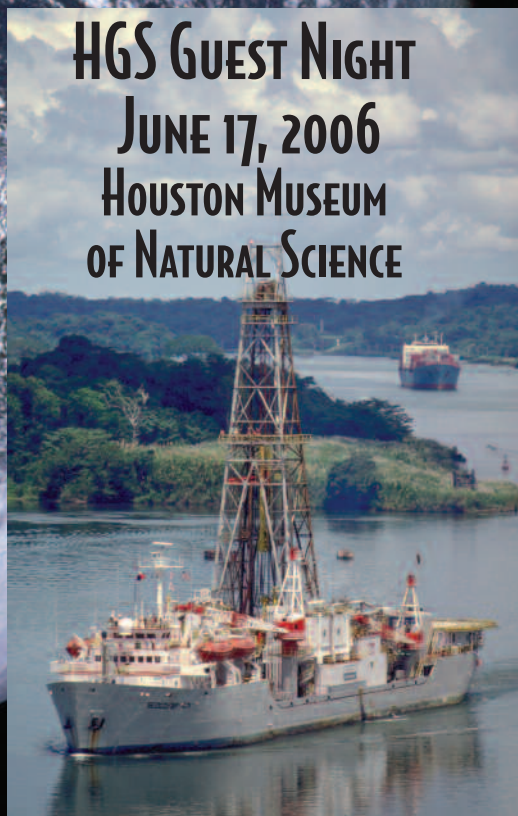
HGS Bulletin
Houston Geological Society
Volume 48 Number 10
June 2006

Deep Sea Sediment Cores Reveal Geological Evidence of Long-Term Global Climate Change

page 31



10th Annual Technofest
July 25, 2006
Page 65

The Bulletin
Houston Geological Society

Volume 48, Number 10 June 2006

In Every Issue

The Houston Geological Society Bulletin (ISSN-018-6686) is published monthly except for July and August by the Houston Geological Society, 10575 Katy Freeway, Suite 290, Houston, TX 77024. Phone: 713-463-9476, fax: 713-463-9160

Editorial correspondence and material submitted for publication should be addressed to the Editor, Houston Geological Society Bulletin, 10575 Katy Freeway, Suite 290, Houston, TX 77024 or to Editor@hgs.org

Subscriptions: Subscription to this publication is included in the membership dues ($24.00 annually). Subscription price for nonmembers within the contiguous U.S. is $30.00 per year. For those outside the contiguous U.S. the subscription price is $46.00 per year. Single-copy price is $3.00. Periodicals postage paid in Houston, Texas.

POSTMASTER: Send address changes to Houston Geological Society Bulletin, 10575 Katy Freeway, Suite 290, Houston, TX 77024

Technical Meetings

Other Features

2006–2007 HGS Executive Board of Directors

Newly elected officers

Linda Sternbach	*President-elect*
Andrea Reynolds	*Vice President*
Jennifer Burton	*Secretary*
John Jordan	*Treasurer-elect*
Steve Earle	*Editor-elect*
Bonnie Milne-Andrews	*Director*
Bob Merrill	*Director*

Returning officers

Steve Brachman	*President*
Cheryl Desforges	*Treasurer*
Bill Rizer	*Editor*
Jim Doyle	*Director*
Eric Mason	*Director*

page 33

page 43

page 45

page 47

About the Cover: View of the Earth as seen by the Apollo 17 crew traveling toward the Moon. This translunar coast photograph extends from the Mediterranean Sea area to the Antarctica South polar ice cap. This is the first time the Apollo trajectory made it possible to photograph the South polar ice cap. Note the heavy cloud cover in the Southern Hemisphere. Almost the entire coastline of Africa is clearly visible. The Arabian Peninsula can be seen at the Northeastern edge of Africa. The large island off the coast of Africa is the Malagasy Republic. The Asian mainland is on the horizon toward the Northeast. (Image # : AS17-148-22727) *Image courtesy of the Image Science & Analysis Laboratory, NASA Johnson Space Center. http://eol.jsc.nasa.gov*
The drillship *JOIDES Resolution* (featured in the May 2006 *Bulletin*.) The *Resolution* replaced the *Glomar Challenger* in the 1980s and will be replaced by the high-tech drillship *Chikyu* in the future. The *Resolution* can take deep sea cores in 20,000 ft of water using riser-less drilling. *Image courtesy of the Ocean Drilling Program at A&M University.*

Board of Directors 2005–06

http://www.hgs.org/about_hgs/leadership.asp

President (P)	Dave Rensink	Apache Corp.	713-296-6332	dave.rensink@apachecorp.com
President-Elect (PE)	Steve Brachman	Pogo Producing	713-297-5088	brachman@pogoproducing.com
Vice-President (VP)	Linda Sternbach	Kerr-McGee Corp.	281-673-6839	LSternbach@kmg.com
Secretary (S)	Susan Black	Newfield Exploration Company	281-847-6170	sblack@newfld.com
Treasurer (T)	Ken Nemeth	Schlumberger	713-513-2327	knemeth@houston.oilfield.slb.com
Treasurer -Elect (TE)	Cheryl Desforges	Ryder Scott Company	713-816-9202	Cheryl_Desforges@ryderscott.com
Editor (E)	Paul Britt	Texplore, Inc.	281-494-3155	pbritt@texplore.com
Editor-Elect (EE)	Bill Rizer	W. D. Rizer Consulting	281-392-0613	rizerwd@consolidated.net
Director 04-06 (D1)	Bill Dupré	University of Houston	713-743-3425	wdupre@uh.edu
Director 04-06 (D2)	Elizabeth Fisher	Fugro-Jason	281-859-5377	eafisher@jasongeo.com
Director 05-07 (D3)	Jim Doyle	ENI Petroleum	713-393-6189	jim.doyle@enipetroleum.com
Director 05-07 (D4)	Erik Mason	Shell	281-544-2924	erik.mason@shell.com

Committee	Chairperson	Phone	Email	Board Rep.
AAPG Delegate Foreman	Paul Hoffman	713-783-7880	phoffman@coxperkins.com	D3
AAPG Convention Chairman	Charles Sternbach	281-679-7333	carbodude@pdq.net	P
Academic Liaison	Alison Henning	832-203-5016	Alison@henning.com	D3
Advertising	Lilly Hargrave	713-463-9476	ads@hgs.org	E
Advisory	Open			P
Arrangements	Gordon Marney	281-381-5257	gmarney@sbcglobal.net	VP
Awards	Mike Deming	281-589-6093	demingy2k@aol.com	D3
Ballot	Don Scherer	713-723-8484	donnfransch@houston.rr.com	P
Calvert Memorial Fund (Graduate Students)	Carl Norman	713-461-7420	dod895@aol.com	PE
Community Outreach Committee	Walter Light, Jr.	713-823-8288	wthunderx@aol.com	P
	Cindy Gillespie	832-969-4385	clgillespie1@sprintpcs.com	P
Continuing Education	Leta Smith	713-369-0253	leta.smith@ihsenergy.com	D2
Directory	Michael S. Benrud	713-785-8700	mbenrud@houston.rr.com	TE
Earth Science Week–ESW Gen.	Martha McRae	713-869-2045	mmcrae1@houston.rr.com	D2
Earth Science Week–Logistics	Jennifer Burton	832-636-8357	jennifer_burton@anadarko.com	D2
Engineering Council of Houston	Claudia Ludwig	713-723-2511	petra@hal-pc.org	D3
	Richard Howe	713-467-2900	rghowe@pdq.net	D3
Environmental & Engineeering Geology	Bruce Woodhouse	281-600-1095	Bruce.Woodhouse@erm.com	VP
Exhibits	Mac McKinney	281-353-0661	wmckinney@houston.rr.com	D4
Field Trips	Neal Immega	713-661-3494	n_immega@swbell.net	D2
Finance	Joe Lynch	713-839-2921	jlynch@lgc.com	T
Fishing Tournament	Bobby Perez	281-240-1234	r_perez@seismicventures.com	D4
Foundation Fund (Undergraduate Students)	John Adamick	713-860-2114	jada@tgsgeo.com	PE
Fund Raising	Mike Jobe	713-659-1221	jmjobe@walteroil.com	P
	Bonnie Milne-Andrews	832-661-6666	bonnie.milne@swiftenergy.com	P
Global Climate Change	Jeffrey Lund	713-960-0971	jwl5127@aol.com	D3
Golf Tournament	Allan Filipov	281-275-7649	afilipov@fairfield.com	D1
Government Affairs	Arlin Howles	281-808-8629	tidenv@sbcglobal.net	D1
	Henry Wise	281-867-9131	hmwise@yahoo.com	D1
Guest Night	Bill Osten	281-293-3160	bill.w.osten@conocophillips.com	VP
Historical	Open			S
Houston Energy Council	Sandi Barber	281-552-2886	barbers@saic.com	PE
HGS Auxiliary	Norma Jean Jones	281-497-3857	normajjones@cs.com	S
	Eddie Bishop	713-467-8706	ewbishop@bishorb.com	S
International Explorationists	Al Danforth	713-502-2766	al.danforth@att.net	VP
Technical Program	Bonnie Milne-Andrews	832-661-6666	bonnie.milne@swiftenergy.com	VP
Library	Bill Anderson	713-666-3831	wm.anderson@sbcglobal.net	D2
Membership	Andrea Reynolds	281-544-2481	andrea.reynolds@shell.com	S
	Marsha Bourque	713-723-8490	m22799@yahoo.com	S
Museum of Natural Science	Inda Immega	713-661-3494	immega@swbell.net	D2
NeoGeos	Diane Phu	713-468-1410	dphu@gemsinc.com	D4
New Publications	Tom Fiorito	713-275-7711	tom.fiorito@anglosuisse.com	D1
	Bill Rizer	281-392-0613	rizerwd@consolidated.net	D1
Nominations	Steve Levine	281-293-3896	steve.d.levine@conocophillips.com	P
North American Explorationists	Steve Earle	713-840-1980	earle50@earthlink.net	VP
	Mike Jones	713-654-0080	mike@scoutpetroleum.com	VP
Northsiders	Frank Walles	713-410-9432	frank.walles@dvn.com	VP
	Gary Coburn	281-782-7021	gc944ts@aol.com	VP
Office Committee	Deborah Sacrey	713-468-3260	dsacrey@auburnenergy.com	PE
Personnel Placement	Peter Welch	713-862-2287	peter-welch@sbcglobal.net	D4
Publication Sales	Tom Mather	281-556-9539	geomather@aol.com	S
Remembrances	Bill Robbins	713-206-7362	wcrobbins@direcway.com	S
Scouting	George Krapfel	713-989-7433	ggkrapfel@panhandleenergy.com	D4
Shrimp Peel	Lee Shelton	713- 595-5116	lshelton@knowledge-reservoir.com	D1
Skeet Shoot	Tom McCarroll	832-366-1623	tom_mccarroll@yahoo.com	D1
TechnoFest (Formerly Emerging Technologies)	Mike Allison	832-594-4079	mike.allison@dvn.com	S
Tennis Tournament	Ross Davis	713-659-3131	rossdavis@davisbros.com	D2
Vendor's Corner	Paul Babcock	713-890-3603	pbabcock@pecorp.com	TE
Website	Bill Osten	281-293-3160	bill.w.osten@conocophillips.com	D4
HGS Office Manager	Joan Henshaw	713-463-9476	joan@hgs.org	

by ***Dave Rensink***

From the **President**

Year-End in Review

This is the last letter of my term as president, and I want to thank all of you who commented on the past letters—yes, even those of you who took issue with something I wrote. It is nice to know that people actually read the column.

I also want to thank the members of the HGS board for their considerable and diligent efforts during the past year. Our treasurer, Ken Nemeth, was thrown into the job last year when the treasurer resigned, and has done an incredible job organizing our finances. His efforts have resulted in a balanced budget for this year. Linda Sternbach, our vice-president, organized a superb and successful technical program. The editor also resigned before the year began, and Paul Britt graciously and selflessly agreed to accept the editor's position. He has continued the HGS tradition of publishing the finest bulletin of any geological society in the country. This does not happen by accident. It is the result of the labor and dedication of Paul and his associate editors. Susan Black's organizational abilities have been well utilized as HGS secretary. We have also benefited from her reasoned counsel and that of our outgoing directors, Elizabeth Fisher and Bill Dupre. The rest of the board, Steve Brachman, Cheryl Desforge, Bill Riser, Jim Doyle and Erik Mason, have one more year of dedicated service to HGS. The strength of HGS is the willingness of its members to dedicate their free time to continue the legacy that is the Houston Geological Society. These board members have my gratitude and respect for their dedicated service. When you see these people at work and on the street, please express your thanks for their willingness to serve the interests of the HGS.

If you missed the AAPG convention in April, you missed a first class show.

If you missed the AAPG convention in April, you missed a first class show. The thanks of the HGS go out to Charles Sternbach, general chairman, Deborah Sacrey and Dan Tearpock, co-vice chairs, and Bob Merrill, technical program chairman. I certainly do not want to overlook the work and dedication of the committee chairs and the committee members. This convention would not have been possible nor would it have been as successful as it was without the dedication and sacrifice of the many HGS members directly involved with the production of the event. You have certainly committed yourselves to the theme of this convention—"Delivering on Promises." I heard nothing but praise for your efforts on the floor of the convention. Thank you, one and all.

One of the recurring topics of this convention was how to staff the future needs of the oil and gas industry. The relatively few new hires that have come into the industry in the last 10 to 15 years and the reputation it has earned for layoffs during downturns has the major oil companies scrambling to catch up. This has also trickled down to the independents. Apache, like most independents, has relied on the pool of geoscientists trained by the majors to meet its staffing needs, but that pool is drying up. Until recently, the youngest geoscientist Apache employed in the Gulf Coast had over 15 years of experience. That changed recently when Apache hired two new geology graduates. This is not only a change in the succession planning of a large independent; it is also a realization that there has been a paradigm shift in the business. The majors can no longer be viewed as the training ground for the industry.

This brings up an interesting aspect of the business today. The geology graduates who have come into the business in the past few years have a working knowledge of computer systems that did not exist when many of us started. As beneficial as this knowledge can be, have we become so dependent on the machine that we are losing touch with geology? Cindy Yeilding gave a talk at a dinner meeting in May 2005 with the title "Is the Workstation 'Killing' Geology?" I believe she gave a similar talk at the AAPG convention. She made several interesting points that struck a chord with an old fogy like me. The machine generates accurate maps, but do these maps accurately reflect the geology? Machines treat all of the data with equal weight; the human mind filters the data based on a sense of which data are important to the prospect and which data are lower in quality or secondary in nature. The interpretation of geologic data has an ebb and flow to it. It is difficult enough for a geologist to make a geologic map that flows; it is virtually impossible for a computer to do it. Geology is not just a compilation of digits. It is the sum of creativity, multiple working hypotheses and experience.

From the President *continued on page 7*

From the President continued from page 5

Computers have done a wonderful job handling large amounts of data, and they have made the evaluation of multiple working hypotheses easier. We have more data at our finger tips and more ways to analyze and to correlate it than ever before, but have we lost a sense of what the data represent in the process? The identification of a prospect and the creation of the geologic maps that support it is a creative process, not a totally analytical process. I fear that the automation of the oil and gas business has driven creativity into the background.

For someone who was born in the same year the ENIAC I computer was developed*, I believe I have taken to the world of technology about as well as anyone. However, I still draw maps on a piece of paper on a drafting table. I guess you could say these are the software and hardware components of my geologic mapping system. Fortunately, we do not need a sophisticated PowerPoint presentation to sell a prospect to management within Apache. Seismic maps are obviously computer generated, but we typically do not use drafted geologic maps unless we are making a presentation to partners or the CEO, and even then they are content to look at work maps. In some organizations, this would be considered low tech and unacceptable. In ours, it is expedient. I may well be one of the last of the dinosaurs in this business, and our demise may not be a bad thing. I hope those who follow will remember that geology is about rocks, not digits.

It has been my honor to serve as your president during the past year. I followed in the footsteps of many past presidents who have set the bar pretty high. I hope I have added to their legacy in some small way. Steve Brachman has made major contributions to the HGS as president-elect, and I know he will do a superb job as president. ■

***Editor's note:** *According to the* Columbia Encyclopedia*, the ENIAC I computer was developed in 1946.*

Member News and Announcements

HGS Guest Night

HGS Guest Night will be on June 17, 2006, at the Houston Museum of Natural Science, the same location as last year.

We have received a special rate for people who want to come to the Museum early before the Guest Night starts. They can attend the exhibit *Dinosaurs: Ancient Fossils, New Discoveries* for a special price of $9 per person. It is recommended they go to the 4:00 p.m. show on Saturday. The $9 is to be paid at the museum in the Members line and is *not* part of the Guest Night Registration fee. Please email lilly@hgs.org if you plan to go early to see the *Dinosaurs* exhibit to receive this special price.

Academic Liaison Committee seeks Volunteers

Interested in visiting local schools to discuss geology? Join the Academic Liaison Committee. Contact Alison Henning at Alison@henning.com or 832-203-5016 for more information.

New E & P Opportunities!—Case Studies, Bypassed Pays, Unconventional Resources and Play Openers

A SIPES-Houston Chapter Continuing Education Seminar to be held October 10, 2006, at the Marathon Oil Corporation Conference Center. The all day seminar will include presentations on active clastic and carbonate plays of the onshore Gulf Coast and a session on unconventional resource plays. Core displays of important reservoirs are planned. Price includes hard copy and CD versions of presentations, snacks and lunch. Attendance can count toward professional development hours (PDH) required for licensed Texas Professional Geoscientists. Membership in SIPES is not required to attend the seminar. Watch for seminar and registration details at the SIPES-Houston website: http://www.sipes-houston.org/ and The GSH VIP Events Calendar.

Vendor Corner Recognition and Thanks

The Houston Geological Society would like to recognize and thank its many vendors who demonstrated their financial support through providing "vendor corners" during the many evening technical meetings. These are the folks who provide poster session displays of their company's products, studies or services. They provide a great focal point during the social hour for the attendees to the meeting. The cost to the companies participating is not cheap and one-half of what they pay is donated to the Geoscience Technology Training Center of the NHMCC. Make sure that you recognize their contributions and thank them when you see them at our meetings.

The HGS would like to thank the following:

A2D Technologies
CGG Americas Inc.*
Charles Schwab
Dickson International Geosciences*
EarthField Technology
Fugro Robertson, Inc*
LCT Gravity & Magnetics
Airborne Surveys

Member News *continued on page 11*

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 diskette in Word format with a hardcopy printout to the Editor.

Figures, maps, diagrams, etc., should be digital files using Adobe Illustrator, Freehand, Canvas or CorelDraw. Files should be saved and submitted in .eps (Adobe Illustrator) format. Send them as separate attachments via email or on a diskette or CD if they are larger than 1 MEG 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 .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 1 MB) or on CD or zip disk.

Advertising

The *Bulletin* is printed digitally using QuarkXPress. We no longer use negatives or camera-ready advertising material. Call the HGS office for availability of ad space and for digital guidelines and necessary forms or email to ads@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.**

Random Inside (Black & White)					Page 2 (B&W)	Inside Front Cover (Full Color)	Inside Back Cover (Full Color)	Outside Back Cover (Full Color)	Calendar Page (Full Color)
No. of Issues	Eighth	Quarter	Half	Full	Full	Full	Full	Half	Quarter
10	$762	$1284	$2304	$4383	$5260	$7250	$7000	$6350	$2500
9	$762	$1284	$2304	$4383	$5260				
8	$694	$1168	$2076	$3988	$4786				
7	$616	$1040	$1865	$3550	$4260				
6	$546	$918	$1650	$3141	$3768				$1750
5	$460	$775	$1392	$2648	$3178	$4350	$4200	$3800	
4	$375	$632	$1132	$2154	$2585				
3	$303	$510	$918	$1746	$2094				$1000
2	$215	$363	$652	$1240	$1488				
1	$135	$228	$410	$780	$936	$1300	$1200	$1000	$750

Business Card	Full Page on Back of Calendar Page	TWO-COLOR AD
$125 per 10 Issues – Send two cards ($25 for each additional name on same card)	(FULL COLOR) $6250 - 10 issues	(Black and editor's choice) add 15% to B&W cost

HGS Website Advertising Rates

The HGS Website is seen by many people each day. In recent months, we averaged about 47,000 visitors per month. You have a variety of options for advertising your company, your job openings, or your services on the Website. There are two sizes of ads on the home page, a 165x55 pixel logo along the right-hand border and a new 460x55 Banner ad across the top.

We also offer a Banner ad across the top of our monthly Newsletters sent to registered users of the Website. Job postings are available for $100 for 30 days on the Website but they must be geoscience jobs of interest to our members. Current HGS members may post their resumes at no charge. If you have a product or service available at no charge, you can post it in the Business Directory at no charge. Geo-related Business Cards and job openings may be posted directly by any registered user and members may post their own resumes. They will be activated as soon as practical.

To place a logo or banner ad or to get more information, send an email to our Webmaster (webmaster@hgs.org) or go to the Website at http://www.hgs.org/ads/

	Home Page		Website Business	Web and Bulletin	Newsletter Sponsor	Personal Resumes	GeoJobBank
	Logo 165x55	Banner 460x55	Card (with link)	Business Card	Banner Ad (with link)	(Members only)	Posting
One year	$750.00		$60.00	$150.00	$2,000.00	Free	
6 months	$385.00		NA	See note below•	$1,150.00	Free	
3 months	$200.00		NA		$600.00	Free	
1 month	NA	$250.00	NA		$250.00	Free	$100.00

From the **Editor**

by ***Paul Britt***
editor@hgs.org

A Final Look Over the Editor's Shoulder

Top Ten Reasons You Might Be A Geologist:
1. You know what *leaverite* is.

When I got a call from Craig Dingler asking me to step in to replace an open Editor-elect position late in the year, my first thought was to turn it down as quickly as possible. But then I thought it could be interesting, already being familiar with the operations of the *Bulletin* through my several previous stints on the Board. It has given me the opportunity to read and write about many topics in the Editor's column. Philosophy, mythology, hurricanes, *Bulletin* history, polar reversal, volcanoes, the Long Point Fault and the Yoakum Channel were the varied topics, as well as last month's insight into the world of an independent geologist. It's amazing what you can come up with when pressed by a deadline. The photo contest suffered a slow start, but then gained momentum, and was featured in last month's issue.

What I found is that everyone appreciates the work that goes into the *Bulletin*, but they do not really know what goes on behind the scenes. First, there's the deadline, six weeks prior to the first of the month the issue will be mailed. That's April 15 for the June issue. Then there's about a week or more of looking for all the things that didn't come in by the deadline. After most of the things to be published are in, they get reviewed and briefly edited by the Editor. Then they go out to the Advisory Editors for proofreading. There are three Advisory Editors, Elsa Kapitan-White, Jim Ragsdale and Charles Revilla. They are the unsung heros of the *Bulletin*, because without their help, the *Bulletin* would appear a lot different. They edit for consistency, readability, grammar, punctuation and more. And they read it at least twice, as you will see in a minute. Then they send back their edits to the Editor, who compiles the three versions into one proof copy for layout, adding his or her edits along the way. Then it is sent to our layout person, Lisa Krueger, for laying out the text and pictures into the form that you are reading right now. Lisa also provides consistency and historical knowledge from issue to issue. The entire *Bulletin* is then printed into an Acrobat PDF file and sent back to the Advisory Editors for yet another round of edits. They mark-up that copy, and the Editor again compiles three versions of edits into one. The layout is finalized, checking dates, page references, indexes and the calendar. It goes to the printer after it is prepared in the right format, different from the one you see, for the printer.

They are the unsung heros of the **Bulletin,** *because without their help, the* **Bulletin** *would appear a lot different.*

The Editor-elect is not sleeping during this process, either. He or she is tasked with projects like the calendar events, chasing down stray candidate or awardee photos, and generally helping the Editor with his (or her) tasks.

The advertising chairman, Lilly Hargrave, is responsible for selling and renewing advertising, getting the ad copy in and delivering it to the layout person prior to its delivery to the printer. The advertising is what keeps the *Bulletin* going, and pays for most if not all of the *Bulletin* expenses.

The *Bulletin* then goes from the printer to the mail house, where it is addressed and sent to the post office. And of course, a week or two before the mailing, the next deadline has passed, and the process is going again. Kind of like the instructions on your shampoo bottle, "lather, rinse, repeat."

I have thoroughly enjoyed my term as Editor, and like all previous Editors, I wouldn't do it again. But the team that persists on the *Bulletin* staff is who makes it really work, and I would like to urge everyone to thank those volunteers whenever you see them; the Advisory Editors—Elsa Kapitan-White, Jim Ragsdale and Charles Revilla, and the staff—Lilly Hargrave and Lisa Krueger, for their hard and unrelenting work that gets the *Bulletin* into your hands. And don't forget the printer, Prime Source, whose flexibility when printing deadlines are missed or last minute changes have to be made has been invaluable.

From the Editor *continued on page 11*

From the Editor continued from page 9

I would also like to thank all of the contributors to the *Bulletin* last year. Henry Wise and Arlin Howles faithfully provided the Government Update and were on time for every deadline. Also the organizers for each of the technical talks every month who have to be sure that the speakers provide abstracts, biographies and photos—no small task. And thanks to the authors that have submitted articles, memorials, book reviews and various HGS events that regularly post in the *Bulletin*. Without all of these, the *Bulletin* would not be what it is.

As I said earlier, it has been great fun editing the *Bulletin* this last year. As I prepare the final copy to go to the printer, the temptation is to pick up my red pen yet one more time for more edits. But then I decide to "leave 'er right" there on the desk, and hand the *Bulletin* to my successor, Bill Rizer. Good luck, Bill. ■

* * *

Leaverite (From Wikipedia)
Leaverite is a slang term used by geologists, minerologists, and amateur rock collectors to identify a specimen in the field that may look interesting but is actually not. Rocks identified as such should be left in situ, as they are not worth the hassle of transportation or deserving of a place in a respectable collection.

The term *leaverite* derives from the phrase "leave it right there." Specimens of even lesser interest are considered trashite.

Top Ten Reasons You Might Be A Geologist:

10. If you have ever responded "yes" to the question, "What have you got in here, rocks?"
9. You have ever found yourself trying to explain to airport security that a rock hammer isn't really a weapon.
8. Your rock garden is located inside your house.
7. You have taken a 15-passenger van over "roads" that are intended only for cattle.
6. You consider a "recent event" to be anything that has happened in the last hundred thousand years.
5. In an art museum, you spend more time looking at the walls than the paintings.*
4. Your photos include people only for scale and you have more pictures of your rock hammer and lens cap than of your family.
3. The souvenir collection from all your vacations consists mostly of rocks.*
2. You have been on a field trip that included scheduled stops at a highway road cut and a liquor store.
1. You know what *leaverite* is.*

** Contributions to these reasons came from Richard Howe, Bill Rizer and Diane Yeager. Thanks, all.*

Member News continued from page 7

Genetek Earth Research Corporation
Geochemical Solutions International*
IHS Energy Group
Knowledge Reservoir*
Loren & Associates
Micro-Strat Inc.*
TGS-NOPEC Geophysical Company

**Hosted more than one vendor corner*

BEG, GSH & HGS Geoscience Center

Realizing the need to influence youth at an early age, the GSH Museum committee has placed a small museum of their artifacts at the Bureau of Economic Geology's Houston Research Center (HRC) on West Little York in Northwest Houston. The GSH display is located in the large HRC layout room where BEG patrons examine their cores and cuttings. The combination of geophysical artifacts in the GSH Museum and the rocks from which oil and gas are produced form a resource which needs to be available to area science teachers. We plan to use the model of SEG's highly successful Geoscience Center in Tulsa (under the direction of Susan Henley) to create an integrated, useful geoscience resource here in Houston.

GSH desires to build a group of available docents for the Geoscience Center at the HRC. Please contact Benegene Kring (281-679-6206) or Tom Fulton (281-242-1806) with questions or to volunteer.

Letters to the Editor

To the Editor
We compliment the *Bulletin* Editor for his April issue article describing the Yoakum Channel; a truly remarkable Paleogene feature in Texas that cuts across 65 miles of the contemporaneous shelf to depths of over 2,500 feet (800 m).

We agree with the article's statement that "a sea level drop of several hundred meters in such a brief time frame is unlikely"; however, to paraphrase Sherlock Holmes, "when the impossible is eliminated, the unlikely becomes correct." We consider the conventional explanation of the Yoakum Channel as the result of 65 miles of subaqueous headward collapse to be impossible.

We explain the Yoakum Channel as a canyon cut into the Lower Wilcox shelf during an extreme sea level drawdown confined to the Gulf of Mexico. This hypothesis, originally proposed by Rosenfeld and Pindell (2002 and 2003), was presented at this year's AAPG Annual Convention (Rosenfeld and Blickwede, 2006). The drawdown resulted from evaporation of the Gulf after the gap between the Yucatán and Florida/Bahamas Platforms was closed by the leading edge of the northward migrating Caribbean Plate (Cuban Arc). The drawdown ended suddenly as western Cuba and Yucatán were separated by eastward motion of Cuba along the Pinar del Río fault system.

This drawdown-refill cycle explains the origin of the Yoakum, and other Gulf of Mexico paleocanyons (Chicontepec, Bejuco-La Laja, etc.), as well as several other nearly contemporaneous geological features, including:

- widespread collapse of clastic shelf margins,
- deposition of the "Whopper Sand" in the deep Gulf,
- bedded salt in the Veracruz Basin,
- a deep water unconformity around the entrance to the Gulf,
- karst-enhanced porosity in shallow and deepwater carbonate reservoirs of Mexico (Golden Lane, Poza Rica, Campeche Sound fields), and
- massive release of methane from gas hydrates possibly triggering the worldwide Paleocene-Eocene Thermal Maximum (PETM).

It further predicts:

- a major paleocanyon within the Vicksburg Embayment (paleo-Rio Grande) with the Lobo Landslide Trend in its headwall region,
- a major paleocanyon system in southeastern Mexico (paleo-Grijalva/Usumacinta rivers), and
- deep karsting within the carbonate platforms around the Gulf.

Respectfully submitted,
Joshua Rosenfeld
Jon Blickwede

References:

Rosenfeld, J. and Blickwede, J., 2006: Early Paleogene Isolation of the Gulf of Mexico from the World's Ocean (Abs.), AAPG Annual Convention

Rosenfeld, J. and Pindell, J., 2002: US Gulf's early isolation from ocean: hypothesis for steep base level fall; *Offshore* Magazine, January 2002, pp. 26, 27 and 76.

Rosenfeld, J. and Pindell, J., 2003: Early Paleogene Isolation of the Gulf of Mexico from the World's Ocean? Implications for Hydrocarbon Exploration and Eustasy: AAPG *Memoir 79* (Eds: Bartolini, C; Buffler, R; and Blickwede, J) Chapter 4.

EDITOR'S REPLY;

I agree that there have been sea level changes affecting the Wilcox at various times throughout its depositional history. There are Lower Wilcox rotated fault blocks with unconformable sediments deposited on top. There is evidence of shoreline erosion and large broad-scale unconformities within the Lower Wilcox and even lower portions of the Middle Wilcox. But your letter encompasses a broad time-scale, from the Cretaceous to the Wilcox, and describes every major erosional event as a result of a sea level drop. The Lower Wilcox Lobo that you mention is a series of rotated slump blocks capped by a major erosional unconformity that removed substantial sections of Lobo sands and shales. I have had the privilege of mapping Laredo (Lobo) Field in my career, and there is no doubt it was subjected to extensive subaerial exposure due to a sea level drop. The Yoakum Channel area does not exhibit similar features.

The Yoakum Channel, which cuts 3,400–3,500 ft into the underlying Wilcox section at its southeastern reach, exhibits some unique characteristics. There are no tributaries or side-channels that might be expected in an exposed canyon. If a substantial sea level drop occurred during the formation of the Yoakum Channel, much of the surrounding shelf would have also been subaerially exposed and eroded. No evidence of any erosional surface other than the channel is present at the same level where the Yoakum Channel began eroding from and filled back to. The sediments to either side of the channel appear to have continuous, uninterrupted deposition during the same time.

The shelf-edge collapse that I cite can be observed in structural features in the seismic volume that the cover photo came from. Surrounding shelf-edge structures are unaffected. Basement structures under the channel and glide-plane faults are different in character to those in the surrounding areas. The channel formed where it did due to an underlying weakness, as did the proposed shelf-edge collapse.

* * *

Dear Paul,
I read your April 2006 "From the Editor" on the Yoakum Canyon with great interest. I appreciate your thought-provoking discussion of possible explanations of this impressive paleo-canyon in the Wilcox Formation of East Texas.

Letters to the Editor *continued on page 15*

Letters to the Editor continued from page 13

I would like to add a few comments about stratigraphic constraints on the formation of the Yoakum Canyon feature. You state in your column, "Conventional thinking would suggest a drop in sea-level would cause an incised valley to form. However, a sea-level drop of several hundred feet or more in such a brief time frame is unlikely."

Regarding the first part of your statement, conventional thinking about Yoakum Canyon is that it represents a submarine canyon formed by slumping and headward erosion during sea-level rise (Dingus and Galloway, 1990). While Brown and Fisher (1980) suggest a sea-level fall may have initiated formation of Yoakum Canyon, later workers rejected this chiefly based on lack of stratigraphic evidence for a sea-level fall at that time.

The analogy with the recent Mississippi, Niger and Congo canyons in both process and depth of canyon incision is perhaps the most compelling aspect of a submarine interpretation for the Yoakum Canyon. On the other hand, the continental scale of these modern river drainage basins and their accompanying sediment loads are quite unlike the Wilcox fluvial and deltaic system that formed the Yoakum Canyon. These modern canyons, furthermore, are cut into great thicknesses of unconsolidated, under-compacted muds that have no analogue in the Paleocene-Eocene. Recent work by Rosenfeld and Pindell (2002, 2003) and Rosenfeld and Blickwede (2006) links the time of incision of the Chicontepec Canyon in Mexico to the Yoakum Canyon event. The Chicontepec Canyon incised deeply into lithified Cretaceous limestones that cannot be explained by submarine erosion and must, I think, be interpreted as the result of subaerial exposure.

Regarding the second part of your comment in the April HGS *Bulletin*, "…a sea-level drop of several hundred feet or more in such a brief time frame is unlikely," how do you know that the Yoakum incision represented a "brief time frame"? How brief is brief?

Estimates of the time required to form the present Mississippi Canyon range from a few thousand years (Coleman and others, 1983) to a few tens of thousands of years (Goodwin and Prior, 1989). Most would agree that these time estimates are, by all accounts, geologically brief. Yet sea-level fall of over 100 meters is well documented within the last 20,000 years in the Gulf of Mexico, so why would this not be possible during the Paleocene-Eocene?

It can be argued that glacial-eustatic conditions that produced sea-level cycles during the time of Mississippi Canyon incision may not have existed for the period of Wilcox deposition. At the same time it is a bit unfair to explain only the geomorphic aspect of Yoakum Canyon by analogy with the Mississippi but not the link to sea-level change.

More important, however, is the mechanism that Rosenfeld and Pindell propose for Paleocene-Eocene sea-level drawdown: evaporation of the Gulf of Mexico after the gap between the Yucatán and Florida/Bahamas Platforms was tectonically closed.

Present evaporation rates in the Gulf of Mexico average about 1 meter per year (National Science Digital Library, http://www.grow.arizona.edu/Grow--GrowResources.php?ResourceId=208) corrected for rainfall and large water body factors. This implies that a sea-level drawdown of several hundred meters could easily occur in just a few centuries, an incredibly brief time frame for any geological process.

In short, I do not think that valley incision was ruled out as a mechanism for creation of the Yoakum Canyon by Dingus and Galloway. Rather, a submarine origin was favored lacking evidence for a sea-level fall. I believe that Rosenfeld, Pindell and Blickwede have provided this evidence.

Respectfully,
Arthur E. Berman

References:

Brown, L. F., Jr. and W. L. Fisher, 1980, Principles of seismic stratigraphic interpretation: *AAPG Memoir* 26, p. 213–248.

Coleman, J. M., D. B. Prior, and J. F. Lindsay, 1983, Deltaic influences on shelf-edge instability processes: SEPM Special Publication 33, p. 121–137.

Dingus, W. F. and W. E. Galloway, 1990, Morphology, paleogeographic setting, and orign of the Middle Wilcox Yoakum Canyon, Texas Coastal Plain: *AAPG Bull.*, v. 74, No. 7 (July 1990), p. 1055–1076.

Goodwin, R. H. and D. B. Prior, 1989, Geometry and depositional sequences of the Mississippi canyon, Gulf of Mexico: *Journal of Sedimentary Petrology*, v. 59, p. 318–329.

Rosenfeld, J. and Blickwede, J., 2006: Early Paleogene Isolation of the Gulf of Mexico from the World's Ocean (Abs.), 2006 AAPG Annual Convention.

Rosenfeld, J. and Pindell, J., 2002: US Gulf's early isolation from ocean; hypothesis for steep base level fall; *Offshore Magazine*, January 2002, pp. 26, 27 and 76.

Rosenfeld, J. and Pindell, J., 2003: Early Paleogene Isolation of the Gulf of Mexico from the World's Ocean? Implications for Hydrocarbon Exploration and Eustasy; *AAPG Memoir* 79 (Eds: Bartolini, C; Buffler, R; and Blickwede, J), Chapter 4.

EDITOR'S REPLY;

In addition to my reply to Mr. Rosenfeld's letter above, I would like to respond to some specific items in your letter.

Regarding your statement about the Mississippi, Niger and Congo canyons, that

Letters to the Editor continued on page 17

Letters to the Editor continued from page 15

"These modern canyons, furthermore, are cut into great thicknesses of unconsolidated, under-compacted muds that have no analogue in the Paleocene-Eocene," This is exactly what the Yoakum Channel is. It is not incised into the Cretaceous, but into the under compacted (at the time) Lower Wilcox. Linking it to the Chicontepec Canyon in Mexico is like comparing the Vicksburg to the Frio. These are distinctly different events separated by a large amount of time.

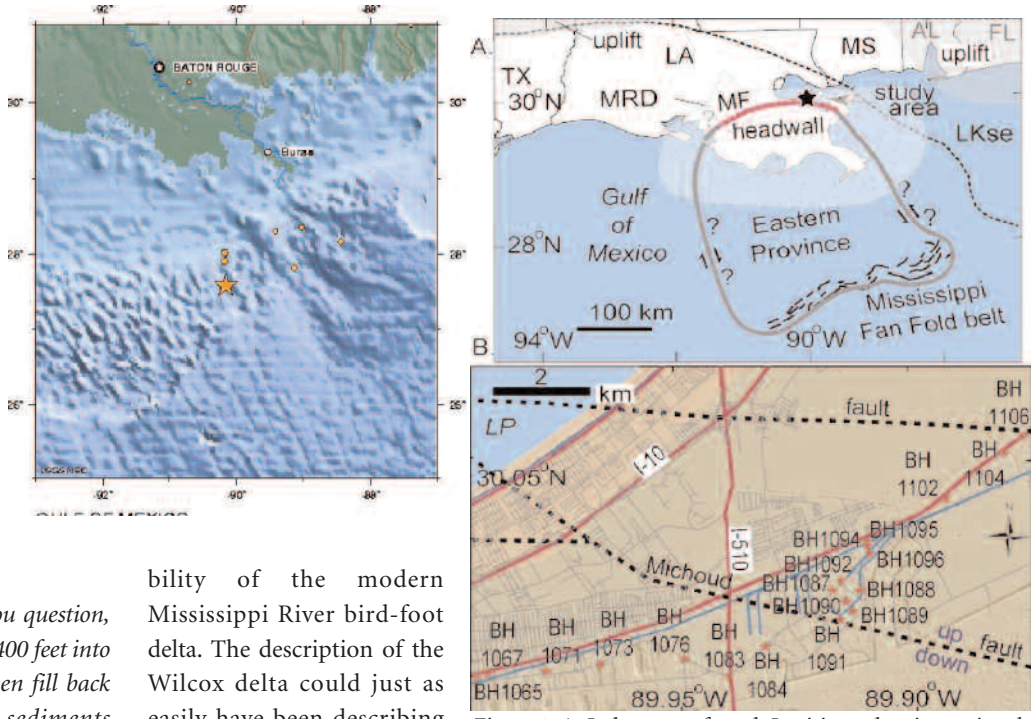


Figure 1. A: Index map of south Louisiana showing regional features and location of study area (star). Entire region with exception of areas labeled "uplift" has undergone late twentieth century subsidence (Shinkle and Dokka, 2004). Michoud fault (MF) is updip projection of fault mapped in subsurface by Hickey and Sabate (1972). Coupled extensional-contractional complex (Eastern Province) is from Peel et al. (1995). Mississippi River delta (MRD); Late Cretaceous shelf edge (LKse).

Figure 1B: Location map showing benchmarks considered in this report. Benchmarks are marked with National Oceanographic and Atmospheric Administration–National Geodetic Survey identification codes, e.g., BH1089 (Table DR2; see footnote 1). Lake Pontchartrain (LP).

Geology; April 2006; v. 34; no. 4; p. 281–284; doi: 10.1130/G22264.1; 3 figures; Data Repository item 2006059.

As far as the time frame that you question, the channel had to cut at least 3,400 feet into the underlying sediment and then fill back up, while the surrounding sediments deposited less than 100 feet of shale. What is that in terms of years? I don't know. I have personally observed tributaries to the Brazos river fill with up to 15 feet of silt and clay during a single flood that lasted only weeks. How long does it take to deposit 50–100 feet of shelf muds? The channel formed and filled in that same amount of time.

As I said in my previous reply, the Wilcox has certainly undergone sea level changes, as I said in my article. But the Yoakum Channel did not see hundreds, or even thousands of feet of sea level change, evidenced by the surrounding sediments showing no evidence of subaerial exposure.

* * *

To the Editor;

The April "From the Editor" article, "Texas's Grand Canyon of the Eocene," first got my attention because of my long-standing interest in the Wilcox from by-gone exploration days. I was never so fortunate to have such high quality, crisp seismic as was shown on the *Bulletin* cover.

Despite my original attraction, upon reading the article my thoughts rapidly drifted to an issue of current events— the instability of the modern Mississippi River bird-foot delta. The description of the Wilcox delta could just as easily have been describing the geomorphic position of the Mississippi River, "*built out to an unstable shelf edge margin, further destabilized by the series of growth faults updip of the shelf.*" Furthermore, this analogy sent a chill up my spine when I read the suggested model that "*a catastrophic event, possibly an earthquake, caused a catastrophic shelf edge collapse. The release of support from the shelf edge may have caused movement successively on each of the updip fault systems. But most importantly, the sudden loss of support in the…shales must have resulted in extremely rapid headward erosion through the relatively unconsolidated sediments, combined with a brief but strong increase in stream flow to cut through those sediments.*"

With knowledge first gained from my participation in the steering committee for last fall's HGS conference, "Coastal Subsidence, Sea-level and the Future of the Gulf Coast," I know there is hard evidence that there has been recent movement on the faults in the updip area of the modern delta. Roy Dokka (April 2006) reported on the analysis of geodetic data that suggested that movement along the Michoud Fault in the New Orleans area "*during 1969–1971 and 1971–1977 … was responsible for 16.9 mm/yr and 7.1 mm/yr of subsidence, respectively.*" Furthermore, just last week it was brought to my attention that a magnitude 5.2 earthquake was recorded this past February, just south of the [Mississippi] river mouth. From my years of looking at the geology of the area, the epicenter of 5 kilometers (16,404 feet)

Letters to the Editor *continued on page 19*

Mark your Calendars Now!

1st Annual AAPG

Fall Education Conference

Houston, TX
September 11-15, 2006

Focusing on Deep-Water Exploration

Courses will include:

- Jurassic-Recent Subsurface Geology — GOM/Caribbean
- Pore Pressure Prediction in Practice
- Interpretation of 3D Seismic Data
- Risk Analysis of Deep-Water Exploration Prospects
- Deep-Water Sands — Integrated Stratigraphic Analysis
- Deep-Water Salt Tectonics

HOSTED BY THE HILTON HOUSTON WESTCHASE HOTEL
9999 WESTHEIMER ROAD
713-974-1000
FAX: 713-974-6866
SPECIAL AAPG GROUP RATES!

AAPG EDUCATION CONFERENCE

Tuition for the week is only $1095 for AAPG Members
or $1195 for Non-members*
or $275/day for individual courses

***(price increases to $1195/1295 respectively after August 14, 2006)**

REGISTRATION AND INFORMATION:
Toll-free (U.S. and Canada) 888-338-3387, or 918-560-2650
Fax: 918-560-2678; e-mail: educate@aapg.org
Download a registration form at http://www.aapg.org/education/fec.cfm

Thursday, June 15, 2006

Petroleum Club • 800 Bell (downtown)
Social 11:30 a.m., Lunch 11:45 a.m.

Register online, call, fax or e-mail your reservation to Mrs. B.K. Buongiorno at Tel: 713-651-1639, Fax: 713-951-9659, e-mail: bkspee@aol.com by 12:00 Noon, Tuesday June 13, 2006. **Members and Affiliates who register by June 13 pay $30. The cost is $35 for guests, non-members, and new registrations at the door.** No-shows will be billed. You can now sign up for SIPES Meetings online at www.sipeshouston.org, but payment is still required by regular mail or at the door.

SIPES Luncheon Meeting

by ***Dan Jarvie***
Humble Geochemical Services

Geochemical Logic and Techniques for Unconventional Gas Exploration

Source rocks have been oil productive for many years, typically from highly fractured units or from adjacent porous intervals. In addition source rocks may be good resources for gas if they have the optimal organic richness and thermal maturity necessary to have converted both residual kerogen and any retained oil to gas. Obviously, completion engineering is a critical component of extracting the gas from these systems, but commercial rates will not be achieved if a minimum level of conversion or thermal maturity has not been reached.

…commercial rates will not be achieved if a minimum level of conversion or thermal maturity has not been reached.

While gas is generated in the oil window from all kerogen types (whether oil or gas prone), the presence of black oil components will occlude the limited permeability of a tight shale system, resulting in low flow rates and precipitous decline rates. Thus, even though gas shows are present in the oil window and measured gas contents can appear commercial, it does not necessarily indicate the likelihood of commercial shale gas production. Gas window thermal maturity is a critical component of producibility as the presence of higher molecular black oil components will occlude the limited permeability of a tight source rock and result in low gas flow rates.

Thermal maturity should be assessed by both visual and chemical means. Visual methods such as vitrinite reflectance are the most common means and are widely used. Oftentimes, however, vitrinite reflectivity is not the best indication of the presence of producible gas from tight rocks. These data should be complemented by data obtained through chemical techniques. These techniques include Rock-Eval Tmax, kerogen transformation ratio, gas composition, carbon isotopes, and residual liquids fingerprinting. Using these techniques, the extent of organic matter conversion to gas can be accurately determined. The key point is that indications of thermal maturity may not necessarily agree with the extent of kerogen conversion, nor provide a good indication of the presence of problematic compounds. Gas risking plots can then be constructed to ascertain if all data provide a consistent assessment of gas producibility. ■

Biographical Sketch

Dan Jarvie is an analytical and interpretive organic geochemist. He works conventional petroleum systems but has been involved in unconventional oil and gas work since 1984. He earned a BS from the University of Notre Dame and was mentored in geochemistry by Don Baker of Rice University and Wallace Dow, formerly of DGSI. He is president of Humble Geochemical Services.

Letters to the Editor

continued from page 17

is believable as the depth where the listric growth faults commonly are soling-out.

So my haunting question is, "are we seeing evidence of the beginning of a failing shelf margin delta?" A chilling thought considering all the civilization in the area that might be destroyed if such an event is catastrophic and rapid. Might we be looking at a case where the past is the analogy for the future and Baton Rouge might soon be at the head of an incised valley? It might be advisable for geotechnical engineers to continually monitor the condition of the continental slope in this area, looking for early evidence of headward erosion. Arguably, the nation's most important oil and gas infrastructure (e.g., underwater pipelines, pump stations, etc.) is at risk. We should be concerned.

Cheryl Desforges, P.G.

References:

Roy K. Dokka, April 2006 "Modern-day tectonic

Letters to the Editor *continued on page 23*

HGS CONTINUING EDUCATION COMMITTEE PRESENTS

Seal Analysis Workshop

by

William C. Dawson and William R. Almon
Chevron Inc.

Seals are absolutely fundamental to hydrocarbon accumulations on many levels. They control migration, charge volumes, the lateral and vertical distribution of hydrocarbons in a basin, percent fill of a reservoir and the flow of hydrocarbons during production. Clearly, the economic success or failure of a project is strongly dependent on proper seal risk analysis. Despite that, they are the least studied element of the petroleum system.

Participants in this course will learn:

- Analytical approaches for seal analyses
- Seal risk analysis
- Controls on seal character
- Sequence stratigraphic framework of seals
- Seal development and burial history
- Predictive models for estimating top and fault seal capacity

Thursday and Friday, June 8–9, 2006
8 a.m. – 4 p.m.
Registration opens at 7:30 a.m.

Bureau of Economic Geology Houston Research Center
11611 West Little York • Houston, TX 77441

Registration Form

Seal Analysis Workshop

Visit www.hgs.org for details and on-line registration. Registration form can be faxed or mailed to the HGS office.
Houston Geological Society • 10575 Katy Freeway, Suite 290 • Houston, Texas 77024 • Fax (713) 463-9160

Registrant Information:

Name: _____ Company: _____

Address: _____ City: _____ State: _____Zip: _____

Phone(s): _____ E-mail: _____

Payment (USD$): _____ check or credit card (please fill in credit card information below)

Members: $145, if registered by 4:00 p.m. Friday, June 2; $170 thereafter
Nonmembers: $165, if registered by 4:00 p.m. Friday, June 2; $190 thereafter
Price includes continental breakfast, box lunch and afternoon snack.

Credit Card type (circle one): VISA MASTERCARD AMERICAN EXPRESS DISCOVER

Name on Card: _____

Billing Address: _____

Card Number: _____ 3- or 4-digit security code: _____ Exp Date (mm/yy): _____

Signature: _____ Date: ____ Card Holder Phone: _____

*Membership prices are extended to any member of (circle one): Member Number: _____

HGS GSH API Houston HAPL SIPES Houston SPE Gulf Coast SPEE Houston SPWLA Gulf Coast

Consider $24 annual dues to join HGS and save $20 off nonmember prices: http://www.hgs.org/join_hgs/join_hgs.asp

Put the "Easy" Back into Easy Oil

by ***Robert S. Dollison, M.S.,*** *Independent Geologist*

"One thing is clear: the era of easy oil is over. And new energy discoveries are mainly occurring in places where resources are difficult to extract, physically, economically and even politically." So stated David J. O'Reilly, Chairman and CEO, Chevron Corporation on July 12, 2005, in the *Houston Chronicle*. In the past few years, everyone in the oil and gas business has heard or read similar remarks by knowledgeable people. We believe Mr. O'Reilly's statement is true, and will remain so, unless changes are made in both the way prospects and plays are conceptualized and the way exploration data is selected and integrated.

Change the Selection and Integration of Exploration Data

To generate the highest quality prospects or plays, three sets of supportive, fully integrated exploration data are preferred. We recommend a data mix of geology, 3-D seismic and soil hydrocarbon or surface geochemical surveys. By fully integrated, we mean integrated to the degree or point where the decision to buy leases and drill a well on a prospect and the decision as to where to locate the first well on the prospect are based equally on each of the three sets of supporting data. This equality rarely happens. Normally, 70% to 90% of the risk dollars for wildcat prospects are allocated as dictated by direct hydrocarbon indicators (or DHIs), and surface geochemical surveys are not acquired. We recommend that a prospect be abandoned if one of the three data sets casts a clear negative vote.

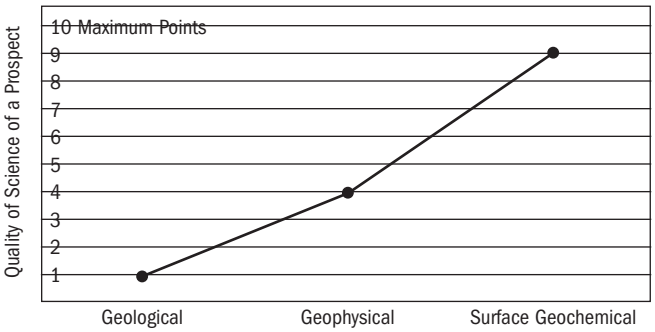


Figure 1: The effect of intergrating synergistic exploration data, or the whole is greater than the sum of its parts.

An attempt is made in Figure 1 to quantify the effect of fully integrating exploration data, as follows: If each of the three sets of exploration data in Figure 1 is initially given 1.0 Quality of Science points out of a possible 10, then, in our opinion, when two data sets are integrated, their sum becomes approximately four. When a third data set is integrated with the first two, the total sum of the Quality of Science points that support the resulting scientific recommendations is approximately 9.0. Even though these numbers are only estimated and not finite, the non-linear shape of the curve on Figure 1 is certainly accurate. The shape of the curve is reasonable and accurate because it reflects and describes the synergistic relationship between these three data sets.

This synergistic relationship is shown mathematically by the curve on Figure 1, but it can also be expressed logically, as follows: the weaknesses of each data set of a three data set team to depict a prospect accurately are replaced or reinforced by the strengths of the other two sets. (A classic synergistic relationship.) So much so, that when these three data sets come together to form a team to reveal the location of a subsurface reservoir of oil and gas, the ability of the team to accomplish this task is at least nine times as great (as shown estimated on Figure 1) as the ability of any single data set to do the task, i.e., value is created when the team is formed, or the quality of science identifying the prospect is increased disproportionately when the contribution of each of the three data sets is summed up and fully integrated, or the whole is greater than the sum of its parts. Consequently, on an average, a two data set team, such as geology and geophysics, has less than one-half the ability of a three data set team to accurately identify a trap filled with hydrocarbons in the subsurface!

In our experience, most wildcat prospects drilled in the Gulf Coast onshore are only supported by two data sets, i.e., partially integrated geological and geophysical data with a total Quality of Science points of 2.5 to 3.0 out of a possible 10. Consequently, the quality of the scientific data that commonly is the basis for these prospects is too low to identify the giant, difficult to find, undiscovered fields in the Gulf Coast.

The ideas set out in Figure 1 can be embodied in what we call an "Exploration Sandwich." Try making an exploration sandwich on your next prospect out of fully integrated geological, geophysical and surface geochemical data. The bottom bun will be the DHIs and the top bun, the soil hydrocarbon surveys. In between these subsurface shows and surface seeps is the meat of the sandwich: everything that an explorationist knows how to put on maps, graphic images or computer discs. And the taste will be sweet! We first made this delicious sandwich in 1974 using 2-D seismic. The result was North Alvin Field, Brazoria County, Texas. The discovery well had 125 net feet of pay sand. Four development wells also drilled through this sandwich.

Nevertheless, changes in exploration methods will not find giant oil and gas fields if you have not first conceptualized yourself or your company into the right area to explore.

Change the Way Prospects and Plays Are Conceptualized

The normal way to develop a prospect is to first become familiar with the structural and stratigraphic framework of a formation, play or an area. There is a conventional wisdom or what-everybody-knows-to-be-true about every producing trend or play. One can be taught this. But there is another factor born from experience: Mother Nature **Put the "Easy" Back** *continued on page 23*

Put the "Easy" Back into Easy Oil continued from page 21

has a sense of humor! And we explorationists are more often than not the butt of her geological jokes. In our opinion, the giant and super giant oil and gas fields that remain to be found in the Gulf Coast onshore are exceptions to conventional wisdom. These giants are located where we have deliberately avoided drilling wells, and for good reasons, of course.

We suspect that Wallace Pratt understood that Mother Nature had embraced her sense of humor when the rock formations of the Gulf Coast were deposited. So, let us practice what he preached: Oil is found in the minds of men and women. Sit back in your office chair and focus on your understanding of what is always true about the exploration concept or proposed play that you or your company is planning to embark on in the next two years. Make a list. Then imagine Mother Nature laughing at you because you have overlooked the geological exceptions to conventional wisdom about the proposed play. These exceptions to the "rules" are where giant reserves lie buried in the subsurface. These exceptions are found first in your mind and second in your exploration data! Focus on the questions: "What?" and "Where?" Scrub the word, why, from your mind, at least temporarily. Nothing kills good exploration ideas faster than trying to answer "Why?" too soon.

Conclusions

1. The pervasive practice of using only partially integrated geological and geophysical data as the basis for prospects has rarely found giant fields onshore in the Gulf Coast in recent years. Three data sets are more than twice as effective in generating a quality prospect as two.
2. As professional explorationists, we could conceptualize better ideas for giant fields, and
3. In the oil and gas exploration business, change is not an option; it is a strategy for success. The changes to oil and gas exploration methods and prospect conceptualization that we have recommended can put the "Easy" back into Easy Oil. ■

Acknowledgement

Sigmund A. Horvitz, Ph. D.
Prof. of Economics, Texas Southern University

Letters to the Editor continued from page 19

subsidence in coastal Louisiana" *Geological Society of America*, v. 34; no. 4; p. 281–284

Roy Dokka and Kurt Shinkle, July 2004, "NOAA Technical Report 50 – Rates of Vertical Displacements at Benchmarks in the Lower Mississippi Valley and the Northern Gulf Coast" U.S. Department of Commerce National Oceanic and Atmospheric Administration National Ocean Service

United States Geological Survey website, http://neic.usgs.gov/neis/bulletin/neic_izan.html

EDITOR'S REPLY;
An interesting comparison, and the earthquakes being observed in the Gulf of Mexico certainly could be eventual cause for concern. But a difference that I see between the Yoakum Channel and the modern Mississippi is that the Lower Wilcox underlying the Yoakum Channel was built out closer to the shelf-edge with large deltaic sand deposits that were marine dominated and concentrated right on the shelf-edge, creating a more localized burden and failure.

* * *

To the Editor,
In your May issue of HGS, the article about Walker Ridge and the Cascade discovery describes the Wilcox sand interval as being "aerially extensive". This is, of course, incorrect (unless the authors are suggesting that it is an aeolian deposit which would be a novel interpretation indeed). "Aerially" specifically describes something having to do with the air (and nothing else); this should not be confused with its homonym "areally" which is the proper term for something having to do with area. Although "areally" does not commonly pass through a quick spell-check, it is a real, correct word and therefore the one that should be used.

Unfortunately, this is a very common error and the article in the HGS Bulletin is far, far from alone in this misuse of language. A recent online press release about a deep water gas discovery discusses drilling an appraisal well to define the "aerial" extent of the reservoir, and I have also seen the same mistake made in any number of other documents. However, commonality of erroneous substitution does not make the error any less wrong. This is something about which we all need to be very careful, especially within the geoscience community where correct use of language is critical both scientifically and legally. I certainly do not want to sound curmudgeonly or overly rigid, but in scientific papers especially, improper word use at the very least lessens our credibility. Spell-check is neither foolproof nor fail-safe, and should not be relied upon blindly; as we have all learned with many geological terms, just because a term doesn't show up in our software package's dictionary does not mean it isn't a real word.

Sincerely,
Ursula Edwards

EDITOR'S REPLY;
Good catch! Even though we have four editors review the Bulletin *twice for these type of things, once in a while one gets through.*

* * *

Letters to the Editor *continued on page 61*

The 5th PESGB/HGS African Conference
Early Bird Registration Form

5th Floor, 9 Berkeley Street, London, W1J 8DW • Tel: +44 (0)20 7408 2000 • Fax: +44 (0)20 7408 2050
pesgb@pesgb.org.co.uk • www.pesgb.org.uk

Tuesday and Wednesday 12 – 13 September 2006
QE2 Conference Centre, Westminister, London

Please complete the form fully and clearly state the amount you are paying

DETAILS Name/s: _____

Company: _____

Address: _____

_____

_____

Telephone No.: _____

E-mail: _____

REGISTRATION CHARGES

Early Bird – Before 30th June 2006		**From 30th June 2006**	
PESGB/HGS/SPE/LPS/Geol. Soc/ GSH/EAGE Members:	£250	PESGB/HGS/SPE/LPS/Geol. Soc/ GSH/EAGE Members:	£325
Non-Members:	£295	Non-Members	£350

**On-site registration will be available, but preregistering guarantees your place. Registration fee includes all refreshments, lunch, an evening wine reception, an abstract volume and CD-ROM.*

METHOD OF PAYMENT

☐ CHEQUE Made payable to PESGB in sterling

☐ CREDIT CARD Please fill in details below. An additional £1 admin fee will be charged.
(We cannot accept AMEX and Diners cards.)

NAME ON CREDIT CARD: _____

CARD TYPE: Access / Visa / Mastercard / Eurocard / Delta *please delete as appropriate

CARD NUMBER: _____

EXPIRY DATE: _____

AMOUNT TO BE DEBITED _____

SIGNATURE: _____

DATE: _____

ADDRESS FOR CARD IF _____

DIFFERENT FROM ABOVE _____

PLEASE RETURN THE COMPLETED FORM ALONG WITH PAYMENT IN STERLING TO PESGB 5th Floor, 9 Berkeley Street, London, W1J 8DW or fax to +44 (0)20 7408 2050. IF A RECEIPT IS REQUIRED, PLEASE SEND A SAE.

☐ PESGB will release personal registration information only to the Africa 06 sponsor exhibitors. Please tick here if you don't want your information released.

PESGB

HOUSTON GEOLOGICAL SOCIETY 1923

The 5th PESGB/HGS International Conference on African E & P

Africa: The Elephants of the Future

September 12 – 13, 2006
QE2 Conference Centre, London

The preliminary program for this conference is as below. Further poster submissions are still welcome ; please contact duncan.macgregor@neftex.com as soon as possible

Tuesday 12th September

8.30	Registration & Coffee	
9.30	Welcome and Introduction	Chris Flavell – PESGB
	Session 1: Mediterranean and East Africa Frontier Basins	
9.35	Geological Evaluation of the East African Margin	Chris Cornwell and Andrea Pardon – Fugro Robertson
10.00	The Rovuma Basin - A Revitalised Exploration Province. The Petroleum Potential of Areas 2 and 5	B. Pilskog, J. Averty & P. Gomes – Hydro
10.25	Seychelles Oils and their place in the greater East Africa Petroleum System	C.J. Matchette – Downes, East Africa Exploration
10.50	Coffee & Poster Presentations	
11.20	Keynote : Paleodynamics of the North African Plate Margin	Professor Gérard M. Stampfli – University of Lausanne
11.45	The Application of Earth System Modelling to Source, Reservoir and Seal Facies Prediction on the African Margins: Examples from the Late Cretaceous of North and East Africa.	Paul Markwick, John Jacques – Getech, Paul Valdes, Roger Proctor
12.10	Oil and Gas Plays in the East Mediterranean	Evert Breman – Fugro Robertson
12.35	Lunch & Poster Presentations	
	Session 2: North African Stratigraphy, Reservoirs and Reserves	
14.00	Correlation and Depositional History recorded in the North Darag and Warda areas, Gulf of Suez, Egypt	Walter W. Wornardt – Microstrat Inc.
14.25	The remaining oil reserves of Libya, discovered and yet to find, categorised by petroleum province	D.D. Clark-Lowes and Don Hallett – Nubian Consulting.
14.50	To be confirmed	
15.15	Coffee and Poster Presentations	
15.45	Hydrocarbon Source Rocks of the Maragh Low, Eastern Sirt Basin, Libya	Paul Swire, Hadi Said and Ibrahim Rabti – Veba
16.10	Occurrence and distribution of Upper Triassic dolocretes: examples from the Oued Mya Basin and surrounding areas (Algeria)	Nordine Sabaou – BHP
16:35	Comparison between high and low sediment supply systems in deepwater clastic environments with examples from deepwater Mauritania, West Africa	Paul Ventris and Alywn Vear, Woodside
17:00	Keynote – Outcrop Geology of Southern Libya (Video)	Sebastian Lüning – Univ. of Bremen
17.30	Evening Drinks Reception and Poster Presentations	

PESGB

The 5th PESGB/HGS International Conference on African E & P

Africa: The Elephants of the Future

September 12 – 13, 2006
QE2 Conference Centre, London

For details of sponsorship opportunities and associated exhibition space for this highly popular event please contact Gail Williamson at gail@pesgb.org.uk

Wednesday 13th September

8.30	Registration & Coffee	
	Session 3: Sub-Saharan and Atlantic Frontier Basins	
9:10	Basin Development Framework for frontier exploration targeting Sub-Saharan Africa	S.R. Lawrence, R. Bray and I. Hutchinson – ECL-RPS Energy
9.35	Exploration Potential of the Republic of Mali	John Scott – Mali Petroleum
10.00	Exploring Central African Rifts	Alistair Hill – Encana
10.25	Diachronous Rifting: New evidence from CongoSpan deep PSDM reflectors	Steve Henry, – Innovative Exploration Services, A. Danforth and S. Venkatraman
10.50	Coffee & Poster Presentations	
11.20	Geometry and evolution of allochthonous salt sheets on the South Angolan margin	Ian Davison – Earthmoves, S. Henry, A. Danforth, P. Baptista, S. Venkatraman
11.45	Exploration Potential of the deepwater Lüderitz basin, offshore Namibia	A.J. Robinson – Hunt Oil , C.J. Nolan and R. Swart
12.10	To be confirmed	
12.35	Lunch & Poster Presentations	
	Session 4: Petroleum Systems of the Gulf of Guinea	
13.45	The Rio Muni Petroleum System	N. McCormack – Hess and J. Argent – BG Group
14.10	Eastern Gulf of Guinea: Developing new plays and extending old ones	R. Bray, O. Jackson, R. Kieft – ECL-RPS Energy
14.25	Campanian Hydrocarbon System, Gulf of Guinea, West Africa	Ken Nibbelink - Devon
15.00	New Developments in the Tano Basin, eastern Côte d'Ivoire and western Ghana, West Africa.	D. Valasek, M. Kaminski, J. Molnar, G. Tari and G. Walters – Vanco Energy
15.30	Coffee	
15.55	Keynote: Deep Structural Control of the Construction, Progradation and Hydrocarbon Occurrences of the Greater Niger Delta	Luc Saugy – Consultant
16.20	Insights into the Deepwater Stratigraphy and Structure of Offshore Nigeria from New Long-offset, Pre-stack Depth Migration Imaging	B. Radovich, – Silver Grass Enterprises; C. D. Connors, Al Danforth, and S. Venkatraman
16.45	African Gas : Models for Development	Andrew Hayman – IHS Energy
17.10	Trap Type, Capacity and Leakage as Key Issues in the Deepwater Nigeria Petroleum System	Duncan Macgregor – MacGeology
17.35	Closing Address	

PESGB

Confirmed Posters

1. An Undrilled Elephant-a Wet Gas Prone, Mid-Basin Paleohigh Structure in the Frontier Bechar-Boudenib Depression, Southeastern Morocco – *V.J. Hamilton (Tethys Oil), M.S. James*
2. Petrophysical Analysis in Reservoir Characterisation – Application in Triassic of Hassi R'Mel Field – Gas Field, Algeria - *R. Baouche (Boumerdes University), A. Nedjari*
3. The Zarzaitine Outcrops: An Analogue for the Prolific TAGI (Triassic) Reservoir in Algeria - *Nordine Sabaou-BHPBilliton.*
4. The Mesozoic Basins of the Tunisian Atlas: Growth, Deformation, Basin Inversion and Fluid Flow - *A.W. Baird , Kingston University, C.J. Clayton & H.E. Madeisky*
5. Exploration Potential of East Africa – The Importance of the 'Davie Transcurrent Deformation Zone'- *John M. Jacques, P.J. Markwick, K. L. Wilson and D. G. Wright, GETECH, University of Leeds, Leeds*
6. Prospectivity of the East Coast, South Africa – *Jan Beckering Vinckers, PASA Congo Fan (West Africa)*
7. Petroleum Systems: Matching and Mismatching G3 Observations to a Time-Stepped Basin Profile - *W.G. Dickson, DIGs. et al.*
8. Modelled Petroleum Systems of the Douala Basin - *Sumesh Naidoo (PetroSA)*
9. Moho Mapping in West Africa – *Steve Henry and Al Danforth*
10. Airborne Gravity and Magnetic Onshore Survey over the Kassanje, Okawango and Etosha Basins (Angola) - *L. Ameglio (Fugro Airborne Surveys) , M. de Brito, S. Cardoso, R. Pawlowski, R. Yalamanchili, S. Egorov, A. Morgan*
11. Uplift of the Namibian Continental Margin – a Little or a Lot? - *Roger Swart, Namcor*
12. Oil and Gas in Basement Reservoirs – A Possible Overlooked Play in West Africa – *Tako Koning, Tullow*

Africa: The Elephants of the Future
SPONSORS / EXHIBITORS

ADTI
AGO
CGG
Core Laboratories Ltd
Deloitte Petroleum Services
Earthmoves
East Africa Exploration Ltd
ECL-RPS Energy
Envoi Ltd
Fugro Robertson Ltd
GDC (UK) Ltd
GETECH
Global Exploration Services Ltd
Global Pacific & Partners
Lynx Information Systems Ltd
Nigel Press Associates Ltd
PGS
Seismic Micro-Technology Europe, Ltd
Spectrum Energy & Information Technology Ltd
TDI-Brooks Intl Inc.
TGS
Veritas DGC Ltd

The PESGB and HGS thank the companies listed above for supporting the Africa Conference.

LIMITED SPONSORSHIP BOOTHS AVAILABLE

Book now to ensure your place at Africa 06 Contact jennie@pesgb.org.uk or visit www.pesgb.org.uk to view: - floor plan and booking form - registration form / online booking - timetable

AAPG Datapages, Now Available at Rice University

*by **Jeannie Fisher Mallick,** Senior Geologist, Petrohawk Energy Corporation*

Introducing an exciting new capability on the Rice University campus, Ron Hart, AAPG Manager of Datapages, presented AAPG's online literature search product at Rice University. As of April 7, 2006, a subscription to Datapages was provided to Rice University through a generous endowment of the AAPG Foundation, by Martha Lou Broussard, the Alumni Coordinator and the first woman to receive a BS in geology from Rice. AAPG Datapages is an online, journal listing, database search tool that allows access to 2.5 million references and holds the cumulative geological literature of more than 24 geological organizations.

The articles, captured digitally, represent the best in both general and local geology. You can search the archives by author, title, subject or key word(s) and receive a list of articles that match your search criteria. Most entries may be printed or are available for download as Acrobat PDF (portable document format) files.

If you work for a major company with a subscription to Datapages, you are one of the lucky ones. Thanks are due to the big company subscribers such as Anadarko, Chevron, ConocoPhillips, ExxonMobil and Marathon, for their fees underwrite the expensive process of data capture for the rest of us. Out of reach of the individual or even smaller oil and gas companies, a subscription to Datapages is rather costly.

Continuously added to, Datapages digitally preserves the invaluable compendium of thousands of important contributions to the geological literature and makes them available via the Internet. Later this year, the GIS/UDRIL (Geographic Information System/Upstream Digital Reference Information Library) "map search" capability will also be added to the service at Rice.

The 24 organizations whose archives you can or will be able to access are as follows:

AAPG (1917–present, including all special publications)
Journal of Sedimentary Research (SEPM) (1931–present)
Journal of Petroleum Geology (1978–2004)

Gulf Coast USA Group
GCAGS (Transactions since 1951)
Houston Geological Society (HGS)*
New Orleans Geological Society (NOGS)
East Texas Geological Society (ETGS)
Lafayette Geological Society (LGS)

Midcontinent & Southwest USA Group
Tulsa Geological Society (TGS)*
Oklahoma City Geological Society (OCGS)
Panhandle (Amarillo) Geological Society (PGS)
Ardmore (OK) Geological Society (AGS)
Kansas Geological Society (KGS)*
Fort Worth Geological Society (FWGS)
Dallas Geological Society (DGS)*
Abilene Geological Society (AGS)*

Canadian Group
Canadian Society of Petroleum Geologists Bulletin (CSPG)
CSPG special volumes*

Rocky Mountain Group
Wyoming Geological Association (WGA)*

International Group
Indonesian Petroleum Association (IPA)*
Circum-Pacific Council of Energy and Mineral Resources*
Geological Society of Trinidad and Tobago

Other Group
Ohio Geological Society (OGS)*
Pacific Section of AAPG (AAPG-PS)*

Martha Lou Broussard and Ron Hart demonstrate "AAPG's Datapages" at Rice University.

**Asterisk denotes collection "in process"*

* * *

Open to the public, you can access Datapages free of charge, using the PC on the Rice University Campus, located in the Fondren Library, 6100 Main, Houston, Texas, 713-348-5113. See more information at http://www.aapg.org/datasystems/index.html.

Fondren Library public hours:
Sunday noon to midnight
Monday to Thursday 7:00 a.m. to midnight
Friday 7:00 a.m. to 10 p.m.
Saturday 9:00 a.m. to 10:00 p.m.

Datapages is also accessible at the University of Houston, M.D. Anderson Memorial Library, located in L-Building 509 on the U of H campus. For more information see http://www.uh.edu/campus_map/buildings/L.html.

M.D. Anderson Memorial Library hours:
Sunday 1:00 p.m. to 4:45 p.m.
Monday to Thursday 7:00 a.m. to 12:45 a.m.
Friday 7:00 a.m. to 8:45 p.m.
Saturday 8:00 a.m. to 7:45 p.m. ■

HGS GOLF TOURNAMENT

Monday - September 18, 2006

Place: Kingwood Country Club
Format: Four-man scramble
Featuring: Closest to the pin, Bar-B-Q dinner, Refreshment stands, Trophies, awards and prizes, Longest drive contest, Betting holes

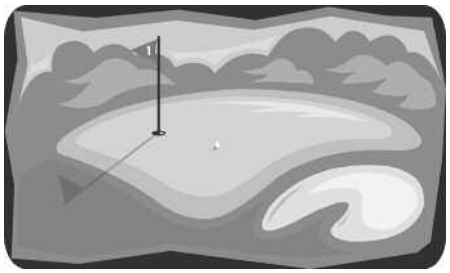
This year's tournament will be a four-man scramble. A shotgun start at 11:45 a.m. will be followed by an informal buffet dinner with a presentation of awards at the Kingwood Country Club. Players may select their own course and foursome or be placed in a foursome by the tournament committee. The field will be flighted after play based on score. Entries will be limited and will be accepted on a first-in basis.

The entry fee will be $125.00 per person, or $500.00 per team. Entry fee includes green fees, golf carts, refreshments, driving range use with practice balls and a buffet award dinner with door prizes.
So get your group together and come out and enjoy the competition, food, friends and fun.

Companies or individuals interested in sponsoring the event should contact Allan Filipov at 281-275-7649 or by fax at 281-275-7550.

To enter, fill out the entry form at the bottom of this page and mail with your entry fee (payable to HGS Entertainment Fund) to:

HGS attn: Joan Henshaw
10575 Katy Freeway, Suite 290 ▪ Houston, TX 77024
713-463-9476



SCHEDULE OF EVENTS

9:30 – 11:30 a.m.	Registration and free use of driving range
10:30 – 11:30 a.m.	Optional lunch
11:45 a.m.	Shotgun start
4:45 p.m.	Cash bar, open buffet
5:30 p.m.	Dinner with awards presentation

Name _____ Amount Enclosed _____

Company _____ Phone _____

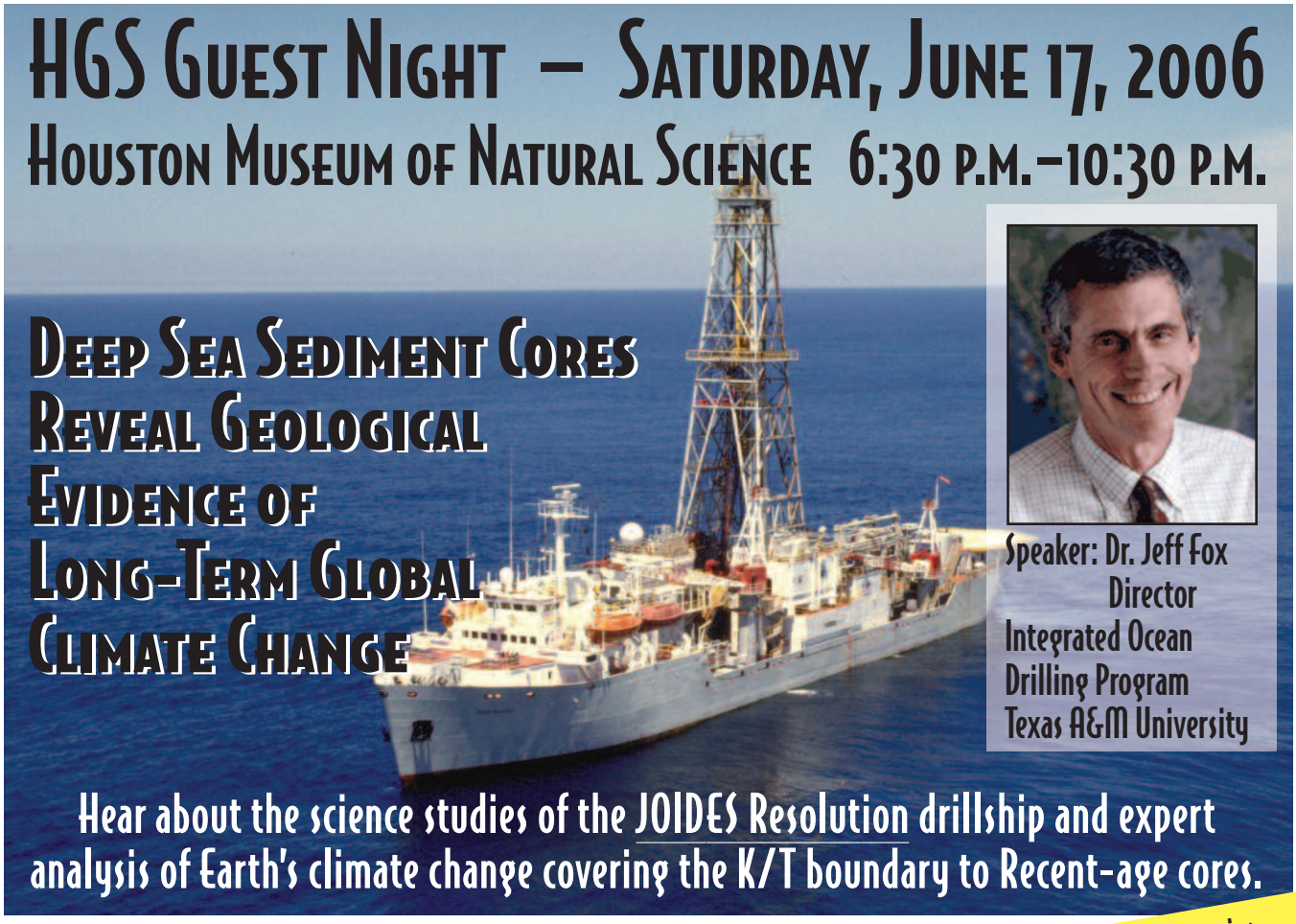
Foursome Members *(Please Print)*	Company Name	Phone Number
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____

Foursome Captain's e-mail _____

If you wish, please circle your course preference: Island Lake Marsh

HGS Guest Night – Saturday, June 17, 2006

Houston Museum of Natural Science 6:30 P.M.–10:30 P.M.



Deep Sea Sediment Cores Reveal Geological Evidence of Long-Term Global Climate Change

Speaker: Dr. Jeff Fox
Director
Integrated Ocean
Drilling Program
Texas A&M University

Hear about the science studies of the JOIDES Resolution drillship and expert analysis of Earth's climate change covering the K/T boundary to Recent-age cores.

The Guest Night program includes a buffet dinner and social hour.
Use the HGS webpage to sign up and pay by credit card.
OR fax or mail this form to the HGS office to reserve spaces for this sell-out event. The HGS must receive payment in advance! No sales at the door.

Dinosaurs: Ancient Fossils, New Discoveries. A special arrangement has been made for this exhibit. See announcement on page 7 for details.

Adults: $30 each, HGS members: please include your member number

Name: _____ Member # _____

Name: _____

Name: _____

Students (grades 1–college) $25 each

Name: _____

Name: _____

Total amount: _____

Send check and form to: HGS Office, Guest Night 2006, 10575 Katy Freeway, Suite 290, Houston, Texas 77024
or fax this form with credit card number to 713-463-9160

Credit Card number and type: _____

_____ **Expiration Date (required):** _____

Name on Credit Card: _____

Daytime Phone number of Card Holder: _____

Billing Address for Card: _____

City, State and Zip: _____

Many thanks to our corporate sponsors

bhpbilliton TGS SCA Schlumberger bp

HGS Guest Night June 17—Deep Sea Sediment Cores Reveal Geological Evidence of Long-Term Global Climate Change, Part 2

article by ***Linda Sternbach*** *and* ***Bill Osten***

This year's Guest Night program on Saturday, June 17, at the Houston Museum of Natural Science will be an exciting and informative evening of social events, dinner and museum exhibits capped by a very topical geoscience multi-media presentation by Integrated Ocean Drilling Program (IODP) Director Dr. Paul Jeffrey Fox (Texas A&M). In the May HGS *Bulletin*, Part 1 of this article discussed this year's Guest Night theme, "Deep Sea Sediment Cores Reveal Geological Evidence of Long-term Global Climate Change," and we wrote about the IODP, the *JOIDES Resolution* drillship and storage of deep sea cores at Texas A&M storage facility.

ODP Leg 171B Cores from the Atlantic East Coast Capture Rock Record of Cretaceous/Tertiary Meteorite Impact that Changed Earth's Climate 65 MY Ago

Texas A&M University is an important storage facility for deep sea cores used by scientists all over the world. These samples have convincing geologic evidence of global climate change spanning the period from the Mesozoic to the recent. Dr. Fox, who is both an oceanography professor at Texas A&M and director of the Integrated Ocean Drilling Program, will explain how the famous deep water drillship *JOIDES Resolution* collects samples in over 10,000 ft of water and present scientific evidence of earth's changing climate through time.

The Guest Night will start at 6:30 p.m. at the Houston Museum of Natural Science. HGS members and guests will get to look at fossils, minerals and the oil and gas exhibits on the first and second floors of the museum. Everybody will enjoy a buffet of Goode Company barbeque and fajitas, drinks and desserts. Between 6:30 p.m. and 8 p.m. the Texas A&M Oceanography Department and IODP will have tables, posters and core samples on display in the museum lobby.

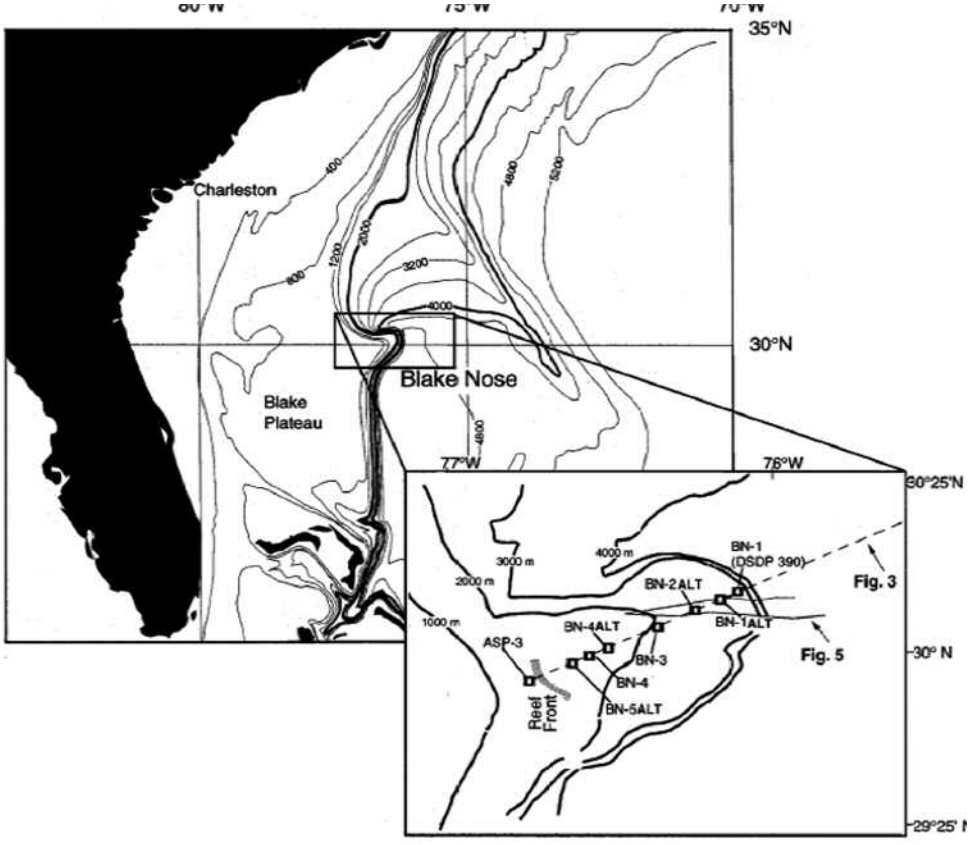


Figure 1: Location of Blake Plateau, Atlantic Ocean, ODP Leg 171B cores.

Dr. Jeff Fox will present a multimedia talk on climate change and the IODP from 8 to 9 p.m. in the IMAX theatre. To top off the night, door prizes that will include beautiful mineral samples, fossils and IODP souvenirs will be awarded to selected Guest Night attendees. The HGS Guest Night program is limited to 400 people due to seating capacity of the IMAX theatre, so sign up early using the HGS webpage and pay online, or by mailing a check and signup form (see page 29) to the HGS office.

Deposits below the floor of the world's deep oceans (below 8000 ft) are a continuous record of earth's climate history, which is why the IODP program cores are so valuable. Lately, there has been a lot of discussion about "global warming" in the news media and

HGS Guest Night *continued on page 35*

HGS Guest Night continued from page 33

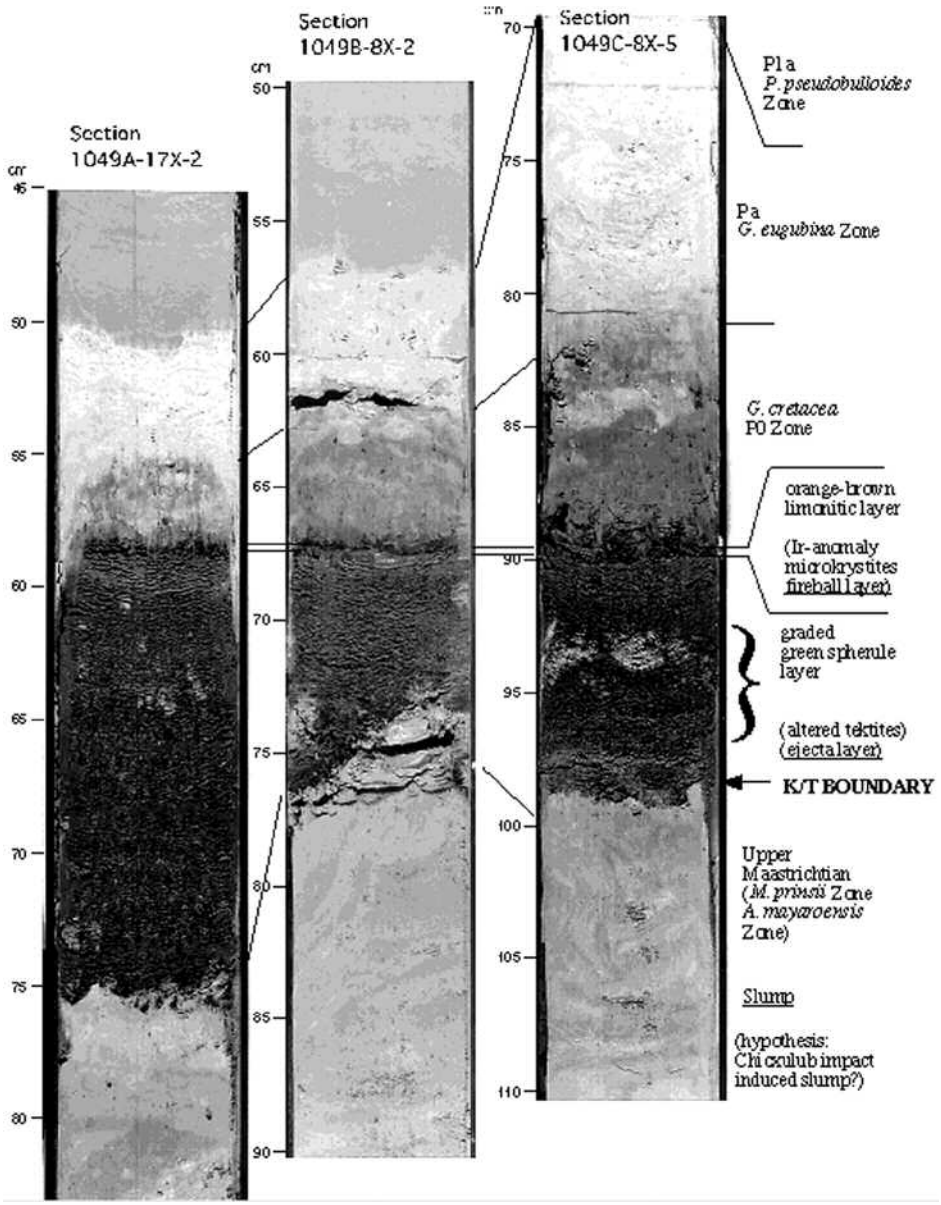


Figure 2: ODP Leg 171 cores from Blake Nose, Atlantic margin that penetrate the K/T boundary. These show light colored Upper Cretaceous beds (Maastrichtian age) full of marine life, followed by the K/T boundary, a dark layer with evidence of meteorite impact. The layers above the K/T boundary are lifeless. (Cretaceous–Paleogene Climatic Evolution of the Western North Atlantic, Results from ODP Leg 171B, Blake Nose, by R.D. Norris, et al. http://www-odp.tamu.edu/publications/prosp/171b_prs/171bprosp.pdf)

among environmental scientists studying recent climate history, complete with video footage of melting glaciers. Geologists who work with the ancient rock record are taught a long-term perspective of the earth's history, and they realize that the earth's climate has changed on the continents and oceans due to sea level rise and fall and to changing configurations of the tectonic plates. An important question that will be addressed at Guest Night is: what does the deep ocean record tell scientists about climate change?

ODP Drills a "Discovery Well"—A Pristine Core of the K/T Boundary

In January 1997, the ODP *JOIDES Resolution* drillship cored an area off the east coast of Florida known as the Blake Plateau (Figure 1 , map of area) in 8800 ft of water, as part of a scientific investigation of Upper Cretaceous to Eocene deep water sediments. The 1997 expedition, known as ODP Leg 171B, was organized with the goal of getting a complete section of the Upper Cretaceous to Eocene for ongoing paleontogical and paleo-climate studies. In a surprise discovery, the scientists found evidence of the Chicxulub (Yucatan, Mexico) K/T meteorite impact. This event contributed to killing off the dinosaurs and devistating life on earth by creating catastrophic climate change. Paleontologists working with the ODP cores found that marine life existed below the K/T interval, that the ash deposit of the meteor impact is recorded, and that all previous Cretaceous marine life is extinct above the K/T ash deposit (Figure 2, K/T boundary core). The Chicxulub crater was found by Mexican geologists in 1950 but remained almost unknown to outside scientists until 1991, when it was recognized as the largest known impact crater on this planet. A popular science book that was published before the ODP Blake Plateau discovery is *T. Rex and the Crater of Doom* by Walter Alvarez, which documents evidence of the K/T meteorite impact as seen on land in Yucatan, Mexico.

Dr. Fox will be bringing a life-sized, exact replica of one of the valuable ODP cores that recorded direct evidence of the Cretaceous/Tertiary meteorite impact 65 million years ago (Figure 3, Dr. Fox with core). Guest Night attendees can look at this core replica in detail during the evening along with poster displays. The following is a core description from the Leg 171B report:

> "The K/T boundary consists of a 10–17 cm graded bed of green spherules capped by fine-grained, rusty brown grains that are overlain by dark gray clay. This succession is interpreted as fallout from the Chicxulub impact structure on the Yucatan Peninsula. Samples of the K/T impact ejecta blanket were recovered in three holes at ODP Site 1049. Geochemical **HGS Guest Night** *continued on page 37*

HGS Guest Night continued from page 35

studies of the ejecta have confirmed that its chemistry is consistent with an origin as tektites, altered to clay minerals. The size and composition of tektites are characteristic of proximal ejecta deposits found elsewhere around the Caribbean and North America. The presence of small chips of metamorphic rocks, shallow-water limestone, dolomite, and shocked quartz are also consistent with derivation of the ejecta from the Chicxulub Crater" (Cretaceous–Paleogene Climatic Evolution of the Western North Atlantic, Results from ODP Leg 171B, Blake Nose, by R.D. Norris et. al. at http://www-odp.tamu.edu/publications/171B_SR/intro/intro.htm).

Cores Show that K/T Meteor Impact Caused Earthquakes and Climate Change

ODP reports from Leg 171B describe seismic evidence (Figure 4, seismic line through core location) that suggests mass wasting (possibly due to post-impact earthquakes) vented gas hydrate reservoirs along the North Atlantic margin and added to the ecological catastrophe produced by the impact event. The post-impact Paleocene/Eocene boundary (55 MYA) records an interval of extreme global climate change associated with the massive release of greenhouse gases into the ocean and atmosphere.

Figure 3: Dr. Jeff Fox holds an exact-size replica of the famous ODP Leg 171B deep ocean core that penetrated the K/T meteorite impact layer in 8800 ft of water in the Atlantic Ocean, hundreds of miles from the site of the Chicxulub impact in the Yucatan Penisula, 65 MY ago. This replica core will be on display at Guest Night.

During an interview, Dr. Fox said that prior to the K/T impact, earth was experiencing a very warm period and the planet was ice-free. There were vast shallow seas covering the earth and sea level was about 500 ft higher than at present. The result of the K/T impact crater was that 90% of planktonic forminiferia (tiny floating plants) in the oceans became extinct. On land, some 50% of the reptile families, all dinosaurs, 25% of the mammal families and 80% of bird families became extinct.

Interview with Dr. Jeff Fox

In an e-mail interview, our Guest Night speaker told us his view on the current controversy about climate change. Dr. Paul (Jeff) Fox's career spans over 30 years of teaching and doing research on the oceans. He earned a BA in geology from Ohio Wesleyan University and a PhD in marine geology and geophysics from Columbia University in New York, where he was a research associate at the Lamont Doherty Earth Observatory. He has taught at State University of New York (SUNY) at Stony Brook, and at SUNY, Albany, New York. Fox taught at the University of Rhode Island, oceanography department, between 1981 and 1995. In 1995, Dr. Fox came to Texas A&M as a professor in the geology, geophysics and oceanography department and became Director of Science Operations for the Ocean Drilling Program in 2003.

Question: What is your opinion on the media debate on "global warming" or "climate change"?

Fox: There is little debate in the sciences as to whether or not our planet is experiencing recent warming at a global scale because this situation is well documented. In essence, the concentration of both greenhouse gases and earth's temperature during the last century have been measured and both are documented to be increasing. The global warming debate is not about whether human activities are warming climate, or whether we will continue to do so in future decades. We are warming the global climate and this situation will continue into the foreseeable future as greenhouse-gas concentrations rise.

Scientists are focusing on trying to better document and understand the causal effects and environmental responses to global warming and ways that we may be able to mitigate rate of global warming by reducing CO_2 loading in the atmosphere. The contentious question about which there is considerable debate is just how much will the planet warm and how will the climate system react to the warming. Scientific ocean drilling is about deciphering our past history so we can be better stewards of our planet in the future. The scientific questions are relatively tractable, but the more difficult question is how the industrialized world addresses the global warming.

Question: Why did you choose geology and oceanography as a career?

HGS Guest Night continued on page 38

HGS Guest Night continued from page 37

Fox: I discovered geology as a result of a process of elimination. In high school, I determined that I liked science but found the gelatinous remnants of life that we studied in biology to be off-putting, the precision of physics to be frustrating and the by-products of chemistry experiments to be odious. At a loss and with the college applications looming, a friend mentioned to me that I should consider geology as a scientific discipline to pursue. He went on to say that a geologist was a scientist who works outside. Since I was happiest when I was outside in a pastoral venue, this profession resonated with me. Thirty years later, although I have spent more than 40 months at sea on more than two dozen oceanographic platforms exploring the aspects of abyssal realm, I haven't participated in a drill ship drilling expedition.

I grew up outside of New York City, went to college at Ohio Wesleyan University and did my graduate work at Columbia University (Lamont-Doherty Earth Observatory). I was very fortunate because at Ohio Wesleyan the geology department was small (three professors), but they were all engaging teachers and were very nurturing, instilling in me a fascination with how our planet works. I arrived at Lamont-Doherty Earth Observatory at an exciting time when the plate tectonic hypothesis was taking root at Lamont. Bruce C. Heezen was my thesis advisor, and I had the great pleasure and honor to work with Doc Ewing, Neil Opdyke and Walter Pitnam, to name a few. Following graduate school, I joined the Geological Sciences faculty at the State University at Albany and had the pleasure of working with John Dewey, Kevin Burke, Win Means, Bill Kidd and Akiho Miyashiro among others. These individuals were all generous mentors—in essence I had two graduate educations.

Question: What skills do geologists need to learn to contribute to studying the IODP cores? If environmental or petroleum geologists wanted to change careers and work on the IODP cores, what training would they need to get? A PhD?

Fox: The scientists who work with and contribute to scientific ocean drilling have interests that span the full spectrum of the geological sciences. No specific training is required, but it never hurts to be able to think out of the box. We have approximately 150 scientists and 25 student assistants that work at IODP/Texas A&M University delivering the many services that we provide in support of scientific ocean drilling—information technology, engineering, publications, core curation, scientific management, technological support and administration. We have a dedicated and talented management team that keeps us focused, productive and efficient.

Conclusion

Oceanographers and geologists think that deepwater ocean cores will eventually answer many questions about the earth's depositional history. These questions involve asteroid impacts, earthquakes and volcanic activity, long-term climate change and frontier hydrocarbon resources. This year's Guest Night (June 17) dedicated to understanding the deep ocean drilling program and earth's changing climate will be informative and exciting for HGS members, their friends and families!

Go to the HGS webpage and sign up by June 13 at http://www.hgs.org/en/cev/?512.

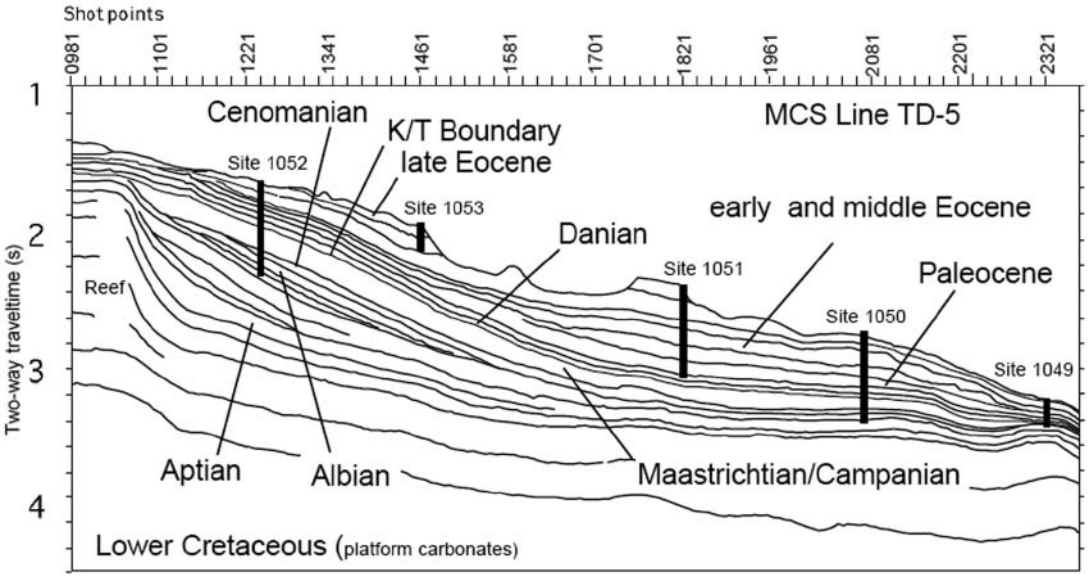


Figure 4: Seismic cartoon of line showing K/T boundary in the Blake Plateau area, Atlantic margin. The cores may indicate there were huge earthquakes after the meteorite impact and possible widespread venting of gas hydrates which created greenhouse conditions.

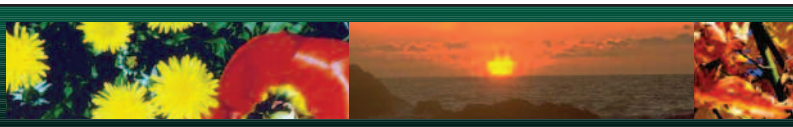
Additional Reading

Cretaceous–Paleogene Climatic Evolution of the Western North Atlantic, Results from ODP Leg 171B, Blake Nose, by R.D. Norris, et. al. http://wwwodp.tamu.edu/publications/171B_SR/intro/intro.htm
http://www-odp.tamu.edu/publications/prosp/171b_prs/171bprosp.pdf

Huber, B.T., MacLeod, K.G., and Norris, R.D., in press. Abrupt extinction and subsequent reworking of Cretaceous planktonic foraminifera across the K/T boundary: Evidence from the subtropical North Atlantic.

HGS Guest Night *continued on page 43*

June 2006



Sunday	Monday	Tuesday	Wednesday
	NOW you can make your reservations on-line at www.hgs.org	**Reservations:** The HGS prefers that you make your reservations on-line through the HGS website at www.hgs.org. If you have no Internet access, you can e-mail reservations@hgs.org, or call the office at 713-463-9476. **Reservations for HGS meetings must be made or cancelled by the date shown on the HGS Website calendar, normally that is 24 hours before hand or on the last business day before the event**. If you make your reservation on the Website or by email, an email confirmation will be sent to you. If you do not receive a confirmation, check with the Webmaster@hgs.org. Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. **No shows will be billed.**		
4	5	6 HGS Executive Board Meeting	7
11	12	13	14
18	19	20	21
25	26	27	28


GeoEvents

Thursday	Friday	Saturday
1	2	3
8 **Seal Analysis Workshop** Page 20	9	10
15 **SIPES Luncheon Meeting** by D. Jarvie Page 19	16	17 **22nd Annual HGS Skeet Shoot** Page 62 **HGS Annual Guest Night** Page 31
22	23	24 **6th Annual GSH/HGS Saltwater Tournament** Page 68
29	30	**Members Pre-registered Prices:** General Dinner Meeting .....$25 Nonmembers walk-ups. ..... $33 Env. & Eng. .....$25 Luncheon Meeting .....$30 Nonmembers walk-ups. ..... $33 International Explorationists .....$25 North American Expl. .....$25 Emerging Technology $25

Upcoming GeoEvents

Tuesday, September 12
The 5th PESGB/HGS African Conference
QE2 Conference Centre, London, page 25

Tuesday, September 12
HGS Annual Golf Tournament
page 30

Monday, September 18
HGS International Explorationists Dinner

Thursday, September 21
NeoGeos Career Development Meeting *page 66*

Monday, September 25
GCAGS Annual Convention

Wednesday, September 27
NABGG 25th Anniversary Annual Technology Conference
Magnolia Hotel, Houston, page 66

In Koeberl, C., and MacLeod, K. (Eds.), *Catastrophic Events and Mass Extinctions: Impacts and Beyond*, GSA Special Paper.

Kroon, D., Norris, R.D., Klaus, A., and the ODP Leg 171B Shipboard Scientific Party, 1998. Drilling Blake Nose: the search for evidence of extreme Paleogene-Cretaceous climates and extraterrestrial events. *Geology Today*, 14:222–226.

Norris, R.D., Firth, J., Blusztajn, J., and Ravizza, G., 2000. Mass failure of the North Atlantic margin triggered by the Cretaceous-Paleogene bolide impact. *Geology*, 28:1119– 1122.

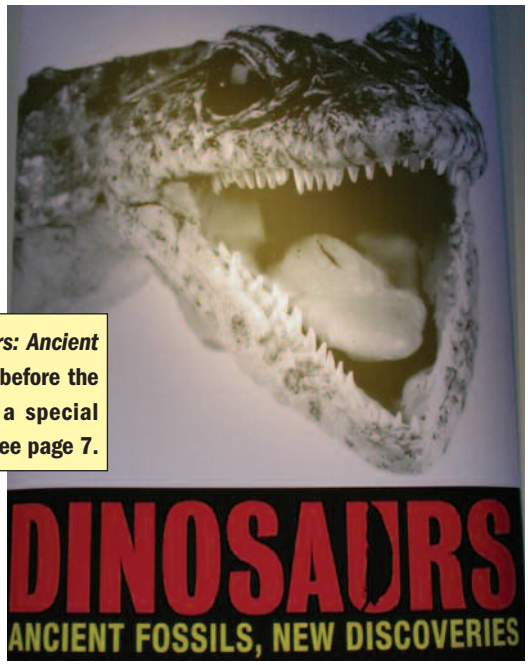
Alvarez, Walter, 1997, *T. Rex and the Crater of Doom*, Princeton University Press, 236 pp.

HGS Visits Feathered Dinosaurs at HMNS

*by **Neal Immega**, Field Trip Chair*

Sixty of your colleagues and their families got a chance to tour the new feathered(!) dinosaur exhibit at the Houston Museum of Natural Science on March 25. The American Museum of Natural History was kind enough to send us an exhibit that makes the museum's old dinosaur hall seem dated—lots of motivation for the impending update.

The AMNH exhibit, "Ancient Fossils, New Discoveries," calls for a redesign of every exhibit in the HMNS paleo hall. For example, our raptor is holding his arms all wrong, the Diplodocus could not have raised his head to look at the mezzanine-level visitors and our Triceratops most likely used his horns just for show and not as a defense against T. rex. There are new forays into biomechanics, new ways of interpreting trackways, new thoughts on mass extinctions. The stunning, incredibly detailed diorama of the recent finds at Liaoning, China, makes everything come to life, with feathers!



You can attend *Dinosaurs: Ancient Fossils, New Discoveries* before the Guest Night starts for a special price of $9 per person. See page 7.

You have seen the billboards around town with very strange creatures on them. If you missed our early morning field trip time last month, you still have a chance to come and bring any 10 year old (and any 10 year old at-heart). This astonishing exhibit will be in Houston through July 30.

The local website is http://www.hmns.org/exhibits/special_exhibits/dinosaurs.asp?r=1 and you can check out http://www.amnh.org/exhibitions/dinosaurs/intro/ to see how it looked in New York. They brought more stuff to Houston! ■

Biomechanics constrain T. rex *motion.*

Chickens and some tracks from distant relatives in the touchcart area.

HGS Members at AAPG Events

Olga and Jason Barr, Deborah Sacrey and Jeannie Mallick prepare to check in AAPG attendees for the HGS-sponsored entertainment

Monica Mallick and Wenda Truair enjoy the Downtown Aquarium ís salt water petting zoo at the HGS entertainment event for the 2006 Annual AAPG Convention

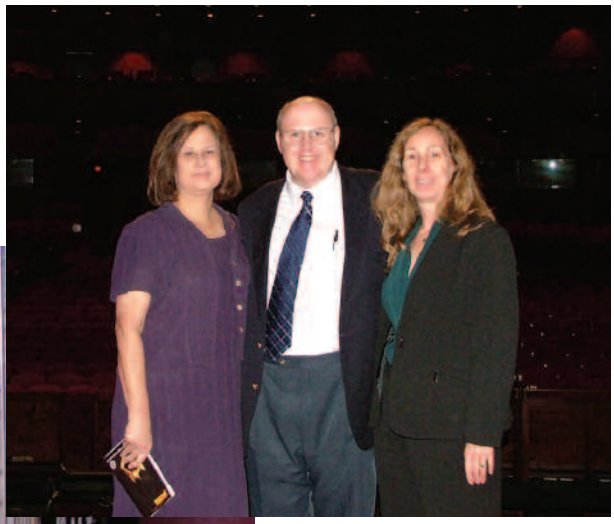
Marv Smith and Mac McKinney staff the HGS booth at the 2006 Annual AAPG Convention

HGS at HGO — *Carmen*!

Two weeks after the AAPG convention, 30 HGS members and guests attended a matinee performance of Houston Grand Opera's "Carmen."

The group enjoyed a behind-the-scenes tour following the performance. HGO Audience Development Manager Kathryn Lott, along with staff members Greg Robertson and Mike Freese, met the group at the front of the Orchestra Pit and escorted them onstage, where they were treated to a private backstage tour and discussion by Greg Robertson.

HGS members can look forward to more opera performances during the 2006-2007 season, which includes "Don Giovanni," "Faust" and "Aida." ■



2005–2006 Houston Geological Society Awards

by **Dave Rensink,** *HGS President 2005–2006*

2005–2006 Honorary Life Membership

Honorary Life Membership is bestowed upon persons who have distinguished themselves in the science of geology or have contributed outstanding service to the success and welfare of this organization.

Honorary Life Membership Award

John Adamick

The HGS honors John Adamick this year for his long continued service to, and his impact on, the Houston Geological Society's Undergraduate Scholarship Foundation.

John has had a long association with the HGS, receiving one of its Outstanding Student Awards (1986) and a Graduate Scholarship (1987). John received his Bachelor of Science degree from Texas A&M in 1983. He received a Master of Science degree from Stephen F. Austin University in 1987.

His association with the petroleum industry began during the summers of his college years when he was an intern on Shell Oil Company seismic crews in Louisiana and Texas. He began work with TGS Geophysical in December 1986, where he has held several positions of responsibility. John has worked as an interpreter, in marketing and in mergers and acquisitions. He has served as Marketing Manager and President of the Gulf of Mexico Business Unit and is currently (since 2000) the Vice President of Business Development for the combined TGS-NoPec companies. John also serves on the boards of A2D, Calibre Geophysical and Aceca Ltd.

John has been an active member of AAPG and the IAGC (International Association of Geophysical Contractors). He has served on various committees for those societies during the year and for their conventions. At the most recent national AAPG convention held in Houston, John chaired the Executive Business Session, "Energizing the World in the 21st Century." John's involvement with HGS has led to his participation in the GCAGS (Gulf Coast Association of Geological Societies) as committee chairman, session chairman and author. He has won awards for Best GCAGS/GCSSEPM Published Paper (2nd, 2001) and GCAGS Best Poster Award (2nd, 1986).

John's involvement with the Houston Geological Society began shortly after his career with TGS. He has been on the Undergraduate Scholarship Foundation Committee since 1988. He has been the Chairman since 2003. Through John's efforts, the Undergraduate Scholarship Foundation fund-raising golf tournament sponsored by A2D was started as a means of increasing the corpus of the Undergraduate Scholarship Fund. This successful event has annually brought in more than $3,000 to the fund. John has also served as chairman or as a member of the Awards, Arrangements and Graduate Scholarship committees.

John's guidance and impact on the Undergraduate Scholarship Foundation have been instrumental in increasing the fund's value and the committee's ability to award larger scholarships in

John Adamick *continued on page 59*

2005–2006 Honorary Life Membership

Honorary Life Membership is bestowed upon persons who have distinguished themselves in the science of geology or have contributed outstanding service to the success and welfare of this organization.

Honorary Life Membership Award

Charles Sternbach

Charles Sternbach exemplifies the distinguished service to the Houston Geological Society that is honored by this award. He served as HGS vice-president in 1997–1998, president-elect in 1998–1999, and president in 1999–2000. He was a recipient of the President's Award in 1996 and the Distinguished Service Award in 2001.

Charles' service to HGS has been a series of firsts. He was one of the founders of the North American Explorationists group and served as its chairman for five years. As president of HGS, he initiated the popular Legends in Wildcatting series, organized the corporate sponsorship of students and faculty at HGS dinner and lunch meetings, and championed the establishment of the NeoGeos group. He also proposed and organized the 100th anniversary celebration of the East Texas Spindletop discovery in 2001.

Charles has served as chairman of the Emerging Technology Committee and as a Houston delegate to the AAPG House of Delegates. He also organized the technical sessions on carbonate reservoirs at two AAPG national conventions. He has recently capped his service to HGS and AAPG by serving as the general chairman of the highly successful 2006 Annual Convention of the AAPG in Houston. Charles will be the first to say the success of this convention was due to the efforts of the committee chairs and committee members. It is also due in no small part to the dedication and long hours invested by its general chairman.

When called to duty by the HGS, Charles has not only agreed to serve, he has served with considerable distinction. It is for this unselfish and dedicated service that the Houston Geological Society is proud to bestow on Charles Sternbach an Honorary Life Membership. ■

2005–2006 Distinguished Service Awards

This award was created to honor members who have rendered long-term valuable service to the Society.

Distinguished Service

Paul Babcock

If reading about Paul Babcock produces a feeling of déja vu, it is because this award winner was the May Volunteer of the Month. Paul is continually assisting HGS in numerous roles. He currently works at Peoples Energy Production Company, where he is Vice-President of Exploration. He stepped in to serve as Chairman of the Vendors Corner Committee when the previous Chairman became the Finance Committee Chairman. Paul has served the society as Vice-President, Director, Membership Committee Chairman and AAPG Delegate.

The Vendors Corner Committee has been quite active this fiscal year. Paul proactively sought vendors to attend the dinner meetings each month. He arranged for or set up 23 vendors (through March 15) at the General, International and North American Dinner meetings. This is nearly double last year's number and exceeds numbers from previous years. The money from Vendors' Corner sponsors goes to the North Harris College Geoscience Technology Training Center and our Undergraduate Scholarship Foundation.

In addition to his work on the Vendors Corner Committee, Paul serves on the Outreach Committee and edited the 17th edition of the HGS *Directory of Oil Company Name Changes*, which was made available at the AAPG Convention in April.

Paul has a BS in geology from the State University of New York – Cortland and 30 years' experience in the oil and gas industry. He is a Licensed Professional Geologist in the State of Texas. He is a member of AAPG, RMAG, Houston Producers' Forum and the Onshore Exploration Independents and is an affiliate member of SIPES. Before coming to Peoples Energy Production Company, he worked for a variety of companies, the most recent being Burlington Resources where he served as Geologist – North America, Exploration Manager, and Vice President – New Ventures.

The HGS Board is proud to present Paul with the President's Award. During his many years with the HGS he has exemplified the spirit of volunteerism and dedication. We are lucky to have him as an active member not only for the Houston Geological Society but our community as well. ■

2005–2006 Distinguished Service Awards

This award was created to honor members who have rendered long-term valuable service to the Society.

Distinguished Service

Steve Henry

The Houston Geological Society is pleased to present Steve Henry with the Distinguished Service Award for his many contributions and long service to the Society. Steve's leadership, vigor and good humor have been fixtures at HGS for many years.

Steve's service began in 1995 when, after presenting an invited paper at an HGS International Group (HGSIG) meeting, he was asked to help with hotel arrangements for upcoming events. He has been performing that function now for ten years. He served as co-chair of the HGSIG from 2003 until this year. He has served as an organizer for the HGS-PESGB Annual International Symposium since 2002 and had a pivotal role in the symposia held in Houston in 2003 and 2005.

Steve Henry received his PhD from the University of Michigan where he published articles on earthquake seismology and paleomagnetics and completed his dissertation on heat flow in the Andes. He then joined Conoco, where for the next six years he processed seismic data and taught seismic processing courses. This was followed by seven years in international exploration, where he provided seismic interpretation for projects in Australia, Norway, France, Malta, Tunisia and West Africa.

After leaving Conoco in 1993, Dr. Henry presented a paper to the AAPG on sag basins and source rock development in Angola that earned the 1994 George Matson Award for the best paper presented at the 1993 AAPG Annual Convention. Currently Steve is a partner in Innovative Exploration Services, LP, providing project management, workstation interpretations and regional studies to clients on various projects around the world. Research interests include developing rifting models based on seismic stratigraphy, relating source rock development to phases of basin development and predicting reservoir facies in syn-rift and sag phases of rifting. Recent projects have focused on the South Atlantic and Central Africa. ■

2005–2006 President's Awards

This award has been established to honor members whose extraordinary efforts or unique contributions deserve special recognition.

President's Award

Janet Combes

Janet Combes has been an active and valuable member of HGS since she joined in 1995. In 1997 she began serving as a docent for the Houston Museum of Natural Science, which she continues to do. From 1999 to 2001 she was the Logistics Co-Chair for the Earth Science Week committee, and she participated in the coalbed methane short course. This work led to her receiving the HGS Rising Start Award for 2000–2001. She was then elected to the HGS board as a Director in 2002–2004. While on the board, she was instrumental in establishing the Northsiders Group, of which she is still a member. Her most recent recognition was as HGS Volunteer of the Month earlier this year.

She has been especially dedicated to working with K-12 educators (and their students) to prepare the next generation to join our profession. In addition to her work at the HMNS and as a member of the Earth Science Week committee, she has been tireless in her dedicated service to CAST (Conference for the Advancement of Science Teaching), the annual meeting of the Science Teachers Association of Texas. She was co-chair for HGS activities at both the 2003 and 2005 CAST meetings in Houston and received the Texas Earth Science Teachers Association Recognition Award in 2003 for her efforts with CAST. She has led field trips for several teachers' groups, mainly to the "Blue Lagoon," for CAST and other groups numerous times during the last few years. She has been active in organizing a coalition of geoscience outreach endeavors—the GEO-Alliance with HGS, AWG, GCS-SEPM, SIPES, etc.—to coordinate and collaborate on teacher and student outreach, which soon will have a common website for use by teachers for presentations.

Janet obtained her BS in geology from LSU, her Master's in applied geophysics from the University of Houston and her PhD in geology from The University of Texas at Austin. She worked as an exploration geophysicist for a number of companies prior to obtaining her PhD. After graduation, she worked for Amoco for

Janet Combes *continued on page 59*

President's Award

Dave Fontaine

Few members of the HGS have merited recognition more than Dave Fontaine. Dave has served the Society for more than 25 years as a volunteer in just about every capacity one can imagine. He has served on the Board as a Director and Secretary and has volunteered to either serve or chair committees on Continuing Education, HGS Foundation, Houston Energy Council, Office, Awards, New Publications and *Bulletin* and currently is Finance Committee Chairman.

Dave has a BA and an MS in geology from Rutgers University. He began his career in 1977 with Conoco in Houston as an offshore well-site geologist, eventually moving upward to Supervisor of Economic Evaluations – Offshore North America and Alaska. Dave left Conoco in 1981 to go independent, then eventually landed at Union Texas Petroleum in 1984. Always entrepreneurial in nature, Dave consulted in the late 1980s and early 90s for Geomin, Ltd, assessing the hydrocarbon potential of Albania; JEBCO Seismic, designing and marketing offshore GOM seismic acquisitions; and PEDCO, the National Oil Company of Korea, evaluating many of its international projects. Dave eventually moved on to the environmental field, where, since 1995, he has worked for Engelhard Corp. as Manager of Regulatory Affairs, including Environmental Health, Safety, and Security.

Dave has worked continuously for the HGS throughout the tumultuous periods of the industry. He always has found a place within the Society where his many and diverse talents were a very welcome addition. Because of his longstanding hard work and dedication, the HGS is pleased to honor David Fontaine with its President's Award. ■

2005–2006 President's Awards

This award has been established to honor members whose extraordinary efforts or unique contributions deserve special recognition.

President's Award

Ian Poyntz

Ian Poyntz has been awarded the HGS President's Award in recognition of his exemplary work in organizing critical elements of the HGS/PESGB Africa Conference in September 2005. In addition, Ian has organized the HGS International Explorationists technical talk program (2004–2006) and has been an invaluable member of the International group committee, working with Al Danforth and Steve Henry. The International Explorationists group meets on the third Monday of each month at the Westchase Hilton. It is one of the most active and highly attended special interest groups within the HGS, and Ian's efforts have made this success possible.

The HGS/PESGB (Petroleum Exploration Society of Great Britain) joint Africa Conference in September 2005 in Houston was a huge event for the HGS and had over 300 people in attendance. Many attendees flew in from overseas. Ian's role in the Africa conference included many things, but it primarily involved selecting Africa presentation topics, coordinating speakers and serving as liaison with the PESGB folks in London.

Ian first got involved in HGS activities back in 1978 when he worked for Amoco International and was posted to Houston from Chicago. Originally from the UK, Ian lived in British Columbia, Canada, during high school, and he graduated with a BSc in geology from the University of British Columbia. His career with Amoco included periods when he was posted internationally in the Middle East and in Africa. In 1998, he transferred back to Houston and began working as an international exploration consultant. The HGS is pleased to give Ian Poyntz the HGS President's Award for his multiyear contributions to the Society. ■

President's Award

Thom Tucker

Thom Tucker is an indispensable HGS volunteer, the kind we wish we had more of.

He reports that he initially avoided joining the HGS because "there was too much to read in the HGS *Bulletin*." But join he did, in the mid-1980s, and became involved in the International Explorationists Group, helping at the dinner registration table and serving as contact for the "Company Representatives." When Pinar Yilmaz was looking for her replacement in 1992, she had been able to recruit the likes of Lyle Baie to direct the technical program, Harold Davis to handle arrangements and Don Young to manage the finances, but had no takers for the Chair. Thom stepped forward and accepted the challenge. During Thom's administration, the International Explorationists membership roster, which had been kept as a word processor document by Kumar Bhattacharjee, was converted to a database by Herb Duey.

In 1994, then HGS President Clint Moore asked Thom to start the Emerging Technologies Group. He assembled a committee, among whose members was Sam LeRoy. Feeling that "yet another monthly dinner meeting" was not needed, they surveyed the membership for topics of interest and then produced added-value events at the regular meetings. For one monthly lunch meeting the group had 15 or 20 poster sessions presented instead of a single technical talk. The chairmanship was handed off to Charles Sternbach in 1996.

Thom started participating in the Continuing Education Committee in 1995, and fairly soon took on publishing and printing the course notebooks. He saw this as "a unique opportunity to know and work with the authors." Besides, the printer is only a mile from his house! Thom has been filling this role until the present. Since 1995, in addition to the CEC short course notebooks, Thom has produced the course notebooks for AAPG Conventions 1995 and 2002, the two Africa Conferences (2003 and 2005) and the International

Thom Tucker *continued on page 59*

2005–2006 Rising Star Awards

This Award has been established to honor individuals who are relative newcomers to the Houston Geological Society who have made significant and promising contributions to the enhancement and success of the HGS.

Rising Star

Gary Coburn

Gary Coburn receives the Rising Star Award in recognition of his significant contributions to the Northsiders Group since 2003. Gary has always stepped forward to assist in that group's needs.

The Northsiders is a progressive committee, providing a blend of technical talks appealing to a wide range of technical interests and advances. The luncheon meetings provide a wide array of geological and geophysical subjects for technical talks. The Northsiders Committee, in conjunction with the Continuing Education Committee, is beginning to add applied core workshops to their program. Gary has been an active part of the Northsiders Group leadership for the past three years, serving as co-chairman. He joined the group after their first luncheon talk, which was held at the Anadarko Petroleum Tower in The Woodlands. Gary has been actively involved in organizing and providing help wherever it was needed. As co-chairman of the Northsiders, he is responsible for the tasks of approving the technical program and members' roles and assignments.

Gary's expertise is in integrative interpretation techniques encompassing seismic, petrophysical well data and potential fields data in the Gulf Coast and GOM. Deepwater and shelf OCS subsalt and gradient analysis for prospects and fields is his focused specialty area. Gary has published numerous articles in various trade journals, GCAGS *Transactions* and the AAPG *Bulletin.*

Gary is a geologist with Maritech, a company specializing in Gulf Coast field redevelopment, in particular immediately prior to field abandonment. He has worked in many international (South America) and domestic E&P projects in his career with large independent oil companies.

Thank you, Gary, for your leadership service in the HGS. ■

Rising Star

Walter Light

Walter Light's Rising Star award is warranted by many facets of his life and work. Over the last seven years Mr. Light has been increasingly involved in various community service projects. These projects have primarily come through his active membership in First Presbyterian Church of Houston and its outreach construction ministry team known as Community Bridges, which he co-leads. Projects have included participation and leadership roles in Habitat for Humanity houses, Rebuilding Together Houston (previously PSI/Home Savers) older home refurbishment, Tropical Storm Allison flood recovery assistance, as well as international construction mission trips to impoverished areas of northeast Mexico and Belize. Once a week he also tutors at The Nehemiah Center, a neighborhood after-school tutoring/mentoring program for inner city kids. Mr. Light currently serves as the Volunteer Committee Chairman and as a member of the Executive Board of the Nehemiah Center.

During the spring of 2005 he participated in the first HGS community service project organized by Steve Levine to assist with cleanup and stabilization of the Evergreen Cemetery. Walter's background of service and his talents, combined with the encouragement and support of the HGS Board and with the help of many HGS members, including Cindy Gillespie, Donna Davis, Paul Babcock and Steve Levine to name a few, made it possible for us as a society to organize a modest, multifaceted response to Hurricane Katrina in 2005. Those efforts included collecting cash donations from members for the American Red Cross, Salvation Army and the Houston Food Bank. The team also organized a successful workday for members of the HGS at the Houston Food Bank. In addition, even though not used, the response team identified and compiled a list of HGS members who were willing to provide temporary housing and office space to displaced professionals. It was an amazing response by a whole lot of caring people.

Walter Light *continued on page 59*

2005–2006 Rising Star Awards

This Award has been established to honor individuals who are relative newcomers to the Houston Geological Society who have made significant and promising contributions to the enhancement and success of the HGS.

Rising Star

Martha McRea

Martha McRae receives the Rising Star award in recognition of her energy and enthusiasm in educating the public about earth science. For the past two years she has been co-chair for the Earth Science Week Committee for the HGS. Previous to that she organized one of the tables for Family Fun Day at the Houston Museum of Natural Science. As an HGS certified volunteer geologist for the Houston Museum of Natural Science she volunteers for Dino Days, Boy Scout Badges and Energy Hall tours along with Earth Science Week activities.

Martha has a BS in geology with a minor in computer science from Stephen F Austin State University. Her MS is from Texas A&M University with a thesis titled "The Environment of Deposition and Reservoir Characterization of the Simpson Rocks (Middle Ordovician) at the Scully Field, Marion County, Kansas." Martha has worked as a prospect generator for Exxon Exploration Co. and as a geoscience consultant for Landmark Graphics/Halliburton. She currently works for Chevron Energy Technology Company as a PetroTechnical Applications Specialist working in the South African Business Unit.

Martha has been very active in the local chapter of the Association for Women Geoscientists (AWG) and as a Texas Delegate. She spent three years as Treasurer and two years as Vice President for the AWG Foundation. We look forward to Martha's expanding role in HGS leadership and commitment to education. ■

Rising Star

Ianthe Sarrazin

Ianthe Sarrazin receives the HGS Rising Star Award this year for her organizational contributions to the Northsiders Group as treasurer and co-treasurer. Ianthe began working with Wendy Hoffmann as co-treasurer last year. The Northsiders Group provides geoscientists on the north side of Houston with a convenient forum for learning and exchanging ideas through monthly technical talks presently held in the Greenspoint area. Her energy and diligent contributions both in making meeting arrangements and helping the group stay on track are much appreciated by the HGS.

She earned her Bachelor's degree in geology in 1998 from Cornell University, where she studied under professors Theresa Jordan and Larry Brown, learning near-surface geophysical methods. A summer internship with Phillips Petroleum launched her career in the oil and gas industry, which she "would not dream of leaving for anything." Ianthe spent five years at a small independent, Cheyenne Petroleum, where she began prospecting and deal screening in the Gulf of Mexico. Currently, Ianthe is a geophysicist for Stone Energy in Houston, where she matures drilling ideas within existing fields, as well as doing sub-regional exploratory prospect generation in the Gulf. She is also a member of AAPG, SEG and GSH. All we can say is, "Thanks!" to Ianthe for her efforts in helping the Northsiders group grow, and the HGS executive committee hopes that she'll be involved for many more years. ■

2005–2006 Corporate Star Awards

The Houston Geological Society honors companies that make special contributions of their staff or financial resources to help the Society.

Corporate Star Award

Apache

We are very pleased to recognize Apache Corporation this year with the Corporate Star Award for providing generous support as a Platinum level sponsor of the HGS Continuing Education Committee's public awareness, community service conference, "Coastal Subsidence, Sea Level and the Future of the Gulf Coast." We thank Apache and its employee volunteers for their generous contributions and service to our society. ■

Corporate Star Award

bp

We proudly recognize BP this year with the Corporate Star award for providing generous support of multiple HGS events. BP was a Platinum level sponsor of the HGS Continuing Education Committee's public awareness, community service conference, "Coastal Subsidence, Sea Level and the Future of the Gulf Coast." Not stopping with its support of this significant event, BP provided generous support of the HGS/HMNS "Earth Science Week" festivities with both monetary and in-kind donations of logo trinkets for the kids and the Africa Symposium. Also, BP has been generous in allowing many of its technical staff to present talks at International and General meetings. We thank BP and its employee volunteers for their generous contributions and service to our society. ■

Corporate Star Award

Shell

We proudly recognize Shell this year with the Corporate Star Award for providing generous support of multiple HGS events. Shell was a Platinum level sponsor of the HGS Continuing Education Committee's public awareness, community service conference, "Coastal Subsidence, Sea Level and the Future of the Gulf Coast." Shell also provided the venue for the HGS "Petroleum Reserves—Avoiding Write-downs: Recommended Geological Practices" Continuing Education Short Course and also support for the Africa Symposium. They have also been very generous in allowing many of their technical staff to present talks at the International and General monthly meetings. We thank Shell and their employee volunteers for their generous contributions and service to our society. ■

Corporate Star Award

SMT

We proudly present the 2006 HGS Corporate Star Award to Seismic Micro-Technology for its generous and multiple contributions to the HGS. Starting this past year with its commitment to the HGS Continuing Education Committee, SMT provided 100% of the graphic artist technical services and duplication costs for approximately 500 copies of the HGS publication *Petroleum Reserves—Avoiding Write-downs*, a four-CD set along with the cases and covers. This contribution allows 100% of the sales of the CD set to provide funds for HGS programs, which could ultimately amount to tens of thousands of dollars. As significant as this support is, SMT has opted to continue its support of HGS by providing funds for transportation and lodging of out-of-town presenters of the **SMT** *continued on page 59*

2005–2006 HGS/Houston Geological Auxiliary Distinguished Service Award

HGA Distinguised Service Award

Mary Harle

Mary Harle has been elected to receive the HGS-HGA Distinguished Service Award for the year 2005–2006. It is an award that was long in coming to this tireless and most deserving volunteer.

Mary was born in Bellville, Texas, and graduated from Bellville High School and Blinn College in Brenham. She began work at Humble Oil & Refining Company in 1951 where she worked in the marketing department, "way out Fannin" in the Prudential Building. Mary had not yet married Wiley Harle, a young geologist for Natural Gas Pipeline, in April 1958.

After Mary and Wiley married, Mary retired and she and Wiley began their family, two boys and one girl: Bascom, James Wiley and Anne Elizabeth. After a long illness, they lost Anne Elizabeth at age 19. After 45 years of marriage, Mary also lost Wiley. Mary has two grandsons and one granddaughter.

In 1968, Mary joined the HGA and also GeoWives. She had been asked many times to be HGA President, so we were delighted when she finally agreed to accept the office. Mary was President of HGA in 1982–83 after serving quietly in every other capacity in the Auxiliary. It has always been a pleasure to work with Mary. She has served on numerous committees for GCAGS and AAPG through the years. Needless to say, Mary is an important part of our organization. The HGS Office (SOS) Committee was also fortunate to have her as a volunteer for several years.

Mary has been an active member of Grace Presbyterian Church since 1971 along with her late husband, Wiley. Together, they were active in the growth of this church. A fact of which Mary is very proud is that Wiley once made all the crosses for each baptism, and that "Wiley Harle Day" has been proclaimed for all the contributions both have made to Grace Presbyterian School. Mary and Wiley have both been honored to receive a life membership in the Presbyterian Women's Association (he is the only man so honored). Mary has also served as an elder in her church. As you can surmise, not only has she made tremendous contributions to the HGS/HGA but to her church and God as well.

Thank you, Mary, for all the years you have devoted to our organization and for always doing so with a smile. You truly deserve this honor. It is a pleasure and privilege to have worked with you during all these years and to be blessed with your friendship. ■

HGS Awards *continued*

continued from page 49

John Adamick — *Honorary Life Membership Award*

this time of rising college costs. He is a two-time recipient of the Society's President's Award and received the Distinguished Service Award in 2000. John has truly distinguished himself by his steadfast and generous service to the Society. ■

continued from page 53

Janet Combes — *President's Award*

almost 10 years, taught at the Geoscience Tech Training Center at North Harris College and for the last five years has been at ExxonMobil Production as an Exploitation Geologist. In addition to the HGS, she is also a member of the American Association of Petroleum Geologists, the Geological Society of America, the Society of Exploration Geophysicists and the SEPM.

Space doesn't allow a listing of her many other volunteer activities with AAPG, SEPM, Houston Gem and Mineral Society and GSA, as well as countless hours as a judge for science fairs. It is clear that Janet Combes richly deserves to receive the HGS President's Award for 2006. ■

continued from page 54

Thom Tucker — *President's Award*

Business of Exploration Symposium (February 2000), which was a joint venture between Continuing Education and the International Explorationists. He also served as General Co-Chairman for that 2000 symposium.

In 2004, along with Donna Davis, Thom co-authored a manual of procedures for the Continuing Education Committee. He is indispensable in the functioning of that committee.

Tom's particular professional interests include development geology, interdisciplinary reservoir characterization and management, and sequence stratigraphy

Until now, Thom has been satisfied with awards that included a T-shirt, HGS polo shirt, committee member's pin and a few HGS coffee mugs. But he reports that his most prized "awards" are the many friends he has gained through his participation in the HGS! ■

continued from page 55

Walter Light — *Rising Star Award*

Walter S. Light, Jr. received his BS in geology, UT Austin 1977, moved to Houston and was employed two years with Sohio Petroleum and then two years with JWR Exploration, Inc., as an exploration geologist for both, working mainly onshore Texas Gulf Coast trends. In June 2001, he incorporated as Thunder Exploration, Inc. a one-man, independent, prospect-generating shop to provide a full range of contract geological services to various companies on an equity and/or joint venture basis. His areas of expertise include the Jurassic and Lower Cretaceous of South Texas, northeast Mexico and Central America, Upper Cretaceous carbonates and clastics, Eocene Wilcox trend, shallow Jackson/Yegua trend and the shallow Frio trend of South Texas. Even though many of these projects have components that are ongoing, Thunder Exploration is now working to identify and pursue niche opportunities using a similar business plan in the international arena.

Mr. Light has a vision that the members of the Houston Geological Society will continue to participate in and develop community service projects in the future. ■

continued from page 57

SMT — *Corporate Star Award*

reserves project, contributing to HGS International events, including having a vendor booth at the Africa Conference September 2005 and being a sponsor for the 2005 Shrimp Peel and Technofest. We thank SMT and its employee volunteers for their generous contributions and service to our society. ■

Remembrance

Mark Andrew Cocker Memorial
1953–2006

by ***Arthur E. Berman***

Mark Andrew Cocker unexpectedly passed away on April 19, 2006, in Kingwood, Texas. Mark was a gifted geologist, a good businessman, a loving husband, father, brother and son, and a good friend to all who knew and worked with him. He was born October 4, 1953, to Betty and Geoffrey Cocker in Yorkshire, England, and is survived by his wife of over 22 years, Jill (Foster) Cocker and their children, Sarah, Thomas and Allison Cocker, all of Kingwood, Texas; by his mother, Betty Oakley of France; and his sisters, Sally Tyson and Gillian Worrall.

Mark was Chief Operating Officer and Partner of The Scotia Group, Inc., an independent consulting services company to the oil and gas industry with offices in Dallas and Houston, Texas, and Reynosa, Tamaulipas, Mexico. He was an avid outdoorsman, musician, marathon runner, sailing enthusiast, rock climber, skeet shooter, and a great admirer and lover of nature.

Mark was a dedicated member and supporter of the Houston Geological Society and served as Public Relations Committee Chairman for many years. He belonged to the Dallas Geological Society and served on the DGS Public Information and Government Affairs Committee. He was a Texas Licensed Professional Geoscientist, an AAPG Certified Petroleum Geologist and he served as an AAPG delegate. In addition to HGS, DGS and AAPG, Mark was a member of the Society of Professional Well Log Analysts and the Society of Petroleum Engineers. He was author of five recent papers on petroleum geology of the Burgos Basin and a frequent speaker at meetings of the many professional societies to which he belonged.

Before joining The Scotia Group in 1992, Mark worked for Core Laboratories, Inc. and Improved Petroleum Recovery, Inc. He spent many of the past 10 years working on reservoir projects with Pemex in Reynosa, Poza Rica, Tampico and Veracruz, Mexico. During his career of 29 years, he worked on projects in the United States onshore and offshore Gulf of Mexico, the Middle East, Asia, the South Pacific, Africa and Europe.

Mark had great focus in both his work and relationships and was often at his best when things got difficult. He knew how to look beyond obstacles, maintain perspective on objectives, and provide solid leadership and direction to his team in both work and play. He was capable of inspiring others through his steadfast resolve and quiet confidence in outcomes. Mark could be both incisively direct as well as a patient and compassionate listener. He pursued everything he did with great commitment, high standards and impeccable personal integrity.

Mark Cocker passed away in the prime of both life and profession. He will be missed by all who knew him. ■

Letters to the Editor

continued from page 23

To the Editor;
I'm not sure who specifically to thank, but I just wanted to extend a gracious thank you to the *Bulletin* team, on behalf of the NeoGeos, for including the announcement in the April edition for The Next Wave program at the OTC. I just got my copy of the April *Bulletin* and was pleasantly surprised that the NeoGeos were spotlighted in the "Member News and Announcements" along with a nearly half-page article on page 50. The NeoGeos have been working with the planning committee on this event for several months, providing input on topics, speakers, and session format, and it's great to see the event promoted. The topics being addressed in the session are directed at young professionals, such as the members that comprise the NeoGeos, so there's a vested interest in making it a success.

Thank you so much for supporting our efforts!!!

Dianna Phu
NeoGeos Chairperson

22nd Annual HGS SKEET SHOOT

Saturday, June 17, 2006

Greater Houston Gun Club
6702 McHard Road, Missouri City

This tournament is a 50-target event. Shells are provided; however **you must bring eye and ear protection**. Greater Houston Gun Club and National Skeet Shooting Association safety rules will be in effect. Winning shooters will be determined by the Lewis class system. Door prizes will be awarded by a blind-drawing after the conclusion of shooting. All competitors are automatically entered into the door prize drawing, but you must be present at the time of the drawing to win.

BBQ lunch will be provided from 11:30 a.m. until 1:30 p.m.
Refreshments will be available throughout the day.

IMPORTANT!!

WE ARE LIMITED TO 160 SHOOTERS IN FOUR ROTATIONS. ENTRY FEE IS $60 PER SHOOTER FOR REGISTRATIONS RECEIVED BY FRIDAY, JUNE 9. AFTER JUNE 9, REGISTRATION WILL BE STRICTLY ON A "SPACE AVAILABLE" BASIS AND THE ENTRY FEE WILL BE $80 PER SHOOTER. REGISTER EARLY!!

For more information, contact: Tom McCarroll at (832) 366-1623 ext. 205 or tmccarroll@cheypet.com.

****

HGS SKEET SHOOT REGISTRATION FORM

Name: _____ Company:_____

Email: _____ Phone:_____

Preferred shooting time: (circle one) 9:00 10:00 11:00 12:00

Indicate ammunition required: (circle one) 12 gauge 20 gauge

Please return form(s) with check for $60.00 per shooter, payable to: ***Houston Geological Society***

Mail to: ***Tom McCarroll • Cheyenne Petroleum • 1221 Lamar St #1301 • Houston TX 77010***

Registration Fee: $_____ + Sponsor contribution: $_____ = Total: $_____

If you wish to shoot with a specific squad (5 shooters max.), please submit all forms together.

****

ALL SHOOTERS WILL BE REQUIRED TO SIGN A DISCLAIMER OF RESPONSIBILTY BEFORE THEY WILL BE ALLOWED TO SHOOT!

HGS Welcomes New Members

Effective May 1, 2006

ACTIVE MEMBERS

Michelle Abraham
Stephen Adiletta
Tony Albrecht
George Alcorn
Brendan Arnold
Neal Barnes
H. Elliott Barrett Jr.
Mary Bateman
Edward Beaumont
Steve Bennett
Richard Bischke
Alex Blacque
William Bland II
Jannette Boyer
Charles Brewster
Mark Bronston
Max Brouwers
Wesley Brown
Frank Brown
William Brown
Lance Brown
Barry Bumm
William Burgett
Angelina Carvalho
John Casey
Larry Cochran
Brian Coffin
Christopher Cuyler
Kuwanna Dyer
Mark Earley
Melanie Edmundson
Herbert Eilender
Jerry Fann
Bob Fryklund
Victor Gabela
Scott Gardiner
Santosh Ghosh
Lisa Goggin
Olar Goodwyne
David Gorney
Michelle Grace
Jack Grippi
Wendell Harper
John Hoffman
Jeanne Hongenen
Chima Ibeawuchi
Toshi Iwasak
Gene Johnson
Randy Johnson
Russell Krauss
Jon Krystinik
Jon Kuespert
Anish Kumar
Hannes Leetaru
Cherith Letargo
Randall Lilak
Heather Lindsey
Luciano Magnavita
Frank Mango
Carl Mazzo
Lisa McBee
Mantez McDonald
Courtney McElmoyl
Hari Menon
Russ Murphy
Mark Murray
Syed Nusratullah
Peter O'Shea
Karl Osterbuhr
Matthew Padon
Justiin Painter
Ethan Perry
Jeff Pietras
Greg Praznik
Michael Puchalski
Andrew Pulham
Claudia Rassi
Valli Ribbeck
Rick Roberson
Vivian Rohrback
Tom Shackleton
Niven Shumaker
Carlos Silva
Charles Speh
Jackson Suddath
Jennifer Summers
Terry Thibodeaux
Davis Tolman
Mark Waltman
Ian Westlake
Clinton Wetmore
Timothy Whitacre
Ragnhild Wilhelmsen
Nathan Wilke
Michelle Williams
David Williamson
Janet Yun
Javid Zeynalov
Qingsheng Zhang

ASSOCIATE MEMBERS

Pherl Brossman
William Buskirk
Donna Cropper
Amy Hubble
Joe McShane
Loc Phu
David Sills
Nathan Winter
Ran Zhang

Welcome New Members

Volunteer of the Month

One of the highlights of being an invited speaker at an HGS technical meeting is that the lucky speaker receives a coveted HGS speaker award after the presentation. The HGS speaker awards have been various things: wood plaques with brass name plates, solid limestone samples, polished marble and glass globes. The man behind the selection of the type of award, and the person who diligently makes sure each award is labeled with the name of the HGS technical speaker, is Mike Deming. Mike has made sure that nearly 50 or more awards for HGS technical talks, student awards and HGS President's Awards have found their way from the Awards store to the hands of the awardees, who proudly gaze upon their names in bronze. He is the "trophy king" of the HGS and this month we are reminding everybody how volunteers like Mike Deming work behind the scenes to make the HGS successful on a regular basis.

Mike is also an AAPG delegate and a former HGS Board member (treasurer 1997–1999). He earned his BS in earth science from Northwest Missouri State University and his MS in geology from the University of Missouri at Rolla. From 1978 to 1999 he was a loyal employee of Amoco Production Company (which he refers to as the Amoco Reduction Company) until its legendary fallout. He worked for Phillips Petroleum in Oklahoma 2000–2003 and returned to Houston in 2003. Today Mike is very busy "doing everything" at Swift Energy in both domestic and international exploration. From all the geoscientists who got bronze name plates with their name spelled correctly when stuck on a decorative award, we just want to tell Mike Deming that the awards job he so dutifully executes at each meeting is very important to the awardees and makes contributing to the HGS even more worthwhile. ■

Call for Papers, Posters, Exhibitors, Advertisers, Sponsors, Volunteers, and Participants

25th Anniversary Annual Technology Conference

National Association of Black Geologists & Geophysicists (NABGG)
September 27-30, 2006
Magnolia Hotel, downtown, at 1100 Texas St., Houston, TX 77002
"The Vision of a Few, Fulfilled by Many"

We request Papers, Exhibitors, Advertisers, Sponsors, etc.!!

Who should participate: We invite all geoscientists, geosciences organizations, companies, and educational institutions as well as numerous corporations and government agencies to celebrate with us this pinnacle moment in our history. **Exhibit booths, sponsorships, and conference booklet and website advertisement space are available, now. Posters and Oral Papers** focusing on all aspects of the Earth Sciences including geology, geophysics, geosciences applications, planetary sciences, oceanography, geological education, the business of geology, and geosciences careers are welcome. **Geosciences Students** are invited and travel and registration financial assistance may be available. Scholarship recipients are strongly encouraged to participate as either volunteers or to give technical presentations. Social events are planned for spouses and guests.

Conference Highlights Include:
Golf Tournament - Wednesday Morning, Sept 27, Pine Crest Golf Club
President's Reception - Wednesday Evening, Magnolia Hotel
Technical Sessions and Booth Exhibits - Thursday, Sept. 28
Scholarship Awards Luncheon - Thursday Noon
Technical Sessions Featuring Students and Booth Exhibits - Friday Morning
Business Meeting - Friday Afternoon, Sept. 29
Black & Gold Ball - Friday Night
Community Outreach Activity – Saturday Morning, Sept 30

Register now for early bird discounts: For info or registration, visit www.nabgg.org or send email to nabgg_us@hotmail.com, or contact Ms. **Carolyn Jones**, Conference Chairperson, 281-8789-3667, or **Ms. Elizabeth Watkins**, 713-446-6098. NABGG is a non-profit 501(c)(3) organization. Any donations are tax deductible. Discounted hotel room rates at the Magnolia Hotel are available.

HGS – NeoGeos Career Development Meeting

When: September 21, 2006
Where: 950 Threadneedle, Suite 170, Houston TX 77079
Time: 6:00 p.m. to 8:00 p.m.
Dinner will be served at 6:00 p.m.

PetroSkills would like to invite the HGS NeoGeos to our facility for a career competency discussion and demonstration. The purpose of this meeting will be to:

- Use our Competency Analysis Tool (CAT) — live online analysis to determine your skill gaps
- Review our Geoscience Career Development Matrices
- Learn about our Geoscience courses
- Meet our Geoscience instructors and Discipline Managers
- Leave with your own personalized development plan

Please RSVP to Patty Davis at pdavis@petroskills.com or call 281.597.1048 ext. 103.
Questions or comments? Email neogeos_houston@yahoo.com.

PetroSkills was created in the year 2001 by BP, Shell, and Oil and Gas Consultants International (OGCI) to provide competency-based petroleum training. Today, PetroSkills has successfully evolved into a global industry-driven training company that spans the petroleum industry. Our alliance membership is made up of such major and independent oil companies as BP, Shell, OGCI, Halliburton, Saudi Aramco, Oxy, ConocoPhillips, Chevron, Repsol YPF, Marathon, TTG Systems, John M. Campbell & Company, UTT and ResModTec.

PetroSkills competencies and courses are built for the industry by the industry.

PetroSkills®

Government Update

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

Texas Board of Professional Geologists News

If you thought all our turf battles were behind us, a letter to the editor of the *Environmental Science & Technology* A-Page Magazine by Keith Linton, Senior Scientist, URS Corp., might change your mind. The text can be found at http://pubs.acs.org/subscribe/journals/esthag/40/i05/html/030106letters.html.

Mr. Linton came to the Texas Board of Professional Geoscientists (TBPG) meeting in Houston in March, representing himself and the Board of Directors of the North Texas Association of Environmental Professionals (NAEP) meeting in Houston on March 17, 2006, and read a position paper on the Texas Geoscience Practice Act (TGPA). A link to this position paper is located at http://home.houston.rr.com/enviroscientists/. This website also includes a link to the NAEP's position statement on the TBPG.

You should review the documents located on the following websites, consider what they are saying (taking into account the inaccuracies in them) and make comments to the NAEP and Mr. Linton. This issue is apparently beginning to snowball in earnest. The question is will it have legs to continue?

Apparently the NAEP has dedicated a portion of its website to this issue. An article published in *Environmental Practice* by Mr. Linton is at http://www.naep.org/associations/5483/files/NAEP_EAP%20Licensing.pdf.

They recommend that TGPA be significantly amended. The biggest problem we see with this argument is that many of the things that they are complaining about are supposed to be signed off by either a Professional Geologist (PG) or a Professional Engineer (PE), and they don't appear to have a problem with the PEs.

TBPG Amendments

In other TBPG news, the proposed adoption of the "License Renewal and Reinstatement, Firm Registration, Temporary License and Fees" rules were all passed and adopted at the March 17, 2006 meeting. These new rules can be found at http://www.tbpg.state.tx.us/New%20Rules2.htm.

Additional amendments to Firm Registration (22 TAC 851.30), Continuing Education (22 TAC 851.32), Fees (22 TAC 851.80), Firm Compliance (22 TAC 851.152) and Geoscientist's Seals (22 TAC 851.156) have been proposed by the TBPG. These proposed rules are for:

- Firm Registration: Defines which firms must be registered (basically, all who advertise as performing geological work for the public,
- Continuing Education Program: Makes some minor corrections to the program,
- Fees: Sets costs for firm registration, among other things,
- Firm Compliance: Sets the rules for firm registration, including at least one full-time PG in each branch location that advertises itself as performing geological work, and
- Geoscientist's Seals: Adds the use of electronic seals.

These proposed rules are found at http://www.tbpg.state.tx.us/New%20Rules2.htm.

There's been a lot of discussion by fellow Professional Geologists about the upcoming firm registration requirements. Lynn Clark, TBPG member, presents an excellent explanation as to why firm registration is necessary in the latest TBPG newsletter, which can be found at http://www.tbpg.state.tx.us/NewsletterVol2issue1.pdf.

TCEQ News

The Texas Commission on Environmental Quality (TCEQ) has proposed rules to implement SB 1354, which would amend the Texas Water Code (TWC), Chapter 26. The proposed rules address permitting, financial responsibility, inspections, water quality sampling, enforcement, cost recovery and interagency cooperation with regard to quarry operations. The requirements of the statute are applicable to a pilot program in the John Graves Scenic Riverway. The John Graves Scenic Riverway is defined as the Brazos River Basin and its contributing watershed, located downstream of the Morris Shepard Dam on the Possum Kingdom Reservoir in Palo Pinto County, Texas, and extending to the county line between Parker and Hood Counties, Texas. A licensed Texas Professional Engineer must certify the Restoration Plan and Technical Demonstration. This work also includes geology and hydrogeology, but Texas Professional Geologists are nowhere in this regulation. The need for a Professional Geologist is stated in TCEQ's rule analysis and comments (second paragraph on page 9), but Professional Geologist is never mentioned in the actual rule. "Geology" and "geological" are mentioned at least five times in the rule. Granted, there is a fair amount of engineering involved in this, but shouldn't a Professional Geologist provide the geology/hydrogeology?

The proposed rule can be found at http://www.sos.state.tx.us/texreg/sos/PROPOSED/30.ENVIRONMENTAL%20QUALITY.html#177.

The TCEQ has released its annual update of the Texas Risk Reduction Program (TRRP) Tier 1 Protective Concentration Levels (PCL) tables on the TRRP PCLs web page at

Government Update *continued on page 69*

Don't miss the Contest Rules on page 74

6th ANNUAL GSH/HGS SALTWATER FISHING TOURNAMENT

Saturday, June 24, 2006

Teakwood Marina, Village of Tiki Island • Galveston, Texas

Galveston Bay Complex and Offshore

This year's Saltwater Fishing Tournament will include an Offshore Division to be held on Saturday, June 24, at the Teakwood Marina, Village of Tiki Island, Galveston, Texas. We are looking forward to a big event this summer and we encourage full family participation.

Galveston Bay Complex Division

Trophies will be awarded for the heaviest individual Redfish (Non-Tagged), Speckled Trout, and Flounder.
Trophies will also be awarded for the heaviest individual Stringer - 1 Redfish, 3 Speckled Trout, and 1 Flounder.

Galveston Offshore Division

Trophies will be awarded for the heaviest individual Red Snapper, King Mackerel, and Dolphin.

Registration fee includes: Launch Fee, GSH Fishing Cap, Fish Fry Meal after weigh-in, Refreshments, Trophies, and DOOR PRIZES.

For more information, please contact:

Bobby Perez (HGS & GSH) • 281-240-1234 ext. 219 Office • 281-240-4997 Fax • 281-787-2106 Cell • 281-495-8695 Home
E-mail addresses: rdphtx@aol.com or r_perez@seismicventures.com

The Geophysical Society of Houston and the Houston Geological Society are non-profit organizations serving the Petroleum Industry. Corporate and individual contributions are appreciated and will be acknowledged on several sponsor boards and banners at the Weigh-In Station and Marina. All contributors will be recognized in the GSH newsletter and HGS *Bulletin* following the tournament. This is a great way to entertain friends, family, business associates, and clients. So spread the word!

GSH/HGS SALTWATER TOURNAMENT

NAME: _____ COMPANY: _____

ADDRESS: _____

PHONES: (H) _____ (B) _____ (C) _____

E-MAIL ADDRESS: _____

Upon receipt of the registration form, each participant will be provided with a copy of the specific tournament itinerary and rules sheet by e-mail. Please register **EARLY.**

Please return this form with your check for $60.00 per contestant payable to:
GSH/HGS SALTWATER TOURNAMENT and Mail to:
Ms. Joan Henshaw, 10575 Katy Freeway, Suite 290 • Houston, Texas 77024

Registration Fee: $ _____ + Sponsor Contribution: $ _____ = TOTAL $ _____

DISCLAIMER:
I acknowledge that neither the Geophysical Society of Houston nor the Houston Geological Society will be held responsible for injury or accidents during this event. PRACTICE SAFETY!!!!!

Signature: _____ Date _____

Government Update continued from page 67

http://www.tceq.state.tx.us/remediation/trrp/trrppcls.html.

Railroad Commission of Texas News

The Railroad Commission of Texas has adopted amendments to §3.80, relating to Commission Forms, Applications and Filing Requirements, with one change to the version published in the January 27, 2006, issue of the *Texas Register* (31 TexReg 450). The amendments add three new Railroad Commission Oil and Gas Division Forms to Table 1; the adopted change adds the effective date of "4/06" to the table on the rows for the three new OW forms. The new forms, which were also published in the January 27, 2006, issue of the *Texas Register* at 31 TexReg 597, are Form OW-1, titled "Application for Authority to Conduct a Surface Inspection of Orphaned Oil or Gas Wells"; Form OW-2, titled "Application for Certificate of Designation as the Operator of Orphaned Oil or Gas Wells"; and Form OW-3, titled "Application for Payment for Reactivating or Plugging an Orphaned Oil or Gas Well."

The adopted rules can be found at http://www.sos.state.tx.us/texreg/sos/adopted/16.ECONOMIC%20REGULATION.html#236.

The forms are located at http://www.sos.state.tx.us/texreg/sos/in-addition/in-addition.html#386.

AGI Government Affairs Monthly Review (March 2006)

National Academies Seeks Input on Grand Research Questions in Solid-Earth Sciences

The National Academies' Board on Earth Sciences and Resources has formed a committee to identify key research questions in the solid-Earth sciences. Preliminary questions being considered by the committee include:

1. How did the Earth and planets form?
2. What happened during Earth's dark age (the half billion years before the oldest known rock formed)?
3. How did life begin on Earth?
4. Why plate tectonics?
5. How has Earth's interior evolved, and how has it affected the surface?
6. Why does Earth have a magnetic field?
7. How do life and Earth co-evolve?
8. How has Earth's climate changed, and why?
9. Can we understand and predict catastrophic natural events?
10. How do material properties control planetary processes?
11. How do air, water, land and life processes interact to shape our environment?

The committee is seeking input on these questions and suggeted other questions. Feedback can be submitted online through August 2006 at http://dels.nas.edu/besr/grq_input.php.

USGS Water Data Useful Tools for Hazards and Health

The U.S. Geological Survey held a congressional briefing on March 17, 2006, to highlight the role of stream gages in mitigating flooding hazards. The well-attended briefing provided an opportunity for the agency to bring in some of its partners to talk about the type of information that stream gages provide and how that information is used at the federal and local levels. Speakers at the event included Peter Gabrielsen from the National Weather Service, Steve Fitzgerald from the Harris County Flood Control District, and David Ford from David Ford Consulting Engineers, Inc. USGS Associate Director for Water Robert M. Hirsch opened the briefing by saying that the stream gage network is critical for saving lives and mitigating flooding hazards across the country. Gabrielsen discussed how the National Weather Service uses stream gage information to provide flood prediction to state and local level governments to help mitigate against flood damage. Fitzgerald and Ford provided more detailed examples of how stream gage data are used by decision makers, citing the example of a parking garage near a river that uses the information to decide when they should close due to possible flood conditions. Information on the briefing and USGS stream gage programs is available at http://www.usgs.gov/solutions/floods_17march06.html.

In related news, the USGS released a report on pesticides in the nation's streams and groundwater resources. The report concludes that pesticides are frequently present in surface waters in urban and agricultural areas but that pesticides are much less common in groundwater. The ten-year study was done in association with the U.S. Environmental Protection Agency (EPA) in part to provide data to the EPA's exposure risk assessments for regulating the use of pesticides. The study focuses on 51 major basins and aquifer systems and does not focus on testing at drinking-water intakes. A copy of the report is available at http://water.usgs.gov/pubs/circ./circ1291. Additional information on the pesticide assessment is available at http://water.usgs.gov/nawqa.

Google Mars

On March 13, 2006, in collaboration with planetary scientists at Arizona State University, Google introduced a new web site called Google Mars. The web site contains three different types of global maps of Mars:

1. A shaded relief map, generated with data from the Mars Orbiter Laser Altimeter on NASA's Mars Global Surveyor spacecraft;
2. A mosaic of visible images taken by the Mars Orbiter Camera on Global Surveyor; and **Government Update** continued on page 70

Government Update continued from page 69

3. A mosaic of infrared images taken by the Thermal Emission Imaging System on NASA's Mars Odyssey spacecraft.

You can change the resolution of the maps, move to different areas of the map and locate features such as craters, mountains and spacecrafts. You can find the Martian maps at http://www.google.com/mars/.

The site may be expanded in the future with more data and more maps.

Federal Register Notes

DOI: The Mineral Management Service announced its intent to prepare an environmental impact study (EIS) on the tentatively scheduled 2007–2012 oil and gas leasing proposals in the Western and Central Gulf of Mexico, off the States of Texas, Louisiana, Mississippi and Alabama. Comments on the scope of the EIS, significant issues that should be addressed, and alternatives that should be considered can be submitted at https://ocsconnect.mms.gov. [*Federal Register*: March 7, 2006 (Volume 71, Number 44)].

EPA: The Environmental Protection Agency (EPA) announced a plan and schedule for the review of the air quality criteria and national ambient air quality standards (NAAQS) for lead. This review will take into account newly emerging research on the effects of airborne lead on human health and the environment. The schedule for this review incorporates Clean Air Scientific Advisory Committee (CASAC) review and will be completed by September 1, 2008. [*Federal Register*: March 8, 2006 (Volume 71, Number 45)] ■

Identifying E-mail Forgeries in Outlook

Editor's Introduction: This month's Webnotes addresses concerns that many of our members have regarding the safety in using the HGS Website for reservations and credit card transactions. The practice discussed below, called "phishing" in the world of the Internet, is a common occurrence, and seeks to deceive the user into entering confidential information into a website by making them think they are on an official site of their bank, credit card company or other financial institution. The Editor's Email box receives an average of about 10 of these phishing emails every day. Common sense and a little knowledge can protect you from these threats. The example below uses Microsoft Outlook. If you use another email software, you can use this example to determine how to apply it to your own software.

E-mail forgeries are becoming very common and more difficult to identify, but learning how to examine e-mail headers can help you separate the good from the bad.

Here is a perfectly legitimate looking e-mail to me from my bank, telling me that I need to update certain information to avoid my account being suspended. What they really want is my 3-digit security code so the sender (who already has my Chase credit card number) can start to use my card to make fraudulent charges.

Webnotes *continued on page 72*

CHASE

Dear CHASE Bank Member ,

CHASE Bank is devoted to keeping a safe environment for its community of consumers and producers. To guarantee the safety of your account, CHASE Bank deploys some of the most advanced security measures in the world and our anti-fraud units regularly screen the CHASE Bank database for suspicious activity.

We recently have discovered that multiple computers have attempted to log into your CHASE Bank Online Banking account, and multiple password failures were presented before the logons. We now require you to re-validate your account information to us. If this is not completed by March 9, 2006, we will be forced to suspend your account indefinitely, as it may have been used for fraudulent purposes. We thank you for your cooperation in this manner. In order to confirm your Online Bank records, we may require some specific information from you.

If you choose to ignore our request, you leave us no choice but to temporary suspend your account.

Please Click Here Log On or on the link below to verify your account

http://www.chase.com/cardverification/accountupdateinfo

Thank you for your prompt attention to this matter. Please understand that this is a security measure meant to help protect you and your account.

We apologize for any inconvenience.

The CHASE Bank Security Team

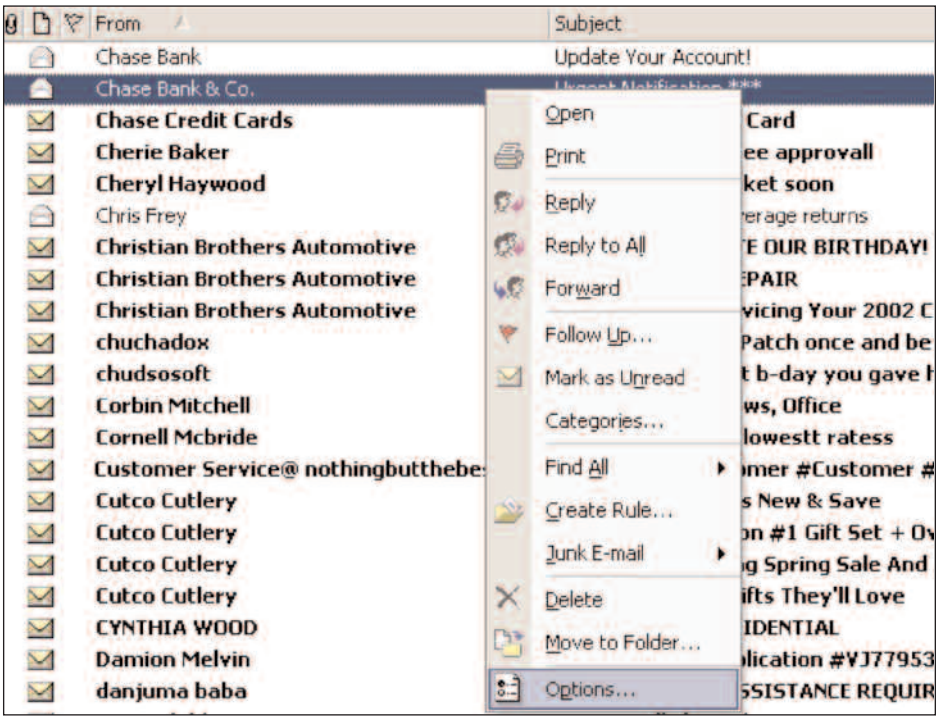
Please do not reply to this e-mail. Mail sent to this address cannot be answered. For assistance, log in to your CHASE account and choose the "Help" link in the header of any page.

© 2006 JPMorgan Chase & Co.

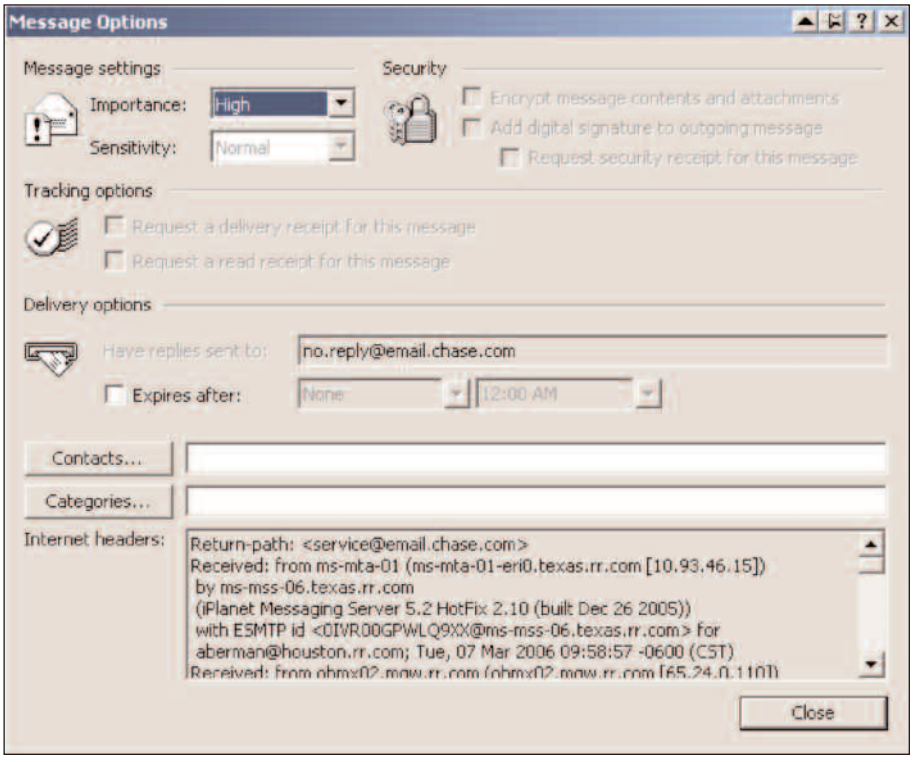
Web Notes

continued from page 71

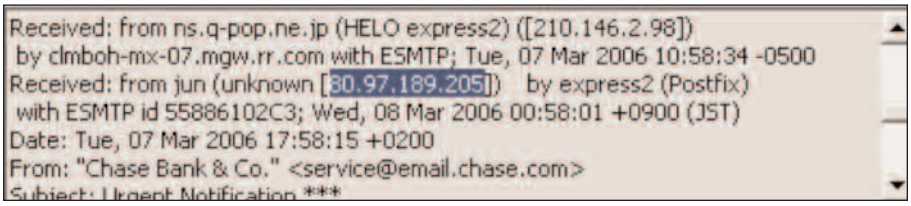
A good way to determine the authenticity of the e-mail is to right click the message and select Options.



In the Internet headers area is a lot of information about the sender of this e-mail.

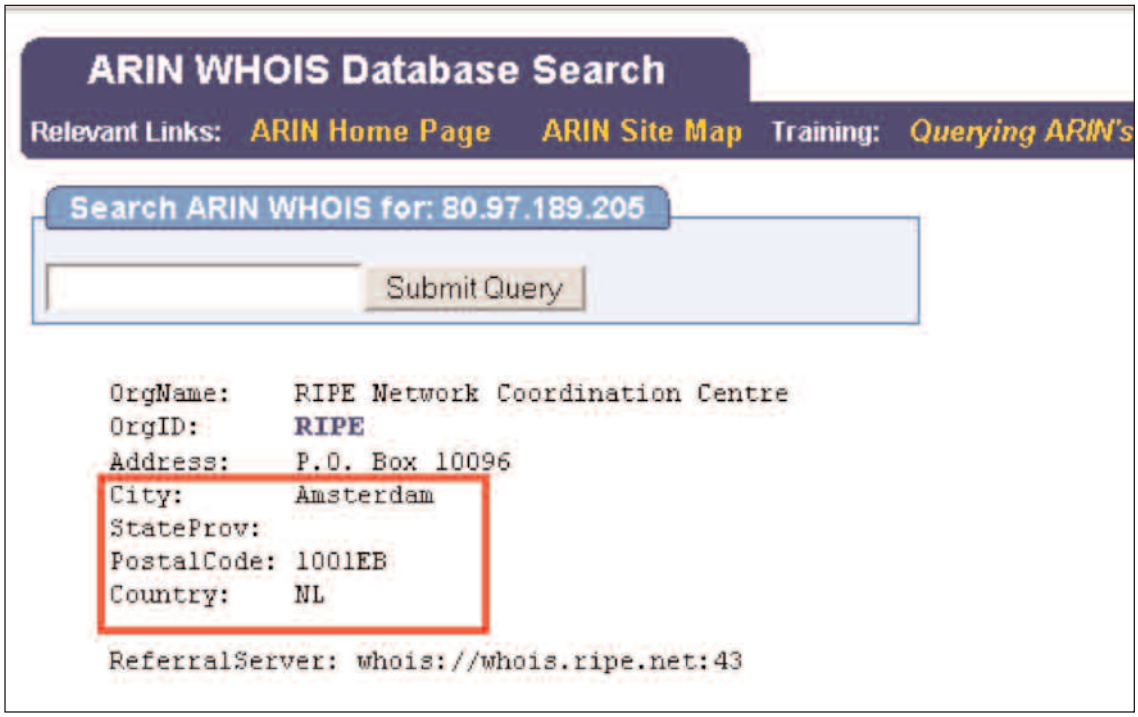


Scroll through the information until you find its IP (Internet Protocol) address:



Right click and copy the IP address. Then, go to this Web address: http://www.arin.net/, the American Registry of Internet Numbers, and paste the address in the Search WHOIS box:

Click the SEARCH WHOIS button. ARIN's search reveals that this e-mail was sent by someone in Amsterdam, a highly unlikely source for a message from Chase Bank! ■



ATTENTION ALL ANGLERS! INFORMATION AND RULES OF THE 6TH ANNUAL GSH/HGS SALTWATER FISHING TOURNAMENT

The 2006 GSH/HGS SALTWATER TOURNAMENT will be held Saturday, June 24, 2006 for you and your guests at Teakwood Marina (281-474-4454), 400 Tiki Drive Village of Tiki Island on Galveston West Bay

Don't miss the Registration Form on page 68

The following are the rules of the tournament and should provide all the necessary information. However, if we have missed something, please contact Bobby Perez at 281-240-1234, ext.219.

Fishing hours will be from:

6:00 AM Saturday morning, June 24, 2006 until 2:30 PM
Weigh-In Time will start at **2:00PM to 3:30 PM** Saturday afternoon for the Galveston Bay Complex
Weigh-In Time will start at **2:00PM to 4:30 PM** Saturday afternoon for Galveston Offshore

All participants are on the honor system. Your support is necessary and appreciated.

Weigh-In will be held at Teakwood Marina. You must be in the Weigh-In line (visible to the tournament chairmen) no later than 4:30 PM Saturday, NO EXCEPTIONS!

REGISTRATION: Registration will be by mail with late registration available at Teakwood Marina from 6:00 AM to 7:00 AM, Saturday, June 24, 2006.

BOAT AND LAUNCH FACILITIES: Contestants may launch for free at Teakwood Marina. Teakwood Marina sells gas, ice, groceries, tackle, and live and dead bait. Please support them.

TOURNAMENT BOUNDRIES: Contestants may fish anywhere on the greater Galveston Bay Complex or Offshore as long as the weigh-in time is met. For those without boats, the tournament is also open to wade fishing, surf fishing, kayak fishing, and pier fishing.

FISH FRY MEAL: Fish Fry lunch will be served starting at 2:30PM until 5:00PM.

AWARDS: Presentation of the trophies will start at/about 5:00PM. First, second, and third place trophies will be awarded to each of the following in four (4) categories:

Galveston Bay Complex Division

Heaviest Redfish (20" to 28"), no tagged fish will be weighed
Heaviest Speckled Trout (minimum 15")
Heaviest Flounder (minimum 14")
Heaviest Stringer (1 Redfish, 3 Trout, (one Speckled Trout over 25"), 1 Flounder)

Galveston Offshore Division

Heaviest Red Snapper (minimum 15")
Heaviest King Mackerel (minimum 27")
Heaviest Dolphin

In the event of a tie, the earliest weigh-in will prevail.

DOOR PRIZES: Door prizes will be given away immediately after the Awards. ***You must be present to win.***

RULES:

This year's tournament will be open to any and all GSH/HGS members and their guests. This is an Individual tournament, no team categories exist, and again, all participants are on the honor system. Please do not consider pooling your catch with someone else's into one stringer. This is not fair to those who are fishing alone.

1. **This is a Big Fish Tournament.** In order to be as fair as possible to everyone, each participant may weigh their largest fish of each species on one stringer; i.e. one person cannot win multiple places for any one species in each category.

2. No lunch break or breakfast is scheduled, so fix your own coffee and sandwiches if you don't want to miss any fishing time.

3. **Both Live and Artificial bait are legal.** Trolling, Tube Floaters, and wade fishing are all allowed. However, the use of, trotlines, seines, electric telephones, dynamite, M-80's, rotenone, spear fishing, etc. or any other means of illegal fishing are strictly prohibited. Only fish caught during the tournament hours are eligible. All fish weighed must be legal according to the laws of the State of Texas. Any person attempting to weigh a fish that is not legal will be disqualified. Fish that are frozen, gutted, or otherwise mutilated will not be eligible and the person attempting to weigh such a fish will be disqualified. GSH is not responsible for any violations or fines/actions resulting from any violations of state game laws, boating laws, or any other law relevant to boating and/or fishing. GSH strongly encourage safe boating practices including the use of kill switches. **DRINKING AND BOATING DO NOT MIX.**

4. This is amateur tournament. No guides, either full or part-time, are allowed to fish as a partner during competition hours in the same boat with a contestant.

5. Each contestant may launch and fish anywhere on the bay, as long as the Weigh-In deadlines are made at Teakwood Marina. We ask all contestants, if possible, especially those weighing in fish, and the trophy winners, to remain at the Weigh-In on Saturday long enough for pictures to be taken for the follow-up GSH newsletter.

6. The Tournament Chairman and Weigh-In Master who will act as judges will handle all disputes or interpretations of the rules. **The decisions of the judges are final!**

7. Each contestant, evidenced by his entry in the tournament, does hereby release and agree to protect, indemnify and hold harmless, the GSH organization, from and against any and all claims, demands, causes of action of any sort and damages, resulting from any accident, incident or occurrence arising out of, incidental to or in anyway resulting from his participation in this tournament. Each contestant hereby further covenants and agrees for himself, his heirs, successors and assigns, that he will not make any claim or institute any suit or action at law or equity against the GSH organization, their respective agents, representatives, employees, successors or assigns, arising out of any injury or damage a contestant may suffer while participating in this tournament. **PLEASE PRACTICE SAFETY!!!**

8. Registration and entry into the tournament constitutes evidence that the participant has read, understands, and agrees with the above rules and disclaimer.

GOOD LUCK AND GOOD FISHING

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.

Annual Dues Expire Each June 30. (Late renewals – $5 re-instatement fee)

Annual dues are $24.00; full-time students and emeritus members pay $12.00.

Mail this application and payment to:
Houston Geological Society
10575 Katy Freeway, Suite 290 • Houston, TX 77024
Telephone: 713-463-9476 Fax: 713-463-9160

Payment method:

☐ Check, ☐ VISA, ☐ MasterCard, ☐ American Express, ☐ Discover

Card # _____

Expiration Date: _____ Card I.D. _____

(Card I.D. – 3 or 4 digit number on front or back of card)

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.

Name: _____
Address: _____

Home Phone: _____ *Spouse's Name:* _____
Email: _____
Job Title: _____
Company: _____
Company Address: _____

Work Phone: _____ *Fax Number:* _____
Circle Preferred Mailing Address: Home Office
Professional Affiliations:
❑ Active AAPG Others: _____

Professional Interest:
❑ Environmental Geology
❑ International E&P
❑ North American E&P (other than Gulf Coast)
❑ Gulf Coast E&P (onshore & offshore)

Membership Directory Preference
❑ CD Rom
❑ Printed

School _____
Degree _____ *Major* _____ *Year* _____

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* _____

rev. 2/7/2006

HGA *and* GeoWives **News**

HGA

*by **Edie Bishop**, HGS/HGA Liaison*

The 2005–2006 HGA year will end with a luncheon at the Houston Racquet Club featuring a style show by JoAnn's. Edie Bishop is the Chairperson for this event, and models for this event will be daughters and daughters-in-law of several active HGA members.

Gwinn Lewis, a past president and extremely active member of HGA, who died on March 11, 2006, was Co-Chairperson of the May social and was instrumental in its planning. Two of Gwinn's daughters will be modeling, in Gwinn's memory, along with daughters and daughters-in-law of several other HGA members.

It has been a goal of the 2005–2006 Board to focus on the stated purpose of the Houston Geological Auxiliary, which is "to encourage social relationships among its members and to assist the Houston Geological Society in any manner they shall request." Five events were offered for our members' and guests' enjoyment, including a luncheon at Maggiano's with speaker Jan Hargrave, author of *Let Me See Your Body Talk*, Christmas luncheon at the Braeburn Country Club with Pat Austin and her Four-Part Harmonies Christmas music, bus trip to the Grand Theatre in Galveston, super fun Game Day and this last event with our daughters and daughters-in-law style show and luncheon at the Racquet Club.

In an effort to better support the Houston Geological Society and associated organizations, Edie Bishop pulled together a large group of very qualified volunteers to work at the summer NAPE and the winter NAPE. Although it was totally unexpected, HGA was honored to receive a contribution from the AAPL in the amount of $1,000. We were thrilled to know that our volunteer services were considered by Christy Payne and Robin Forte of AAPL as "an invaluable part played in the registration and overall efforts to make NAPE the success it was." Many thanks to AAPL for this generous contribution to our organization.

The AAPG Convention held in Houston in April offered another opportunity for the HGA to come to the forefront in service to the Houston Geological Society. The Spouse Hospitality Room was manned by volunteers from HGA recruited by Norma Jean Bacho. Thanks to Shirley Gordon, Norma Jean Bacho, Betty Alfred, Mary Harle, Sally Blackhall and many others for their excellent efforts in making the Hospitality Room an outstanding success.

We invite all wives of HGS members, widows of HGS members and female geologists who are members of HGS to join the Houston Geological Auxiliary and participate in the opportunities offered by the HGA. Membership forms can be found on the HGS Website www.hgs.org, and are also provided in this *Bulletin*.

I have been honored to serve as the President of the Houston Geological Auxiliary for the year 2005–2006 and look forward to continuing the relationships developed while working with a tremendous Executive Board, Committee Chairs and many members. Thank you all for a great year.

See you at something HGS.

You are invited to become a member of

Houston Geological Auxiliary

2005–2006 dues are $20.00

make check payable to *Houston Geological Auxiliary* and mail to: Sally Blackhall • 8714 Sterling Gate Circle • Spring, Texas 77379

HGA YEARBOOK INFORMATION

Last Name	First Name	Name Tag
Spouse Name	Name Tag	HGS Members Company
Home Phone ( )	Business Phone ( )	Business Fax ( )
Street Address	City	Zip
Birthday, Month, Day ONLY	Email Address	Home Fax ( )

GeoWives

*by **Dene Grove***

The GeoWives are pleased to announce the slate of officers that have been been elected to lead our club in 2006–2007. I am very excited about having this group of gracious and capable ladies as our leaders. Thanks to each of you for agreeing to serve.

President - Sara Nan Grubb
First Vice President - Sholah Huber
Second Vice President - Daisy Wood
Secretary - Suzy Goetter-Stepanek
Treasurer - Jean Allred
Historian/Parliamentarian - Pat Burkman
Notification Chairman - Janet Godfrey
Courtesy Committee- Nerida Garcia & Ruth Harrison
Yearbook - Lois Matuszak

We will look forward to seeing all our members and guests in September when we start our meetings again.

Have a great summer!

As a HGA member you are invited to join

GeoWives

2005–2006 dues are $7.50

make check payable to *GeoWives* and mail to:

Sara Nan Grubb
11212 Memorial Drive
Houston, Texas 77024

Please provide the following

Name: _____

Sreet Address: _____

_____

City/State/Zip: _____

Telephone: _____

email: _____

I will help plan a GeoWives activity ☐
I will serve on a committee ☐
Notification / Phone Committee ☐
Courtesy / Hostess ☐
My home is available for a meeting ☐

Excellence That Runs Deep

SCA - The Upstream Petroleum Experts

SCA is authorized by IACET to award Continuing Education Units (CEUs).

Projects & Studies

SCA provides teams of seasoned professionals to conduct projects and studies at your office, in remote locations, or in our state-of-the-art facilities. From exploring for new fields to determining your next development well location, our professionals bring insight that comes from years of experience in nearly every geologic basin, tectonic setting and stratigraphic environment around the world. Our projects are always based on the rigorous application of fundamental, tried and true geoscience and engineering principles.

- Regional and Basin Studies
- Exploration and Development Prospect Generation and Evaluation
- Acquisition or Divestiture Evaluation
- Asset/Portfolio Evaluation
- Structural and Stratigraphic Interpretation and Mapping
- Seismic/Sequence Stratigraphic Projects
- Post-drilling Evaluations and Assessments
- Structural Analysis
- Reserves Studies
- Integrated, Multidiscipline Studies (Exploration, Development)

SCA Is Also A Leader In Providing Training Solutions For The Petroleum Industry

Check Out Our Upcoming Training Schedule

June, 2006		
5-9	Seismic Survey Design, Acquisition and Processing	(*Kuala Lumpur, Malaysia)
19-23	Applied Subsurface Geological Mapping	(*Kuala Lumpur, Malaysia)
July, 2006		
10-14	Petroleum Geology of Deepwater (Turbidite) Depositional Systems	(*Kuala Lumpur, Malaysia)
17-21	Applied Subsurface Structural Geology	(Houston, TX)
31-4	Practical Interpretation of Production Logs	(*Kuala Lumpur, Malaysia)
August, 2006		
5-9	Seismic Survey Design, Acquisition and Processing	(London, England)
7-11	Introduction To Petroleum Geology	(Houston, TX)
14-19	Applied Subsurface Geological Mapping	(Houston, TX)
14-18	AVO and Seismic Attributes	(London, England)
21-25	Principles of 3-D Seismic Interpretation	(London, England)
21-25	Cased Hole and Production Log Evaluation	(Houston, TX)

Subsurface Consultants & Associates, LLC
www.scacompanies.com
10255 Richmond Avenue., Suite 300W, Houston, Texas 77042
Phone: 713-789-2444 Fax: 713-789-4449
General Inquiries: info@scacompanies.com
Training Course Registration & Information: training@scacompanies.com
Consultant & Direct Hire Recruitment Services: consulting@scacompanies.com
Global Upstream Projects & Studies: projectsandstudies@scacompanies.com

HOUSTON GEOLOGICAL SOCIETY
10575 Katy Freeway, Suite 290 • Houston, TX 77024

Periodicals
U.S. Postage
PAID
Houston, Texas