## **BULLETIN**

## Corpus Christi Geological Society



and

## Coastal Bend Geophysical Society



October 2016 ISSN 0739 5620

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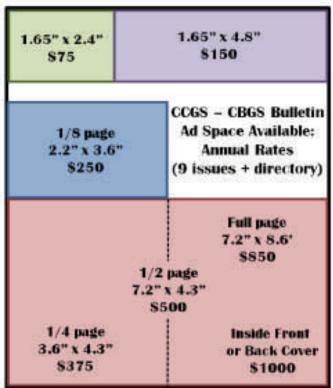


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## www.ccgeo.org

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Vice President	William Thompson	361-242-3113	William.Thompson@rrc.texas.gov
Secretary	Casey Mibb	361-726-1092	clmibb@yahoo.com
Treasurer	Austin Nye	361-452-1435	austin@nyexp.us
Past President	Mike Lucente	361-883-0923	mikel@lmpexploration.com
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Councilor II	Randy Bissell	361-885-0113	randyb@headington.com

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Bulletin Tech. Editor			
Web Master	Josh Pollard	361-654-3100	support@interconnect.net

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Scholarship	Dawn Bissell	361-960-2151	bissells@swbell.net
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Membership	Dorothy Jordan	361-885-0110	dorothyj@headington.com
	Randy Bissell	361-885-0113	randyb@headington.com
Type Logs	Frank Cornish	361-883-0923	frank.cornish@gmail.com
University Liaison	Casey Mibb	361-726-1092	clmibb@yahoo.com
	Wesley Garcia		



## COASTAL BEND GEOPHYSICAL SOCIETY P.O. BOX 2741\*C.C. TX. 78403 2016-2017

### **OFFICERS**

OTTTOETTO			
President	Lonnie Blake	361-883-2831	lonnie_blake@eogresources.com
Vice President	Dr. Subbarao Yelisettl	361-593-4894	subbarao.yelisetti@tamuk.edu
Secretary/Treasurer	Matt Hammer	361-888-4792	mhammer@royalcctx.com
Golf Chairman	Fermin Munoz	361-960-1126	fmunoz04@hotmail.com
Scholarship Chairman	Ed Egger	361-947-8400	edegger69@gmail.com
Education	Dr. Robert Schneider		

# Visit the geological web site at www.ccgeo.org

## **CCGS/CBGS JOINT MEETING SCHEDULE 2016-2017**

		Sep	temb	er					Oct	ober						Nov	emb	er		
S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S
		2	2016						20	16						20	016			
				1	2	3							1			1	2	3	4	5
4	5	6	7	8	9	<b>10</b>	2	3	4	5	6	7	8	6	7	8	9	10	11	<b>12</b>
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11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
	17	20	21		23	<b>4</b> 1	10	17	10	1)	20	_1		20	21		23	<b>4</b> 1	23	20
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												

GCAGS Convention "Explore The Future" September 18-20, 2016 Corpus Christi, TX. GCAGS Post-Convention Party & Society Kickoff Bar-B-Q Thursday, October 13 5:30 to 8:00 p.m. 11:30am-1:00pm.
Speaker: Bruce Moriarty,
Principal Geophysical Advisor,
Lumina Geophysical
"Simultaneous Inversion of
Spectrally-Broadened 3D
Seismic Data: Case Study for
the Olmos Unconventional
Play, South Texas"

			Dec	emb	er				January					February							
S		M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S
			20	16						2	017						:	2017	,		
					1	2	3	1	2	3	4	5	6	7				1	2	3	4
	4	5	6	7	8	9	10	8	9	10	11	12	13	14	5	6	7	8	9	10	11
	11	12	13	14	15	16	17	15	16	17	<mark>18</mark>	19	20	21	12	13	14	<mark>15</mark>	16	17	18
	18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25
	25	26	27	28	29	30	31	29	30	31					26	27	28				

Combined November/December for the Holidays.

**CCGS/CBGS Joint Meeting Schedule 2016-2017** 

		l	March						A	April						M	lay			
S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S
			2017							2017	7						2017	7		
			1	2	3	4							1		1	2	3	4	5	6
5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13
12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	<b>17</b>	18	19	20
19	20	21	22	23	24	25	16	17	18	<mark>19</mark>	20	21	22	21	22	23	24	25	26	27
26	27	28	29	30	31		23	24	25	26	27	28	29	28	29	30	31			
							30													

Combined February/March for Spring Break

## **Calendar of Meetings and Events**

## **Calendar of Area Monthly Meetings**

Corpus Christi Geological/Geophysical Society	
South Texas Geological Society Luncheons	
San Antonio Geophysical Society Meetings	Fourth Tuesday
Austin Geological Society	First Monday
Austin Chapter of SIPES	First Thursday
Houston Geological Society Luncheons	Last Wednesday
Central Texas Section of Society of Mining, Metalllurgy & Exp	
	San Antonio

## Please RENEW for the 2016-17 Membership Period using those handy forms we mailed in August.

Everyone should have received their 2016-2017 Membership Renewal forms in the US Mail.

- **PRINTED BULLETINS** are available to any member for \$25/year. We must have a valid mailing address. Please <u>confirm your mailing address</u> on the renewal form.
- Emails! Please legibly re-write your <u>preferred email address</u> at the bottom of the form. We are striving to maintain 100% of the Society reachable by email. Your email is vital if you've chosen not to receive the printed Bulletin.
- **Please <u>return the form promptly...</u>**yes, <u>before</u> (or at) the Kickoff party. Return of your form is *vital* to keeping our records in order, that's why we enclose a return envelope.
- IMPORTANT: Even if you plan to pay at the Kickoff, please bring your renewal form and payment in the envelope! Honorary and student members, please return your forms, too! Students need to update emails, employment, and contact info.
- **Pictures.** We're continuing to add pictures to our database, still not quite enough to justify a new photo directory. Send us a photo (email it to dorothyj@headington.com) if we get enough pictures this renewal period, we'll plan on a photo directory in June.



**PAY ONLINE** at **www.ccgeo.org** and follow the simple steps. We ask that you <u>still</u> return corrected member information via the enclosed envelope...or email it to membership@ccgeo.org...or fax it to us at 361-885-0120.

We mailed **400 renewals** this year and it is <u>very expensive</u> for our Societies. Your <u>prompt return</u> <u>of your renewal form</u> is *your* part of this process. Please make this effort worthwhile for our Society.

### RENEW...RENEW...RENEW...RENEW...RENEW...RENEW...RENEW

For new members, active or student. Email randyb@headington.com to get a membership form. Just print it, fill it out and send it along with your check (no fee for students) to: CCGS Membership, 500 North Shoreline Blvd., Ste. 902N, Corpus Christi, Texas 78401-0343. Contact Randy Bissell at randyb@headington.com or (361) 885-0110 with any questions. Thanks for your quick response – earlier makes it much easier! And remember:

RENEW...RENEW...RENEW...RENEW...RENEW...RENEW...RENEW

## Corpus Christi Geological Society/Coastal Bend Geophysical Society

## 2016-2017 Membership Form

Please mail your completed form to:
Randy Bissell, CCGS/CBGS Membership
% Headington Energy Partners LLC
500 N. Shoreline, Ste 902 N. Twr.
Corpus Christi, Texas 78401

FIRST NAME MI LAST NAME DATE

COMPANY INFORMATION:	Mail Correspondence Hara	PROFESSIONAL
	Mail Correspondence Here	INFORMATION
Company Name Title/Position		College
		_
Address		_ Major
		_   Degree
City		_   Year
State		_
Zip		College
Phone		Major
Fax		Degree
E-Mail Address		Year
PERSONAL INFORMATION:	Mail Correspondence Here	College
Spouse's Name		Major
		Degree
Address 2		_ Year
City		_
State		<u>MEMBERSHIPS</u>
Zip		CCGS CBGS AAPG HGS
Phone		SIPES SEG GCGS STGS
Fax		OTHER:
E-Mail Address		

## **MEMBERSHIP INFORMATION**

ACTIVE MEMBERSHIP- In order to be eligible for active membership a person must (1) have a degree in geology or one of the earth sciences and be directly engaged in the application of Geology, or (2) presently engaged in or have been engaged in the application of geology or one of the earth sciences for the preceding five years. Any retired person qualified for active membership before retirement shall also qualify for active membership.

ASSOCIATE MEMBERSHIP- In order to be eligible for associate membership a person must be actively engaged in the geological or earth science work. An associate member shall not be eligible to vote or to hold selective office, but shall have all other rights and privileges enjoyed by active members. Associate members who attain eligibility for active membership may apply for transfer to active membership.

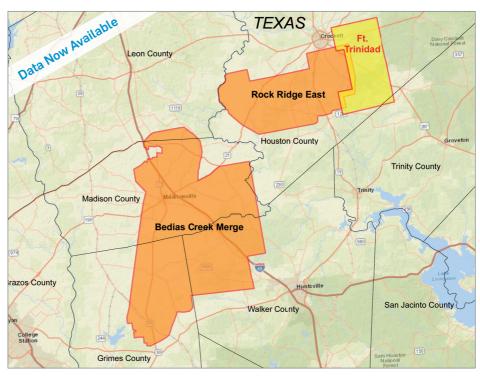
STUDENT MEMBERSHIP- Student membership shall be limited to those students who have completed two years of college and who are enrolled in geology or a related earth science in a recognized college or university granting degrees in earth sciences. A student member shall not be eligible to vote or to hold office, but shall have all other rights and privileges enjoyed by active members. Students have access to electronic bulletins only.

ACTIVE or ASSOCIA	ATE
(Circle One)	
CCGS Membership Dues	\$25.00
CBGS Membership Dues	\$20.00
Student Membership Dues	FREE
Printed copy of Bulletin	
(Yearly Mailing fee for bulletin)	\$25.00
Business Card Ad	\$30.00
	<b>Φ30.00</b>
<u>DONATIONS</u>	
CCGS Historical Fund	\$
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CCGS Scholarship Donation	\$
-	
Don Boyd Endowment Fund	\$
Maps and Bones in Schools	
(Owen's Projects)	\$
` .	



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## \*\*\*BLOOD DRIVE\*\*\*

**OCTOBER - 2016** 



Don't be spooked! Go give Blood! You'll be glad you did!

## THE BLOODMOBILE WILL BE AT SOME CONVENIENT LOCATIONS – YOU CAN LOG ON TO:

www.coastalbendbloodcenter.com

When you give blood: They have us listed as <u>C.C. Geological</u> <u>Society</u>. Our number with them is  $\underline{4254}$  & it would be helpful if you can please give them that number also.

There is a nationwide shortage of blood – and we appeal to our members to give the gift of life. Please tell the Blood Center that you are giving on behalf of the **C.C. Geological Society**. For info. their ph. no. is **855-4943.** 

This message approved by Mike Lucente....



### PRESIDENT'S PAGE

I am writing this letter the week before the GCAGS Convention here in Corpus Christi. By the time you read these words, that convention will be history.

Corpus Christi has hosted GCAGS many times over the years, and each time a few members did the hard work of chairing and managing the entire meeting. A huge THANK YOU to Dawn Bissell for chairing this 2016 version to what should be a success. Even though the oil patch economy is in hard times, the technical sessions look to be outstanding.

Leighton Devine reported that the Fishing Tournament netted some impressive profits, and raised \$5,000 for the CCGS Scholarship Fund. Thank you, Leighton!

CCGS remains in need of two more volunteers for the new year:

- **President-Elect:** This officer serves on the Executive Board this year and becomes the new President at the end of the current President's term. This year, it's the learning curve.... next year you get to manage the Society.
- Technical Editor for the *Bulletin*: The past Editor, Sebastian Wiedmann, no longer wishes to serve as Editor.

If you are interested in serving in either of these positions, please contact any officer of the CCGS.

Please remember that the Annual Kick-off Barbeque will be on Thursday, October 13, at Hoegemeyer's at 711 Concrete Street. Time is 5:30 to 8:30 and cost is only \$15/person!

Luncheon meetings will continue at the Ortiz Center during November, January, February, April, and May. The Executive Committee decided that December had a small showing because of Christmas and March because of Spring Break. The price will remain at \$25/person with reservations.

The Executive Committee decided that we need to revise the Bylaws of the CCGS. The last time they were amended was in 1986. Watch for more announcements through the year regarding the progress. Voting on ratification will take place next spring.

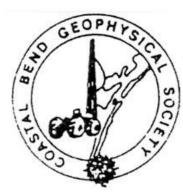
Respectfully,

Barbara Beynon



The Corpus Christi Geological Society
The Coastal Bend Geophysical Society
and





Invite you to the

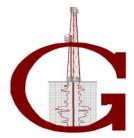
## GCAGS Post-Convention Party & Society Kickoff Bar-B-Q

Thursday, October 13, 2016 5:30 to 8:00 p.m.

## Hoegemeyer's Barbeque Barn

711 Concrete Street (Located across from Concrete Street Amphitheater). From downtown, take Chaparral St. north, then left on Belden St.

## \$15 per member/student/guest\*



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RSVP (required) by Monday, October 10

Wes Gisler, wes@gislerbrotherslogging.com, 1-830-239-4651

Dorothy Jordan, Dorothy@headingtonenergy.com, 361-885-0113

<sup>\*</sup>Special thanks to the GCAGS Leadership for sponsoring meal costs and reducing the price for everyone!



### CBGS PRESIDENT'S LETTER

### News -

GCAGS Convention is behind us. Back to business as usual.

### **CBGS Business -**

CBGS golf tournament is scheduled for Oct 7th at Northshore Country Club. Contact Fermin Munoz about interest in playing or sponsoring. All sponsorship funds are used for geophysical scholarships. Scholarship applicants solicited.

### **Education/Events -**

- GSH

"Everything you always wanted to know about microseismic", Houston, Nov 9-10 Numerous technical luncheons if you happen to be in Houston. Check following link.

### **Geophysical Society of Houston Calendar**

CBGS has a revenue sharing agreement with GSH. Mention CBGS if you register for GSH events.

- SEG

SEG Convention, 16-21 October, Dallas

SEG has 450+ eLearning courses online from \$0.99 to \$150.00(most expensive I saw)

http://www.seg.org/professional-development/seg-on-demand

### - HGS

Making Money with Mature Fields, Houston, Oct 5-6, 2016 Carbonate Depositional Systems, Houston, Oct 3-4, 2016 Petroleum Geochemistry, Houston, Oct 3-4, 2016 Petrological and Geochemical screening methods, Houston, Dec 9, 2016

### **Thought for the month - Innovation**

"There are not more than five musical notes, yet the combinations of these five give rise to more melodies than can ever be heard.

There are not more than five primary colours, yet in combination they produce more hues than can ever been seen.

There are not more than five cardinal tastes, yet combinations of them yield more flavors than can ever be tasted."

— Sun Tzu, The Art of War

## **Monthly O&G Statistics**

Texas Oil and Gas Info	Current Month	Last Month	Difference	
Texas Production	MMBO/BCF	MMBO/BCF	MMBO/BCF	
Oil	72.9	79.6	-6.7	June
Condensate	9.2	10.7	-1.5	
Gas	604	656	-52	June
	Current Month	Yr to date - 2016	Yr to date - 2015	
Texas Drilling Permits	660	4,830	7,407	August
Oil wells	203	1,412	1,828	
Oil and Gas	392	2,848	4,598	
Gas wells	24	250	546	
Other	15	88	104	
Total Completions	822	8,107	14,665	August
Oil Completions	545	6,166	11,723	
Gas Completions	223	1,527	2,006	
New Field Discoveries	2	16	50	
Other	55	414	936	

## **Thought for the month:**

A vision without a task is but a dream, a task without a vision is drudgery, a vision with a task is the hope of the world

- Inscription on a wall in Sussex England, circa 1730

Lonnie Blake—CBGS President



## Corpus Christi Geological Society Scholarship Application Guidelines

## Spring 2017 Semester

- 1. Applicant must be majoring in Earth Sciences and enrolled for the award semester (i.e. Spring 2017) at a college in the local area. Applicant must be a member of the Corpus Christi Geological Society.
- 2. Fill out the application form clearly, completely, and sign it.
- 3. Short essay clearly explaining how this scholarship will assist you in achieving your geologic career goals and the reasons your application should be considered by the Committee.
- 4. Two (2) letters of recommendation one must be from a geoscience faculty member or from a supervisor with whom applicant has worked with in a geoscience undertaking.
- 5. Applicant must provide a school transcript, please make sure it has your name on it. A web printout is acceptable.
- 6. Applications must be postmarked by: October 24, 2016
  Application packet may be emailed in a shareable format (i.e. pdf, docx, etc) to bissells@swbell.net.

Mail completed application to: Dawn Bissell, CCGS Scholarship Committee Chairman, 253 Circle Drive, Corpus Christi, TX 78411

Send an email to **bissells@swbell.net** once you've mailed your application. We need **YOUR** email address. *Award notifications will be sent via email!!!* 

Please read requirements carefully and submit only complete applications. Applicants who have received a CCGS scholarship in the past <u>are</u> eligible to apply again.

Scholarships will be awarded based on merit and need. The award amounts may vary with the minimum individual award being \$500.

Award recipients will be recognized at the monthly **luncheon November 16, 2016** and are encouraged to attend.

Board Members:

Dawn Bissell
Brent Hopkins
JR Jones
Barbara Beynon - CCGS President
BJ Thompson



## Corpus Christi Geological Society Scholarship Application Form Spring 2017

(Must be postmarked by October 24, 2016)

Last Name:	First Name:		
Mailing address:			
(where award may be mailed if applicant is unable	to attend award pre	sentation)	
City:	State:	Zip Code:	
Active Email:			
Award notifications will be sent via e	email!!! Ema	il bissells@swbell.n	et
once you've submitted your applicate	ion. I need <b>Y</b> (	<b>DUR</b> email address.	
Daytime Phone:	Alternate P	hone:	
University Attending in Spring 2017	7:		
Department:	Major:		
Scholarship is for class level (circle o	one):		
Freshman Sophomore Junio	or Senio	or Graduate St	tudent
Total Hours Completed:	Overall GP	A (Minimum 2.5):	
Total Hours - Geology:	Geology Gl	PA(Minimum 3.0)	
Hours Planned for Scholarship Seme	ester:	Geology Hours:	
Will this scholarship be used toward	field camp?	Yes	No
Prior recipient of CCGS Scholarship	?	Yes	No
Are you a student member of CCGS (If no, membership application is included. Mu		Yes of CCGS.)	No
Applicant Signature		Date	

Mail application, along with essay, two letters of recommendation, and transcript to Dawn Bissell, CCGS Scholarship Committee Chairman 253 Circle Drive, Corpus Christi, TX 78411 must be postmarked by October 24, 2016. Email <a href="mailto:bissells@swbell.net">bissells@swbell.net</a> once you've mailed your application. Award notifications will be made via email!!!



## CORPUS CHRISTI GEOLOGICAL SOCIETY COASTAL BEND GEOPHYSICAL SOCIETY



## **LUNCHEON MEETING ANNOUNCEMENT**

## **WEDNESDAY, NOVEMBER 16, 2016**

**Location:** Congressman Solomon P. Ortiz International Center, 402 Harbor

Drive, Corpus Christi, TX 78401 <a href="http://ortizcenter.com">http://ortizcenter.com</a>

Bar Sponsor: To be announced (sponsors needed!)

Student Sponsor: Core Laboratories and Corpus Christi Geological Society

**Time:** 11:30 am Bar, Lunch follows at 11:45 am, Speaker at 12:00 pm

**Cost:** \$25.00 (additional \$10.00 surcharge without reservation; No-shows

may be billed and non-RSVP attendees cannot be guaranteed a lunch); **FREE** for students with reservation (discounted by our

generous sponsors)!

**Reservations:** Please **RSVP** by 4PM on the FRIDAY before the meeting!

E-Mail: <u>wes@gislerbrotherslogging.com</u>

Please note that luncheon RSVPs are a commitment to the Ortiz Center and must be paid even if you can't attend the luncheon.



http://www.corelab.com



## PLEASE THANK OUR GENEROUS SPONSORS!!!

SPONSORSHIPS FOR THE TUESDAY PINT NIGHT SOCIAL GATHERINGS AND WEDNESDAY LUNCHEON MEETING BARS ARE OPEN!!!

Please consider a CCGS/CBGS sponsorship!!! It's a great way to advertise both your company and the services it provides!!!

## Inversion of Spectrally-Broadened 3D Seismic Data: Case Study for Olmos Unconventional Play, South Texas

Presented by: Bruce Moriarty, Principal Geophysical Advisor, Lumina Geophysical

## Summary

In South Texas, tight gas sandstone reservoirs in the Olmos Formation are prospective. Unfortunately, detecting and mapping the lateral continuity of reservoir quality Olmos sands is limited by the fact that prospective pay zones are commonly below conventional seismic resolution. Thus, spectral broadening is potentially valuable if it can be shown to be useful in this area. This paper describes seismic interpretation and simultaneous inversion results of an original and a spectrally-broadened high-resolution seismic dataset across the South Texas Olmos tight sand. The incorporation of high-resolution seismic data addresses the lack of enough vertical resolution to image thin beds within the Olmos productive zone. This high-resolution seismic data results from the application of the sparse-layer inversion method (Zhang and Castagna 2011) to the original pre-stack seismic data. The method is unbiased against thin beds and thus allows the detection and resolution of thin beds below tuning thickness.

### **Abstract**

The primary objective of this work was to identify sweet spots in the unconventional tight sand reservoir of the Olmos formation using pre-stack simultaneous inversion. The second objective was to compare the original seismic data with high-resolution seismic data, along with the resulting simultaneous inversions. High-resolution seismic data is the result of sparse layer inversion method applied to the original pre-stack seismic data. This method inverts the frequency spectrum for layer thickness and enables the detection and resolution of thin beds below tuning thickness.

Simultaneous inversion is a process which generates P impedance, S impedance, and density at the same time, though only the P impedance results will be shown today. The P impedance volume generated from the original seismic lacked sufficient vertical resolution to image thin beds (~ 25-30 ft/ 7.6-9 m) within the productive interval of the Olmos formation. High-resolution seismic was used to address this challenge. The process of spectral layer inversion improved the resolution from about 98 feet to 47 feet. At this resolution, two additional horizons can be mapped to separate individual porosity zones within the productive Olmos interval.

Using the P impedance volume generated from the high-resolution seismic, we were able to map a new low impedance anomaly within the study area. This new anomaly correlates with the lower interval of the high porosity zone associated with better Olmos production, and should provide new potential for field development.

This general approach may be very useful in many plays worldwide.

### **About our Presenter:**



**Bruce Moriarty** attended Colgate University in Syracuse, New York, earning his Bachelor Degree in Geology in 1972. He also attended the University of South Carolina – Columbia.

Bruce was a Project Manager for Visos, coordinating 3-D seismic surveys in the Gulf Coast, Mid-Continent, and Rocky Mountain Regions in a multi-component program, including the Bureau of Economic Geology and PGS Onshore. He has served as the Principal Geophysicist for El Paso Production, Chief Geophysicist for Dominion Exploration & Production, as well as Geophysical Advisor for Swift Energy. He presently serves as Principal Geophysical Advisor for Lumina Geophysical in Houston, Texas.

Bruce is an expert in utilizing new seismic technologies to extend the production life and economics of existing fields through enhanced well performance and recovery. He has researched and published reports on identifying new targets in mature unconventional plays by utilizing new seismic technologies.

Bruce was the President of the Denver Geophysical Society in 1985, the Treasurer of the Geophysical Society of Houston in 2010. He is also a member of the Society of Exploration Geophysicists (SPE), American Association of Petroleum Geologists (AAPG), and enjoys skiing, golf, and motorcycling.



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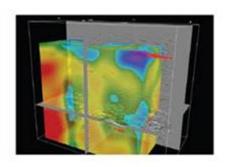
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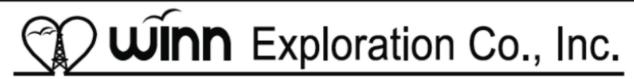
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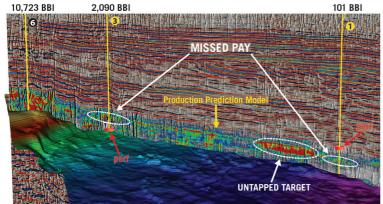
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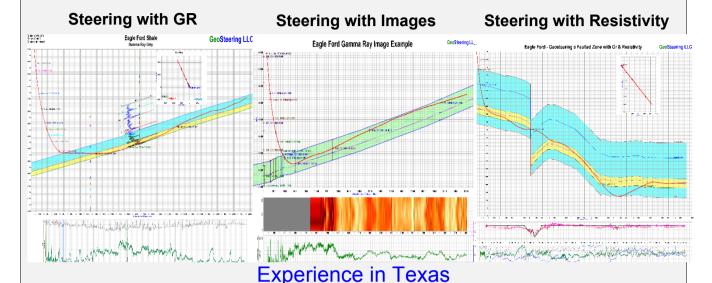
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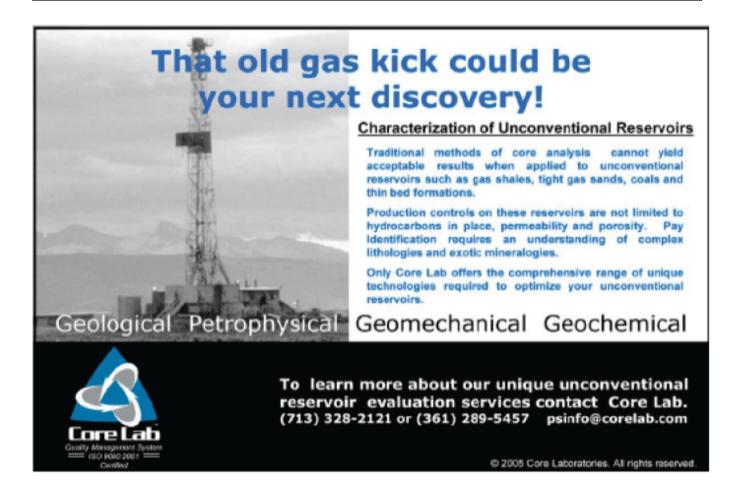
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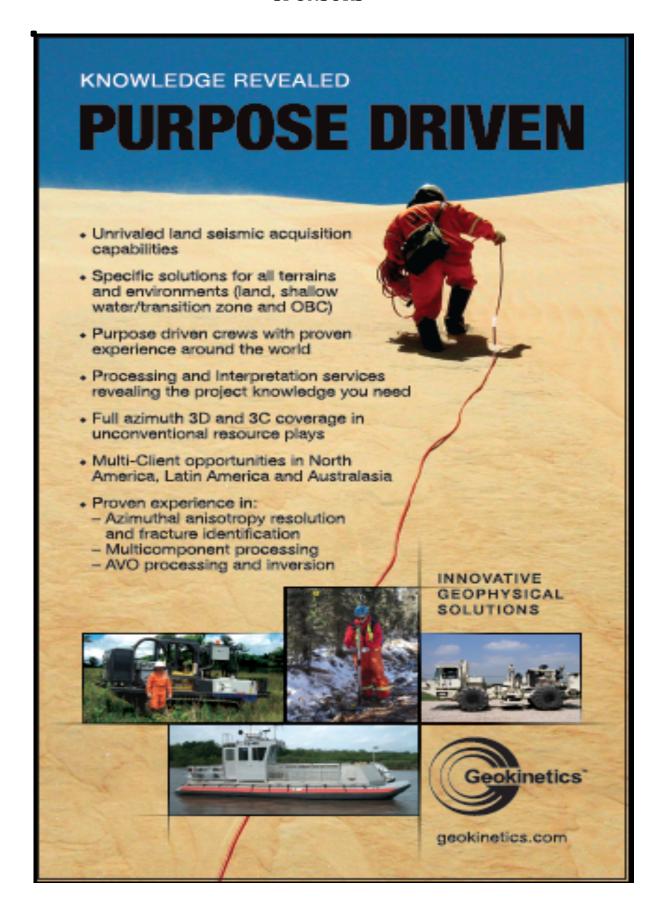


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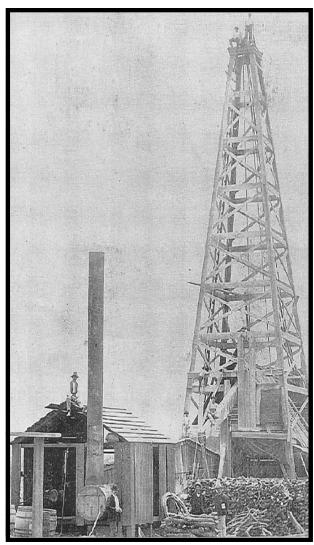
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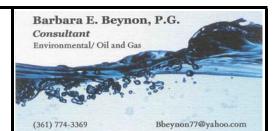
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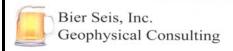
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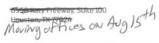
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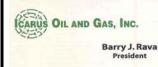
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