HGS Bulletin
Houston Geological Society
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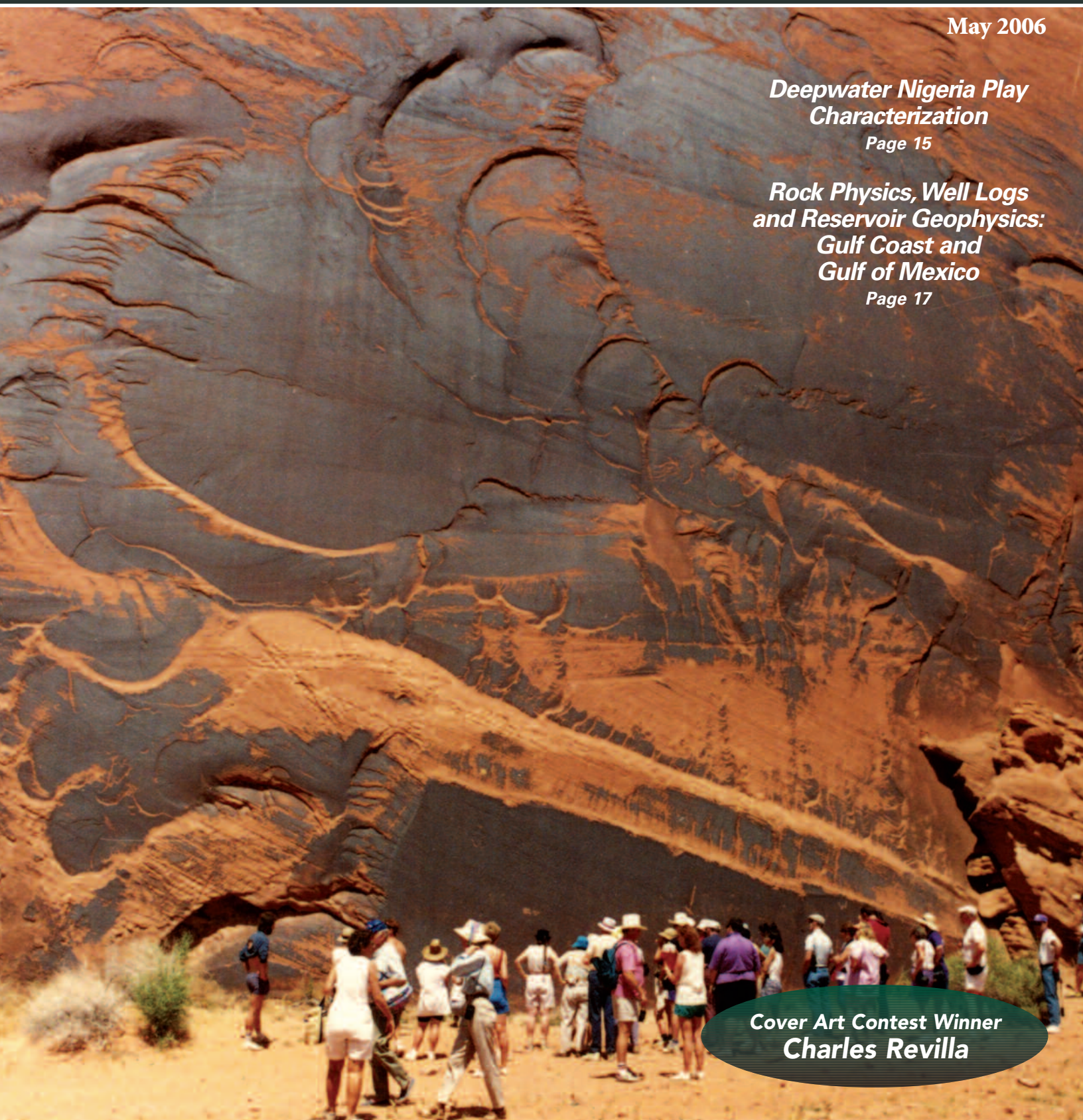

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Cover Art Contest Winner
Charles Revilla

The Bulletin
Houston Geological Society

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About the Cover: "Clouds": Nature—the artist, red sandstone—the canvas, iron (red) and manganese (desert varnish) oxides-the paint. South wall of the Grand Canyon. Photo contest entry-see page 35 for more. *Photo by Charles Revilla.*

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From the **President**

by ***Dave Rensink***

Business Ethics—Do No Harm

The Ken Lay and Jeff Skilling trial is in full swing, and by the time this letter is published, the trial may be resolved. The issues surrounding the trial are varied and complex and it seems to get down to one man's word against another's word. What did upper management know and when did they know it? The only thing I know for certain is that I am glad I am not sitting on that jury. Was Enron's demise the result of unforeseeable market forces, or was it the result of a conspiracy at the highest levels to obfuscate the true financial condition of the company in order to maintain an artificially high stock price? I have not been following the trial closely enough to have an informed opinion as to whether Enron's upper management was culpable or merely inept. However, there have been some aspects of Enron's business activities that have come out of the trial that have some interesting implications.

A large dose of common sense goes a long way in resolving most ethical dilemmas.

Enron's trading business was so successful that they concealed the magnitude of the profits to keep Wall Street from realizing the risks Enron was taking and recognizing that Enron was basically a trading company, rather than an energy logistics company. During its peak, Enron traded hundreds of products. Unfortunately, Wall Street does not put a significant stock-price-to-earnings (P/E) multiple on trading revenue. The value of a dollar is perceived differently depending on its source. Trading dollars have less intrinsic value because they are not as predictable as a dollar received from gas transmission or power generation. The more likely it is that a dollar of net revenue will be repeated next quarter, the more intrinsic value it has to Wall Street. In some respects, it is similar to the risk/reward calculations we routinely use in evaluating the relative value of drilling prospects with different risks. We all realize that exploratory prospects need higher potential reserves than development prospects because of the higher risk. However, I had not put it in the perspective that a barrel of oil (or mcf of gas) produced from a development well has a higher intrinsic value than a barrel of oil received from an exploratory well.

This then raises the question—can two dollars received from the same source have different perceived values? If you do not believe it is possible, consider the difference between Google and *The New York Times.* They both receive the bulk of their revenues from advertising, and they had generally comparable net earnings during 2005. Yet, Google has recently sold at a P/E multiple of 67, while during the same period, *The New York Times* sold at a P/E multiple of 15. Google had a market capitalization of $100 billion, whereas the *Times* had a market capitalization of $4 billion. Granted, Google has a potentially global reach; whereas, *The New York Times*' influence, and therefore earnings potential, is more regional and limited in nature. Does that justify a five-fold difference in the P/E ratio and a 25-fold difference in market capitalization? Obviously, Wall Street believes it does. Based on its stock price, the financial fortunes of Google have declined recently. Wall Street will probably attribute the decline to one of those fabled market corrections—a change in perceptions.

What does any of this have to do with business ethics? Business schools have used Enron as the type-section of what not to do in the realm of business ethics. From what has been reported in the news media, at least some of Enron's managers who were charged with wrongdoing believed that they were acting in the best interests of Enron at the time the alleged illegal acts were committed. Could they have been so far out of touch with reality as to believe that they were doing nothing legally or ethically wrong? The previous discussion of the evaluation of the financial worth of a business suggests Wall Street's rules of valuation are subjective. Are the rules of business management, hence business ethics, also subjective? Is ethics merely a matter of perception? Clearly, there should be a difference between what is wrong ethically and what is illegal. Some ethical considerations are black and white. You do not steal from your employer, you do not sabotage a coworker's career, and you do not represent work done by others to be your own. But most ethical questions are colored by various shades of gray. To that extent, the rules governing business ethics may be subjective and subject to perception. However, the underlying principle for all ethical decisions has not changed since Hippocrates: it is to do no harm. A large dose of common sense goes a long way in resolving most ethical dilemmas.

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From the President continued from page 5

We all recognize that it is unethical to use your employer's or client's assets for your personal gain without their express permission, but is it unethical to exploit a unique situation to fulfill a requirement? Like all licensed geologists in Texas whose license will be up for renewal after September 1, I have a 15-hour continuing education requirement that includes a personal development hour of business ethics. Under the board's rules, the preparation of this column should count toward that ethics requirement. Anyone can submit an article on any relevant topic to the HGS *Bulletin* for publication, and if it has some merit, it will probably get published. It will also count toward your continuing education requirement. But because the HGS president's monthly column is not available to all licensed geologists, is it unethical for me to use it to fulfill a personal requirement for licensure? My perception is no harm, no foul. ■

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.

Houston Museum of Natural Science Wiess Energy Hall

A renovation of the Wiess Energy Hall has been completed and the results are a resounding success with a spectacular new venue. For those of you that have not had the opportunity to visit the new Hall you are urged to come see and enjoy this timely exhibit, including interactive videos displayed on plasma screens, a mini-IMAX, a global view and descriptions of giant oil and gas fields worldwide and the pipelines and electrical grids in the United States to name just a few of the updates following the renovation.

The Museum has seen an increase in the number people visiting the exhibit as well as the number of tours requested for the Hall. It is worth noting that the tours requested come from energy companies for their interns and support personnel from law and accounting firms and schools. The Hall offers the opportunity to foster a greater understanding of how the industry works and at the same time provides a format to dispel many of the myths and misunderstandings that surround oil and gas.

The Houston Geological Society has a large and active membership. We are asking that the members consider becoming Volunteers in the Energy Hall. We understand that many of the younger members of HGS have children that limit their free time but there are also a sizeable number of "empty nesters" that could spare a few hours a week or a month to become an active Volunteer. The knowledge and experience that volunteers bring to share with visitors are truly a gift. Volunteering at the Museum is a two-way street. For giving your time and experience, the Museum in return provides a number of benefits including free parking, access to many of the traveling exhibits, mentoring to assist in getting acquainted with the exhibit, plus exposure to all of the incredible venues at the Museum.

From personal experience of over six years as a Volunteer I can assure you that once you take the first step in becoming a Volunteer, you will wonder why you waited so long to give it a try.

Give Sibyl Keller a call at the Volunteer Office (713-639-4656), e-mail, skeller@hmns.org or complete an application form found on the Museum's web site, www.hmns.org. Experience what you have been missing—believe me, you won't regret it!

Don Clutterbuck

2006 Southwest Section Convention

Midland, Texas May 22–24, 2006

The Southwest Section AAPG Convention will be held in Midland, Texas, beginning May 22. The WTGS has arranged a pre-convention one-day field trip, "Geology, History and Water Resources in the Concho River Basin and Edwards Plateau, West Texas" which will be led by Steve Shaw. On Monday May 22, a one-day short course entitled "Shale Gas

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HGS *Bulletin* Instructions to Authors

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

Text should be submitted by email as an attached text or Word file or on a clearly labeled 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)
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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
$125 per 10 Issues – Send two cards
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Full Page on Back of Calendar Page
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TWO-COLOR AD
(Black and editor's choice)
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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.

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	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

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

Have Deal—Won't Travel

Top Ten Reasons You Might Be A Geologist:
2. You have ever been on a field trip that included scheduled stops at a highway road cut and a liquor store.
next month, reason no. 1…

The AAPG Convention came and went last month, one of the biggest geological events that lands in Houston every few years. It consumes HGS members who volunteer for committee work and is driven by their energetic support. The convention draws people from all over the country and the world, and many friendships are renewed as colleagues who have not seen each other in years run into each other on the convention floor or around Houston. And while the AAPG Convention is a forum for medium and large companies and national oil companies, it is also a gathering place for the hundreds, even thousands, of small companies and independents that make up a large part of the United States domestic oil industry.

Selling prospects isn't quite what it was just a couple of years ago.

Among the independents, business is always at the forefront. This year, a typical greeting heard at the convention might be, "Hey, haven't seen you in a while. What are you up to? Do you have any prospects? Do you have the leases? Do you have a rig?" Selling prospects isn't quite what it was just a couple of years ago. Back then, a deal had to be shown repeatedly, and the question was always, "does the buyer like the deal, and do they have the money?" Now it is said, partly tongue-in-cheek, that if you have a rig available, you can sell virtually any deal.

At the beginning of 1999, oil was below $10 per barrel. Just 18 months ago, the price of oil broke the $50 per barrel ceiling. Consumers bemoaned the price of gasoline, and the national news services seized the moment. But unlike previous price run-ups, the national news was not citing the usual "big oil" culprits but was actually talking about real reasons that the price was up—increased demand, declining deliverability, reduced refining capacity, the Asian economy, a strike in Venezuela and so on. And investors, tired of a soft stock market, looked at $50 oil and said to themselves not "why is it that high?' but "how can I get some of that action?" Private and public investment dollars are flowing into the industry in a significant way for the first time since the early 1980s.

In 1992, I became an independent geologist and began selling prospects to the industry. At that time, if you were selling a prospect, you were expected to travel to the buyers to show your deals. In the course of selling prospects, I think I've probably been in every single office building in Houston at one time or another. To this day, when I go into a building, I may experience déjà vu, and have to look at the directory to see whom I may have showed a deal to in that building at sometime in the past. In the course of selling prospects, I've traveled to Dallas, Austin, San Antonio, Tyler, Luling, Victoria, Midland, Lafayette and even once showed a prospect on a pool table in Seguin, Texas. Once I sold a prospect to a company in Houston, and on the day we were to close, I showed up at their office, only to find the lights off and nobody home. Needless to say, the deal didn't close, and it went back on the prospect circuit. That prospect eventually sold, and the fellow that disappeared on me actually had the nerve to call me two years later to see if I had any deals to sell! I didn't—at least not to him. At that time, if you were selling a prospect, you went to the money, where ever it was or appeared to be.

It's 2006, and I am now looking at prospects for investors and myself. When I began buying deals, I envisioned sitting in my office, making all those deal sellers come to me, as I once had to go to deal buyers. But I find that still I have to travel. "Yes, I have a prospect," I might be told, "but if you want to see it before it's sold, you'd better come to my place. The sooner the better." Earlier in the week, I flew to another city to look at six prospects and had to make a decision on them before end-of-business that day or the remaining interest would be sold to another company. It has definitely changed in the last decade from a buyer's market to a seller's market. I think I like it better now, but wish I didn't have to travel so much. Of course I also still sell prospects as well. And I

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tell the buyers, "Yes, I have a prospect, and you are welcome to come by and look at it. The sooner the better."

Photo Contest

There were a number of excellent photographs submitted for this year's photo contest. One was featured on the February cover of the *Bulletin*, and another appears on the cover of this issue. Howard White's photo was the background on the January cover for the Geo-Legends issue. Unfortunately, there were more great photos than were available covers, so the entries are featured in this issue on pages 35 and 37. The two cover photos are included in their complete form. I would like to thank the contestants Fred Kelly, Marti Lund, Joel Watkins, Charles Revilla and Howard White for their participation.

Long Point Fault Structural Problem from March, continued.

In the March issue, a structural geology problem was presented along with a discussion of Houston's Long Point Fault, recently excavated by construction associated with the I-10 expansion project. The answer, correctly submitted by Thomas Becker, was printed in April. As the issue was going to press, John Ross telephoned in his answer to the problem, also correct. Thank you, John, for your participation as well. ■

Member News continued from page 7

Workshop" put together by the Southwest Section and the EMD. Scheduled short course instructors are:

- Dan Jarvie, Humble Inc., "Application of Geochemical Techniques in Evaluation of Shale Gas Plays and Prospects"
- Brian Cardott, OK Geological Survey, "Data Relevant to Oklahoma Gas Shales"
- Jim Hickey, Applied Reservoir Petrology, "Lithofacies of the Barnett Shale: Origin and Implications for Gas Shale Productivity"
- Galen Treadgold, Weinman Geoscience, "Barnett Shale Prospecting with 3D Seismic Processing and Analysis"
- Mark Larsen, Schlumberger, "Use of FMI Logs in the Barnett Shale"
- Sandeep Janwadkar, Baker Hughes, "Advanced Horizontal Drilling Technologies Maximize Performance in the Barnett"
- Doug Walser, Pinnacle Technologies, "Fracture Diagnostics and Wildcatting in the Permian Basin Woodford and Barnett Shales—an Update"

The cost for the short course is $5, which includes lunch. This course is only offered to those who have registered for the convention.

The keynote speaker for the convention will be Peter R. Rose, president of the AAPG. His talk, "Delivering on Our E&P Promises" will kick off the convention on Tuesday, May 23. Following the keynote address, 27 technical talks will be presented over the next two days. These talks will discuss fields in the Permian Basin and plays such as the Shale Gas Play that affects exploration in this area.

No convention is complete without a few social events to make new friends and renew old acquaintances. On Monday night an Icebreaker will be held in the Exhibit Hall, and on Tuesday night convention goers will enjoy an evening at the Permian Basin Petroleum Museum. For those who want a little sport in their convention experience, a Golf Tournament will be held on Monday.

For details on these events and a listing of the talks with abstracts, go to the Southwest Section website, www.southwestsection.org. Registration forms can be printed from the website. See you in Midland. ■

Field Seminars!!

Deep-Water Siliciclastic Reservoirs, California New!!

Leaders: Stephan Graham and Donald R. Lowe, Stanford University, Stanford, California
Dates: September 17 (Sunday at 5:00pm) – 22 (Friday – mid-afternoon)
Location: Begins and ends at the airport in San Francisco, California
Tuition: $2,675 (increases to $2,775 after 8/17/06), includes lodging, transportation during the seminar, lunches, guidebook and group dinner (1 night)
Limit: 20
Content: 5.5 CEU

Who Should Attend
Geologists, geophysicists, reservoir engineers, managers and anyone working with deep-water reservoir systems.

Be among the first!

Fractures, Folds, and Faults in Thrusted Terrains: Sawtooth Range, Montana

Leaders: Steven E. Boyer, Consultant, Tacoma, WA; William Hansen, Jireh Consulting Services, Great Falls, MT; Charles F. Kluth, Kluth & Associates, Littleton, CO; James Sears, University of Montana, Missoula, MT
Date: September 11-16, 2006
Location: Begins and ends in Great Falls, Montana
Tuition: $2,600 (increases to $2700 after 8/14/06), includes lunches, transportation, guidebooks, admission to Glacier National Park, and some additional meals.
Limit: 20
Content: 4.2 CEU

Who Should Attend
Geologists, geophysicists, log analysts, engineers and exploration managers who want a thorough understanding of the geology and complexity of exploring in thrust belts.

Modern Deltas Returning Favorite!

Leaders: Harry H. Roberts, Gregory Stone and Samuel Bentley, Coastal Studies Institute, Louisiana State University, Baton Rouge, LA
Date: September 11-15, 2006
Location: Begins in Baton Rouge and ends in New Orleans, Louisiana
Tuition: $2,500 (increases to $2600 after 8/14/06), includes 5 nights lodging, bus and boat transportation, field lunches, and guidebook
Limit: 25
Content: 4.0 CEU

Who Should Attend
Geoscientists who need to understand the sedimentary architecture of deltas, internal characteristics of constituent sediment bodies, and sequence/seismic stratigraphic relationships with surrounding facies.

Sign up early—this one fills up fast!

Back to School with AAPG Education!

Sedimentology and Sequence Stratigraphic Response of Paralic Deposits to Changes in Accommodation: Predicting Reservoir Architecture, Book Cliffs, Utah

Leaders: Keith W. Shanley, Consultant, Denver, CO; J. Michael Boyles, University of Wyoming, Laramie, WY
Date: September 21-28, 2006
Location: Begins and ends in Grand Junction, Colorado
Tuition: $2,100 (increases to $2300 after 8/10/06), includes ground transportation, lunches, and guidebook
Limit: 20
Content: 5.6 CEU

Who Should Attend
Geologists, geophysicists and reservoir engineers working in exploration and production settings.

Ancient Clastics: Book Cliffs and Canyonlands, Utah New Date!!

Leader: John K. Balsley, Consulting Geologist, Indian Hills, CO
Dates: September 11-19, 2006
Location: Begins and ends in Moab, Utah
Tuition: $2,100 (increases to $2,200 after 4/17/06), includes 4-wheel-drive transportation and course notes on CD
Limit: 15
Content: 6.0 CEU

Who Should Attend
Exploration and production geologists, geophysicists, log analysts, engineers, and exploration and development managers who want a thorough working knowledge of clastic depositional systems directly associated with energy resources.

Short Course!!

Practical Mapping of Surfaces, Properties, and Volumes for Reservoir Characterization: Principles, Methods, Case Studies, and Workflows

Date: September 30 – October 1, 2006
Location: New Orleans, Louisiana (with SEG Annual Meeting)
Tuition: $590, AAPG members; $690, non-members (goes up to $690/$790 after 9/1/06), includes course notes and refreshments
Content: 1.5 CEU
Instructor: Jeffrey Yarus, Quantitative Geosciences, Houston, TX

Who Should Attend
The course is intended for geologists, geophysicists, and engineers considering or engaged in reservoir modeling projects who wish to understand more about the geostatistical methodology.

AAPG GEOSCIENCE EDUCATION

For further information, please contact the AAPG Education Department
Phone: 918-560-2650; Fax: 918-560-2678; e-mail: educate@aapg.org
Or log on to www.aapg.org/education/index.cfm

Monday, May 8, 2006

Westchase Hilton • 9999 Westheimer
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: $25 Preregistered members; $30 non-members & walk-ups

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 (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

by ***Adam M. Seitchik*** *(speaker)*
and ***Timothy Powell***
Devon Energy
Houston

Lower Tertiary Deposition in Walker Ridge, Gulf of Mexico: An Example of Sedimentary Distribution in an Unrestricted Basin

Prior to the Cascade discovery, the presence of a thick, aerially extensive Wilcox sand interval extending into the Walker Ridge Area was not known. The Cascade No. 1 well, originally targeted as a Miocene test, penetrated a substantial section of hydrocarbon-bearing sands in the Wilcox section. Further drilling in Walker Ridge and Keathley Canyon areas confirmed a pervasive depositional system of amalgamated sheet sands and opened a new exploration trend in a mature basin.

Deltas supplied sediments…from shelf margins located over 300 miles away.

Provenance studies and regional geologic interpretation indicate multiple sediment sources from the north and northwest, specifically the Rockdale and Holly Springs deltas. These deltas supplied sediments to the Walker Ridge fold belt from shelf margins located over 300 miles away. Deepwater sedimentation may have occurred as a result of punctuated catastrophic events, continuously sourced sand systems, or a combination of the two. This sedimentation had minimal influence on underlying salt, with paleo-reconstructions supporting Lower and Middle Miocene structural growth.

Isopach maps of the Lower Tertiary section in the Walker Ridge fold belt show relatively minor thickness variations indicating subtle structures with low relief during Wilcox deposition. Thus the robust Walker Ridge fold belt of today caused little impediment to deposition at Wilcox time. In addition, mapping Lower Tertiary salt truncations in the Walker Ridge area identifies no significant barriers that could obstruct sedimentation. As a result, deposition during Wilcox time occurred in an unrestricted basin, facilitating thick sheet sand accumulations across the Walker Ridge area. ■

Biographical Sketches

Adam Seitchik is a geophysicist with Devon Energy's Gulf Division in Houston, Texas, and has worked in the oil industry for 9 years. He earned his BA in geology from Denison University and MS from the University of Alabama, focusing on seismic sequence stratigraphy. Adam began his career with Mobil, working the Gulf of Mexico shelf, with projects ranging from exploration to AVO analysis, inversion and neural networks. Prior to the merger between Mobil and Exxon, Adam moved to Mobil's deepwater Gulf group where he learned salt tectonics. After the merger and a move to Houston, Adam continued his work in the deepwater GOM exploring in Walker Ridge and Mississippi Canyon. In 2001, Adam went to work at Devon Energy and is currently focusing his exploration efforts on the Lower Tertiary section in Walker Ridge and Keathley Canyon.

Tim Powell is exploration supervisor for Devon's Gulf Division Regional Team, located in Houston, Texas. He received his BS degree in geology from Texas A&M University in 1979 and has worked in the oil industry for 26 years. Tim specializes in sequence stratigraphic interpretation and has worked several regional projects as a geologist/geophysicist for Pennzoil/PennzEnergy (which merged into Devon) on numerous exploration and exploitation projects throughout the onshore United States and offshore Gulf of Mexico. He is an experienced project supervisor and is currently supervising Devon's regional efforts in the Gulf of Mexico. A major project involves interpretation of the entire Gulf Coast Basin, from Jurassic through Miocene, from deepwater to shelf areas. Unraveling the Wilcox depositional systems from updip production to the recent downdip deepwater discoveries is one of the primary focus areas of the regional team.

Monday, May 15, 2006

Westchase Hilton • 9999 Westheimer
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: $25 Preregistered members; $30 non-members & walk-ups

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. (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

International Explorationists Dinner Meeting

by ***David R. Steele***
Shell Exploration and Production
Houston, Texas

Deepwater Nigeria Play Characterization

Deepwater Nigeria is divisible into eight major structural plays: eastern and western minibasins, eastern and western fold belts, eastern and western thrust belts, and the relatively unstructured transform margin. Each play is characterized by a unique set of play criteria, including predominate trap type, lead density, field size distribution, gas fraction and success rate. Discovered probable recoverable volumes from all plays total 10.8 billion barrels of oil equivalent (BBOE) with 65% of the volume being oil.

Minibasin plays in the eastern and western portions of deepwater Nigeria cover areas of 6,000 and 15,500 sq km, respectively. Water depths range from 200 to 1,500 m. The minibasins are complex extensional basins that have a high density of relatively small traps along shale diapir flanks and faults. Twenty-one structures have been drilled in these plays, resulting in 3.5 BBOE of probable recoverable volumes. Although a few of the wells are dry, the commercial success rate is the lowest of the proven plays with hub volumes discovered in only two of the basins, the Bonga-Aparo Basin in the west and the Usan Basin in the east. Hub volumes have been discovered in channel-over-nose structural-stratigraphic traps on larger, simpler structures. Wells finding technical success volumes are predominantly along steeply-dipping diapir flank structures. Although past discoveries have predominately seen oil, the gas fraction most likely comprises at least 50% of the future play volumes.

Thrust plays cover 35,000 sq km, half the structured play area in deepwater Nigeria.

The fold plays in the eastern and western portions of deepwater Nigeria cover 9,200 and 10,000 sq km, respectively. Water depths range from 1,500 to 2,000 m. The fold plays are characterized by a small number of very large simple traps. An estimated total of 7.1 BBOE has been discovered by 18 wells with a 50% commercial success rate. The wells have proved one of the largest global deepwater field size distributions with a mean discovery volume of 475 MMBOE. The eastern fold play is characterized by relatively simple anticlines with Middle to Lower Miocene basin floor reservoirs. The western fold play targets predominantly channel-over-nose structural-stratigraphic traps in Middle to Lower Miocene reservoirs. The low density of large traps resulted in rapid creaming of the plays.

Thrust plays cover 35,000 sq km, half the structured play area in deepwater Nigeria. Thrust plays are subdivisible into three segments: inner and outer thrust belts in the western and an eastern outer thrust belt. The outer thrust belts are toe-of-slope compressional trends coincident with the main phase of extension along the coast to the outer shelf. The western inner thrust belt is probably an older fold/thrust system reactivated by shale diapirism from the Upper Miocene to the present. Due to extreme structural complexity and low trap retention, the western inner thrust belt has been tested by only one well, a dry hole. The outer thrust belt plays include nearly 200 en-echelon seaward- and landward-dipping thrust structures in water depths of 2,000 to 3,000 m. A majority of the structures have present-day seafloor bathymetric expression. Trap retention coupled with charge and migration risks as well as ultra-deepwater depths make this a technically challenging play. ■

Biographical Sketch

David Steele joined Shell in 1983. He has held various research and exploration positions and is currently a Shell consultant for Regional Geology and Play Analysis and is also assigned to Nigeria exploration.

Tuesday, March 21, 2006

The Sofitel Hotel • 425 Sam Houston Pkwy. North
Social 11:15 a.m., Luncheon 11:30 a.m.

Cost: $31 Preregistered members; $35 non-members & walk-ups

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 (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

HGS Northsiders Luncheon Meeting

*by **Dr. Joel Walls***
Rock Solid Images
Houston, Texas

Rock Physics, Well Logs and Reservoir Geophysics: Gulf Coast and Gulf of Mexico

Seismic reservoir characterization, also known as reservoir geophysics, has evolved over the past several years into a multi-disciplinary, business-critical function in most ED&P organizations. Sheriff defines reservoir geophysics as "The use of geophysical methods to assist in delineating or describing a reservoir or monitoring the changes in a reservoir as it is produced." Reservoir geophysics is applied across a wide spectrum of the oilfield life cycle, from discovery and early development to tertiary recovery. One critical part of this process is careful analysis and understanding of petrophysical properties from well logs and core data (seismic petrophysics).

These models can improve interpretation of 3D seismic data, especially acoustic and elastic impedance inversion.

This presentation will illustrate why seismic petrophysics is so important and show how carefully constructed synthetic models can help the geoscientist interpret acoustic and elastic impedance inversion from seismic data.

Seismic petrophysics can be performed on single or multiple wells and consists of the following basic steps:

Geophysical Well Log Analysis (GWLA)

- Collect and organize input data, reservoir conditions and fluid properties.
- Perform geophysical log interpretation for volume minerals, porosity and fluids over entire well.
- Edit logs and perform mud filtrate invasion correction (as needed).
- Generate missing curves (for example, shear-wave velocity).

Rock Physics Modeling and Perturbations

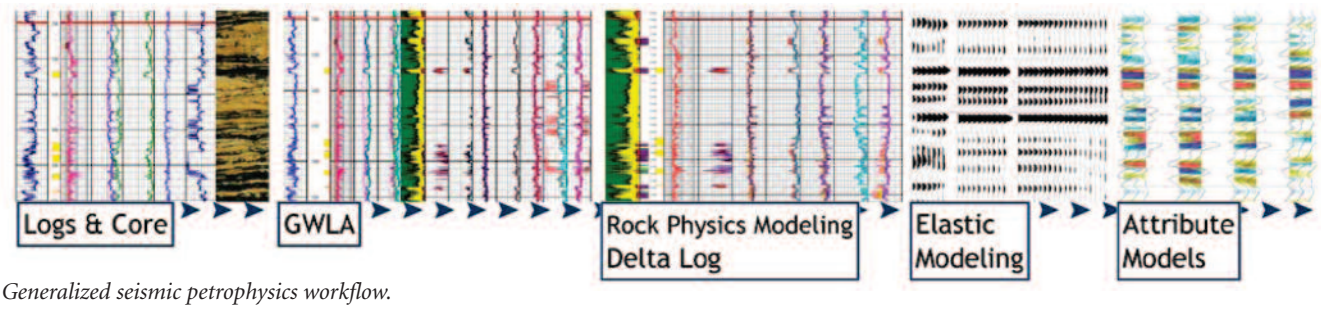
- Perturb reservoir properties using rock physics effective medium models and compute new V_p, V_s and density curves to obtain fluid saturation, porosity, lithology and net/gross.

Synthetics

- Compute synthetic seismic traces for in-situ and modeled conditions.
- May also include: AVO response, acoustic impedance (AI) and elastic impedance (EI), and other seismic attributes as needed.

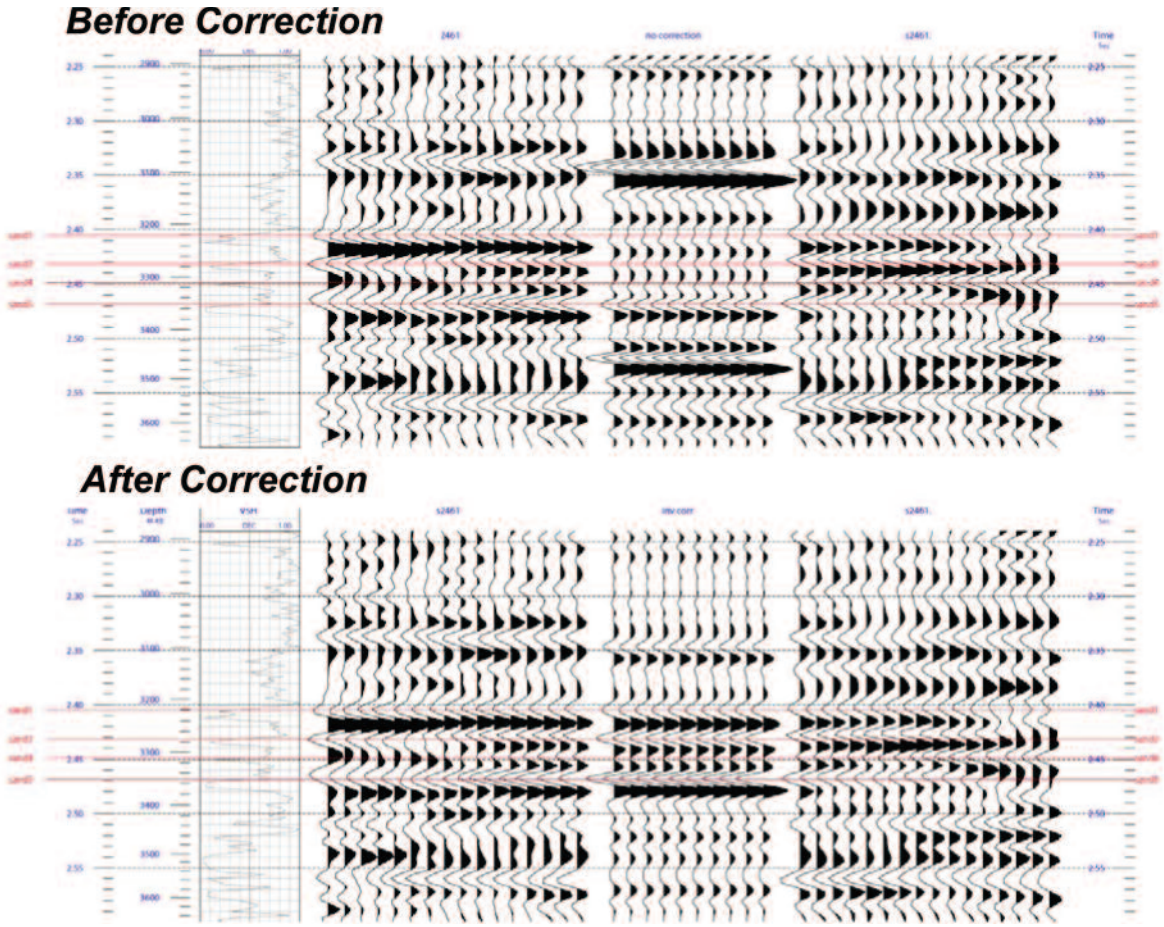
The primary benefits of seismic petrophysics are improved well-to-seismic ties, improved calibration of seismic attributes to reservoir properties and more reliable models of seismic response due to reservoir changes (vertically, laterally and temporally). These models can improve interpretation of 3D seismic data, especially acoustic and elastic impedance inversion. This improved interpretation can reduce drilling risk, enhance field productivity and ultimately increase asset value.

HGS Northsiders *continued on page 19*



Generalized seismic petrophysics workflow.

HGS Northsiders Luncheon Meeting continued from page 17



Stacked synthetics before and after corrections for mud filtrate invasion and wellbore washouts.

Examples show the effects of fluid saturation and porosity on seismic response in wells from the Texas and Louisiana Gulf Coast and the offshore GOM. Bad log data and mud filtrate invasion effects will also be discussed. ■

Biographical Sketch

JOEL WALLS obtained his PhD in geophysics from Stanford University in 1983. He has been active in research and technical services related to core analysis, rock physics and seismic reservoir characterization. Dr. Walls founded PetroSoft Inc. in 1992 to bring rock physics technology to the desktop. Rock Solid Images (RSI) was founded in 1998 from the merger of PetroSoft Inc., Seismic Research Corp. and Discovery Bay. RSI has 35 employees in Houston, Oslo, Dubai and Kuala Lumpur. Dr. Walls is Vice President, Software Products.

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

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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: _____

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

Tuesday, May 16, 2006

Guadalajara Hacienda Restaurant • 9799 Katy Freeway
(south side of Katy Freeway between Bunker Hill and Gessner)
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: $25 Preregistered members; $30 non-members & walk-ups

Make your reservations now on-line through the HGS website at www.hgs.org; or, by calling 713-463-9476 or by e-mail to Joan@hgs.org (include your name, meeting you are attending, phone number and membership ID#).

by ***Geoffrey P. Saunders***
Lower Colorado River Authority
Austin, Texas

Impacts of Sand and Gravel Mining on Physical Habitat of the Colorado River and Tributaries, Central Texas

The Colorado River of Texas is an important water resource in the Coastal Plains and Gulf Coast regions. The river is a source of water for municipal and agricultural use and provides habitat for game fish and protected species. Increasing water demand is requiring optimal management of the resource.

Almost all anthropogenic impacts on the Colorado River are regulated and monitored. One exception is sand and gravel mining in the floodplain. Frequently, unregulated gravel pits are developed on the bank of the river, making mining operations susceptible to flooding but also making the river vulnerable to environmental impact.

Impacts…include channel instability, erosion and deposition, effects on aquatic habitat and riparian ecology, and even property boundary changes.

Possible impacts of riparian sand and gravel mining include channel instability, erosion and deposition, effects on aquatic habitat and riparian ecology, and even property boundary changes. Aquatic habitat needed to support game fish and protected species may be degraded by changes in flow velocity, channel depth and substrate material. Excessive turbidity caused by suspended sediment can reduce light penetration in the water column, thus affecting aquatic plant growth. Riparian ecology, including the habitat of terrestrial plants and animals, is directly impacted. These effects and others can be characterized by performing physical habitat assessments in affected reaches.

This paper documents impacts of sand and gravel mining on physical habitat at specific locations on the Colorado River and the Pedernales River in Central Texas. ■

Biographical Sketch

Geoff Saunders is a geohydrologist with over 27 years of experience in the public and private sectors as a consulting geologist, environmental coordinator and senior hydrologist. Saunders is currently the River Operations Center Supervisor for the Lower Colorado River Authority (LCRA) in Austin, Texas. His team is responsible for managing six reservoirs with total capacity of over two million acre-feet of water, by evaluating real-time data from over 200 streamflow, precipitation and lake level gauges.

After receiving a bachelor's degree in hydrogeology from Northern Arizona University in 1976, Saunders worked for eight years on environmental and operational plans for surface and underground coal mines in Colorado. He moved to Texas in 1985 to do similar work at lignite mines, including dewatering and depressurization projects, while performing graduate studies in hydrogeology at the University of Texas at San Antonio. Saunders spent 3 years as a geologist for a national consulting firm, performing environmental assessments, production well and piezometer installation, groundwater pumping tests and hydrogeologic investigations. He joined the LCRA in 1991 as an environmental coordinator, and then became a senior hydrologist in the River Management department.

Saunders is certified as a Ground Water Professional by the Association of Ground Water Scientists and Engineers, registered as a Professional Geologist by the Virginia Board of Geology and licensed as a Professional Geologist by the Texas Board of Professional Geoscientists. He has attended and given presentations at Gulf Coast Association of Geological Societies meetings.

Thursday, May 18, 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 May 16, 2006. **Members and Affiliates who register by May 16 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 **Robert J. Scott***
The Exploration Company
San Antonio, Texas

The Maverick Basin: New Technology—New Success

The Maverick Basin is a small carbonate basin within the large sand- and shale-rich Gulf Coast Basin. Oil company managers have often rejected exploration programs for the Maverick Basin in favor of more glamorous objectives elsewhere in the Gulf Coast Basin. As a result, the Maverick Basin has remained underexplored. In the past 10 years, new technologies such as 3D seismic and directional drilling have led to new plays and significant increases in production in the Maverick Basin. 3D seismic has been absolutely essential. It has defined the structural framework of the basin and found new reef trends and unique structural plays. Directional drilling is now allowing operators to produce oil and gas from low-permeability reservoirs that have been troublesome in the past. Current activities place the Maverick Basin at the threshold of prominence for oil and gas exploration in the Gulf Coast area. ■

Current activities place the Maverick Basin at the threshold of prominence for oil and gas exploration in the Gulf Coast area.

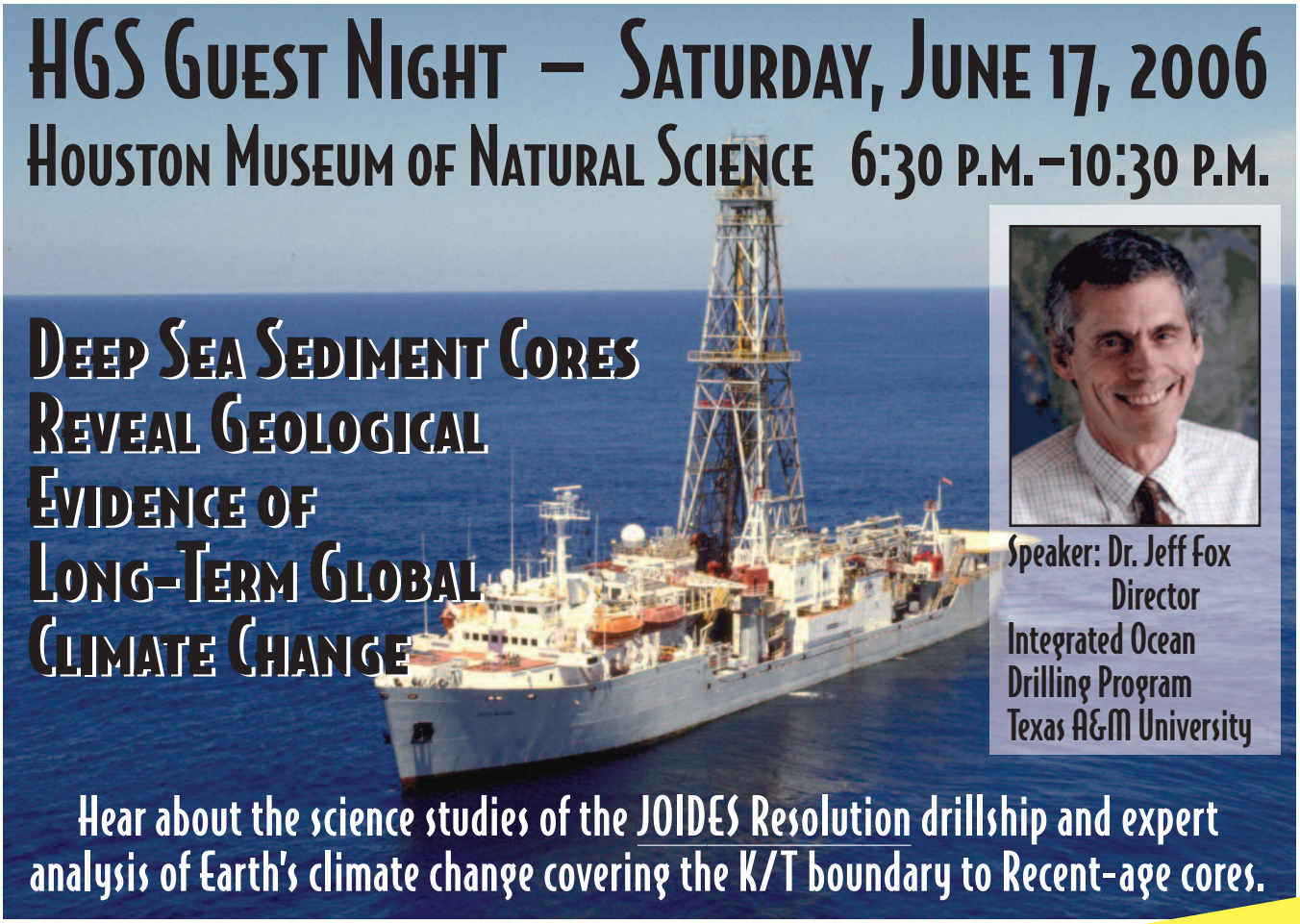
Biographical Sketch

Mr. Scott has been associated with The Exploration Company (TXCO) since 1989, serving as a consultant before joining TXCO in 1996 as Chief Geologist. With more than 40 years of experience in the petroleum industry, he began his career in the Permian Basin with Texaco, followed by positions with American Trading and Production and El Paso Natural Gas. In 1975, he moved to San Antonio and worked for a small independent exploration company and as a consultant prior to joining TXCO. Mr. Scott has published numerous professional papers, in such publications as the *GCAGS Transactions* and *Oil & Gas Journal*, and holds a Bachelor of Arts degree in geology from Augustana College and a Master of Science in geology from the University of Wisconsin.

color

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 pg. 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: _____

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Thursday, May 18, 2006

HESS Building • 5430 Westheimer, Houston
Social 5:30 p.m.

Cost: $25
Reservations: Call or email Dale Bird, by noon Tuesday, May 16, 2006
281-463-3816 or dale@birdgeo.com (email is preferred)

*by **Elizabeth A.E. Johnson (speaker)***
Chevron Energy Technology Company
***Jon F. Blickwede,** Statoil*
***Holly H. Huston,** Hunter 3-D, Inc.*
Marek Kacewicz
Chevron Energy Technology Company

An Interpretation of the Crustal Framework and Continent-Oceanic Boundary in U.S. OCS of the Gulf of Mexico, Based on Gravity and Refraction Data Analysis

Geophysical evidence suggests the existence of oceanic crust in the deep-water Gulf of Mexico. However, there is no consensus on the location of the continent-ocean boundary in this important geologic province. A number of distinct kinematic models have been published for the crustal framework and early tectonic history of the Gulf of Mexico. All these models have been constrained by similar seismic refraction data, tectonic subsidence analyses, global plate motions, and/or potential fields data, but draw different conclusions on the areal extent of true oceanic crust. In support of our sub-regional petroleum systems models for the United States Outer Continental Shelf (OCS), we analyzed regional gravity and refraction data and constructed a number of 2D and 3D deep crustal models. Our models suggest that most of the U.S. OCS is underlain by attenuated continental crust and that the extent of true oceanic crust in the Gulf of Mexico may be significantly less than indicated in many other published models.

Our models suggest…that the extent of true oceanic crust in the Gulf of Mexico may be significantly less than indicated in many other published models.

Only a limited area of crust has geophysical properties consistent with true oceanic crust observed elsewhere on the globe. However, the enigmatic nature of the crustal velocity and thickness data from refraction studies, as well as the gravity data, may also be consistent with an interpretation of an absence of oceanic crust in the Gulf of Mexico. High crustal densities and velocities in the Gulf of Mexico may be indicative of exhumed mantle, thin underplated lower crust, serpentinization and/or magmatic extrusives, but not true "drift phase" crust. Perhaps no new crust was ever accreted at a mid-ocean ridge in the Gulf of Mexico. ■

Biographical Sketch

Betty Johnson received a BS in physics from Harvey Mudd College in 1978. After 27 years working for Unocal in worldwide gravity and magnetic interpretation, she is now with Chevron Energy Technology Company specializing in gravity and magnetics and seafloor electromagnetics. She has worked and modeled gravity and magnetic data in the Gulf of Mexico since the earliest deepwater lease sales in the Perdido foldbelt, with a special interest in the basement and tectonic framework.

Monday, May 22, 2006

Westchase Hilton • 9999 Westheimer
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: $25 Preregistered members; $30 non-members & walk-ups

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. (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

HGS North American Explorationists Dinner Meeting

by ***Raymond P. Sorenson***
Anadarko Petroleum Corporation
Houston, Texas

A Dynamic Model for the Permian Panhandle and Hugoton Fields, Western Anadarko Basin

Panhandle-Hugoton, the largest North American gas field, has long been controversial because of extremely subnormal pressures, variable gas composition and tilted fluid contacts, commonly attributed to hydrodynamic flow despite the absence of an effective updip aquifer. These anomalies are explained in terms of a basin-scale petroleum system history, largely independent of the geographically underlying the pre-Permian system.

Variations in fluid contacts, pressure and gas composition suggest that reservoir fluids are still moving…

Hydrocarbons were already being generated in the deep Anadarko Basin during the Early Permian, with efficient southward migration from all potential source rocks via bounding faults and Pennsylvanian-Permian alluvial fans. Giant Amarillo Uplift drape structures trapped hydrocarbons immediately following Permian evaporite deposition. The pre-Laramide Panhandle Field, at maximum burial depth and pressure, contained most of the oil and gas now found in mid-continent Permian reservoirs.

The Early Tertiary Laramide Orogeny redistributed Panhandle Field fluid columns, possibly spilling gas into the Hugoton embayment. Subsequent erosion of Permian reservoir facies in eastern Kansas allowed water discharge to outcrops at elevations below the regional hydraulic head. As regional pressure dropped in response, the Panhandle Field gas cap expanded rapidly, forcing a Late Tertiary-Quaternary mass movement of gas northward to fill Hugoton and associated fields.

Panhandle-Hugoton pressures, upon discovery, were subnormal relative to drilling depth but normal relative to reservoir outcrop elevations in eastern Kansas, indicating that pressures are controlled by aquifer communication with the surface rather than burial depth. Variations in fluid contacts, pressure and gas composition suggest that reservoir fluids are still moving, driven by decompression and the rapid volumetric expansion of a supergiant gas accumulation. ■

A more detailed version of this presentation can be found in the July 2005 AAPG Bulletin, *v. 89, no. 7, p. 921–938.*

Biographical Sketch

Ray Sorenson received his BS degree in geology from Michigan State University in 1972 and his MA degree in geology from the University of Texas at Austin in 1975. He worked for Texaco from 1974 to 1975, and has been employed by Anadarko, in Oklahoma City and Houston, since 1976. The majority of his career has focused on the geology of the United States Mid-Continent.

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Wednesday, May 24, 2006

Petroleum Club • 800 Bell (downtown)
Social 11:15 a.m., Lunch 11:45 a.m.

Cost: $30 with advance reservations, $35 for walk-ins, space available ($15 for Emeritus and Honorary).

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 (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

HGS General
Luncheon Meeting

HGS Luncheon Meeting

by ***M. Shane Long (speaker), C. Edward Helsing, David C. Berman, Danielle L. Deemer, and Richard Albert***
ExxonMobil Exploration Company
Houston, Texas

Tectono-Stratigraphic History of Greater Mississippi Canyon, U.S. Gulf of Mexico

The tectono-stratigraphic history of the Mississippi Canyon Area has been analyzed based on a multi-year study utilizing extensive seismic and well databases. Key third-order sequence boundaries, from the acoustic basement through the water bottom, were interpreted over approximately 6,300 square miles, providing the basis for generating regional paleogeographic maps. These data were used to more accurately understand the distribution of reservoir/seal facies and thereby evaluate remaining hydrocarbon potential within the area.

…where Mesozoic sediments are thick, Cenozoic sediments tend to be relatively thin and sand-poor…

One aspect that sets this study apart from previous reports is the documentation of a complete tectono-stratigraphic cycle that started with autochthonous, sheet-like evaporites (Middle Jurassic). These formations were loaded initially by primary withdrawal depocenters (Middle Jurassic-Middle Miocene), then secondary withdrawal depocenters (Lower Miocene-Pliocene), into increasingly mature salt stocks, tongues and then canopies (Upper Miocene-Pliocene). This allowed the cycle to be repeated as a second generation of primary withdrawal depocenters began forming directly over these salt canopies (Plio-Pleistocene).

This study also documents that where Mesozoic sediments are thick, Cenozoic sediments tend to be relatively thin and sand-poor and conversely, where Mesozoic sediments are thin, Cenozoic sediments tend to be relatively thick. This inverse relationship reflects the dependent nature of sediment accommodation on the presence or absence of underlying salt (i.e., where salt is evacuated at an early stage, limited accommodation space remains) and allows maps from any third-order interval to be used as predictive tools for sediment trends within deeper or younger sections. The observations and methods developed during this study can be applied to similar settings where data are more limited.

Mesozoic History

As the Yucatán pulled away from North America with the opening of the Gulf of Mexico (Late Triassic–Early Jurassic), it left in its wake a "basin and range" province defined by NW-SE-trending strike-slip faults. Thousands of feet of pre-Upper Jurassic Louann salt accumulated in the deeper portions of the basin during prevailing arid conditions. This "basin and range" fabric, coupled with the presence of salt, played a critical role in establishing the general location and orientation of subsequent sediment pathways and salt structures through the present day. Middle Jurassic–Lower Cretaceous fairways, trending NE-SW, transported sediment from as far as the ancestral Appalachians into the aforementioned grabens, developing large, fan-shaped depocenters. These depocenters loaded Louann salt into incipient pillows and stocks, then eventually inverted to form four-way and three-way turtle structures, representing structural highs through much of the Cenozoic. Collectively, they comprise a depositional system within the Mississippi Canyon Area that is thickest and most amalgamated in the northeast and thinnest and least amalgamated in the southwest.

Although there are no Mesozoic well penetrations within the study area, regional data record lithologies that vary from Middle Jurassic aeolian sands (Norphlet) to Upper Cretaceous chalks, marls and shales. This succession records not only the deepening of the Gulf of Mexico, but also a profound climatic shift from arid conditions during the Middle Jurassic to greenhouse conditions through much of the Cretaceous. This trend toward greenhouse conditions led first to the development of a long-lived carbonate bank that traversed the northeast portion of the study area from NW-SE, then eventually to a prolonged flooding of the shelf that continued to the Paleogene. Sediments during that time

HGS General Luncheon Meeting *continued on page 30*

color

HGS General Luncheon Meeting

continued from page 29

were largely stored within the Cretaceous interior seaway, causing the study area to be blanketed by a relatively thick succession of marl and condensed shale. Because the shelf edge was not well developed until the Lower Cretaceous, early clastic deposition (e.g., Norphlet, Cotton Valley, Hosston, etc.) most likely extended into the study area over a ramp-like margin, representing an untested play.

Cenozoic History

Miocene: Deposition of marl and condensed shale continued within the study area until the Lower Miocene. The entire condensed package represents a 40–70 MY hiatus (Cretaceous-Paleogene), during which a major shift in continental drainage patterns reflected the development of the proto-Mississippi river, a shift from ancestral Appalachians to Rockies mineral provenance took place, and the climate changed from greenhouse to icehouse. Active sedimentation returned to the area during the Early Miocene along fairways oriented west to east. These depositional systems transported sediment from the Rockies across an ever-broadening shelf margin during periods of major sea level lowstand, into lower slope depocenters in central and southern Mississippi Canyon. The rate of sedimentation increased dramatically during the Middle Miocene as fairways swept across the study area from west to east along NW-SE-trending pathways, most likely reflecting continued up-lift of the Rockies and an eastward shift of the ancestral Mississippi delta. For the first time since the Mesozoic, major depocenters developed in the central and eastern Mississippi Canyon Area.

Sediment from both Lower and Middle Miocene fairways continued to deflect salt away from the center of active mini-basins toward the flanks, feeding increasingly mature, dominantly NW-SE-oriented salt stocks. As a consequence, accommodation in the center of these mini-basins became more limited, causing sediments to stack compensationally, resulting in an increasing number of secondary depocenters near ascending salt. Though the Upper Miocene experienced little change in fairway orientation, the rate of sedimentation decreased significantly, allowing salt to form coalesced tongues and canopies.

Pliocene: Regional work indicates that, by the Pliocene, the focus of sedimentation had shifted back to the west, causing the rate of deposition to further diminish within the study area. Only a few significant depocenters developed up-dip of ascending salt, allowing canopies to reach their maximum aerial extent. Otherwise, sand development was confined within relatively narrow, NW-SE-oriented channel complexes, generally reflecting upper-slope conditions over the area. However, during the Pleistocene, depositional rates were sufficient to overwhelm and eventually cover salt canopies. Sedimentation was largely restricted to a series of fan-shaped deposits (primary withdrawal depocenters) directly overlying salt canopies in the southwest portion of the study area, signifying the beginning of a second tectono-stratigraphic cycle. ■

Biographical Sketch

Shane Long completed both his BS and MS in geology from Brigham Young University and began working for Exxon Exploration Company in 1999. Since that time he has been assigned to a number of projects in Trinidad, Congo, Nigeria and the Gulf of Mexico—spanning both deep- and shallow-water environments. Over the last five years, he has received intensive training in shallow marine, deepwater and process sedimentology via numerous field, classroom and laboratory exercises. Shane is also involved in geoscience recruiting, field course instruction and new-hire mentoring.

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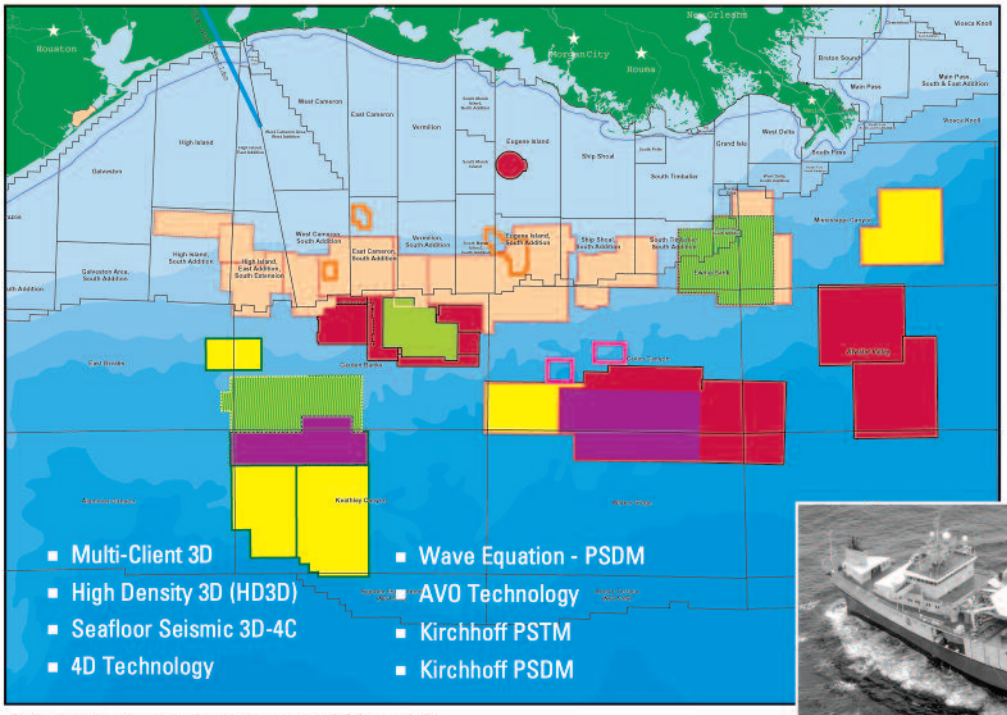

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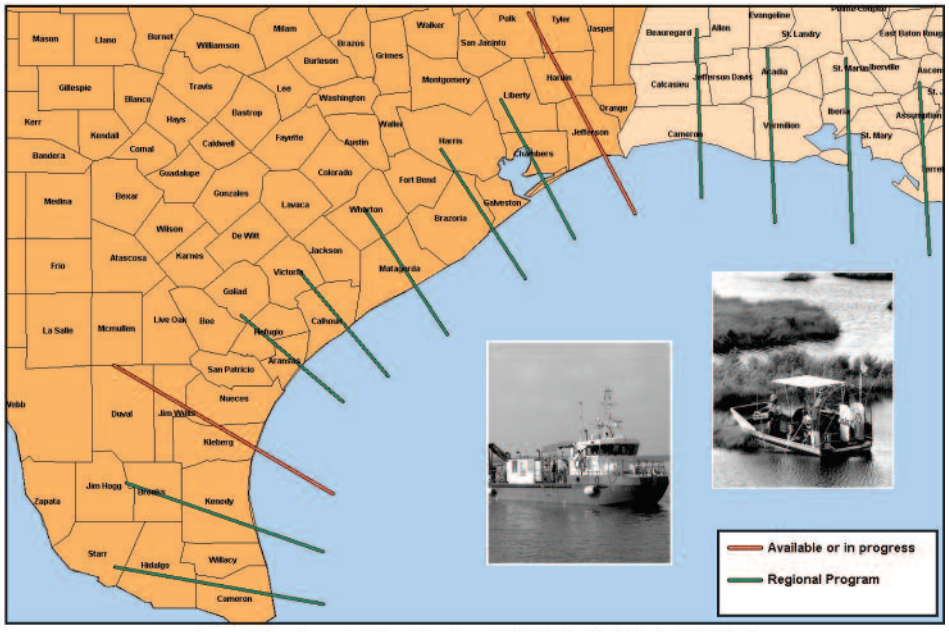

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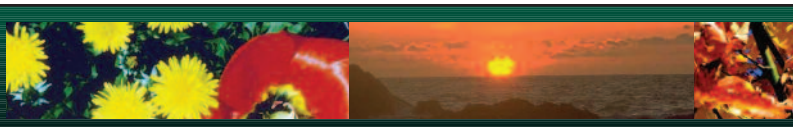

Sunday	Monday	Tuesday	Wednesday
	1 **NOW you can make your reservations on-line at www.hgs.org**	2 **HGS Executive Board Meeting**	3
7	8 **HGS General Dinner Meeting** by A.M. Seitchik *"Lower Tertiary Deposition in Walker Ridge, Gulf of Mexico: An Example of Sedimentary Distribution in an Unrestricted Basin"* Page 13	9	10
14	15 **HGS International Explorationists Dinner Meeting** by D.R. Steele *"Deepwater Nigeria Play Characterization"* Page 15	16 **HGS Northsiders Luncheon Meeting** by J. Walls Page 17 **HGS Environmental and Engineering Dinner Meeting** by G.P. Saunders Page 21	17
21	22 **HGS North American Explorationists Dinner Meeting** by R.P. Sorenson *"A Dynamic Model for the Permian Panhandle and Hugoton Fields, Western Anadarko Basin"* Page 27	23 **Southwest Section AAPG Convention** *Midland, Texas, May 22–24* Page 7	24 **HGS General Luncheon Meeting** by M.S. Long *"Tectono-Stratigraphic History of Greater Mississippi Canyon, U.S. Gulf of Mexico"* Page 29
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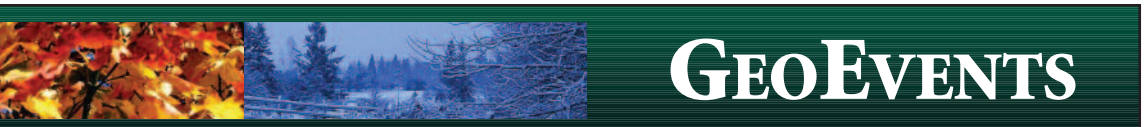

GeoEvents

Thursday	Friday	Saturday
4	5	6
11	12	13
18 **SIPES Luncheon Meeting** by R.J. Scott Page 23 **GSH Potential Fields Dinner Meeting** by E.A.E. Johnson Page 25 **HGA Luncheon** Page 60	19 **HGS Annual Tennis Tournament** Page 54	20
25	26	27

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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

June 8–9
HGS Seal Analysis Workshop
BEG Houston Research Center, page 20

Saturday, June 17
HGS 2006 Skeet Shoot
Greater Houston Gun Club, page 56

Saturday, June 17
HGS Guest Night,
Houston Museum of Natural Science, page 39
Registration Form on page 24

Saturday, June 24
6th Annual GSH/HGS Saltwater Tournament
Teakwood Marina, page 52

Thursday, June 15
SIPES Luncheon

Tuesday, September 12
The 5th PESGB/HGS African Conference
QE2 Conference Centre, London, page 36

Monday, September 25
GCAGS Annual Convention

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Fourth Annual Photo Contest Entries

The following two pages include photos submitted for the photo contest. Because there were so many more photos than covers, we decided to run the photos in this issue for the members' enjoyment.

Photo by Fred W. Kelly. "*Lone Cypress At Pebble Beach*"

Photo by Marti Lund. *The photo was taken from the South Rim of the Chisos Mountains, in Big Bend National Park, looking south into Mexico. In the near distance, Elephant Tusk and Backbone Ridge can be seen. The Rio Grande River is visible in the center of the photo. It is said that in the view from South Rim, more square miles are visible than from any other vantage point in North America. This photo appeared on the cover of the February* Bulletin.

Photo by Joel Watkins. *1972 Cape Canaveral. Geologist-Astronaut Jack Schmitt unreels seismic cable for Apollo 17 explosion seismic refraction experiment. He will deploy geophones as he goes. Astronaut Gene Cerron watches from simulated Lunar Rover. Jack and Gene will deploy eight explosive packages at distances of up to 1,500 m which with the lunar module impact at about 10 km will provide a depth of penetration of over 2,000 m.*

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The 5th PESGB/HGS African Conference
Africa: Elephants of the Future

Tuesday and Wednesday September 12th-13th, 2006
QE2 Conference Centre, London

Africa continues to be an "elephant" of the upstream oil & gas industry. The themes for the PESGB/HGS 5th annual African conference are reserves growth in existing fields, the potential for large new "elephant-sized" discoveries, and the technologies that will enable these. This event has established itself as the primary technical E & P conference on Africa, and attendance is expected to exceed 300.

Format: The event will include a large poster programme in addition to a comprehensive oral programme of about 25 high quality talks and two days of vendor exhibits.

EARLY REGISTRATION DISCOUNTS
Before 1st July

£250 for PESGB/HGS/Geol Soc. Members
£295 for non-members

(includes admission to the conference, exhibition and posters, all refreshments, lunch and evening reception on Tuesday.)

For registration forms, to book online, view sponsor opportunities and associated exhibition space visit: www.pesgb.org.uk, or email: pesgb@pesgb.org.uk, tel: +44 (0)20 7408 2000

Inquiries about the program may be sent to Duncan Macgregor at duncan.macgregor@neftex.com or duncan.macgregor2@ntlworld.com.

<<<Check HGS Events Calendar for links to latest information>>>

The conference committee includes in London: Ray Bate (Chairman), Duncan Macgregor (Technical Co-ordinator), Val Clure, Enzo Zappaterra, and Mike Lakin (sponsorship), and for the HGS in Houston: Al Danforth, Ian Poyntz, Steve Henry and Gabor Tari.

PESGB

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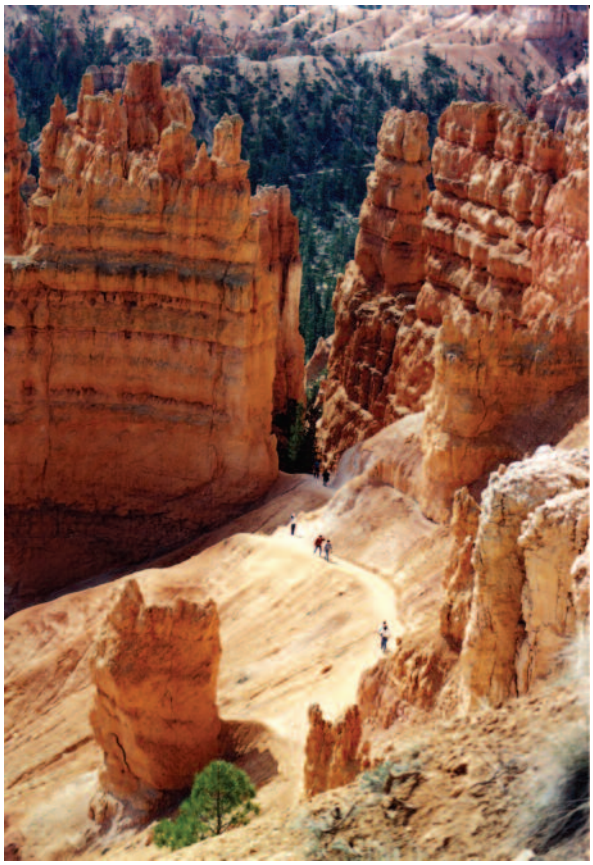
Fourth Annual Photo Contest Entries *continued*

All photos on this page by Charles Revilla.
Top: *"Clouds": Nature the artist, red sandstone the canvas, iron and manganese oxides the paint. South wall of the Grand Canyon. A portion of this picture appears on this month's cover.*

Middle: *"Silent City," Bryce Canyon National Park, Utah*

Bottom: *Urquhart Castle, south of Inverness, Scotland. A favorite spot to watch for the Loch Ness Monster.*

Below: *"On the trail," Bryce Canyon National Park, Utah*



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HGS Guest Night June 17, 2006
Deep Sea Sediment Cores Reveal Geological Evidence of Long-Term Global Climate Change

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

Featured speaker: Dr. Paul Jeffrey Fox
Director, Integrated Ocean Drilling Program, Texas A&M University

This year's HGS Guest Night scheduled for Saturday, June 17, at the Houston Museum of Natural Science, will be an exciting evening. HGS members and guests will learn about how the international deep-sea coring program is collecting samples from the deep ocean all over the world. These samples have convincing geological evidence of global climate change spanning from the Mesozoic to the Recent. Dr. Jeff Fox, oceanography professor at Texas A&M and director of the Integrated Ocean Drilling Program (IODP), will explain how the famous deep water drillship *R/V JOIDES Resolution* collects samples in over 10,000 ft of water depth.

The Eocene was a very warm period in earth's history; a period where the earth probably did not have polar ice caps.

It was a surprise to learn from our speaker, Dr. Fox, that a substantial portion of the world's deep sea sediment core inventory is actually permanently stored on the Texas A&M campus, inside a building at 1000 Discovery Drive, College Station. These cores, taken by the Ocean Drilling Program starting in the 1970s, contain a high-resolution record of global climate history and sedimentary information. Oceanographers and geologists think that deepwater ocean cores will end up answering many questions about the earth's depositional history. These include asteroid impacts, earthquakes and volcanic activity, long-term climate change and frontier hydrocarbon resources such as gas hydrates. HGS members will be interested in current *JOIDES Resolution* research, which supports technologies used in the oil and gas business, particularly "riser-less" deepwater drilling and advanced downhole logging.

Figure 1 Guest Night featured speaker, Dr. Jeff Fox, science director of the IOPD and professor of oceanography at Texas A&M University. The university stores cores from the deep ocean drilling program in the building where Fox works.

Figure 2 The Ocean Drilling Program offices at Texas A&M University, 1000 Discovery Drive near Kyle field.

Guest Night Program

The HGS 2006 Guest Night will start at 6:30 p.m. at the Houston Museum of Natural Science. As is traditional, we have the museum reserved for our guests for the evening. We encourage members to come 90 minutes early on Saturday afternoon and see the museum exhibit called "Dinosaurs: Ancient Fossils and New Discoveries," which is an HMNS exhibit that will be closed by 6:30 p.m. when Guest Night starts. During Guest Night, 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 to look at displayed in the museum lobby.

After dinner, 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 will be awarded to selected Guest Night attendees that will include beautiful mineral samples, fossils and IODP souvenirs. The 2006 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 either online, or by mailing a check and signup form to the HGS office.

Interview with Dr. Jeff Fox

Some interested HGS members took a field trip to Texas A&M in January to visit with Dr. Jeff Fox where he works (Figure 1) and see the offices of the IODP (Figure 2) and take a peek at the Gulf Coast core storage facility that holds 700,000 ft of refrigerated sediment core from all over the world. Dr. 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

HGS Guest Night *continued on page 41*

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HGS Guest Night continued from page 39

Stony Brook and at SUNY, Albany, New York. Dr. Fox taught at the University of Rhode Island, oceanography department, between 1981 and 1995. In 1995, he came to Texas A&M as a professor in the geology, geophysics and oceanography department and became Director of Science Operations for the IODP in 2003. Dr. Fox is very involved in the selection of the scientific projects that will actually be conducted by the *JOIDES Resolution*. He told us that, in the past, he spent as much as 42 months at sea doing ocean research, but these days, he is landlocked, coordinating the science program funding and expedition plans. Much of the funding for the *JOIDES Resolution* and IODP research comes from the National Science Foundation (NSF) grants. NSF supplies 65 percent of the $46 million annual budget, and 22 international partners contribute the rest.

We asked, "What can the *JOIDES Resolution* cores tell geologists about climate change?" Fox stressed that his presentation at Guest Night will be about what is known from data based on the rock record. There is information on the Cretaceous-Tertiary boundary (66 MY) however. Fox told us that the geologic periods with interesting information on global climate are from the early Tertiary period: the Paleocene, Eocene and Oligocene ages (65 MY to 23 MY). In the Early Tertiary, climate cycles are related to plate tectonics, carbon dioxide capture by formation of carbonate rocks and methane/greenhouse gases released by volcanic activity. The role of methane was very influential in warming the earth in the geologic past. Fox said the Eocene was a very warm period in earth's history; a period where the earth probably did not have polar ice caps. The climate cycles of the Pliocene-Pleistocene (5.5 MY to 1 MY) are well represented in deep ocean cores. Fox described an overall global cooling trend during the Pliocene and Pleistocene, an observation he will explain at Guest Night (Figure 3).

Dr. Fox plans to talk about the meaning and measurement of long-term climate cycles. He said that four million-year cycles are related to solar system events. Climate cycles of 100,000 years could be tied to variations in **HGS Guest Night** continued on page 43

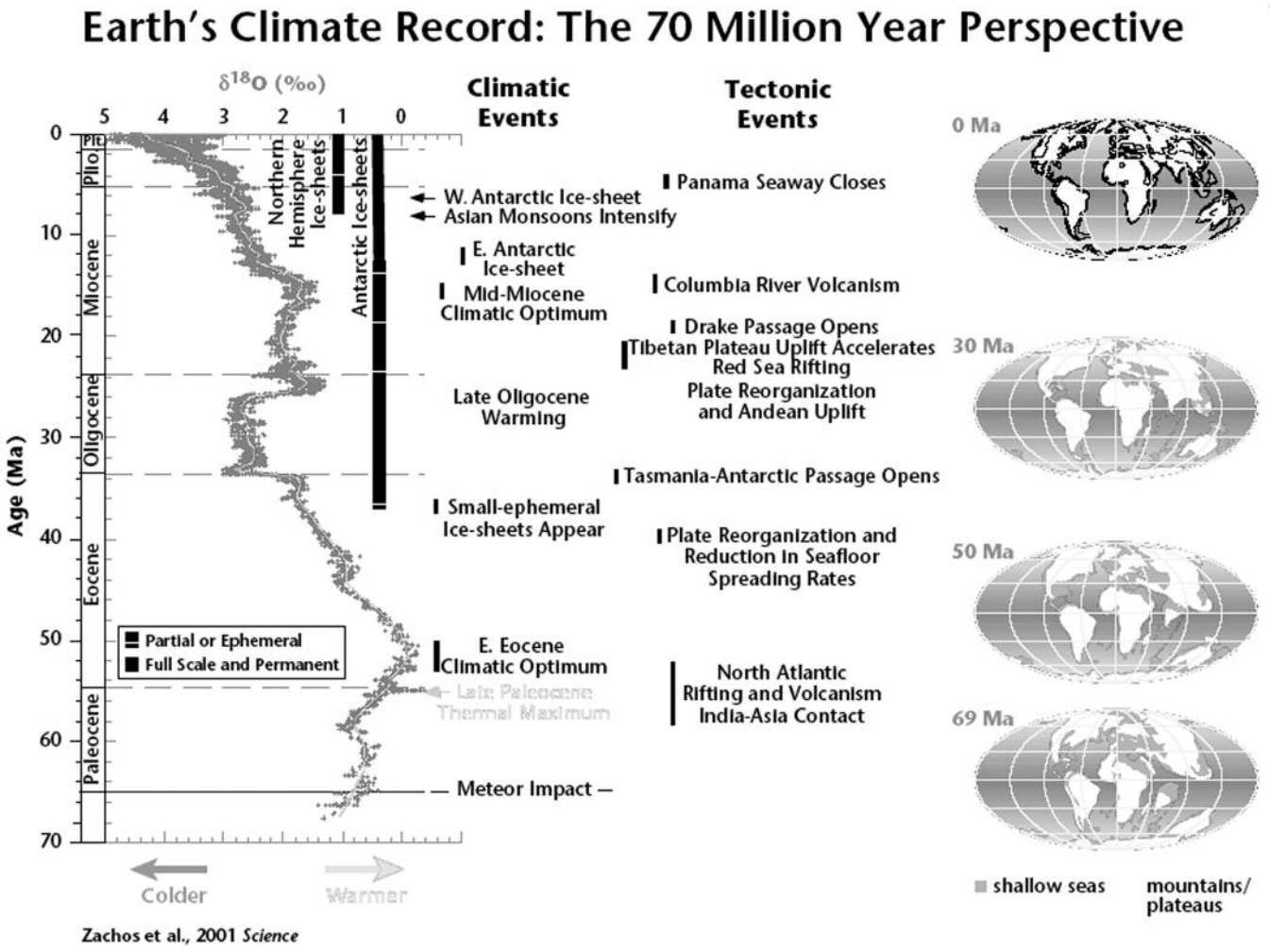


Figure 3 The earth's global climate history in Tertiary/Recent time as reconstructed from deep ocean cores taken around the world. The deep oceans are a record of the Tertiary from 65 MY to 1 MY. This graph shows that the Eocene was a warm period and that the trend has been toward global cooling since the beginning of the Plio-Pleistocene.

HGS Guest Night continued from page 41

the sun's activity. Fox stressed that deep ocean cores do not have a record of climate change younger than 20,000 years. Other types of evidence (ice cores, tree rings, weather records) have to be used to study the human effect on global climate change. Fox says that our recent observation of "global warming" is not recorded in the shallowest beds of deep sea cores; but instead scientists see a long-term trend of "global cooling."

About the Integrated Ocean Drilling Program

We asked Jeff Fox about the history of the Integrated Ocean Drilling Program (IODP) and he referred us to several websites and written summaries of the drilling program. Websites to visit are, http://www.oceandrilling.org or http://www-odp.tamu.edu. The program all began in 1961 with "Project Mohole," which unsuccessfully attempted to drill to the mantle in 11,700 ft of water (with a then-record 29,860 ft of drill string) off the coast of Baja California, Mexico. The Deep Sea Drilling Project (DSDP) began in 1968, using the *Glomar Challenger* drillship. The DSDP project is famous for the information it provided on the study of the Gulf of Mexico seafloor. The first mission in August 1968 drilled in the Sigsbee Knoll area and found a shallow salt dome with oil shows, a discovery quickly noted by the oil and gas exploration community.

The DSDP program was originally funded by the United States, but in 1976 it was expanded to include scientists from other countries including France, Japan, the Soviet Union, the UK and West Germany. In 1974, on DSDP Leg 39, drilling found core evidence of the earth's 24,000-year precessional cycle and opened up the study of long-term global climate change. Other achievements of the DSDP program include the DSDP Leg 60 drilling of the Marianas Trench, Pacific Ocean, in 23,079 ft of water and recovering a core of gas hydrate off the coast of Costa Rica in 1982.

In 1985, the scientific deep ocean drilling program entered a new technological stage when the *Glomar Challenger* was replaced by the drillship *JOIDES Resolution* (Figure 4) and the program was placed inside an multinational organization managed by JOI (Joint Oceanographic Institutions, composed of 18 U.S. organizations). JOIDES stands for Joint Oceanographic Institutions for Deep Earth Sampling. The *JOIDES Resolution* is a converted oil and gas drillship that has seven floors of onboard laboratories that sample, examine and test deep-sea cores. The drillship can house up to 50 scientists and 65 crew members. The *Resolution* both stores cores and contains geophysical equipment for studying the earth's magnetic record and seafloor topography. Information on the program was published in the Schlumberger magazine *Oilfield Review* in the winter 2004/2005 issue, which is online at http://www.slb.com/content/services/resources/oilfieldreview/ors04/win04.asp?.

According to Dr. Fox, the 20-year-old *JOIDES Resolution* ship was upgraded in 2003 and is still undergoing renovations to upgrade its capabilities and enable it to continue coring until about 2013. The next step in the IODP drilling program is the introduction of a new drillship, the Japanese ship *Chikyu*, which will be flexible enough to drill in 13,000 ft of water using a riser and in 39,000 ft of water without using a riser (see explanation in the next section). The *Chikyu* could start operations in a few years, but is not ready for sailing expeditions at present. One area of research the Japanese vessel will concentrate on is seismically active zones. The program will place permanent monitors to track tilt, strain and stress in Pacific earthquake zones. Key nations that support the research include Japan, Australia, Canada, Korea and European nations including France, Germany, the UK and Iceland. Fox said in an interview that more nations want to enter the scientific alliance, particularly India, Brazil and Russia. There are a few areas of the world in which the IODP would like to expand coring programs, such as the Red Sea, Saudi Arabia, Taiwan, S. Vietnam, the Philippines and the Great Barrier Reef of Australia, but political problems have intervened.

HGS Guest Night *continued on page 44*

Figure 4 The drillship JOIDES Resolution *at sea. 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.*

HGS Guest Night continued from page 43

How Does the *JOIDES Resolution* Take Deepwater Cores?

One of the goals of the deep sea drilling program is to be able to drill in water depths that exceed those reached by oil and gas companies. In the 1980s, the drillship was able to core the seafloor using riser-less drilling, which was not used by the oil and gas industry at the time. A riser is a large-diameter pipe that connects the blowout preventer (BOP) on the seafloor to the floating drill rig (Figure 5). The riser is used to pump drilling mud to the bit and circulate out cuttings. The IODP riser-less drilling does not use a BOP on the seafloor; instead the program uses seawater as a drilling fluid, and cuttings circulate out of the deep ocean hole and are deposited onto the seafloor without creating biohazards. One major advance is the ability of the *JOIDES*

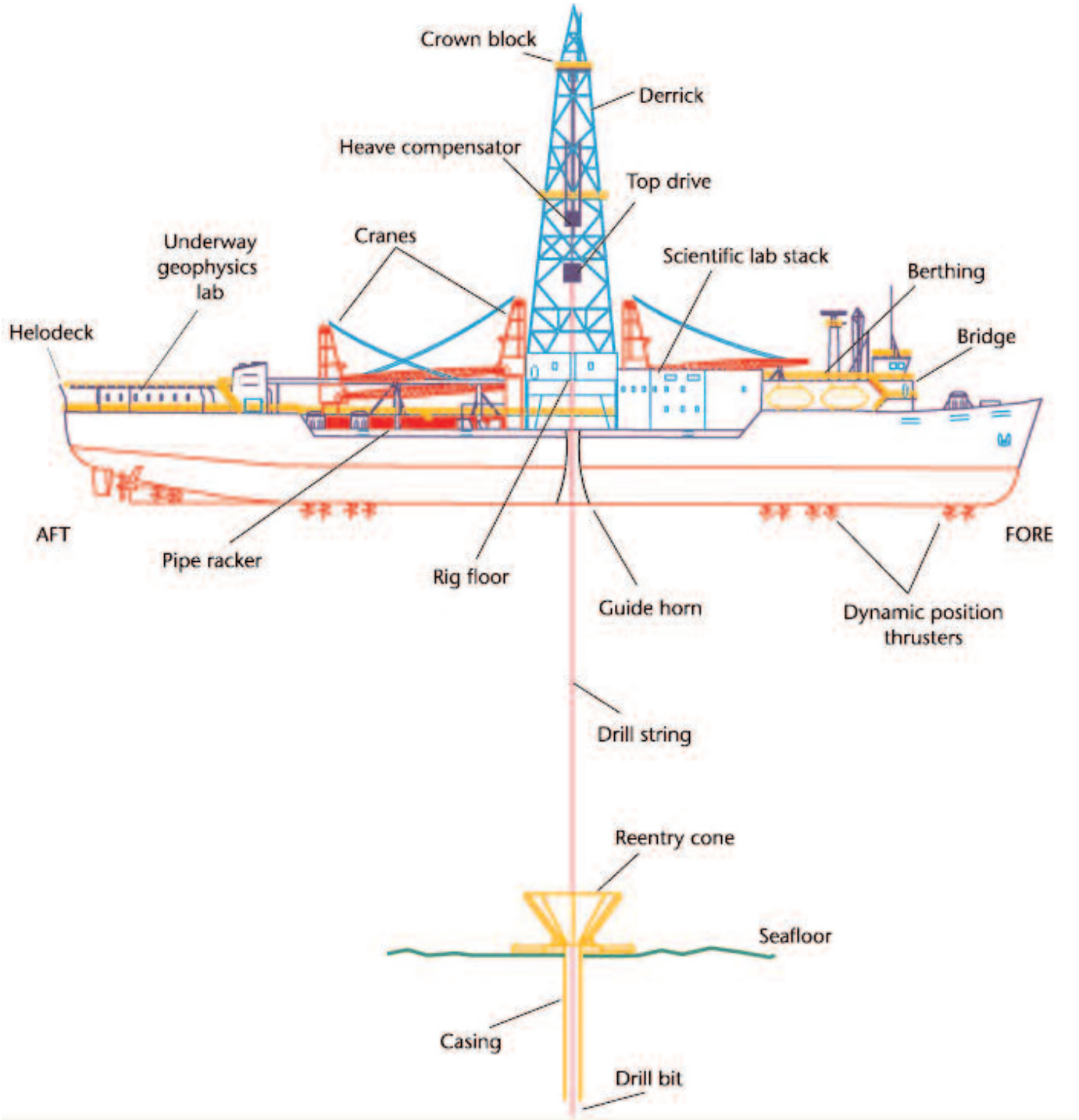


Figure 5 Drilling diagram for the JOIDES Resolution. *Riser-less drilling is done without blowout preventers on the seafloor.*

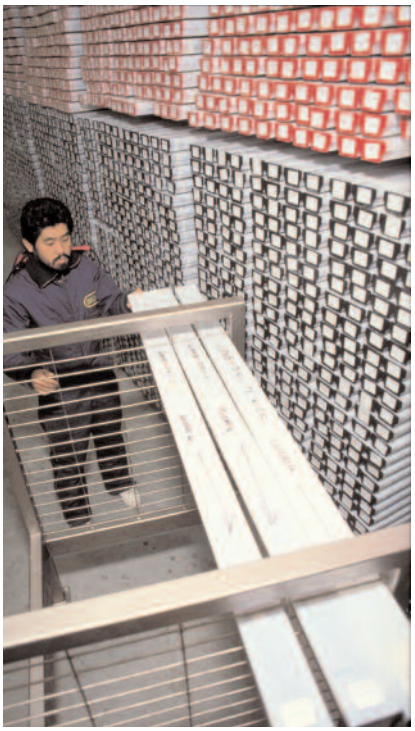


Figure 6 Inside the Gulf Coast Repository core warehouse at Texas A&M. The deep sea sediment cores are stored at 40°F to preserve them.

Resolution drill ship to maintain its floating position by using motor thrusters and mitigate motion due to ocean heave and current.

Until technological advances were invented to compensate for ship motion, it was very difficult to log the deep ocean boreholes after coring. Logging and drilling research for IODP is done today from the Lamont Doherty Earth Observatory in Palisades, New York, and the benefits have spread to the oil and gas industry. This includes research into using riser-less wells in ultra deepwater and reentry of older wells. Open hole in the seafloor after core recovery is used for down-hole observation using seismometers in earthquake-prone areas such as Japan and the eastern Pacific Ocean. The boreholes are also monitored for extended periods of time for geochemical changes, fluids and formation temperature. Lamont Doherty research has advanced the IODP logging capabilities by logging while drilling (LWD) and capturing logs all the way to the seafloor and in geophone logging for shear wave information.

Deep Sediment Core Storage at Texas A&M

Dr. Fox took us on a tour of the IODP core storage facility, which was just down the hall from his office at the ODP building at Texas A&M. The drilling program has drilled 1,700 boreholes in every ocean of the world. The Gulf Coast Repository (GCR), located at Texas A&M, houses cores collected from the Pacific and Indian Oceans and is increasing the size of its collection from other IODP collection sites. These cores are used by scientists at universities to study paleontology, climate change, gas/methane hydrates, the biosphere, life in the oceans and sediment physics. As Dr. Fox opened the door to the core storage facility, a cold air blast reminded us the sediment cores are permanently stored at 40°F (Figure 6). He pulled open a 30-ft core box for us to observe. The ODP sediment cores are smaller in diameter than typical petroleum industry cores; only an inch or so across, and stored in boxes that contain 31-ft-long sections. Actually only half the original core is permanently archived. The other half of each core is sacrificed for scientific study and sampled into bags and sent out around the world for testing and study. While we talked, curatorial specialist Rachel Culberson was taking samples from a white core (Figure 7). This core was a Turonian-age, calcareous, vitreous tuff from the eastern Indian Ocean. Dr. Fox said the core lab has distributed over two million samples to scientists all over the world.

Signup for the Guest Night Program by the Early Deadline

The program will be an excellent opportunity for geologists and their guests to learn about what deep ocean core data reveals about earth's climate history. Plus the International Ocean Drilling Program staff at Texas A&M are planning to bring displays and core samples for Guest Night attendees to look at during the dinner and social hour. The deadline to sign up using the HGS webpage event at http://www.hgs.org/en/cev/?512 is June 13, a few days before the event on June 17. There will no ticket sales on the day of the event, so use the webpage to pay by credit card, or mail the signup form (page 24) with a check to the HGS office. ■

Figure 7 Curatorial specialist Rachel Culberson takes samples from white deep ocean sediment core. This core was a Turonian-age, calcareous, vitreous tuff from the eastern Indian Ocean. The IODP core lab has distributed over 2 million samples to scientists all over the world.

2005–2006 Outstanding Student Awards

These outstanding students were selected by the geology department faculty of their respective universities. The students will be presented a check and a commemorative plaque at the May General Dinner Meeting.

Outstanding Student Award

David Heroy
Rice

David Heroy got his BA from Colgate University studying geology, working on a project studying bluff erosion along coastal Lake Ontario. After college, David worked for one month in a Christmas shop in Baltimore, where he was in charge of the lighted porcelain houses and wore a smock that read, "I believe in Santa." He then worked at Gascoyne Labs as a field technician for one year, followed by a year working at the Maryland Science Center, where he drove a minivan full of scientific equipment to over 200 K-12 schools teaching several science shows including a mobile planetarium show. He then moved to Virginia where he got an MS from the College of William and Mary in the School of Marine Science, Virginia Institute of Marine Science, studying the Ganges-Brahmaputra Delta evolution since the Late Pleistocene. From there David moved to Houston and studied under John Anderson, working on climate change and ice sheet behavior of the Antarctic Peninsula since the Last Glacial Maximum. Recently David has turned his interests to science education, working with Alison Henning in the "Teaching-Teachers" program at Rice.

Outstanding Student Award

David Sills
Sam Houston State

David Sills is a senior at Sam Houston State University and is currently pursuing a major in geology with a minor in mathematics. He plans on graduating this December. He presently holds the position of treasurer for the Sam Houston Association of Geology Students and has been an active member for two years. David has been working very hard teaching labs for the geology program. He is currently teaching five sections of labs that include two sections of physical geology, two sections of geologic hazards and natural resources, and one section of historical geology. He also works as a departmental tutor. David has received various honors while attending SHSU, including being on the Dean's List and earning the Cannon Geological Scholarship last year and this year. The Cannon Scholarship is the department's top award. Upon graduation he intends to go to graduate school and pursue his current interests in structural geology and sedimentology.

Outstanding Student Award

Kevin Ausburn
Stephen F Austin

Kevin Ausburn graduated in 1998 from Hallsville (Texas) High School. He received his associate's degree in biology from Kilgore College in 2001 and his bachelor's degree in geology from Stephen F. Austin State University in 2003. He is currently enrolled in the geology master's degree program at SFASU, where his thesis is "Geology, Mineralogy, and Petrology of the Contact Zone, Southern Magnet Cove Igneous Complex, Hot Spring County, Arkansas." Kevin has worked as a tour guide at Blanchard Springs Caverns (Ozark National Forest, Arkansas), as a Graduate Teaching Assistant at SFASU and as a technical intern for Phelps Dodge Mining Corporation. He is a member of the American Association of Petroleum Geologists, Geological Society of America and Sigma Gamma Epsilon. After graduation, Kevin plans to pursue a career in economic geology.

Outstanding Student Award

Jianlei Liu
University of Houston

Jianlei Liu is a PhD student in geophysics at the University of Houston. His current research includes spectral decomposition, reservoir property prediction and seismic attributes study. He got both his ME (2002) and BE (1999) in geophysics from Ocean University of China. Jianlei likes to spend his spare time with his lovely wife traveling, jogging and watching movies.

Oustanding Student Award *continued on page 49*

Outstanding Student Award

Brian Bagley
Texas A&M

Brian Bagley will graduate from Texas A&M University in May 2006 with a BS in geophysics. He has been the recipient of several scholarships, grants and endowments. With that assistance he has been free to pursue his studies full-time. His last semester is keeping him very busy, so he is greatly appreciative of the financial assistance from the Houston Geological Society.

Brian considers geophysics and geology much more than a career; they also encompass most of his hobbies. He has always enjoyed outdoor activities such as camping, hiking and climbing, just to name a few, and now he enjoys them even more. During the past few summers Brian has been able to travel to many of the mountainous areas in North America and has seen with his own eyes what he learned about in the classroom.

Brian has been actively involved in the Geological Society of America (GSA) and the American Geophysical Union (AGU) since his freshman year in college. He has made oral presentations and presented posters at the annual meetings of both organizations, the most recent being at the 2005 AGU meeting in San Francisco. Involvement in these organizations, and undergraduate research, have helped him decide what to do after graduation.

His next step will be graduate school to prepare for a career in research and teaching. Brian will be a PhD student at the University of Minnesota in the fall. He plans to study seismology under the guidance of Dr. Justin Revenaugh.

Outstanding Student Award

Abena Temeng
University of Texas

Abena Temeng was born in Dhahran, Saudi Arabia, in 1985. As an African American living overseas, she was privileged to be able to travel and to experience the life styles of different cultures.

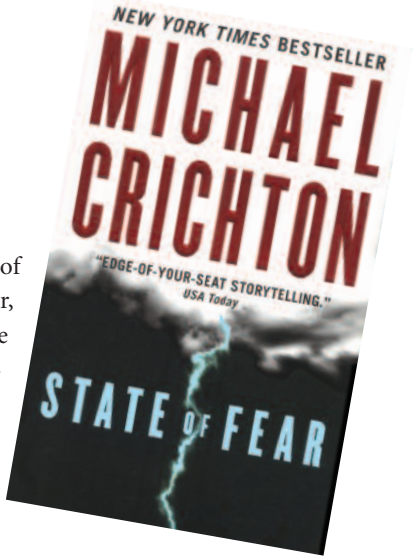
She is drawn to field geology as an opportunity to work outdoors. As a child, she was fascinated by landscapes, gems and minerals. A geological career seemed the best way for her to pursue those interests, outdoors at that. Her interest in geology encompasses both the macro- and the micro-scale, so she has taken advantage of field trips around Texas to explore geomorphology, structural geology and mineralogy. As she says, "geology always presents new questions to study and try to answer." It excites her to know that a lifetime could be spent pursuing any one particular phase of the wide field of geological science.

Temeng was drawn to petroleum geology by being around professionals of the oil industry in Saudi Arabia as a child. She served as an intern with Chevron during the summer of 2005. Her particular interests are in rock core studies and sedimentary basin analysis, and she plans to concentrate in these areas in graduate school. She is currently in the Honors research program at the University of Texas studying petrology.

Book Review by Bill Rizer

State of Fear

Crichton, Michael, 2004: State of Fear, Harper Collins, New York, NY, 672 p.



A new phenonemon has arisen in recent years that is marked by a blurring of the distinction between fact and fiction, particularly in novels such as *The DaVinci Code* by Dan Brown and *State of Fear* by Michael Crichton. A longtime fan of Crichton, I only recently had the opportunity to read the book, after waiting until the paperback version was available and after learning that the author received the Journalism Award at the AAPG Annual Convention in Houston in April 2006. *State of Fear* lived up to my expectations for a novel by Crichton—it is interesting, exciting, fast paced, somewhat technical in content and all-in-all a "good read." What it is not is scientific. As pointed out by Chris Steincamp in the February 2005 *AAPG Explorer*, there are numerous footnotes and references to scientific journals and other sources, along with an annotated list of references and two appendices. While these may give the novel the appearance of being scientific, their inclusion does not make it scientific.

As pointed out by Steve Boyer (2005) and David Sandalow (2005) there are numerous omissions and errors in at least the interpretation of the data presented by Crichton. It was fun to read *State of Fear* as a novel. However, it was not easy to critically review the book for scientific accuracy or content, largely because of the numerous inconsistencies found throughout and the writing style that consists primarily of making definitive statements and tossing out a reference or two that supposedly prove the statements as true.

State of Fear *is a fun novel to read, but it is simply not a work of science.*

Crichton is very good at developing characters that are believable and with whom readers can easily identify. He is a good writer. There are good guys and bad guys as well as characters who, while not really likeable, are nevertheless completely trustworthy, honorable and believeable. Crichton lays out his environmental opinions through the statements of several of those characters, but mostly through John Kenner, PhD CalTech, JD Harvard and professor of "Geoenvironmental Engineering" at MIT. Kenner is also an accomplished mountain climber and a special agent for the NSIA, a super-secret government security organization thwarting the evil-doings of well-organized, if misguided, environmental terrorists. The protagonist, young Peter Evans, a lawyer with good intentions but bad information, particularly as regards the "truth" of global warming, provides the story with a character with whom readers can easily identify. It is through the education of Peter that the reader is given the truth of global warming, at least according to Michael Crichton.

My concerns about the accuracy of the book began in the first chapter, where Crichton seems to equate geologists with petroleum engineers. He soon gets to the heart of the environmental matter when he defines (through Jennifer, another protagonist) global warming as

> "….the theory that increased levels of carbon dioxide and certain other gasses are causing an increase in the average temperature of the earth's atmosphere because of the so-called greenhouse effect."

Global warming is not a theory, it is a well-documented and accepted observational fact. The "theory" part involves how the temperature increases are interpreted and the degree to which anthropogenic (human-related) activities are causing the observed temperature changes. The facts are that the global mean surface air temperature has increased ≈0.6 °C in the last century and the temperature of the oceans, averaged from the surface down to 10,000 feet, has increased ≈0.05 °C since 1950 (National Academy of Sciences, 2001). Quoting the Academy's 2001 report, the Environmental Protection Agency (2006) states: "The 20th century's 10 warmest years all occurred in the last 15 years of the century. Of these, 1998 was the warmest year on record. The snow cover in the Northern Hemisphere and floating ice in the Arctic Ocean have decreased. Globally, sea level has risen 4–8 inches over the past century. Worldwide precipitation over land has increased by about one percent. The frequency of extreme rainfall events has increased throughout much of the United States." According to scientists in Britain (Black, 2005), last year was the warmest on record in the Northern Hemisphere, and the second warmest globally since the 1860s, when reliable records began.

Crichton takes particular aim at James Hansen, the NOAA researcher and head scientist who has been in the news recently because of governmental attempts to silence him. Crichton, apparently quoting from unpublished public statements by Pat Michaels (see Hansen, 2006), claims that predictions Hansen made during a 1988 presentation to Congress were 300% in error.

Book Review *continued on page 53*

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 _____

Book Review continued from page 51

According to a rebuttal in Hansen (2006), Michaels had used only one of the three temperature-versus-time simulations published in Hansen et al. (1988): the highest curve corresponding to the worst-case (and least likely) scenario. Even then, the worst-case model predicted a 0.6 °C ten-year increase in global surface temperature, compared with the actual measured increase of 0.2 °C. That is where Crichton (quoting Michaels) got his 300% error. The "error" would have been 4 orders of magnitude lower if he had used the Kelvin scale. Interestingly, he accuses scientists on the global-warming side of the debate of "statistical murder." The most likely scenario published in Hansen et al. (1988), and presented to Congress in a hearing that year, predicted the observed increase in temperature very well. Hansen actually considers the correlation too good, given the uncertainties inherent in climate modeling.

Crichton believes that the current increase in temperature is completely natural and has nothing to do with greenhouse gasses or any of man's activities. After all, the earth has been much warmer and much colder in the past. Ignoring for the moment the lack of relevance of the earth's temperature in the distant geological past to the current global-warming event, this "argument" misses the larger point that six billion humans did not live on the earth and did not depend on the earth for food and shelter during those extremes. We know that sea level was hundreds of feet higher during recent glacial maxima (Tudhope et al., 2001). I do not think our societies would fare well if the seas were to rise 300 feet in the next few centuries.

Near the end of the novel, Crichton gets to the heart of his message and the reason for the title, *State of Fear*. According to the author, for more than the past half century we have all been living in a state of heightened fear: fear of the bomb, the cold war, the evil empire and now 9/11 terrorists, all perpetrated by governments to control the population or by organizations for their personal goals. According to his logic, the end of the cold war about 1989 necessitated a new fear, in this case the fear of an imminent environmental catastrophe. While I do not disagree with some of those assertions, I must disagree when he claims that it is the environmental movement that has been generating this more recent and groundless fear. I find it very hard to believe that all the scientists working and publishing on this issue are massaging their data and duping the public if not just themselves. Of course, Crichton believes they are duping themselves by a process he calls "scientific bias," whereby researchers have an expectation of a certain outcome each time they run an experiment. This somehow causes them to get the answers that meet that expectation. While I must admit that my colleagues and I do have prejudices regarding the truth or importance of various theories and concepts, I truly hope that all of the experimental work that we have done has resulted in something more than scientific bias. In fact, I remember many more times when I felt more surprise at my results than times when I felt vindication. As scientists, we are trained to recognize and transcend personal bias and to look hard at and report all the data, not just those results that confirm our hypotheses. It was surprising and somewhat disappointing that Crichton does not seem to know this.

Global warming is a fact, not just a theory, and a large and growing body of theoretical, empirical and modeling data points to anthropogenic causes for most of that warming (Kerr, 2001). We can joke all we want about environmental geeks and tree huggers and the like, but we must not ignore the truth of what our sciences are telling us. We and we alone among all species of life on earth have the power to change our environment. And change it we have, so far not for the better. Perhaps it is time we begin to act responsibly and reverse the trend of increasing greenhouse gases and warming temperatures. We are a very creative and adaptive species. Surely we can find ways to clean our air that do not destroy our economy or jeopardize our way of life.

State of Fear is a fun novel to read, but it is simply not a work of science. If he were pressed on that issue, I suspect Michael Crichton would readily admit it. While he will never be a source of information on scientific issues for me, he remains one of my favorite authors. ■

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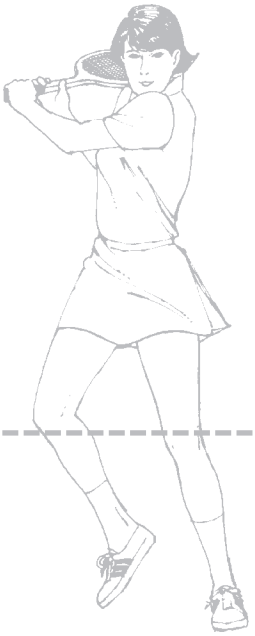
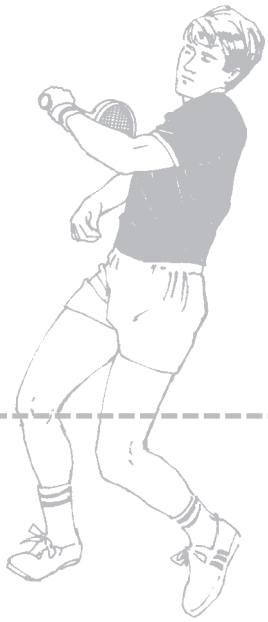
Book Review *continued on page 57*



HGS Tennis Tournament



Friday, May 19, 2006

Location: Houston Racquet Club
10709 Memorial Drive

Time: 11:45 a.m. to 5:00 p.m.

Prizes: Div. A & B Prizes

Send a check for $45.00 and entry form to: DAVIS BROS.
1221 McKinney, Suite 3100, Houston, Texas 77010
Attn: Ross Davis, Tournament Director
Call (713) 659-3131 with questions; Fax (713) 659-8070
Rossdavis@davisbros.com

Name: _____

Address: _____

Phone: _____ Work Phone: _____

Rank (A, A-, B): _____ E-Mail: _____

Volunteer of the Month

The May HGS Volunteer of the Month is **Paul Babcock**. Paul is currently working 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 has proactively sought vendors to attend the dinner meetings each month. He has 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 also recently edited the 17th edition of the HGS "Directory of Oil Company Name Changes," which was made available at the AAPG Convention this April.

Paul has a BS in geology from the State University of New York - Cortland and 30 years' experience in the oil & gas industry. He is a Licensed Professional Geologist in the State of Texas. He is a member of AAPG, RMAG, Houston Producers' Forum, and 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 Chief Geologist - North America, Exploration Manager and Vice President - New Ventures.

The HGS Board acknowledges and thanks Paul for his spirit of volunteerism, dedication and work for the Houston Geological Society. ■

Government Update

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

EPA News

On February 17, 2006, the *Houston Chronicle* reported that on February 15, 2006, the EPA changed the rule on MTBE that states will no longer have to add ethanol or MTBE to gasoline. According to the *Chronicle*, this requirement costs as much as $0.08 per gallon of gasoline. This eliminates a mandate from the 1990 Clean Air Act that gasoline used in metropolitan areas with the worst smog contain two percent oxygenate by weight. The law did not say which oxygenate must be used, but most refiners use either ethanol or MTBE. Three states, California, New York and Connecticut, had requested a waiver of the requirement because the states had banned MTBE due to pollution of groundwater. The states were forced to use ethanol, which they contend worsened pollution problems. Ethanol reportedly makes other gasoline constituents more soluble in water. The new rules put into place a part of the energy bill President Bush signed in August that did away with the two percent oxygenate requirement. The *Chronicle* quoted Senator Dianne Feinstein (D-CA) as saying, "The announcement means that California refiners will finally be allowed to make gasoline that is cleaner burning than what they are making today."

AGI Government Affairs Monthly Review (February 2006)

MMS Releases Draft 5-Year Plan for OCS Leasing Program

The Minerals Management Service (MMS) released a draft proposed 5-year plan for the oil and natural gas leasing program on the outer continental shelf (OCS). More than 85% of the OCS around the lower-48 states has been placed off limits to energy development by presidential withdrawals or congressional moratoria. The current draft proposal includes studies to look at the potential for oil and gas development off the coast of Virginia and a previously undeveloped area in the North Aleutian Basin off the coast of Alaska. The inclusion of these two areas is in response to discussions with the state legislatures. The draft proposal includes 21 OCS lease sales in seven of the 26 OCS planning areas. Additional information on the draft proposed plan and on how to submit comments is available at http://www.mms.gov/5-year/2007-2012main.htm.

MMS Releases Hurricane Impact Details and Requests Research Areas

On January 19, 2006, the Minerals Management Service released its analysis of the effects of hurricanes Katrina and Rita on offshore platforms and pipelines in the Gulf of Mexico. According to the MMS press release, "3,050 of the Gulf's 4,000 platforms and 22,000 of the 33,000 miles of Gulf pipelines were in the direct path" of these two hurricanes. Hurricane Katrina destroyed 46 platforms and damaged 20 others, and Hurricane Rita destroyed 69 platforms and damaged 32 others. There was "no loss of life or significant oil spills from wells on the outer continental shelf (OCS) attributed to either storm." In response to this damage on OCS offshore facilities, MMS has requested research proposals in six subject areas: "(1) Assess and evaluate pipeline movement or damage; (2) Assess and evaluate platform damage; (3) Provide hurricane hindcast data; (4) Evaluate and assess the performance of jack-up rigs; (4) Assess methods to eliminate hydrates in pipelines and risers during startups after hurricanes; and (6) Assess the response of waves and currents throughout the water column in the northern Gulf of Mexico slope and shelf." Details on the impact assessment of offshore facilities are available at http://www.mms.gov/ooc/press/2006/press0119.htm.

Senators Seeking Response to Climate Change White Paper

In early February, Senate Energy and Natural Resources Committee Chair Pete Domenici (R-NM) and Ranking Member Jeff Bingaman (D-NM) released a white paper designed "to lay out some of the key questions and design elements of a national greenhouse gas program in order to facilitate discussion and the development of consensus around a specific bill." Rather than advocate specific viewpoints on a potential greenhouse gas reduction program, the white paper poses four key questions that Senate staff hope will induce discussion between policymakers, industries and environmentalists. The questions are

(1) Should regulations apply to specific sectors or to the economy as a whole, and should the regulatory process be "upstream" (targeting energy producers and suppliers) or "downstream" (targeting emitters)?
(2) Should regulatory costs be mitigated through allocation or auction of allowances, and who should receive allocated allowances?
(3) Should the U.S. system be designed to eventually allow trading with other systems worldwide?
(4) Should the U.S. system encourage "comparable actions" by major trading partners?

The full text of the Climate Change White Paper is available at http://energy.senate.gov/public/index.cfm?FuseAction=IssueItems.View&IssueItem_ID=33.

AGU Releases Ocean Research Position Statement

On February 8, 2006, the American Geophysical Union (AGU) held briefings in the House and the Senate to discuss a new position statement entitled "Renewing Investment in Ocean Research." The statement, which was adopted in December 2005, endorses the findings of the U.S. Commission on Ocean Policy. Specifics of the Commission's report include implementing a framework of ecosystem-based **Government Update** *continued on page 57*

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!

Government Update continued from page 55

ocean management, increasing funding for basic ocean research, developing a comprehensive ocean observing system, improving ocean modeling capabilities, modernizing the entire fleet of research vessels and increasing investments in ocean education. Speaking at the briefing, Representative Sam Farr (D-CA), Co-chair of the House Oceans Caucus, noted the importance of ocean research to a number of disparate groups, including fishermen, oil companies and coastal populations. "We're all in it together," Farr said. Dr. Steven Bohlen, Chair of AGU's ocean statement panel, added, "We are damaging the oceans, and what we don't know could hurt us."

The full text of AGU's ocean research position statement is available at http://www.agu.org/sci_soc/policy/positions/oceaninvest.shtml.

GSA Releases White Paper on Coastal Impacts of Hurricanes

The Geological Society of America and the University of New Orleans have released a white paper titled "The Impact of Hurricanes Katrina and Rita in Louisiana: America's Coasts Under Siege." Written by Mark Kulp and Shea Penland of the University of New Orleans along with Duncan Fitzgerald of Boston University, the report details the economic importance of the Louisiana coastal zone and the human-induced loss of land in the region. The authors recommend either strategically re-engineering the coast or planning a managed retreat from the coastal areas where hazard risks are greatest. They conclude that "to lift the siege on coastal Louisiana demands strategic, federally supported plans that address the entire coastal zone and provide strong coastal management policies that place preservation of the coastal zone above individual stakeholder needs." The white paper is available at http://www.geosociety.org/science/gpp/wp_0602katrina.pdf. ■

Book Review continued from page 53

Steincamp, Chris: 2005, State of Fear: A DEG View, A Question of Motives, *AAPG Explorer*, February, 2005, can be viewed at URL http://www.aapg.org/explorer/2005/02feb/crichton.cfm.

Tudhope, Alexander W., Colin P. Chilcott, Malcolm T. McCulloch, Edward R. Cook, John Chappell, Robert M. Ellam, David W. Lea, Janice M. Lough, and Graham B. Shimmield, 2001: Variability in the El Nino-Southern Oscillation Through a Glacial-Interglacial Cycle, *Science*, V.291 (5508), p. 1511-1517, February 23, 2001.

United States Environmental Protection Agency, 2006: Global Warming Web site, can be viewed at URL: http://yosemite.epa.gov/oar/globalwarming.nsf/content/index.html.

Treasurer-Elect (2 candidates)

At press time last month only one candidate for Treasurer-Elect was available. We are running both candidates' profiles this month for members' review.

John E. Jordan, Jr.

Education:
post graduate work (1986-90), Rice University
Advisor: Dr. Peter Vail. Thesis on carbonate sedimentation and global sequence stratigraphy as seen in the Delaware Basin.
MS Geophysics (1981), Wright State University
BS Geology (1979), Wright State University

Experience:

1996-present	Kerr-McGee, International New Ventures, Senior Geophysicist
1993-1996	Samedan, International, Consulting Geophysicist
1987-1993	ARCO OIL and GAS COMPANY, Offshore Gulf of Mexico, Exploration Geophysicist
1981-1985	CHEVRON U.S.A., San Francisco, Western U.S.A., Exploration Geophysicist

Professional Affiliations:
AAPG
AAPG House of Delegates
SEG
HGS
HGS International Group
Professional Geoscientist, State of Texas
DPA Certified Geologist; Certified Geophysicist

Professional Activities:

1995-present	AAPG House of Delegates
2005-present	HGS Membership Committee
2004-present	DPA Membership Committee
2004-2006	AAPG Survey Committee
1998-2000	Director, HGS Board of Directors
1996-1998	Chairman HGS International Group
1993-1998	HGS International Executive Committee

Statement:
The HGS is the largest local geological society in the world. I was honored to be asked to run for Treasurer-Elect of this society. I see this as an opportunity for me to give back to the local geological community. If elected to Treasurer-Elect I will make certain that the Board of Directors knows and understands the society's finances at all times. I will strive to present this information in a clear and consoliddated format. Thank you for this opportunity to serve the local geological community. ■

James G. Foradas

EDITORS NOTE: *Mr. Foradas' profile was in the April issue, and is abbreviated here for space considerations. Please see the April HGS* Bulletin *or go to www.hgs.org for a complete candidate profile.*

Statement:
It is an honor and a privilege to be considered for this position after being here in Houston for a relatively short time. I see it as an opportunity to repay the HGS for over a year of fun. My work on a variety of cultural resource management (CRM) projects in the greater Houston area has been greatly facilitated by HGS membership and the resources the association provides. HGS's greatest resources are its members, several of which have enlightened me on a variety of topics regarding the geology and geomorphology of greater Houston; the environmental consulting industry of which CRM is a part; and various other aspects of life in Houston.

I also have to thank HGS for learning more about my father's military career while I was volunteering with the HGS for Project RESPECT at Evergreen Negro Cemetery last June. Dad synopsis of his military experience has always been "we all had a job to do...I came home in one piece, and I thank God for that." Additional details about Dad's service would not likely have come to light had it not been for Steve Levine's donut run for the HGS volunteers which led to a chance meeting with a retired U.S. Army Sergeant Major at the cemetery. The Sarge enlightened me to my father's and other Philco Tech Reps' critical roles in the Korean War (1950-51) and in the early Cold War. That's a story I'm willing to share over donuts at upcoming HGS events. ■

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:

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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*

Even though the wildflowers made an early appearance, April was a wonderful month for the Houston geological community as the Society played host to the American Association of Petroleum Geologists's annual convention. Accolades are due General Chair Charles Sternbach and his co-chairs, Dan Tearpock and Debra Sacrey. The committee chairmen all did an outstanding job, but we are especially proud of Guest Activities Chair Karen Handschy and her coordinators Sally Blackhall, Carol Rensink, Shirley Gordon, Norma Jean Bacho and co-chair Norma Jean Jones. If your name was Norma Jean, you were in demand at the convention!

The Auxiliary's final function of the year will be a Spring Luncheon and Annual Business Meeting at the Houston Racquet Club on Thursday, May 18. A style show by JoAnn's and the installation of officers for the upcoming year will also take place at this time. Chair Gwinn Lewis planned a wonderful program with delightful decorations, great menu and surprise mystery models. Sadly, we lost Gwinn on March 11 after a courageous and hard-fought battle with cancer. Gwinn was such an important member of the Auxiliary as evidenced when the Society named her as recipient of the 1996 HGS/HGA Distinguished Service Award. The Event Committee members wish to dedicate this meeting in celebration of Gwinn's life and many contributions.

Article I of the Auxiliary Bylaws states ". . . purpose shall be to encourage social relations among its members and to assist the Houston Geological Society in any manner they shall request." Our First Vice President, Winona Labrant Smith, aided in the fulfilling of the first part of that statement by providing the membership with a wonderful agenda of varied functions for the year. Thanks also are extended to Society members Mike Allison, Janet Combes, Alison Henning, Hellen Hutchison and Debra Sacrey for including Auxiliary members in their volunteer efforts thus enabling us to fulfill the second part of our purpose. A grand year was had by all! ■

See you at something HGS.

GeoWives

*by **Dene Grove***

The GeoWives had a fabulous field trip to historical LaGrange in March, which was planned and led by Martha Lou Broussard and Linnie Edwards.

In April our group enjoyed visiting Rienzi, the Museum of Fine Arts, Houston's center for European decorative arts to see the French Antiques and Flower Exhibit. We had lunch at Tony Mandola's Gulf Coast Kitchen following the tour.

Our New Officer Installation Luncheon and Annual Business Meeting will be held in the Manor House at the Houstonian on Thursday, May 25, at 11:00 a.m. Guests are welcome. Reserve your place by sending a check for $25 by May 19 to Linnie Edwards, 9350 Shady Lane Circle, Houston, TX 77063-1305. ■

As a HGA member you are invited to join

GeoWives

2005–2006 dues are $7.50

make check payable to *GeoWives* and mail to:

Dene Grove
12715 Pebblebrook
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 ☐

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During the past year, the HGS Jobs Hotline website has averaged over 30 positions per month. New ads are being posted almost every day!

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Current Jobs page at:

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15-19	Applied Subsurface Geological Mapping	(Houston, TX)
15-19	AVO and Seismic Attributes	(Houston, TX)
22-26	Principles of 3-D Seismic Interpretation	(Houston, TX)
22-26	Petroleum Geology of Deepwater (Turbidite) Depositional Systems	(Houston, TX)

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