the SIPES and a Registered Professional Geoscientist with the State of Texas. I am a member of the Board of Trustees, and Chairman of the Advisory Committee for the Department of Space and Earth Sciences at Lamar University. ■



W.C. Rusty Riese

Dr. W.C. Rusty Riese is widely experienced having worked in both minerals and petroleum as a geologist, geochemist, and manager during more than 40 years in industry. He continues to be active in AAPG through work on Standing, HOD, and Foundation committees.

Rusty has written and lectured on various topics in economic geology including biogeochemistry, isotope geochemistry, uranium ore deposits, sequence stratigraphy, and coalbed methane petroleum systems; and he holds numerous domestic

and international patents. He has more than forty years of teaching experience including thirty one years at Rice University. He is currently an Adjunct Professor at Rice University and the University of New Mexico. ■



Patricia Santogrossi

Patricia Santogrossi is a geoscientist who has enjoyed nearly 40 years in the oil business. She is currently a Leading Reservoir Geoscientist and Non-operated Projects Manager with Statoil, an international arm of the state oil company of Norway. She has been engaged for several

years in the company's Gulf of Mexico business development, corporate integration, prospect maturation, and multiple appraisal projects.

Patricia has previously worked with domestic and international Shell Companies, Marathon Oil Company, Vastar Resources until the parent Arco's acquisition by BP - in research, exploration, leasehold and field appraisal as well as staff development.

Subsequently, Patricia became Chief Geologist for Chroma Energy who possessed proprietary 3D voxel visualization technology and for Knowledge Reservoir, a reservoir characterization and simulation firm that specialized in Deepwater project evaluations.

Patricia has been a member of SEPM and AAPG for over 30 years. She received a GCSSEPM Distinguished Service Award in 2011. She served as HGS *Bulletin* editor in 2012-2013. Patricia is a Licensed Professional Geoscientist (#856) in the State of Texas.

Patricia was born, raised, and educated in Illinois, and first headed to Texas after she received her MS in Geology from the University of Illinois, Champaign-Urbana. Her other "foreign assignments" have included New Orleans and London. ■



Carl K. Steffensen

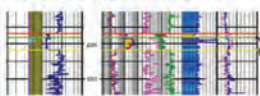
I would be pleased to continue serving the Association as Delegate to the HoD. Having joined AAPG as a student member and accumulated 35 years of active membership, I feel honored and obligated to do my part to support our organization and science. I have served

as a Delegate or Alternate Delegate since 2003, currently serve on the Distinguished Lecturer Committee and as an Associate Editor for the *Bulletin*, and was recognized as an AAPG Charles

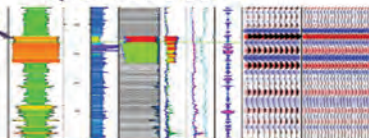
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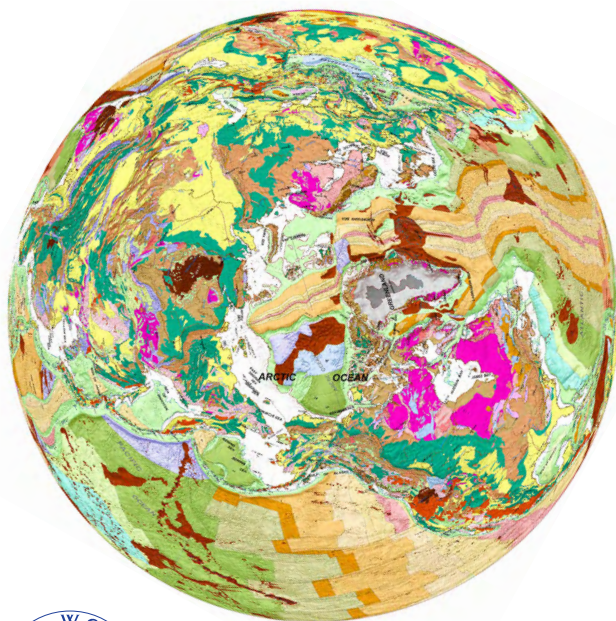
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Taylor Fellow in 2012. I have 33 years of experience in onshore, offshore, and deepwater exploration and production with BP/Vastar/ARCO, specializing in regional basin evaluation in both carbonate and siliciclastic depositional systems in the US, Latin America, and South America. I am a founding member of the Texas A&M Department of Geology and Geophysics Advisory Council, served as the 2011 ACE Technical Program Vice-chair, and am a former Chairman of the HGS North American Exploration group. I hold a Bachelor of Science degree in geology from the University of Illinois (1980) and an Master of Science degree in Geology from Texas A&M University (1982). ■



Justin Vandenbrink

I am a professional geologist currently working as the Global Manager for Wellbore Stability with Weatherford. I have worked in the Oil and Gas industry for the past 22 years both domestically and internationally.

I have been a member of the AAPG for over 25 years and want to continue helping the association grow. Looking to increase my volunteer work, this past year, I was elected as Foreman by the AAPG's House of Delegates in Houston. It is a responsibility I have taken seriously, and one which has given me more insight into what it means to be a Delegate for the AAPG. I am honored to run as a Delegate for the AAPG in 2016. If permitted, I would like to continue serving with this exceptional group of my industry colleagues.

Education:

BSc Geology, University of British Columbia, 1994
Diploma Communications/PR, B.C.I.T, 1998

Experience:

2012–present Weatherford, Global Manager – Wellbore Stability

2001–2011 RPS Energy, Geological Operations Manager
1998–2001 Journalist
1995–1996 Inmet Mining – Exploration Geologist
1994–1995 Renaissance Energy – Exploration Geologist

Professional Affiliations:


AAPG, HGS, GSH, SPWLA, DGS, CSPG
APEGA Professional Geologist
Professional Awards and Activities:
2014 – current Foreman, AAPG House of Delegates (Houston)
2015 – current HGS Board Director
2012 – 2013 HGS Vice President
2012 - HGS Africa Committee
2009 - HGS Career Day Speaker
2008– HGS International Explorationists Chairman
2008–2009 HGS Holiday Party Organizer
2006–2008 APEGA – MC for Graduates Workshop & Ring Ceremony ■



Weixin (Wayne) Xu

I am grateful and proud to stand as a candidate for the AAPG House of Delegates. I received a PhD degree in Geology from the University of Michigan (1996), worked as a post graduate in the Arizona State University, then joined Schlumberger in 1998, and am still working there as a principal geologist. I understand the needs of AAPG members and will appreciate the opportunity to serve for the organization.

I have been a member of AAPG since 1992, volunteered in activities of Houston Geological Society (HGS) and Gulf Coast Association of Geological Societies, and received the Rising Star Award from HGS in 2012. ■



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Geological/Paleontological Internship/Fellowship at Big Bend National Park, Texas



The Houston Geological Society (HGS) and Big Bend Conservancy are co-sponsoring two internships/fellowships at the Big Bend National Park, Texas for the summer of 2016.

These opportunities are open to teachers, graduate students, educators and others who are interested in on-site learning at Big Bend National Park. These positions are located at Big Bend National Park in west Texas. The Big Bend area is remote, but has a strong small community, great recreational opportunities, terrific scenery, and natural and cultural learning opportunities abound. Housing may be available inside Big Bend National Park's housing community at the Panther Junction headquarters area.



The positions will provide for public education at the Fossil Discovery Exhibit (FDE) located eight miles north of Panther Junction. The FDE is scheduled for completion in September 2016 and will be the largest expenditure ever for an exhibit complex at the park. The FDE will cover four major geologic time periods, and will include exhibits on the Cretaceous inland seaway, dinosaurs, the K/Pg boundary, Cenozoic volcanism, and the evolution of mammals in the area. Big Bend contains some of the best fossils of dinosaurs to be found anywhere in the world and its rock record displays one of the most diverse ranges of paleo-environments anywhere. The FDE will provide an excellent backdrop with museum-quality replicas, artist's renditions, and a paleo kid's play area and more, to use as props and demonstration areas. Programs are expected to last from 15-20 minutes up to 1.5 hours for guided tours of the facility and themed areas. Curriculum-based programming is highly desirable for students and school classes that visit on site. The park will also have the ability to provide videoconferenced programs to school groups unable to make it to the site.

The positions will work directly with the Staff Geologist and

will help create and offer general public educational programs, programs for schools and students, and could also offer college level programming for visiting university classes. The positions will also help with ongoing research in the park and directly support the Staff Geologist and Paleontologist. The educators will also help put information on the new website for the exhibit.

degree in education or a science or a related subject. Applicants are required to have their own transportation. The dates for the internship are June 13th – August 12th. These dates are flexible within reason to accommodate the fellow's school or work schedule, and to ensure housing is available.

Following the two month internship/fellowship, the educator would be expected to write about their experience for the Big Bend Conservancy newsletter as well as make a presentation to the HGS membership about their experience and prepare a short report for inclusion in the Houston Geological Society *Bulletin*.

Those interested should submit a cover letter and resume to Andrea Peoples at Houston Geological Society, 14811 St. Mary's Lane, Suite 250, Houston, Texas, 77079. The deadline for submitting a cover letter and resume is April 15, 2016.

For more information, please contact **Larry Quandt** of the Houston Geological Society at (713) 206-0389 or lquandt777@gmail.com, or Courtney Lyons-Garcia of the Big Bend Conservancy at friendsdirector@yahoo.com. ■

Salary will be \$5000 for a two month period, provided by the Big Bend Conservancy and the Houston Geological Society through a grant to the selected educator. The educator will have to go through a selection process that will include an interview, a background check, pass a drug test, and be qualified as if they were federal employees. The minimum requirement is a Bachelor's



LAST CHANCE!

AAPG HEDBERG RESEARCH CONFERENCE CENTER The Future of Basin and Petroleum Systems Modeling

April 3-8, 2016, Santa Barbara, California, USA



The conference aims to bring together professionals from academia, government agencies and industry who are actively involved in pushing the technical limits and application of basin modeling. New ideas are welcomed from R&D scientists (whether they have an academic or industry background), the hardware/software computing industry, exploration business units of the oil and gas industry, or any closely related disciplines, e.g., geochemistry or geothermal industry. Students are also welcome as long as they are able to actively contribute.

The four main goals of this conference are:

1. To share knowledge, experience and opinions across different affiliations in BPSM
2. To identify limitations of concepts, workflows and technologies and to explore new solutions and potential improvements in BPSM
3. To promote awareness that integration is key to solving complex E&P challenges
4. To better understand the subsurface processes for specific areas of interest through case studies

Mudstone Diagenesis: Implications for Exploration and Development of Unconventional Reservoirs

16-19 October 2016, Santa Fe, New Mexico



The purpose of this conference is to foster the free exchange of new ideas among leading experts from industry, academia, and government on the controls and impacts of inorganic and organic diagenesis on mudstone hydrocarbon generation, reservoir properties and seal quality.

FORUMS

LAST CHANCE!

Pittsburgh Playmaker Forum

April 13, 2016, Pittsburgh



This forum is a one-day event preceded with a PAPG monthly dinner meeting on the evening of 12 April 2016; providing an opportunity to come to Pittsburgh the day prior to the forum, network with local geoscientists and enjoy an Appalachian Basin technical talk.

The workshop will provide insight to the strategy and tactics used to propel a company from start-up into a successful player and ultimately through an initial public offering, in an area of the Marcellus and Utica Shale plays dominated by large independent exploration and production companies. Networking opportunities will be available during the morning and afternoon breaks, before and after the luncheon and during a planned mixer after the forum. Register Today

GTW

New Thinking and Value Propositions: ProActive Steps Now

May 17-18, 2016, Houston



The goal of this two-day workshop is to proactively create opportunities yourself and your company in a low price environment. You will learn how to bring value propositions to operators. Revitalize reservoirs for less than the cost of plugging and abandoning, paid for by increased production. Rethink reservoirs and push paradigm shifts that will result in breakthroughs. We will discuss how to

use these times to pilot new products and technologies and thus position innovative companies to boom when conditions improve. This event is for engineers, geologists, geophysicists, land professionals, and entrepreneurs. Register Today

SCHOOLS AND SHORT COURSES

LAST CHANCE!

Basic Well Log Analysis

April 25-29, Austin, TX
July 11-15, Golden, CO

LAST CHANCE!

How to Find Bypassed Pay in Old Wells
Using DST Data

April 26-28, Austin, TX

Petroleum Geology for Engineers

May 1, Houston, TX (with DTC)

Modern Terrigenous Clastic
Depositional Systems

May 31-June 7, 2016, South Carolina
September 11-18, 2016, South Carolina

PROFESSIONAL DEVELOPMENT AT ICE BARCELONA 2016



AAPG/SEG International Conference & Exhibition 2016

April 3-6 2016, Barcelona, Spain

ICE BARCELONA SHORT COURSE

Advanced Sequence Stratigraphic Applications for Exploration (SEPM Course)

2-3 April 2016

Instructor: Vitor Abreu

Includes: Course materials & refreshments

ICE BARCELONA FIELD TRIPS

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7-10 April 2016

Reservoir Analogues from Modern and Ancient Turbidite Systems, Tabernas Basin, Spain

Barcelona, Spain

7-10 April 2016

Thrust Belt Structure and Foreland Basin Evolution in the Southern Pyrenees (Aragon, Spain)

www.aapg.org/career/training/

HGS/CCGS *Bones in Schools* Program

HGS member Jeff Spencer brought the “Bones in Schools” program to the BEST (Bellville Engineering, Science, and Technology boosters) Family Science Night, February 8th at Bellville Junior High School. Over 400 students and family members attended the 2nd annual event which included 26 STEM programs and organizations. The geosciences were well-represented — in addition to HGS, participants included the Bureau of Economic Geology, the Texas A&M Department of Geology & Geophysics, and the Geophysical Society of Houston. The event was chaired by BEST member Ilena Krupala, the HGS 2015 Teacher of the Year and 2015 GCAGS Owen Hopkins Teacher of the Year.

Back in 2012, the HGS Board of Directors approved collaboration with the Corpus Christi Geological Society (CCGS) to participate in the “Owen Hopkins Bones in Schools Program” which was developed by and named after the late geologist, CCGS former President, and Texas A&M Kingsville professor. The program’s main focus is to support science education by introducing primary school students to Gulf Coast Ice Age paleohistory.

The program includes detailed teaching manuals, posters, classroom handouts, as well as a wide assortment of donated Pleistocene Gulf Coast fossils; the teaching material is stored at the HGS office, and is available for use by HGS members interested in volunteering at local schools. For more information on the “Bones in Schools” program, contact HGS Education Outreach Committee Chairperson Jennifer Burton at jlbgeo@comcast.net. ■



Nomination for HGS Teacher of the Year Award is Open

The HGS Teacher of the Year Award was established to honor teachers who have made extraordinary efforts or unique contributions in earth science education. The selected Teacher is given a \$500 cash award along with a plaque presented at a HGS Event. The HGS Teacher of the Year will also be encouraged to apply to the GCAGS and AAPG Teacher of the Year Programs which offer greater cash bonuses (\$1500 and \$5000 respectfully). If you know of a teacher who might be interested, please have them check out requirements and procedures at the HGS.org website, or contact the HGS Awards Chairman at mike.deming.HGS@gmail.com.



AAPG
Education

Upcoming Education Events 2016

SCHOOLS AND SHORT COURSES

Basic Well Log Analysis April 25-29, Austin, TX
July 11-15, Golden, CO

*Early Member Tuition: \$1,795 – Nonmember Tuition: \$1,995 Expires March 28, 2016

How to Find Bypassed Pay in Old Wells April 26-28, Austin, TX
Using DST Data

*Early Member Tuition: \$1,295 – Nonmember Tuition: \$1,495 Expires March 28, 2016

FIELD SEMINARS

Field Safety Course for Field Trip Leaders April 6-7, Houston, TX

Carbonate Reservoir Analogues: Play April 7-12, Barcelona, Spain
Concepts & Controls on Porosity (with SEG/AAPG ICE)

GEOSCIENCES TECHNOLOGY WORKSHOP (GTW)

Rethinking Reservoirs: New Approaches, May 17-18, 2016,
Techniques, Solutions for Difficult Times Houston, Texas

FORUMS

The Rockies Playmaker Discovery Forum March 24, 2016,
Denver, Colorado

www.aapg.org/career/training/

AAPG HEDBERG RESEARCH CONFERENCE CENTER



The Future of Basin and Petroleum Systems Modeling

April 3-8, 2016

Santa Barbara, California, USA

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2016 HGS Legends Night

By John Tubb, Legends Night Committee Member

On January 25th, 230 geoscientists attended the Legends Night program at the Norris Center to hear Alistair Brown, Peter Duncan and Tom Smith speak on the theme “Geophysicists Who Have Impacted Geologists.” The speakers recounted their career experiences pertaining to the general theme.

This event generated about \$30,000 which will be split between the HGS Scholarship Fund for undergraduate students and the Calvert Memorial Funds for graduate students. ■





HGS Welcomes New Members

New Members Effective February 2016

ACTIVE MEMBERS

John Batson

Michael Box

Alton Brown

Connor Burt

Gustavo Carpio

Nicole Hart

Katelyn Huffman

Parker Jessee

Adam Johnson

James Kessler

Mojisola KunleDare

Mitchell Luehr

Tess Menotti

Reema Mohanty

Julie Pyle

Orion Sandoval

Robert Schneider

Larry Scott

Simon Thomas

Cynthia Welch

ASSOCIATE MEMBER

Norma Jean Jones

EMERITUS MEMBER

Ron Harlan

STUDENT MEMBERS

Sherin Abraham

Caroline Broderick

Lester Callaway

Karen Scarbrough

Edwin Sowell

Welcome New Members

Loyd Tuttle

loydtuttle@comcast.net

Bob Liska

liska.bob@gmail.com

Jim Thorpe

thorpejim@comcast.net

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Government Update

by Henry M. Wise, P.G. and Arlin Howles, P.G.

If you'd like the most up-to-date Texas rules, regulations, and governmental meeting information we direct you to the HGS website to review The Wise Report. This report, which comes out as needed but not more often than once a week, offers the most up-to-date information that may be of interest to Texas geologists.

AGI Geoscience Policy Monthly Review (December 2015)

Congress Passes FY 2016 Omnibus Spending Bill Increasing Funding for Geosciences

On December 18, 2015 Congress passed an omnibus spending bill providing funding for the federal government through September 30, 2016. Under the bill, the Department of Energy (DOE) Office of Science, National Institute of Standards and Technology (NIST), National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), U.S. Geological Survey (USGS), and White House Office of Science and Technology Policy (OSTP) would all receive increases to their budgets.

Within the USGS, all six mission directorates will receive increases in their budgets: Natural Hazards will receive \$138.8 million, a 2.7 percent boost from FY 2015; Energy, Minerals, and Environmental health will receive \$94.5 million, a 2.4 percent increase; Core Science Systems will receive \$111.5 million, a 4 percent increase; and Climate and Land Use Change will receive \$140 million, a 3 percent increase. Water Resources and Ecosystems will also both see slight increases to their program budgets.

In addition, the bill provides NSF with a 1.6 percent increase in funding over the FY 2015 enacted funding level. Furthermore, the bill does not contain any restrictions in funding for NSF's Geoscience Directorate.

The bipartisan legislation was released with an accompanying joint explanatory statement which describes the funding levels in detail for each of the science agencies, offices, and programs.

House Passes Bill Amending the Natural Gas Act

H.R. 8, or the North American Energy Security and Infrastructure Act, passed the House on December 3, 2015. The bill revises the federal authorization process within the Natural Gas Act to allow for expedited reviews for exporting or importing natural gas. The bill also includes measures to modernize electric infrastructure, to treat certain thermal energy projects as renewable energy projects in order to include these projects in the US federal electric energy purchase requirements, and to improve hydropower regulatory processes.

The act directs agencies such as the Federal Energy Regulatory Commission (FERC) and the Department of Energy (DOE) to complete multiple renewable energy strategies. For example, the

DOE is directed to implement education and training programs to assist in increasing the numbers of energy-related jobs. H.R. 8 has been received in the Senate and referred to the Committee on Energy and Natural Resources.

Sen. Sanders and Others Introduce Bills Supporting Transition to Clean Energy

Senator Bernie Sanders (I-VT) introduced two bills on investment in renewable energy tax credits and the state of jobs in the coal mining industry.

The first bill, American Clean Energy Investment Act of 2015, calls for the extension of renewable energy tax credits, or tax incentives allowing the tax payer to subtract the incentive credit amount from their annual state taxes. According to the proposed bill, the costs of the credit incentives would be offset by repealing portions of the fossil fuel industry tax code. The onshore wind-energy sector would be subject to a gradual increase in production tax credits and a 30 percent investment tax credit to expand the construction of offshore and onshore wind facilities.

The second bill, known as the Clean Energy Worker Just Transition Act of 2015, would establish vocational and job skills educational programs to help displaced coal industry workers find new jobs. It would also create health care and pension funding for the displaced workers to help ease their job transition.

House Committee holds Underground Hearing on Mining Workforce, Education

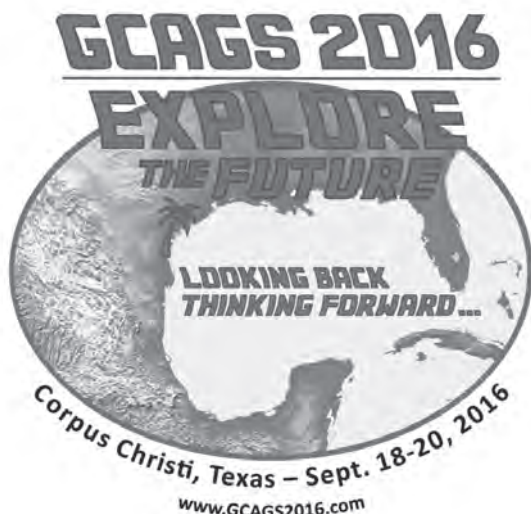
On December 14, 2015, the House Subcommittee on Energy and Mineral Resources held a field hearing at an unconventional location, the underground classroom of the Edgar Mine at the Colorado School of Mines Experimental Mine in Idaho Springs, Colorado. The hearing focused on the need for increased federal investments in mining and mining engineering education to sustain a skilled and competitive workforce.

According to a white paper from the committee, the Office of Surface Mining Reclamation and Enforcement is already required to boost mining research; however, only a small percentage of funds go to the engineering programs, which have fallen from 25 in 1982 to 14 in 2007. In order to combat this recent decline, Reps. Cresent Hardy (R-NV) and Ed Perlmutter (D-CO) introduced the Mining Schools Enhancement Act (H.R. 3734),

Government Update continued on page 73



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- Understanding the Resource Plays
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- Climate from Multiple Perspectives
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which would ensure more robust funding for mining and mining engineering schools. The proponents of the bill hope boosting mining education will not only help the industry, but also make extraction techniques cleaner and safer.

New DOE Funding Opportunity Hopes to Spur Retrieval of Rare Earths and other critical materials from geothermal fluids

The Department of Energy (DOE) Geothermal Technologies Office announced a new funding opportunity to explore the potential for recovering rare earth elements and other critical materials dissolved in geothermal fluids or other high temperature brines. The program, "Mineral Recovery Phase II: Geothermal Concepts and Approaches to Validate Extraction Technologies," will provide up to \$4 million for approximately three research projects to authenticate the extraction method.

The program hopes to make the United States' geothermal energy production more economically competitive with other energy types.

House Passes Bill Which Bans the Use of Microbeads

The Microbead-Free Waters Act (H.R. 1321) passed the House by a voice-vote on December 7, 2015. H.R. 1321 attempts to lower the negative environmental impacts that synthetic microbeads have on water pollution.

Synthetic microbeads have been found in multiple large bodies of water and in the Great Lakes. Studies from various New York water treatment plants indicate that the microbeads are passing through water treatment systems and into natural water systems. Research by scientists at the State University of New York, Fredonia, identified the beads throughout all five of the Great Lakes.

These beads tend to bind to chemical pollutants which fall under the Environmental Protection Agency (EPA) Clean Water Act and can cause harm to aquatic ecosystems. The bill calls for a stop in the manufacturing process of plastic microbeads beginning July 1, 2017.

Legislators Call for a Halt to Atlantic Seismic Surveys

In a bipartisan letter addressed to the Bureau of Ocean Energy Management, Reps. Mark Sanford (R-SC) and Bobby Scott (D-VA) called for a halt in seismic testing on the outer continental shelf of the Atlantic Ocean. The letter, which has support from more than 30 other representatives, contends that surveys made by oil and gas companies to locate petroleum resources using seismic methods disrupt the oceanic environment. The letter directs BOEM to retract their decision to allow for an environmental review of geological and geophysical surveys in the Atlantic, citing the potentially harmful impacts to marine life.

Dr. Suzette Kimball Confirmed as Director of the U.S. Geological Survey

The Senate has finally confirmed Dr. Suzette M. Kimball as Director of the U.S. Geological Survey (USGS). Dr. Kimball, an environmental scientist focused on coastal processes with decades of experience in public service, has led the agency in an acting capacity since February 2013. The Senate Committee on Energy and Natural Resources, which had previously considered her nomination in 2014, held another hearing on her nomination last October and unanimously approved her confirmation in November 2015; this time the full Senate gave their approval.

House Legislation Introduced that Will Allow Farmers Tax Breaks for Water Conservation

Rep. Rick Crawford (R-AR) introduced the Groundwater Conservation Incentive Act (H.R. 4175) on December 3, 2015 which would amend the Internal Revenue Code of 1986. If enacted, the bill would provide tax deductions and exemptions for farmers that practice groundwater conservation measures, including constructing impoundments, reservoirs, and surface water retention structures.

Ultimately, the bill aims to encourage farmers to practice groundwater and soil conservation measures to combat the nation's dwindling groundwater supply. The bill has been referred to the House Committee on Ways and Means. ■

Daniel C. Huston
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HGS *Bulletin* Instructions to Authors

All materials are due by the 15th of the month, 6 weeks before issue publication. Abstracts should be 500 words or less; extended abstracts up to 1000 words; articles can be any length but brevity is preferred as we have a physical page limit within our current publishing contract. All submissions are subject to editorial review and revision.

Text should be submitted by email as an attached text or Word file or on a clearly labeled CD in Word format with a hardcopy printout to the Editor.

Figures, maps, diagrams, etc., should be digital files using Adobe Illustrator or Adobe Photoshop. Files should be saved and submitted in .ai, .eps, .tif or .jpg format. Send them as separate attachments via email or CD if they are larger than 5 MEGs each, accompanied by figure captions that include the file name of the desired image. DO NOT EMBED them into your text document; they must be sent as separate files from the text. DO NOT USE POWERPOINT, CLIP ART or Internet images (72-DPI resolution) as these do not have adequate resolution for the printed page and cannot be accepted. All digital files must have 300-DPI resolution or greater at the approximate size the figure will be printed.

Photographs may be digital or hard copy. Hard copies must be printed on glossy paper with the author's name, photo or figure number and caption on the back. Digital files must be submitted in .tif, .jpg or .eps format with 300-DPI or greater resolution at the printing size and be accompanied by figure captions that are linked by the file name of the image. The images should be submitted as individual email attachments (if less than 5 MB) or on CD or DVD.

Advertising

The *Bulletin* is printed digitally using InDesign. Call the HGS office for availability of ad space and for digital guidelines and necessary forms or email jill@hgs.org. Advertising is accepted on a space-available basis. **Deadline for submitting material is 6 weeks prior to the first of the month in which the ad appears.**

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9	\$823	\$1,387	\$2,488	\$4,734						
8	\$750	\$1,260	\$2,242	\$4,307						
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6	\$590	\$990	\$1,782	\$3,392						\$1,890
5	\$497	\$837	\$1,503	\$2,860	\$4,698	\$4,536	\$4,466	\$4,104		
4	\$405	\$683	\$1,223	\$2,326						
3	\$327	\$550	\$990	\$1,886						\$1,080
2	\$232	\$392	\$704	\$1,339						
1	\$146	\$246	\$443	\$842	\$1,404	\$1,296	\$1,313	\$1,080	\$1,296	\$810
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Website Advertising Opportunities

HGS has multiple website advertising opportunities for your company! We've expanded our offerings to include a 275 x 800 pixel, rotating banner ad on the front page of the website. We have kept the popular Event Calendar and Geo-Job Postings advertisement locations!

	Home page Banner	Home Page (200 x 400 pixels)	Event Calendar (200 x 400 pixels)	Geo-Jobs (120 x 90 pixels)	Website Business Card (Members Only)	Personal Resumes (Members Only)
One year	\$3,000.00	\$2,800.00	\$2,500.00	\$1,400.00	Free	Free
6 months	\$2,000.00	\$1,800.00	\$1,500.00	\$750.00	Free	Free
3 months	\$1,500.00	\$1,300.00	\$1,000.00	\$450.00	Free	Free
Monthly	\$700.00	\$500.00	\$400.00	\$200.00	Free	Free

We still offer Geo-Jobs - where your company can post job openings for 14 days at \$50.00 or 30 days at \$100.00.

For more information regarding website advertising visit HGS.org or email jill@hgs.org.



Application to Become a Member of the Houston Geological Society

Qualifications for Active Membership

- 1) Have a degree in geology or an allied geoscience from an accredited college or university; or
- 2) Have a degree in science or engineering from an accredited college or university and have been engaged in the professional study or practice of earth science for at least five (5) years.

Qualifications for Associate Membership (including students)

- 1) Be involved in the application of the earth or allied sciences.
- 2) Be a full-time student enrolled in geology or in the related sciences.

Apply online at www.hgs.org and click on Join HGS

Annual Dues Expire Each June 30. (Late renewals – \$5 re-instatement fee)
Annual dues are \$28.00; emeritus members pay \$14.00; students are free.

Mail this application and payment to:

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14811 St. Mary's Lane, Suite 250 • Houston, TX 77079-2916

Telephone: 713-463-9476 Fax: 281-679-5504

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To the Executive Board: I hereby apply for ☐ Active or ☐ Associate membership in the Houston Geological Society and pledge to abide by its Constitution and Bylaws. ☐ Check here if a full-time student.

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Address: _____

Home Phone: _____ Spouse's Name: _____

Email: _____

Job Title: _____

Company: _____

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Professional Interest:

☐ Environmental Geology ☐ North American E&P (other than Gulf Coast)

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School _____

Degree _____ Major _____ Year _____

School _____

Degree _____ Major _____ Year _____

Earth Science Work Experience _____

Applicant's Signature _____ Date _____

Endorsement by HGS member (not required if active AAPG member)

Name: _____

Signature _____ Date _____

Membership Chairman _____ HGS Secretary _____

Houston Petroleum Auxiliary Council News

by Shirley Gordon, HPAC-HGS Liaison

Houston Geological Society members, please ask your spouse to peruse this article—we hope they will find something of interest. All spouses of geologists, geophysicists, petroleum engineers and landmen, in good standing with their respective professional organizations (HAPL, GSH, SPE and HGS), are invited to become a member of the Houston Petroleum Auxiliary Council (HPAC). Our group was formed in 2008, with **Phyllis Carter** as the first President. Because of the downsizing of all the individual auxiliaries, we decided to unite. It has been a satisfying decision. We have formed many new friendships in our time as a unified group.

To remind everyone, all surviving spouses of members of the above organizations are also eligible and invited to join HPAC. Only spouses of members of HGS will read this publication, but if you know anyone else who might be interested in re-connecting with past acquaintances please let them know about our group. The dues are only \$20 per year and there are four outstanding functions. The person to contact is **Wanda Shaw** at 281-467-5999.

On February 23rd, we enjoyed our annual Game Day at Braeburn Country Club. As usual, **Daisy Wood**, chairman and **Norma Roady**, co-chairman, and their committee did an outstanding job. This has been an event that has been very popular through many years. It began in the Houston Geological Auxiliary and has continued into HPAC. Kudos also to Braeburn Country Club for their great food and service. Thanks for a very fun day ya'll!

Our next and last event for this fiscal year is on May 10th. We will meet at the Houston Racquet Club once again, for our eagerly

awaited style show. This will also be our installation of officers. **Sally Blackhall** and **Sara Nan Grubb** are chairpersons for the event. The time of the function is 10:30AM to 1:30PM. Fashions will be by "Soft Surroundings" with members of our organization as models. More information will follow.

HPAC Book Club will meet on May 2nd in the home of **Barbara Peck**, 1412 Harness Oaks Court, Houston 77077. **Mickey Murrell** will be the discussion leader, and the book to be discussed is **Dead Wake, the Last Crossing of the Lusitania**, by *Eric Larson*. One can only imagine what that crossing must have been like. So, read the book!! While I do not belong to the book club, the books selected have certainly piqued my interest. Hope it does yours as well.

ATTENTION ALL BRIDGE PLAYERS: There are two bridge groups that are associated with HPAC. One meets the third Wednesday of each month at the Petroleum Club, 201 Louisiana. FYI, parking is \$15 and lunch is \$30. There is also a "prize" fee which goes to several high scores. **Daisy Wood** is chairman of this group, and you may reach her at 832-581-3231. The second group meets the second Thursday, at the Westchase Marriott, 2900 Briarpark. It is called "Cinco Mas" and is chaired by **Audrey Tompkins**. You may reach her at 713-686-0005. Lunch is \$18. If you would like to play in either group, please call to make your reservation. Always a good game of bridge in either group...

Included this month are a couple of pictures from one of our recent board meetings. We really do "work" sometimes! ■



You are invited to become a member of

HPAC

2015–2016 dues are \$20.00 Mail dues payment along with the completed information

to **Wanda Shaw** • 1506 Haven Lock Drive • Houston, Texas 77077

YEARBOOK INFORMATION


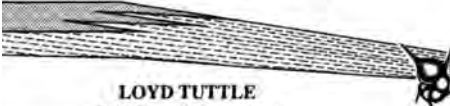











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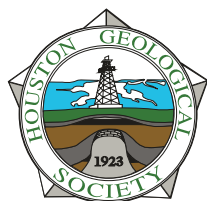
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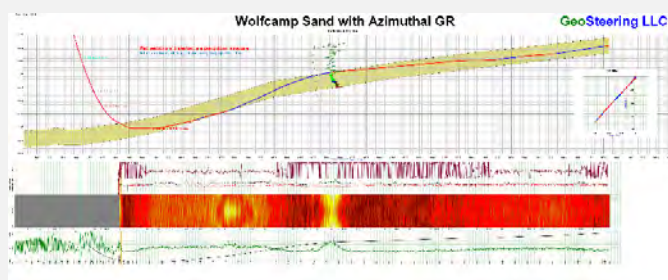
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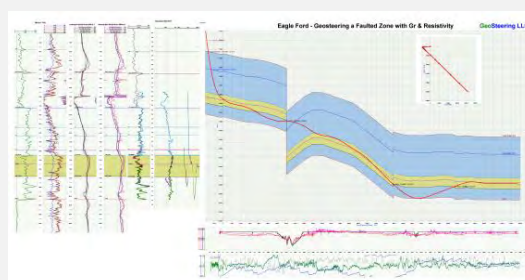
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