HGS Bulletin
Houston Geological Society
Volume 47 Number 1
September 2004

Key Challenges to Realizing Full Potential in an Emerging Giant Gas Province: Nile Delta/ Mediterranean Offshore, Deep Water, Egypt

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Have you paid your dues?

The Bulletin
Houston Geological Society

Volume 47, Number 1 September 2004

In Every Issue

about the cover: *Photo by David J. Lazor Travertine in Havasu Creek, Grand Canyon*

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HGS Golf Tournament

Monday - September 20, 2004

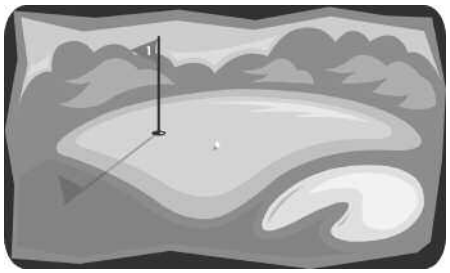
Place: Kingwood Country Club & Deerwood Country Club
Format: Four-man scramble
Featuring: Closest to the Pin, Bar-B-Q dinner, Refreshment stands, Trophies, awards, and prizes, Longest drive contest, Betting holes

This year's tournament will be a four-man scramble. A shotgun start at 11:45 a.m. using both golf courses will be followed by an informal buffet dinner with a presentation of awards at the Kingwood Country Club. Player may select their own course and foursome or be placed in a foursome by the tournament committee. The field will be flighted after play based on score. Entries will be limited to the first 144 four-man teams entered (576 total golfers), and will be accepted on a first-in basis.

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

Companies or individuals interested in sponsoring the event should contact Allan Filipov at 713-881-2877 or by fax at 713-881-2878. To enter, fill out the entry form at the bottom of this page and mail with your entry fee (payable to HGS Entertainment Fund) to:

HGS attn: Joan Henshaw
10575 Katy Freeway, Suite 290 • Houston, TX 77024



SCHEDULE OF EVENTS

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

All entries will be acknowledged by return phone call the week of September 5.

Name _____ Amount Enclosed _____

Company_____ Phone _____

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

Foursome Captain's e-mail _____

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

by Steve Levine

President's Letter

Harnessing HGS Human Energy – Fueling a Greater Society

Welcome back to the HGS folks! As the summer quickly passed since my taking office on July 1, it became apparent that many wonderful HGS members work tirelessly over the so-called HGS summer "off-season".

What a busy, busy summer . . .

Just a snippet of the summer events and doings – in June…an outstanding **HGS Skeet Shoot** coordinated by Tom McCarroll, a sold-out **Guest Night to Mars** arranged by Linda Sternbach and assisted by many volunteers, and a terrific **President's Awards Night** hosted by our past President Craig Dingler and his wife Mary Kae – in July… Bobby Perez hosted yet another successful **Saltwater Fishing Tournament**, the HGS office staff (Joan, Lilly and Nancy) input thousands of membership renewal forms - in August–**Technofes**t returned as an HGS summer "happening" through the efforts of Jim Brenneke and the Emerging Technology Committee, and closing out the summer, **ChairFest** (committee chairperson's social) united many of our chairpersons to discuss programs for the new year.

"Even if you're on the right track, you'll get run over if you just sit there."

Will Rogers

September will be even busier…

Sept. 14-16 – APPEX

The 4th annual AAPG Prospect and Property Expo "APPEX" will be held at the George R. Brown Convention Center in just two weeks. Our fellow HGS members, Jeff Lund and Paul Britt, are APPEX committee chairmen that have logged countless hours of planning to insure that this year's show is the best ever. The theme is "Discover More in 2004" and this year APPEX will include a one-day forum to address issues affecting global and domestic exploration and investment opportunities. In addition, there will be a short course entitled "Packaging and Selling Your Prospect: Geoscience, Land and Financial Return". APPEX is really too big to miss, so register today.

Sept. 20 – HGS Golf Tournament

I invite all members - hackers and semi-professionals alike – to sign up for the upcoming HGS Golf Tournament at the Kingwood and Deerwood Country Clubs. Allan Filipov and his fellow members of the Golf Committee are working hard to make this a great tournament. Now what could be more fun than playing a round of golf on a Monday with hundreds of friends? I look forward to getting out there and knocking in a few putts myself. Consider putting together foursomes of fellow college friends, company co-workers, or wives/spouses. How about a few all-Scottish teams and all-English teams…perhaps a few Texas Aggie teams, Baylor, LSU, OSU, Michigan, and if they behave…teams from Texas and Oklahoma. Let's get some rivalries going here folks!

Sept. 24-26 – Houston Gem and Mineral Show

The HGS will debut a booth for this event. Nearly 6000 visitors attended last year including 2400 students from school field trips and 500 Scouts. Our new "Energy Cycle" exhibit will be set up along with cores, coring drill bits, and other items. We will need volunteers to staff the booth during portions of the three-day show, even for just an hour. Contact Jennifer Burton at jennifer_burton@anadarko.com.

The theme for this year is "Harnessing HGS human energy — fueling a greater society"

I have three initiatives for 2004-2005 – (**A**) foremost is to provide the best technical program of talks and informative educational courses available for our professional membership; (**B**) involve the family – spouses and children are members of our society too; new initiatives will provide for both fun and brain stimulation for the entire family; (**C**) give to the community – our members are some of the

President's Letter *continued on page 7*

CO-CONVENERS: SIPES and HGS
SEPTEMBER 14-16, 2004

Discover more in 2004!

- **Secure Contracts**
- **Buy, Sell, Trade Prospects and Property**
- **Make Tangible Deals**
- **Build Lifelong Relationships**
- **Reduce Time and Travel Expense**

Perspectives Lunch

Date: Tuesday, September 14, 2004
Time: 11:45–1:00 p.m.
Fee: Included in Combo Pass or $35

Featured Speaker: John Seitz, Co-CEO and Founder, Endeavor International Corp.

APPEX Houston Forum 2004 "Perspectives on the Upstream Business of Oil and Gas"
(please check the APPEX Web site for schedule and updates)

Theme: "The Exploration Dilemma: What is Exploration's Role in Shaping the Energy Future?"

AM: Global exploration issues and outlook
Objective: Explore points of view (POV) from various industry sectors.

Introduction: **Pat Gratton, AAPG President 2004-2005**
Global exploration trends, issues, and outlook: **Pete Stark, VP Industry Relations, IHS Energy**
Major oil company POV: **Philip Behrman, Sr. VP Worldwide Exploration, Marathon**
International NOC POV
Small Independent POV: **Brian Maxsted, Founding Partner and EVP, Kosmos Energy LLC**
Exploration economics: **Leta Smith, Ph.D., Sr. Consultant, IHS Energy**
Independent POV: **Larry Sheppard, VP New Ventures, Vintage Petroleum**
Independent POV: **Bill Schneider, Sr. VP, Newfield International Holdings**
Panel discussion / Q&A session

Perspectives Lunch
Keynote Speaker: **John Seitz, Co-CEO and Founder, Endeavor International Corp.**

PM: North American exploration issues and outlook
Objective: Explore points of view (POV) from various industry sectors.

North American exploration trends, issues, and outlook: **Carl Garrison, Practice Director – Strategic Consulting, IHS Energy**
Independent – Gulf Coast / GOM POV
Small Independent POV: **Rod Erskine, President and Founder, Erskine Exploration**
Independent – Rocky Mountain Region POV: **F.X. O'Keefe, Exploration Manager, Western Gas Resources**
Panel discussion / Q&A session

Exploration Investment Opportunities Forum
Objective: Ten 10-minute slots reserved for selected APPEX Expo participants to present significant international and North American exploration prospects / investment opportunities that will be featured during the Expo.

For information, contact:
Michelle Mayfield Gentzen, American Association of Petroleum Geologists
Fax: 918 560 2684 • E-mail: mmayfiel@aapg.org
Web site: http://appex.aapg.org

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finest citizens in the city and new opportunities will enable our members to enhance our community.

(**A**) This 2004-2005 HGS Board is outstanding and Vice President Kara Bennett has the enormous energy to provide the HGS a superb slate of speakers and programs. Plans for the continuing education programs for the year are nearing final stages and will include "Seismic Petrophysics" by Gordon Van Swearingen and "Subsidence in the Gulf Coast" by Roy Dokka.

Editor Art Berman will provide a first-rate *Bulletin* this year and improve upon an already fine publication. Look for a few changes in this new issue! Have any good subject ideas or articles for Art? If so, he would be delighted to hear from you.

(**B**) Watching the successful development of the NeoGeos and the incredible volunteer spirit within the Houston Museum of Natural Science, I sought a flexible program for all ages to incorporate family, spouses and guests. These "Rockhounds" will arrange local and regional field trips, entertainment and sporting events through announcements in the Website or *Bulletin*. Look for more information on this topic in the Website soon.

(**C**) The needs for the Houston community have never been so great and the HGS has many members that enjoy giving back to the community in their own preferred way. Perhaps it is visiting grade schools or universities as a guest lecturer, participating in home repair projects, assisting inner city youths on a field trip. The Website and *Bulletin* will announce opportunities for members to participate and a forum for announcing new ways to outreach.

Our geological students at the university level need help too. As interest rates have plummeted and contributions to our Calvert Memorial and Undergraduate Foundation scholarships programs have receded – and university fees climbed; the scholarship appropriations don't quite go as far as they once did. To raise awareness of this need and to hopefully raise a few dollars toward the scholarships, the HGS will have a dance next February (near Valentine's Day) currently entitled the "Scholarship Rock Dance" with a live band playing music celebrating 50 years of rock-n-roll. A wine and memorabilia auction will accompany the dance.

The HGS is on the right track and is building momentum to be the best society ever. Climb aboard! ■

HGS *Bulletin* Instructions to Authors

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

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

Figures, maps, diagrams, etc., should be digital files using Adobe Illustrator, Freehand, Canvas or CorelDraw. Files should be saved and submitted in .eps (Adobe Illustrator) format. Send them as separate attachments via email or on a diskette or CD if they are larger than 1 MEG each, accompanied by figure captions that include the file name of the desired image. DO NOT EMBED them into your text document; they must be sent as separate files from the text. DO NOT USE POWERPOINT, CLIP ART or Internet images (72-DPI resolution) as these do not have adequate resolution for the printed page and cannot be accepted. All digital files must have 300-DPI resolution or greater at the approximate size the figure will be printed.

Photographs may be digital or hard copy. Hard copies must be printed on glossy paper with the author's name, photo or figure number and caption on the back. Digital files must be submitted in .jpg or .eps format with 300-DPI or greater resolution at the printing size and be accompanied by figure captions that are linked by the file name of the image. The images should be submitted as individual email attachments (if less than 1 MB) or on CD or zip disk.

Advertising

The *Bulletin* is printed digitally using QuarkXPress. We no longer use negatives or camera-ready advertising material. Call the HGS office for availability of ad space and for digital guidelines and necessary forms or email to ads@hgs.org. Advertising is accepted on a space-available basis. **Deadline for submitting material is 6 weeks prior to the first of the month in which the ad appears.**

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

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

HGS Website Advertising Rates

The Houston Geological Society Website is seen by many people each day. In recent months, we averaged about 15,000 visitors per week. You have four options for advertising your compnay or your services on the Website.

For those companies already advertising in the *Bulletin*, their company names are posted on the Supporter page for free but they have the option to link this to their home page for an additional $10/month fee. If you have a product or service available at no charge, you can post it in the Business Directory at no charge. To arrange to put your ad on our Website or to get more information, send an email to Dave Crane (webmaster@hgs.org) or go to the HGS Website at www.hgs.org/ads.

Geo-related Business Directories can be posted directly by any registered user, subject to approval and payment. Resumes can be posted directly at no charge by any active HGS member and the webmaster will activate it as soon as practical.

	Home Page Logo Ad	Business Directory	Personal Resumes	Link to *Bulletin* Supporter's Web Site (URL)
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Note: Prices subject to change without notice.

Editor's Letter

by ***Arthur E. Berman, editor@hgs.org***

A Lesson about Predictions

"Mr. Vanderbeek would like to see you in his office."

This is what his secretary told me one morning when I answered the phone. I was a young geologist in 1978 working for a major oil company and Jim Vanderbeek was the Vice President and General Manager of Amoco's Denver office.

Vanderbeek was a legend at Amoco. He was responsible for the company's major discoveries and dominant position in the Gulf of Suez and the Utah-Wyoming thrust belt. When the General Office called and told him they had finally concluded negotiations with the Egyptian government and that he could begin building the Gulf of Suez pipeline, he announced that he had already finished it.

"If I'd waited the year or so they wasted trying to get permission, it would have destroyed the value of the investment," he later told me. "You just can't afford to do that in our business."

He had been kidnapped several times while on assignments around the world. He was a well-known big game hunter and could easily have been a character in a Hemingway novel. He was blunt and ruthless with geoscientists and engineers if he felt they didn't really understand the prospects they were presenting to him. He was famous for flicking maps back at the presenter and off the table; this meant it was time to end the presentation. He was part of a generation of oil finders who also ran oil companies. It was a time when geology was scrutinized at the highest levels in major oil companies.

I could not imagine why he wanted to see me that morning as I walked to his office but I assumed that it could not be good. He sat behind his desk smoking a Cuban cigar and had a stack of books in front of him.

"Read these and call me when you're done," he grunted between cigar puffs. That was the end of the interview.

I looked through the books on the way back to my office. They were all about predictions. Most of the books were about predicting oil supplies.

I only remember one of the books but it was characteristic of the group: *The Club of Rome Report. The Club of Rome Report* was written in 1972 by a group of global experts on trends affecting the future of the planet: energy supply, population growth, food supply, and pollution among others. The Club of Rome group had developed a computer model to predict the effect of varying these factors. If, for instance, alternate energy sources to petroleum were immediately found or drastic conservation practices were implemented, we would still be shivering in the dark by 1980 due to depletion of supply (that had not happened because no one anticipated that people would adapt, change their habits and conserve energy). In the meantime, the cumulative effect of population explosion, environmental pollution, and insufficient food supply would result in the end of life as we know it on the planet sometime around 2025. The report concluded that there were no adjustments according to the model that could alter this end-game. It was depressing to say the least.

Knowing predictions are wrong, we should pay attention to them but always be prepared to act as soon as experience proves them wrong.

When I returned the books to Vanderbeek he asked, "What did you learn?"

I replied almost as a question, "That all the predictions were wrong?"

We live in a world and, as geologists, work in businesses that are in constant flux. Vanderbeek's point was if we allow ourselves to be guided by predictions, we

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will be as wrong as the predictions. Knowing predictions are wrong, we should pay attention to them but always be prepared to act as soon as experience proves them wrong.

In oil and gas exploration we are in a business of failure; most of the prospects we drill are unsuccessful. When we have exploration success, full-cycle economics often confound financial benefit. Vanderbeek's perspective was that there is opportunity in the brief lags between price increase and cost equilibration that account for most of the economic reward in the oil business. Failure to act until price increases are generally recognized will certainly mean that associated increases in cost will destroy profit. Only those prepared for the unanticipated will be in a position to benefit because they are ready to act.

When predictions dictate inaction we must resolutely move forward on technical evaluations, acreage acquisition and rig, transportation and price contracts. All other approaches will result in failure unless we somehow get lucky. That was what Jim Vanderbeek wanted me to understand. I will never know why he chose to give me that experience of mentorship but it remains a powerful influence in all aspects my life today, not just in my work as a petroleum geologist.

He was not an easy person to approach and I never thanked him for sharing his experience and insight with me in this strange way. Later I got to know one of his sons. I asked the son what it was like to grow up in Jim Vanderbeek's house. He said it was fine if you didn't mind feeling like you were making a committee presentation at the breakfast table.

The last time I saw Jim before he died was at the retirement party for the same secretary who had called me on that distant morning in 1978 to summon me to Vanderbeek's office. He came up from behind and put his hand on my shoulder.

"Is anyone still looking for oil and gas around here or should I sell all my Amoco stock?"

I'll say now what I never found the time or place to say then: Thanks, Jim. ■

Letter to the Editor

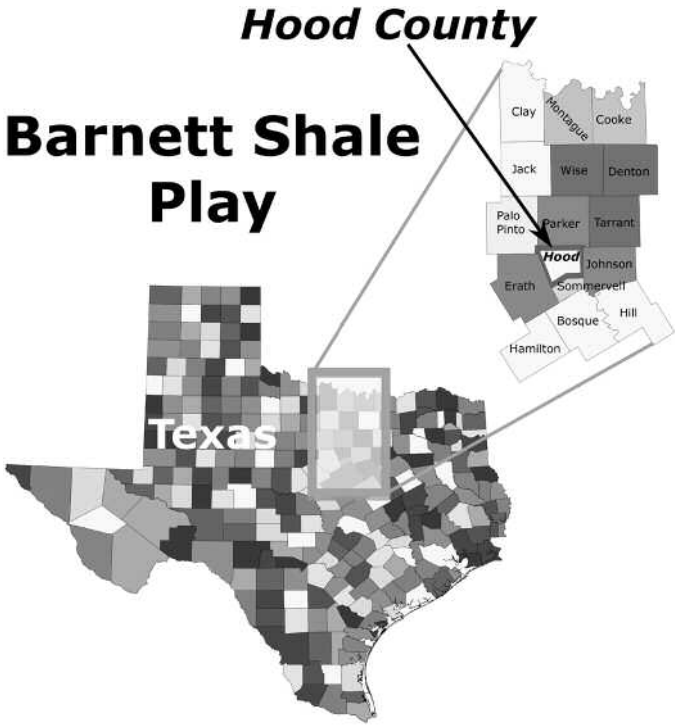
The Barnett in My Backyard...Dammit!

by ***Joshua H. Rosenfield***

The author

The Brazos River, Hood County, Texas

I'm a petroleum geologist. I'm also a consumer who burns oil and gas. After 35 years doing petroleum exploration, however, I've retired in the northern Hill Country of Texas on a beautiful place along the Brazos River. One of my criteria in selecting this site was that I didn't want to be anywhere around the noise, traffic, stink and potential danger of petroleum operations.



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I did my homework on the geology of my piece of paradise. It is at the deep end of the Fort Worth Basin just west of the Ouachita Trend (that graveyard for explorationists). The area is characterized by Paleozoic, basinal shales and carbonates with a relatively thin Mesozoic section, no structural traps and many dry holes. If ever someplace was condemned, I had found it! If there was a place without hydrocarbon potential, this was it!

So I bought into my dream with little concern that the land developer had kept the mineral rights. I should never have overlooked something that Jim Vandebeek told all of us exploration geologists in Amoco...something that had been beaten into me, time and again, by those pesky risk committees that insisted on the equal weighting for source, trap, reservoir and generation timing. Vanderbeek would say something like: "Show me the source rock and don't worry so much about the rest of that crap!" The essential truth of this philosophy has now come back to bite me because the Barnett shale is a great source rock, albeit associated with lousy reservoirs, in a vast, amorphous stratigraphic trap.

In my day, the Barnett play would have been summarily discarded by any self-respecting risk committee;, the combination of horizontal drilling, however, hydraulic fracturing and 3D seismic, aided by persistently high gas prices and tax incentives, have made it the hottest onshore play in Texas and probably in the whole U.S. The Barnett "core area" around the city of Fort Worth is being drilled unrelentingly in **Letter to the Editor** *continued on page 15*

Letter to the Editor continued from page 13

the biggest clash between hydrocarbon development and urbanization since the Los Angeles basin was developed in the early to mid-20th century

In an effort to monetize Barnett gas, the mineral rights owners, the lease operators and city and county administrations are working hand-in-hand. The surface owners with no mineral rights are at the mercy of these large stake-holders. As a matter of fact, by law, the surface land owner in Texas has less to say over what happens on and around his land than the Amazonian Indians of Peru, Ecuador and Colombia.

Barnett Shale drilling location, Johnson County, Texas

Anyway...one day we were called to a meeting of the subdivision property owners to hear about a 3D seismic program planned for our area. I was surprised by this since the Barnett "core" producing area is about 30 miles away, although production has more recently been established within 12 miles. What is going on now is a leasing frenzy wherever the Barnett exists, including hitherto "condemned" areas. In the meeting we were each offered $25 to allow the seismic contractor unfettered access to our property. Gee whiz! A whole $25!

Needless to say, this provoked an uproar, along with many colorful suggestions about what the operator could do with his $25. Of course, the seismic crew could have come onto our land with or without our permission (that good old Texas law!) but they quickly realized that they would need to do so with court orders in hand, police by their sides and night guards for the SGR boxes and cables to avoid finding them piled up on the side of the road every morning. They decided to forego data acquisition on our properties, which was a victory since our refusal to submit took a big chunk out of the 3D data.

As it stands now, a horizontal well will be drilled under our subdivision from a location across the Brazos River. We landowners are obviously hoping for a dry hole. Geologically, we have reasons to be optimistic that it will fail. The Barnett here is only 200 feet thick compared to 700 feet in the "core area". The critical bottom seal (Viola limestone) is absent in this part of the trend making it difficult to frac the Barnett without getting into the wet, cavernous Ellenberger Formation, especially where faulting is present. The 3D survey was designed to locate the faults but the data may have been sufficiently degraded to blur this determination.

So this is a classic case of NIMBY(not in my backyard)...but I don't suppose that the operator's executives or the mayor of our town or the mineral rights owners have wells going down on their homesteads; if they do, they have my sympathy. ■

FREE SEMINAR

Flooding in Houston Metropolitan Area

Past - Present - Future

An ECH "Houston in the 21st Century" Seminar

Sponsored By

The Engineering, Science & Technology Council of Houston (ECH) &
Harris County Flood Control District

Saturday, September 11, 2004

9:00 AM to 3:00 PM

Cy-Fair College • Building 5 College Center Auditorium • 9191 Barker Cypress Rd, Cypress, TX 77433

Sessions

Session 1 - Flooding Experiences in Houston Area - 1935 to Present

Andrew Yung, P.E., Dodson and Associates

TOPICS: How can we connect past flooding with our present experiences and learn from those past experiences. Review flooding history in the Houston area, using Tropical Storm Allison as an example. Learn about tools for anticipating and dealing with flooding in your area.

Session 2 – Flood Plain Regulation Programs

City of Houston Flood Plain Adminstrator

TOPICS: How does the flood insurance program and flood plain regulation affect us. Review of flood insurance information and new land development regulations.

Session 3 - TSARP and Beyond

Harris County Flood Control District

TOPIC: Discussion of the options facing the area governmental jurisdictions in the aftermath of the watershed re-study of Harris County.

Session 4 - Panel Discussion of Technical Challenges

Panel Members:

- *Panel Moderator – Philip B. Bedient, PhD, P.E., Department of Civil & Environmental Engineering, Rice University*
- *A Representative of the Harris County Flood Control District*
- *Richard Smith, President, Cypress Creek Flood Control Coalition*
- *Andrew Yung, P.E., CFM, Dodson and Associates,Inc.*
- *Invited Elected Official (To Be Announced)*
- *Invited Media Meteorological Representative (To Be Announced)*

Session 5 - Review of Flood Insurance Rate Map

Diana Herrera, Harris County Flood Plain Adminstration Office

TOPICS: What does the the Harris County flood insurance rate map look like and how does it affect you. Where did the data for the map come from. How often will the information be revised.

Campus Directions

To access the college from Highway 290, take the Barker-Cypress exit traveling west. At the first traffic light, make a left turn traveling south. Travel to the intersection of West Rd. Make a right turn and follow the traffic signage to the campus.

Houston in the 21st Century Seminar Program

by Richard Howe

The Engineering, Science, and Technology Council of Houston (ECH) is sponsoring a series of seminars that will address the various technical issues that are affectting and will affect the Houston Metropolitan Area in the 21st Century. This program of seminars is entitled "Houston in the 21st Century." ECH hopes to hold one to two seminars each year. The first seminar of the series is scheduled September 11, 2004 and will address flooding. Other proposed topics include: coastal subsidence, transportation, water resources and distribution, air quality, expansive clays and their impact on construction, emerging health and medical challenges and their impact on the quality of life, and regional energy requirements and power distribution.

The purpose of these seminars is to educate the public on technical issues that affect them and to provide a forum for technical exchange between scientists and engineers in the private sector, academicians, and technocrats.

The purpose of these seminars is to educate the public on technical issues that affect them and to provide a forum for technical exchange between scientists and engineers in the private sector, academicians and technocrats. Members of the public with interests specific to the seminar topic, elected officials, the news media, the science and engineering community and science educators are invited to attend. The format of the meeting is non-political and no particular views or ideologies will be advanced.

ECH is an umbrella organization of twenty-two engineering, science and technological societies located in Houston. Many of these organizations are local chapters of national societies. ECH's function is to advance engineering, science and technology through education and interdisciplinary communication. ECH was originally founded in 1948 as the Engineering Council of Houston, hence the "ECH" acronym. Initially an engineering society, ECH expanded its enrollment over the following decades to include scientific and technological societies. In 1995 ECH formally changed its name to the Engineering, Science, and Technology Council of Houston.

ECH's educational efforts include co-sponsoring the Science and Engineering Fair of Houston and summer internships at the Houston Museum of Natural Science. ECH annually presents excellence in education awards for area secondary school science and math programs. ECH is currently developing a mentor program that will foster interest among young people in science and engineering. ECH helped establish the memorial to the crew of Space Shuttle Challenger at Tranquility Park and is currently developing a similar memorial for the crew of Columbia.

Claudia Ludwig and Richard Howe are HGS's representatives to ECH. Claudia is a past-president of ECH and Richard is this year's president of ECH. ■

2004 HGMS Gem, Jewelry, Mineral & Fossil Show

Three days of fun for the whole family!

September 24–26, 2004

This year's show will feature more than 40 gem, jewelry, mineral, lapidary, and fossil dealers. Everyone in the family will enjoy:

- "Stan" the world-famous Tyrannosaurus rex skull replica.
- Continuous children's activities (including Friday's earth science-based school field trip and education program and the Scout merit badge program on Saturday and Sunday).
- Demonstrations of jewelry-making and gemstone cutting.
- Expert identification of gemstones, minerals, and fossils.
- Educational displays, including a fluorescent rock room.

HOUSTON GEM AND MINERAL SOCIETY

WHEN: September 24–26
Friday 9 a.m.–6 p.m. (Kids' Day)
Saturday: 9 a.m.–6 p.m.
Sunday: 10 a.m.–5 p.m.

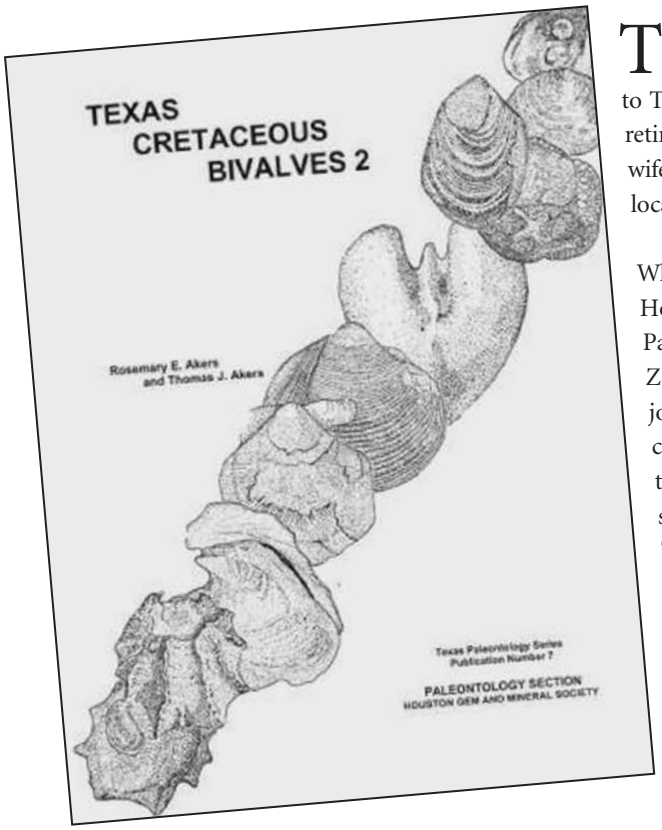
TICKETS: (good for all three days)
Adults: $5
Students, Teachers, Seniors: $3
Children under 12: FREE

LOCATION:
Humble Convention Center
8233 Will Clayton Parkway, Humble, TX
FREE PARKING!

For more information, visit HGMS online at www.hgms.org or e-mail show@hgms.org

Fossils, During and After Oil: a Profile of Tom Akers

by ***Neal Immega***



There is life after oil companies and Tom Akers is a shining example. Retiring at 56 he has switched jobs from professional chemist/engineer to Texas paleontologist. Tom worked for Shell Oil Company for 33 years he retired to Houston in 1987 and really got serious about fossils. Tom and his wife Rosemary were introduced to trilobite collecting by his boss at the classic locality at Grafton, Illinois and other Paleozoic localities in the mid-west.

When Tom arrived in Houston in 1973 he found like-minded people at the Houston Gem and Mineral Society such as Irene Offeman (Curator of Paleontology, at the Houston Musuem of Natural Science) and Dick Zingula (Paleontologist, Exxon). Tom and Rosemary took classes and joined a study group that got them started on their first big project to compile, describe and publish every Cretaceous bivalve in Texas. Tom thought this would be a useful addition to the literature because many species had been described since the last compendium came out in 1928. The key person in this was Rosemary who did drawings for each species. More books followed (some with other club members): *Texas Echinoids* in 1987, *Texas Pennsylvanian Brachiopods* in 1990, and *Texas Ammonites* in 1994. The series has come full-circle with the remake in 2002 of the *Texas Bivalve* book which expanded ten-fold in size. All these books are available from the Houston Gem and Mineral Society web site at www.hgms.org along with an autobiographical sketch of Tom. ■

Monday, September 13, 2004

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

Cost: $25 Preregistered members; $30 Nonmembers & 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, e-mail address, meeting you are attending, phone number and membership ID#).

HGS General Dinner Meeting

*by **Michael G. Moore** and **Bryan C. Delph***
BHP Billiton Petroleum (Americas) Inc., Houston TX

Play Concepts in an Emerging Major Hydrocarbon Province in the Ultra-Deep Water Gulf of Mexico

A major hydrocarbon province has been opened up in the four corners area of southwestern Atwater Valley, southeastern Green Canyon, northeast Walker Ridge, and northwest Lund in the ultra-deep water Gulf of Mexico. Since 1995, 11 hydrocarbon accumulations have been discovered with a reserve potential of more than two billion barrels. Two major plays exist in the trend; a Middle and Lower Miocene submarine fan sand reservoir play and a Pre-Miocene distal submarine fan sand reservoir play.

Since 1995, 11 hydrocarbon accumulations have been discovered with a reserve potential of more than two billion barrels.

The first play type is amalgamated and layered sheet sands, of Middle and Lower Miocene age deposited by submarine fan systems. The two main trap types are large salt-cored faulted, compressional anticlines and faulted 3-way closures against salt. There are currently eight discoveries in this play type.

The second play type consists of distal submarine fan sheet sands of Pre-Miocene age deposited on the abyssal plain and trapped on salt pillow structures. This play type has yielded three discoveries in the area.

Both plays are sourced by hydrocarbon generated from Upper Jurassic to Lower Cretaceous carbonates and marls. Significant hydrocarbon accumulations are still being discovered in this prolific frontier province as improved seismic imaging allows exploration under the shallow Sigsbee salt canopy. ■

Biographical Sketch

Mike Moore was born and raised in New Hampshire. He developed an interest in geology by cracking open rocks left behind by retreating Pleistocene glaciers. He graduated from the University of New Hampshire in 1976 with a BS degree in Geology. Mike went on to attend the University of Alaska at Fairbanks where he mapped Carboniferous limestone turbidites along the Yukon River in east-central Alaska for his thesis. He graduated in 1979 with an MS degree in Geology and went to work for Exxon in New Orleans, where he held several exploration and development positions, mainly in the Gulf of Mexico. Mike joined BHP in 1993 and has been involved in the exploration and appraisal of the Western Atwater Foldbelt since 1995, including the discoveries at Atlantis and Mad Dog fields. For the last two years Mike has served as the Geological Advisor to BHP Billiton's Gulf of Mexico exploration program.

Thursday, September 16, 2004

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

Cost: $25
Call or email Dale Bird, by noon Tuesday, September 14
281-463-3816 or dale@birdgeo.com

GSH
Dinner Meeting

by ***William C. Pearson,***
Pearson Technologies, Lakewood, Colorado
Richard F. Inden,
LSSI, Denver, Colorado

High Resolution Aeromagnetic Evidence for Deep Seated Structural and Fault Control on Hydrocarbon Entrapment and New Oil and Gas Targets – East Texas and Northwest Louisiana

The relationships between structurally and stratigraphically entrapped oil and gas fields and underlying magnetic basement along the southern margin of the East Texas basin and southern and eastern flanks of the Sabine Uplift in Louisiana have been evaluated by integrating a high resolution aeromagnetic survey with a comprehensive Lower Cretaceous subsurface geologic dataset. Well control and field studies confirm that structures and faults are instrumental in controlling reservoir entrapment. The location of fields in this system, along with production from a variety of Woodbine, Austin Chalk, and deeper reservoirs, bears a direct relationship to deep, wrench fault-related structures imposed on the basement during the Ouachita – Marathon Orogeny and re-activated during various episodes of readjustment throughout the development of the Gulf of Mexico.

Inter-relationships suggest that paleostructural trends exerted a strong influence on deposition, reservoir development and hydrocarbon entrapment.

The aeromagnetic survey entails 25,000 line-miles of high resolution aeromagnetic data that was flown with a half-mile by one-mile flight-line grid. Flight altitude was 500 feet above ground. Surveying utilized GPS navigation, digital diurnal monitoring, high sensitivity Cesium vapor magnetometer and video ground recording. Careful de-culturing, profile analysis and grid filtering produced impressive images of residual structural highs, basement faults, intrasedimentary faults and regional wrench faults. Color SUNMAG/AUTOFAULT and gray shade images highlight the structure and fault trends at selected "pseudo depth slices". Detailed 2-D Werner and 3-D Euler depth estimation provide a series of fault picks at different depths in the section.

The subsurface dataset incorporates over 40 sequence stratigraphic picks, net porosity evaluations from over 1000 wells and core descriptions in eastern Texas and western Louisiana. Inter-relationships were examined among oil and gas production, aeromagnetic fault and structural patterns and isopach and porosity patterns within Lower Cretaceous stratigraphic intervals. These suggest that paleostructural trends exerted a strong influence on deposition, reservoir development and hydrocarbon entrapment. These relationships also suggest that this approach can be utilized to define exploration lead areas in other stratigraphic, structural and fracture plays both shallower and deeper where subsurface control is sparse or non-existent. This integrated approach is shown to be a good, non-invasive exploration tool for prospecting in advance of leasing and 3D seismic shooting. ■

Biographical Sketches

Bill Pearson is the founder and owner of Pearson Technologies, Inc. in Denver, Colorado. His company provides petroleum exploration gravity and magnetic consulting services and surveys to oil and gas companies and Mining companies. His focus has been on consulting, software development and industry schools. Bill earned a BS in geophysical engineering from the Colorado School of Mines in 1970 and a PhD in oceanography from the University of Washington in Seattle in 1975. Bill began his petroleum exploration career at Amoco as a seismic processor, programmer and interpreter before leaving to pursue a consulting career at EDCON and then with small consulting companies he founded and co-founded. Bill has been active in SEG work including eight years on the Scholarship Committee, **GSH** *continued on page 23*

Thursday, September 16, 2004

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

Cost: $30 Pre-registered (see deadline below) members, affiliate, and guests; $33 Non-members and walk-ups.

Make your reservations by telephone, fax, or e-mail to
Mrs. B. K. Starbuck-Buongiorno
Telephone: (713)651-1639, Fax: (713)951-9659, e-mail: bkspee@aol.com

SIPES
Luncheon Meeting

by ***Roger A. Young,***
eSeis, Inc.

New AVO Classification to Develop High-Quality Prospects in the Gulf Coast

A new classification for AVO (amplitude versus offset) is proposed that considers all clastic reservoirs regardless of the polarity of impedance contrast with the overlying shale or its change with increasing offset. The new classification includes ten classes of AVO types.

Examples from the Gulf Coast illustrate the application of this approach in exploration for pressured Wilcox objectives: typical, type II and less-common, type III AVO responses can be productive. Other examples include a classic "AVO-flip" where pressured, brine-filled sand has a negative AVO response and the gas-filled case has a positive AVO response. ■

Roger holds an MS in Petroleum Engineering from the University of Houston and a BS in Physics from Clarkson College of Technology. Roger is an active member of SEG, SPE, AAPG, SPWLA and HGS.

Biographical Sketch

Roger Young is Chief Technology Officer and Co-Founder of eSeis, Inc. and has 23 years of industry experience. Prior to eSeis, Roger worked as a petrophysicist for Union Texas, an integration engineer for Grumman and a logging engineer for Schlumberger.

SIPES
One Day Seminar
New Reserves from Mature Trends in the Onshore Gulf Coast
page 26

GSH *continued from page 21*

one as its chairman. He has been involved in the Geophysical Integration Committee (SEG and AAPG). He has been co-chairman of the Denver Geophysical Society's and Rocky Mountain Association of Geologists' annual 3D Seismic Symposium for ten years and running. This symposium has attracted nearly 500 attendees to view state of the art 3D seismic techniques, results and case histories. Bill is currently helping with the 2004 SEG Convention on the technical program committee. Bill is a member of SEG, AAPG, Houston Geological Society, Denver Geophysical Society, Rocky Mountain Association of Geologists and is a registered Professional Geoscientist for the State of Texas.

Dick Inden is a carbonate sedimentologist/stratigrapher who has more than twenty years in the petroleum industry, university teaching, and government agencies In 1985, he founded LSSI, a geological consulting firm specializing in the detailed evaluation of carbonate reservoir systems, basin stratigraphic analysis, and prospect generation. He has experience as a consulting geologist on projects throughout most of the United States, as well as Central America, South America, Europe, Africa, and Australia. Dick received his PhD in Geology from Louisiana State University with post-doctorate work at the University of South Carolina and he taught at the University of South Carolina and Kent State University. Dick has worked with the United States Geological Survey in their Basin Studies Group, with Superior Oil Company as Head of their Stratigraphic Analysis Group, and with MRO & Associates as an exploration geologist generating prospects in the Silurian Reef trend in the Illinois Basin. He has taught the industry short course, "Exploration for Carbonate Reservoirs," in Denver and to geologists from developing countries. He is a member of the American Association of Petroleum Geologists (AAPG), the Society of Economic Paleontologists and Mineralogists (SEPM), and the Rocky Mountain Association of Geologists (RMAG).

Monday, September 20, 2004

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

Cost: $25 Preregistered members; $30 Nonmembers & 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, e-mail address, meeting you are attending, phone number and membership ID#).

International Explorationists
Dinner Meeting

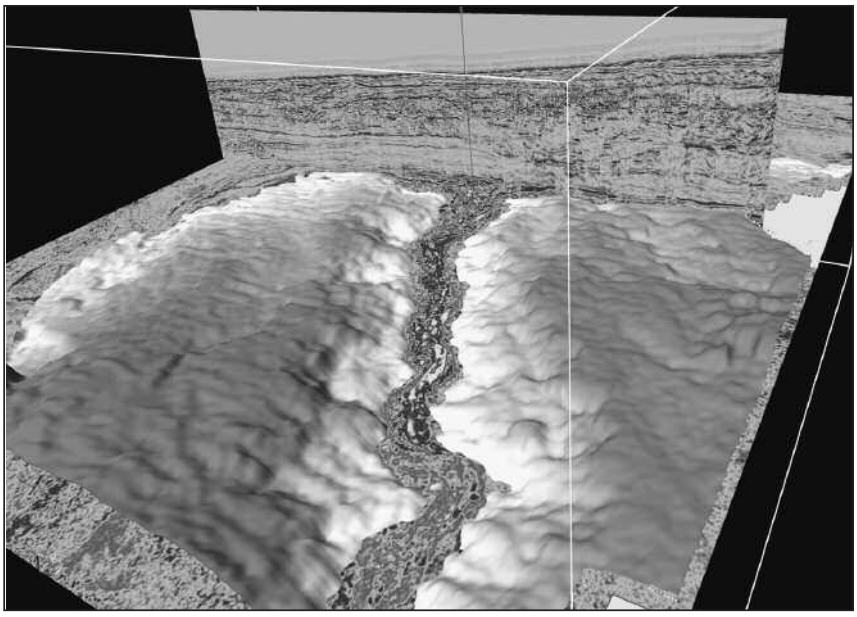
by ***Paul J. Boucher,*** *BP, Houston, TX,*
John C. Dolson, *BP, Sunbury-on-Thames, U.K.,*
Jerry Siok, *BP-Egypt, Cairo, Egypt,*
Philip D. Heppard, *BP, Houston, TX*

Key Challenges to Realizing Full Potential in an Emerging Giant Gas Province: Nile Delta/Mediterranean Offshore, Deep Water, Egypt

The Nile Delta is an emerging giant gas province with proven reserves of approximately 42 TCF with approximately 50 TCF yet to find. This resource has more than doubled in the last three years, largely from successful deep water exploration for Pliocene slope-channel systems. Proven reservoirs vary in age from Oligocene-Early Miocene through Pleistocene. Proven source rocks include Jurassic coals and shales and the Lower Miocene condensed Qantara Formation shales. Additional source rocks may be present in condensed intervals of Cretaceous, Oligocene and Eocene age.

The Nile Delta is an emerging giant gas province with proven reserves of approximately 42 TCF with approximately 50 TCF yet to find.

Following Tethyan rifting and opening of the Mediterranean in the Jurassic, prominent Cretaceous mixed clastic and carbonate shelf edges aggraded vertically along a steep fault-bounded shelf-slope break. This 'hingeline' in northern Egypt exerts the fundamental control on reservoir distribution in Tertiary strata. In late Eocene time, northern Egypt was tilted toward the Mediterranean during regional uplift associated with the opening of the Gulf of Suez and Red Sea rifts. Drainage systems shed reservoir quality sediments northward in a series of forced regressions. These regressions culminated in beheading of the youngest deltas by subaerial erosion during the sealevel low-stand associated with the Messinian salinity crisis. Early Pliocene transgressions deposited a thick sealing interval over the low-stand Messinian valley networks. Renewed deltaic deposition began at approximately 3.8 MA.



The steep structural hingeline and faulted continental shelf created a large amount of accommodation space with relatively minor progradation of depositional systems. As a result, the primary play consists of slope-channel fairways in all levels. The Plio-Pleistocene systems are the shallowest targets in the basin that hold the majority of proven reserves. Future large reserve growth will come from the pre-Messinian strata.

BP with partner RWE-DEA, recently completed

International Explorationists *continued on page 27*

The SIPES Houston Chapter presents their Fall 2004 Continuing Education Seminar:

"New Reserves from Mature Trends in the Onshore Gulf Coast"

Friday, September 30, 2004

This one-day Seminar will feature the latest concepts, workflows and technologies to locate new opportunities in some of the significant trends of the Onshore Gulf Coast. Success strategies often vary by trend so papers have been selected for their relevance to current best practices and new developments.

Speakers from majors, independents, consultants, technology vendors and universities will present recent field development case histories, results of new technologies and advancements ranging from depositional concepts to reservoir definition. Whole core displays from the UT Bureau of Economic Geology and Oklahoma State University, courtesy of Kerr-McGee, will be presented during morning, pre-luncheon & afternoon breaks to enhance understanding of the relationships between these new concepts and the reservoir rock.

Presentations and Speakers

Regional GOM Onshore HC Potential		Tom Ewing	Frontera Exploration
Olmos Downdip: Deepwater Sands		Jory Pacht	Seis-Strat Services
Wilcox Shelf Margins	[Core]	Marc Edwards	Wilcox Research
Wilcox-Lobo 3D Prestack Inversion		Phil Anno	ConocoPhillips
Expanded Frio Stratigraphy	[Core]	Frank Brown	UTBEG
Expanded Frio Compartmentalization	[Core]	Ursula Hammes	UTBEG
Louisiana Eocene Seq. Strat - Luncheon Keynote, SIPES DL		Mike Fogarty*	Consultant
Burgos Basin Frequency Analysis		John Castagna	Fusion Geophysical
Vicksburg Stratigraphy, Diagenesis & Petrophysics	[Core]	Jim Puckette	Oklahoma State University
Brookshire Dome		Ray Blackhall	Cosara Energy
Barnett Shale Frac Imaging		Kevin Fisher	Pinnacle Technologies
Bossier Sand Seismic Stratigraphy and Structure, SIPES DL		George Klein*	SED-STRAT Consultants
Cotton Valley - Overton Field		Alan Stubblefield	SouthWestern Energy
Smackover - Grayson Field Calibration		Kevin Hill	Hill Geoscience Consulting
South Louisiana Miocene Field Calibration		Tom Wingate	Amerada Hess
South Louisiana Miocene - Lake Washington		Bill Moody	Swift Energy

** SIPES Foundation Distinguished Lecturers*

This Seminar will be held at the Petroleum Club of Houston, 800 Bell St., 43rd floor of the Exxon Tower, Houston, Texas. Valet Parking available. Registration includes a Binder of the Proceedings; a Continental Breakfast 7:30-8:30 a.m.; Seminar 8:30 a.m-5:00 p.m. with Luncheon and Afternoon Refreshments.

Registration

By August 20	$ 125 for SIPES Members	$ 145 for Nonmembers
By Sept. 20	$ 145 for SIPES Members	$ 165 for Nonmembers
After Sept. 20 (space available)	$ 165 for SIPES Members	$ 185 for Nonmembers

For Registration or Advertising information, please contact SIPES Houston Chapter
2004 Continuing Education Chair, Scott Sechrist, at acoustic@airmail.net, or 713-598-2350.

REGISTRATION FORM
SIPES Houston Chapter 2004 Continuing Education Seminar

Name: _____ Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone:_____ Email: _____

Look for updates at SIPES Houston online at http://www.sipes-houston.org/, and Register ***online***. Payment must be sent by mail; please make checks payable to ***'SIPES Houston Chapter'***. Return this form with your check (one per registrant) to:
SIPES Houston Office, Attn: Cont Ed Seminar
c/o Mrs. B.K. Buongiorno Bkspee@aol.com
1001 McKinney, Suite 801 Houston, TX 77002 713-651-1639

International Explorationists continued from page 25

a test of the pre-Messinian slope channel play. The Raven-1 wildcat well was drilled to test an early Miocene slope channel system in the western Nile Delta. The well was drilled in 650 meters of water to TD 4976 meters TVD. The well tested at a rate of approximately 37.4 million standard cubic feet per day and 740 barrels of condensate per day from lower Miocene channel sands. The Raven-1 well is being followed by tests of Miocene age strata in the Polaris-1 well.

Nile Delta gas resources lie close to emerging and established markets in the Mediterranean. Challenges to capturing the deeper pre-Messinian prize include:

1) Establishing favorable economic terms for export and domestic markets
2) Reducing drilling costs and optimization of wellbore patterns to develop multiple stacked objectives
3) Working in deep water and high pressure environments
4) Developing predictive models for pressure regressions in over-pressured reservoir fairways
5) Recognizing and exploiting "thin, bedded" low resistivity pay

Biographical Sketches

Paul J Boucher received a BS in geology in 1990 from Salem State College in Salem, Massachusetts and an MS in geophysics from Texas A&M University in1994. At that time Paul joined Amoco in Houston and began working on various projects in support of their operations in Egypt. He moved to Cairo, Egypt in 1998 to work on regional and prospect level mapping projects in the Nile Delta. He joined the BP western Nile Delta team in 2000 and was involved in the discovery of numerous large gas and gas condensate fields on the offshore Nile Delta. His main interests are exploring for hydrocarbons through integrated seismic sequence stratigraphy and petroleum systems analysis. He is currently working in the BP Brazil Deep Water Performance Unit as a senior explorer in the Foz do Amazonas area.

John Dolson has been a petroleum geologist for over 24 years with BP and formerly Amoco. He has a wide background varying from frontier exploration to field and reservoir management. He is currently the Exploration Advisor for TNK-BP New Ventures in the Russian Federation, where he lives in Moscow with his wife Debbie. John's primary interests lie in integrated sequence stratigraphy and workstation technologies which reduce risk in reservoir and trap detection and petroleum systems analysis. He is the senior author of AAPG's "Exploring for Stratigraphic Traps" in its Handbook of Petroleum Exploration and has authored over 50 papers and published two books. He lived in Cairo, Egypt for 8 ½ years where he raised a family and had the opportunity to explore in all of Egypt's basins. He moved to London in 2003 as an Exploration Advisor for BP. He was honored in 2004 with AAPG's Distinguished Public Service Award.

Philip D. Heppard is a geologist with BP in Houston, Texas. Philip received his BS in geology from Juniata College, Pennsylvania, in 1977 and his MS in geology from the University of Akron, Ohio, in 1984. He joined Amoco in 1979 and has worked as a development geologist in the Permian Basin and Trinidad, West Indies. Since 1988 Philip has been a pore pressure expert supporting BP's worldwide exploration and development efforts, most recently in their Exploration and Production Technology Group. His interest has been the integration of well and seismic data to predict overpressure in the subsurface for well planning and evaluation of seal quality.

Jerry Siok is a Certified Professional Geologist with 19 years experience performing a variety of subsurface resource assessments. He has 16 years experience as an exploration, appraisal and reservoir geologist for BP Exploration. Jerry is currently working for BP Egypt exploring for gas in the deep water areas of the Nile Delta. He has worked extensively in Alaska on projects ranging from new field appraisal and development at Northstar to detailed reservoir assessments and infill drilling with Coiled Tubing Rigs in Prudhoe Bay. He has also explored for fresh water resources in Alaska and applied shallow geophysical techniques to assess ground water contamination and develop remediation plans.

Tuesday, September 21, 2004

Environmental and Engineering Group Dinner Meeting

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 Nonmembers & 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 ***Richard Bost, P.G., P.E., CGWP Principal***
Environmental Resources Management (ERM)

WHAT IS MSD?

There are many areas in the state that have widespread, contaminated, shallow ground water. This ground water is not being used as potable water by anyone and the costs of cleaning it to unnecessarily high standards often exceeds the cost of the land. Consequently, the Texas Legislature passed House Bill 3152 in order to establish certain areas as Municipal Setting Designations (MSDs).

Over the years, the ground water at and downgradient of numerous properties in Texas has been affected by releases of hazardous substances. Expensive investigations and cleanup are not always effective. In nearly all cases, affected shallow ground water does not pose health risks unless ground water is used for potable purposes. House Bill 3152 allows the establishment of Municipal Setting Designations (MSDs), which excuses parties from investigation and cleanup requirements for shallow ground water plumes in urban areas where alternate water sources are available.

The establishment of Municipal Setting Designations (MSDs) excuses parties from investigation and cleanup requirements for shallow ground water plumes in urban areas where alternate water sources are available

The Bill was endorsed by the cities of Dallas, Houston and San Antonio, as well as the Texas Municipal League. It was supported by the Texas Commission on Environmental Quality (TCEQ), and received EPA's approval. House Bill 3152 will promote business, reduce TCEQ's site backlog and will promote economic development.

Responsible parties in an area with a MSD certificate will be able to amend their ground water remediation efforts as follows. Proposed MSDs must meet the following requirements to receive a MSD certificate from the Texas Commission on Environmental Quality (TCEQ):

- The proposed MSD must be within the limits or jurisdiction of a city with a population of at least 20,000.
- A public drinking water supply must be available to the proposed MSD and the property within one-half mile of the MSD.
- A notice explaining the proposed MSD must be sent to each city within one-half mile, each private registered well owner within five miles, and each public utility operating a ground water supply well within five miles of the MSD before the application is submitted.
- Each city and public utility the proposed MSD affects must support the MSD and pass enforceable ordinances that prohibit the use of the designated ground water in the MSD.

For a fee of $1000 anyone can submit an application for a MSD to the executive director of the TCEQ. Once all of the requirements have been met and the executive director determines that the proposed MSD will not negatively affect a regional water supply now or in the future, the TCEQ may issue a MSD certificate.

The TCEQ may require the applicant to:

- Determine whether or not humans or ecological resources are negatively impacted in areas where there are no potable water wells within one-half mile of the MSD. No further investigation or corrective action will be required if the investigation reveals no adverse affects.
- Take corrective action in situations where contact with ground water could cause harm.
- If potable wells are located within one-half mile of the MSD, determine if human health and ecological standards are exceeded within the area one half mile from the MSD. No further investigation or corrective action will be required if the standards are not exceeded.
- Corrective action must be taken if the standards are exceeded within the one-half mile area.
- If ground water remediation is conducted within the one-half mile area to meet the requirements of the MSD, a reliable alternative water supply must be provided to the owners of the impacted potable wells (given

Environmental *continued on page 31*

Environmental and Engineering

continued from page 28

their permission) during the time that the standards are exceeded, and the MSD must be expanded to include the properties with the impacted potable water wells.

While obtaining a MSD certificate may reduce the amount of ground water remediation required for a certain area, the certificate does not prevent others from claiming personal injury or property damage caused by ground water contamination. ■

Biographical Sketch

Richard Bost, a professional engineer and professional geoscientist, has been a partner with Environmental Resources Management (ERM) for 15 years. Mr. Bost has over twenty five years of experience providing spill emergency response, risk-based remediation and related spill response legal support consulting services to the petrochemical, transportation and oil and gas industry. He is considered an expert in remediating chlorinated solvent plumes and in environmental forensics. He has provided expert consulting services regarding state-of-the-art site investigation and remediation technologies and has been teaching short courses and seminars on the subject in the Houston area since 1987.

Prior to joining ERM in 1984, he served as operations trouble-shooter for the Strategic Petroleum Reserve and served as an assessment specialist for historical affects from oil and gas activities, oil and gas and waste injection well operations, cavern leaching and transfer operations, and for closure for old oil and gas facilities. He subsequently worked primarily dealing with Superfund sites and multi-aquifer RCRA remediation projects and facilitated the patenting of bioremediation techniques and EPA approval of the first natural attenuation remedies in Region 6. He graduated from Rice University in 1978 with a Masters Degree in Water Resources Management that included a concentration of courses in public health. Prior to that he worked at the Texas Air Control Board, performing air quality studies and developing regional air quality models. Accordingly, he has testified as a comparative risk expert and remediation expert in several cases and contributed to the successful overturn of EPA remedy selection for two different Superfund Sites. In recognition of his contributions to the field of environmental engineering and assistance with several Brownfield projects, Rice University recognized Mr. Bost as the outstanding engineer alumnus for the year 2002. He previously was appointed by Governor of Texas to Task Force 21, an advisory group to the predecessor to the TCEQ and has served on several water quality advisory committees. He also participated in the initial development of the Texas Risk Reduction Rules and provided input on the development of the MSD rules.

Seismic Considerations for Classifying Proven Resources/Reserves: West Africa Example

by ***Jeffrey S. Ogilvie*** *and* ***Bill L. Keyser,*** *ChevronTexaco*

(Note: The following paper will be presented at the 74th SEG Annual Convention, October 2004. Expanded abstract available through the SEG)

It is important for planning and reporting that corporations have a clear assessment of the volumetric quantities of hydrocarbons as both Stock Tank Oil Initially In-Place/Gas Initially In-Place (STOIIP/GIIP) and recoverable resource/reserves. Recently developed and approved by the SPE, AAPG, and World Petroleum Congress is the 6P reserve/resource categorization system adopted by numerous oil and gas companies. Geophysical technology and its application often referred to as "seismic considerations" can have significant impact on reserve/resource classification and available bookings under this system. The purpose of this paper is to recommend and demonstrate a set of clear yet stringent guidelines for the proper application of such geophysical technology when classifying resources/reserves. A case example from offshore West Africa shows how geophysical tools such as optical stacks, rock property analysis, fluid substitution, seismic synthetics, and 3D amplitude extractions can be integrated with well log data to aid reserve/resource classification both below the LKH (lowest known hydrocarbon) and above the HKH (highest known hydrocarbon). An appropriate level of sophistication and redundancy is suggested as necessary to meet SEC guidelines of *"reasonable certainty"* to book proved resources/reserves using seismic.

The key standard for the definition of Proved Reserves in the United States is the Security and Exchange Commission Regulation S-X (17 CFR 210.4-10 – 11/88). For Probable and Possible Reserves and for Contingent Resources the reference standard is *Petroleum Reserves Definition of Society of Petroleum Engineers (SPE, 1987, 1997, 1998) and the World Petroleum Congress* (WPC, 1997).

Under regulation S-X, rule 210.4-10, "For the area of the reservoir considered proved…in the absence of information on fluid contacts, the lowest known structural occurrence of hydrocarbons controls the lower proved limit of the reservoir." These SEC reserve definitions for downdip and updip limits have remained virtually unchanged since 1978. Subsequent to this period, geophysical technology and the advancement of 3D imaging has and will continue to allow for more refined reservoir definition of *"reasonable certainty"*.

Recommended Guidelines: Seismic data must be a high confidence indicator of porous hydrocarbon-bearing reservoir rock. High quality seismic data can be integrated with well log data to aid in reserve/resource classification as "proved". An appropriate level of rigorous geophysical modeling and analysis is suggested as necessary to meet SEC guidelines of "reasonable certainty" to book proved reserves/resources using seismic.

In these cases all of the following criteria must be satisfied: a) high quality 3D seismic available; b) conformance to structure; c) continuous seismic event from well (i.e. no discontinuities, faults, etc.); d) good **Seismic Considerations** *continued on page 35*

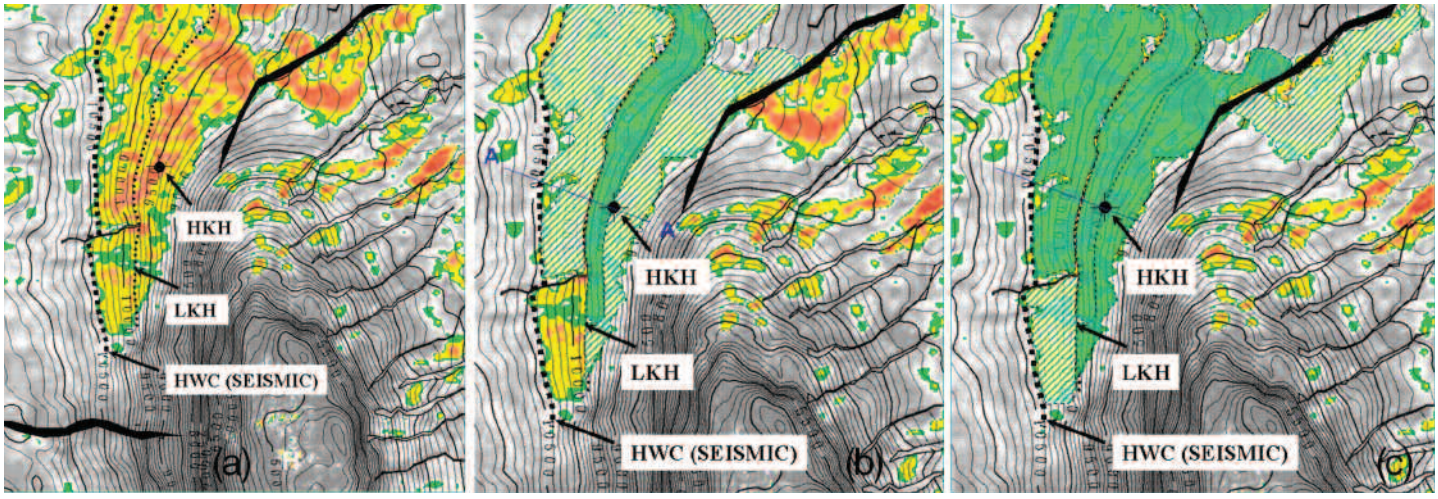


Figure 1: (a) Amplitude extraction for reservoir unit with depth contours overlain. Indicated on map are HKH and LKH as penetrated by the Well, and estimated Hydrocarbon-Water-Contact (HWC) from Seismic. Note stratigraphic pinchout updip. (b) proved resources/reserves limited by HKH and LKH. (c) proved resources/reserves extended both above and below known hydrocarbons in well using seismic.

Seismic Considerations continued from page 33

seismic-to-well tie and tight "geobody" interpretation; e) simple lithology (i.e. no exotic lithologies in zone of interest); f) seismic observations match forwarded-modeled expectations based on good well logs (Vp, Vs, Den); g) if available, PVT data have been integrated and support the seismic; h) sensitivities (thickness, etc.) have been identified and impact understood; i) endorsement by peer group &/or 3rd party; and j) thorough documentation. (For further details and examples see Expanded Abstract at SEG Convention or Web site.)

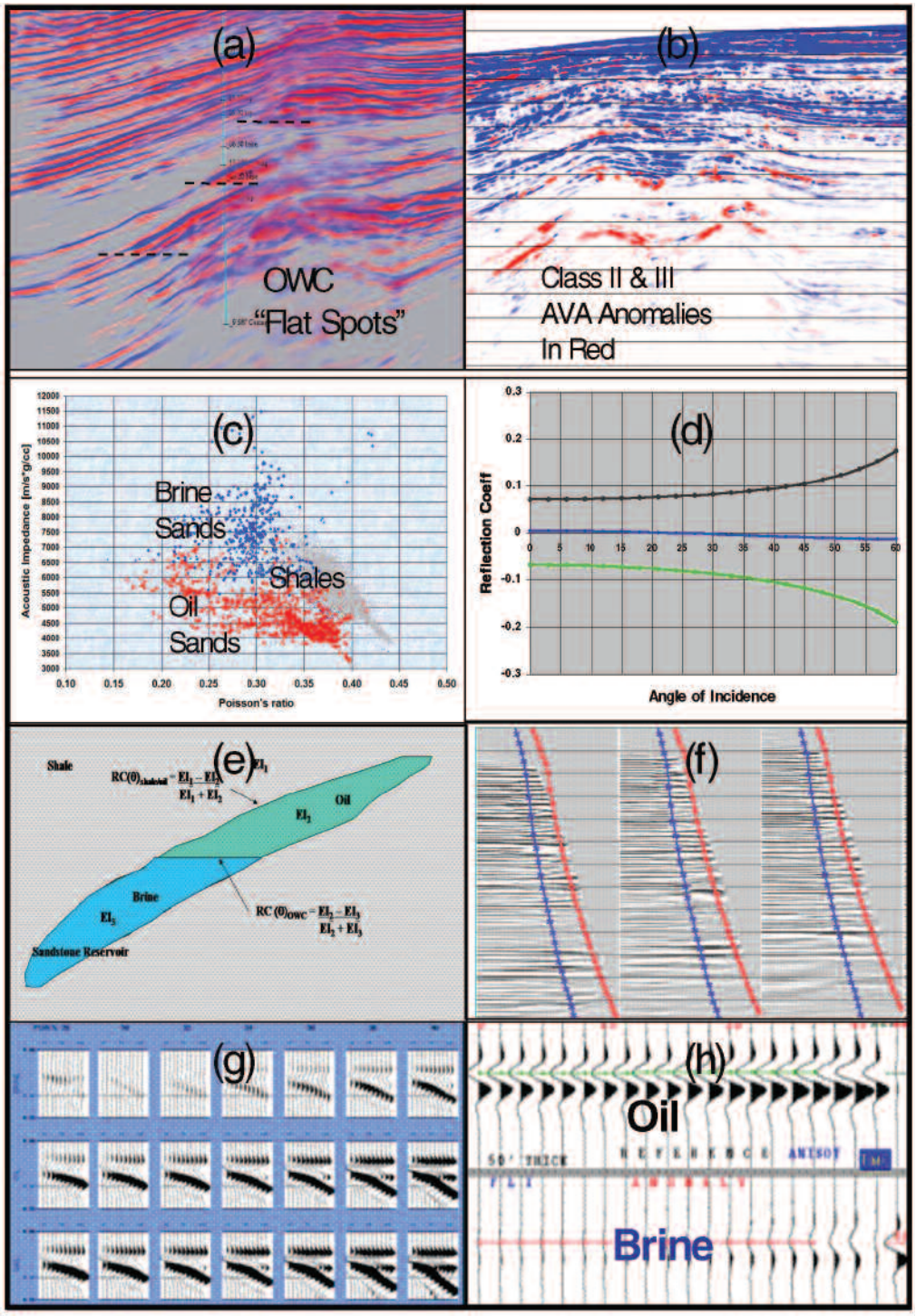


Figure 2: Geophysical techniques applied to satisfy recommended criteria for booking proved resources/ reserves might include such products as: (a) optical stacks; (b) AVA attribute volumes; (c) rock property cross-plots; (d) reflectivity sensitivities; (e) acoustic and elastic models; (f) NMO angle/offset gathers and volumes; (g) thickness and porosity sensitivity analysis; (h) fluid substitution offset synthetics.

In addition to these seismic guidelines, other standard criteria (i.e. economics, confidence, level/probability, etc. – not covered in this paper) must be met prior to being classified as proven reserves.

Example: The case example from deepwater offshore West Africa is shown (Figure 1) depicting an interpreted reservoir which resides on the flank of a large structure. Numerous geophysical tools and analysis were applied to meet the seismic guidelines for classifying proved resources/reserves as briefly outlined in this paper (Figure 2).

Seismic applications included the use of *1) seismic "optical stacks" for identification of OWC (oil-water contacts); 2) RMS amplitude extractions overlain with depth structure contours and faults; 3) full offset seismic synthetics for both HYDROCARBON and BRINE fluid substitution cases; 4) acoustic and elastic rock property cross-plots and cluster analysis; 5) generation of angle and offset gathers; and 6) forward modeled amplitude and AVA/AVO expectations (with and without anisotropy).*

The *"basement"* versus the *"attic"*: An irony of this topic is that whereas the SEC guidelines have commonly been interpreted to be too confining with regards to booking reserves below LKH (the *basement*); booking reserves above the HKH (the *attic*) may not be confining enough. Where seismic has been demonstrated (as in this

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Seismic Considerations continued from page 35

case example) of being an excellent indicator for defining a hydrocarbon-bearing reservoir, to be consistent, it must be utilized when defining the upper limit. This is particularly true of stratigraphic pinch-outs that might flank large structures.

Summary and conclusions: It is important that geoscientists consult with the reserve advisory committee within their company where clarification is needed. However, where appropriate, and once established criteria have been met, geophysical tools can and should be applied for clear classification of available hydrocarbons. ■

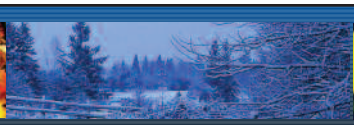
Suggested reading: U.S. Federal Securities Laws: Regulation S-X (17 CFR 210.4-10 – 11/88). Martinez, A. R. et al. "Classification and Nomenclature System for Petroleum and Petroleum Reserves", Proc., 12th World Petroleum Congress, Houston, TX 1987. World Petroleum Congress: "Classification and Nomenclature for Petroleum and Petroleum Reserves", presented at 12th World Petroleum Congress, Houston, TX 1987. John Wiley & Sons, Chichester (http//www.spe.org). Harrell, D.R., and Gardner, T.L., "SEC, Industry Discussion Illuminates Reserves Reporting Issues,"OGJ, June 23, 2003.

Acknowledgements: The authors thank Janice Allison, Ken Becker, Peeter Akerburg, Alan Fuqua, Rob Warren, Bob Mitchum, and Ferruh Demirmen, for their contributions to this work. Finally, thanks go out to ChevronTexaco Inc. for its support and for permission to submit this paper for publication at the SEG.

Biographical Sketch

Jeffrey S. Ogilvie has been a member of SEG for over 16 years, Ogilvie has authored papers in GEOPHYSICS and THE LEADING EDGE. (awarded 1996 Best Paper in GEOPHYSICS). He began his career with Western Geophysical in 1984 and joined ChevronTexaco in 1988, where he has worked exploration and exploitation both domestic and international. He earned a BS in Geology-Geophysics from Boston College (1983) and an MS in Geophysical Sciences from Georgia Institute of Technology (1988).

September 2004



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12	13 **HGS General Dinner Meeting** by Michael G. Moore and Bryan C. Delph *"Play Concepts in an Emerging Major Hydrocarbon Province in the Ultra-Deep Water Gulf of Mexico"* See page 19	14 **APPEX** See page 6	15
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2004 HGS GRAND CANYON TRIP

by ***David Lazor***

Trip participants and the Tapeats Sandstone.

The HGS Grand Canyon geology field trip in June of 2004 was a great success with 30 participants enjoying more than 180 miles of Colorado River, rapids, challenging side canyon hikes, and fantastic geological exposures. Participants ranged in age from 18 to 69 with the average age being 48.8. In addition to the three Hatch River guides, there were 18 men and 12 women. Participants came from California, Washington state, Louisiana, Florida and Texas. The "travel day" saw everyone meet at the airport in Las Vegas, travel by bus to Zion National Park in Utah for a close encounter with the Navajo Sandstone, and finally into Marble Canyon Lodge for the night. After an orientation meeting at Lees Ferry on day 1, the river trip began by filling two rafts with eager participants. The following seven days were filled with geology, big rapids, exciting side canyon hikes, gourmet al fresco dining, geniality, and fun, all capped by a final evening of entertainment. On the morning of day 8, participants flew by helicopter out of the canyon adjacent to lava flows and associated volcano to the Bar 10 Ranch on the north rim (shower and gift shop) and then boarded 15-passenger planes for the flight to the North Las Vegas airport. Finally, everyone was transported to either the McCarran Airport or a hotel in Vegas. Those who may be interested in participating in future trips please leave your name, address, email address and phone number with Dave Lazor at jdlazoroilngas@aol.com. For a possible 2006 trip, the estimated cost is $2,100. This includes guidebooks, itinerary, bus, lodging, drinks, meals, park entrance fees, and tips.

Breakfast on the river

From Lees Ferry to Lake Mead the Colorado River covers 285 miles and drops from an elevation of 3,090 feet at Echo Cliffs to 870 feet at Lake Mead. The average gradient is 7.7'/mi. The HGS trip begins at Lees Ferry and leaves the Colorado River near mile marker 187. At Lees Ferry the bedrock is the Triassic Moenkopi Formation, but shortly down river the Paleozoic section is encountered and is seen throughout Marble Canyon. After 63 river miles the 700 million year old Dox Sandstone is encountered, and at mile 78 the 1,200 million year old Vishnu Schist marks the beginning of the Inner Gorge. A stop at Phantom Ranch on day 4 brings one back temporarily to civilization and the telephone.

The geology of the canyon is inestimably awesome with numerous geological processes apparent along the river. The Pre-Cambrian tensional and compressional tectonics is classic and complicated by later Rocky Mountain Tertiary events. Sedimentary features such as cross bedding, soft sediment deformation, salt casts, and ripple marks are ubiquitous. Slumping into the river on a grand scale resembles Gulf Coast growth faults. These events are viewed first-hand by trip participants while reveling in the breathtaking beauty of the formations and the wonderful companionship of this wilderness adventure.

by Bruce Dugan

Blacktail Canyon and the Great Unconformity (Tapeats on Vishnu).

The geologic history of the area spans a time frame of approximately 2 billion years. This history begins with the sediments and volcanics that later became the Vishnu Schist and Zoroaster Granite. These were probably deposited within or near an island arc setting with many tens of thousands of feet accumulated. Deep burial, possibly due to subduction, and the resultant metamorphism changed the rock to schist and granite approximately 1.7 billion years ago (don't **Grand Canyon Trip** *continued on page 43*

Grand Canyon Trip continued from page 41

take schist for granite). Vertical foliation in the schist documents tremendous compressional forces. More than 6 miles of uplift and accompanying erosion left the Vishnu terrain almost peneplained prior to the sea once again flooding the area and depositing the Grand Canyon Supergroup. The Supergroup is 12,000 to 14,000 ft of mostly Pre-Cambrian sandstones and shales with some lava flows and limestones. At the base is a conglomerate. The rocks are mostly shallow water deposits with some containing mud cracks, salt casts, and raindrop impressions. Some have been positively identified as oil source rocks. One of the formations, the Shinumo Quartzite, is highly indurated sandstone showing phenomenal soft sediment deformation. Tensional tectonics tore the Supergroup into half grabens along westward-dipping normal

Elves Chasm

faults. These tensional faults are believed to be related to the opening of the ancestral Pacific Ocean and are similar to the ones seen buried adjacent to the Appalachian coastal plain and on both sides of the Red Sea. Further erosion beveled the block-faulted Supergroup to nearly a peneplain prior to the Cambrian seas flooding from the current west to deposit the Tapeats Sandstone and the overlying Bright Angel Shale and Muav Limestone. These formations demonstrate a sequence stratigraphy event with the Tapeats being the near shore beach and point bar environment, the Bright Angel the near offshore deposit, and the Muav the far offshore where terriginous sediment was scarce. The angular unconformity between the Supergroup and the Paleozoic section is quite evident from rim vistas. The "Great Unconformity" where the Tapeats lies on the Vishnu Schist is studied closely in Blacktail Canyon on day 5.

During the Devonian Period the Antler Orogeny occurred west of the Colorado Plateau and probably caused enough uplift that the Ordovician and Silurian rocks, if deposited, were removed from the Grand Canyon area. Some Devonian rocks, such as the Temple Butte Limestone, fill erosional channels cut into the Muav

Colorado River

Limestone and are capped by an unconformity. The Temple Butte channels have mostly an east-west orientation with river flow from east to west. In the western portion of the Grand Canyon the Temple Butte is a continuous formation above the Cambrian Muav Limestone. During the Devonian the North American continent drifted through the equatorial region. Evidence for this idea is that a warm, coral bearing sea covered New York in early Devonian time, the Michigan Basin in middle Devonian time, and the Williston Basin in northeastern Montana in late Devonian time. One can speculate about how the North American craton (rotated 90 deg.) drifted through a warm climatic zone with a limestone deposit containing the same type of fauna and flora. The overlying Mississippian Redwall Limestone in the canyon is the massive cliff former. It contains many marine fossils such as ammonites, corals, crinoids, and brachiopods. It is stained red by leaching of iron from the overlying Hermit Shale (Pennsylvanian). After deposition of the Redwall Limestone, the area was again exposed and subjected to ground water leaching that formed a karsted topography on top of the Redwall and many caverns within it. Vasey's Paradise, seen during day 2, is one of the solution caverns that produces a waterfall at river level. The upper Paleozoic rocks (Pennsylvanian and Permian) were deposited in near-marine and non-marine settings probably in a climatic zone near the equator. Reptile tracks in the Coconino Sandstone (Permian) are viewed during the first stop of day 1. ■

Little Colorado River

2004 EDITION

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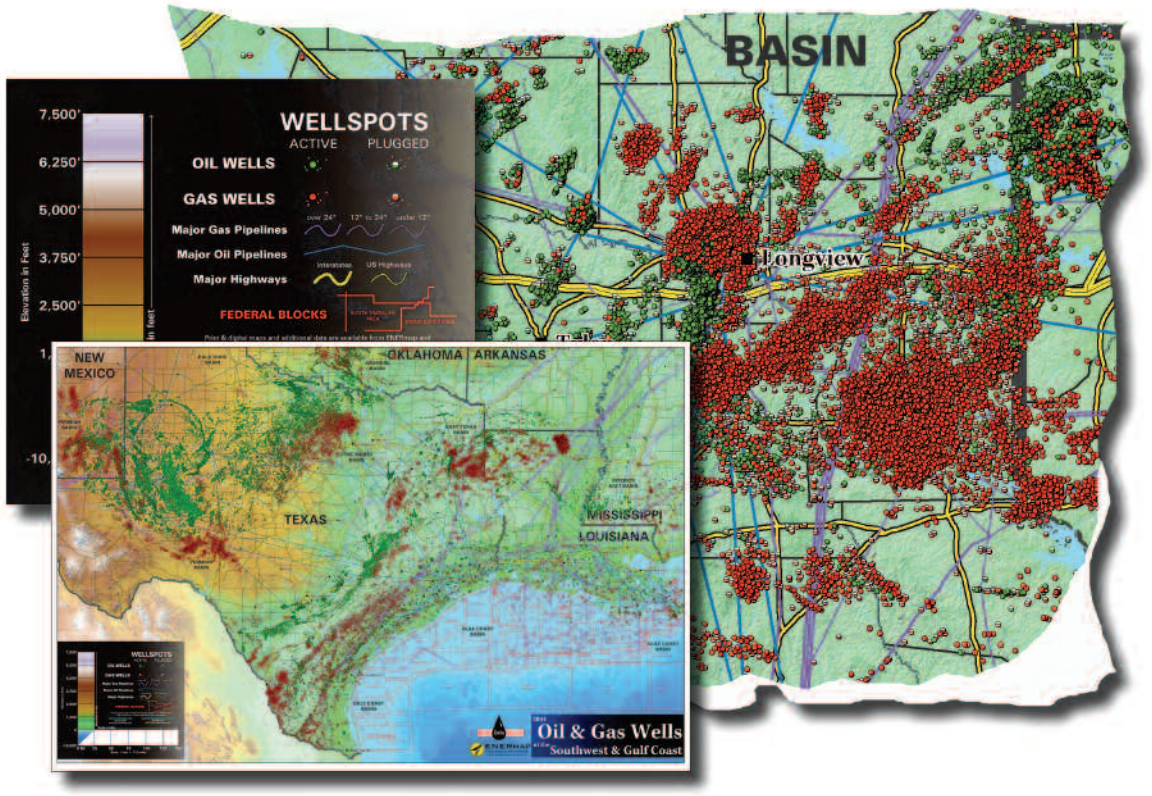

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HGS NorthSiders
Dinner Meeting

by ***Brian Maxted,***
Kosmos Energy LLC

Positioning For Exploration Success in the Upstream Petroleum Business

As a result of the drop in oil prices during the mid-1980's worldwide exploration activity decreased significantly. Further commodity price drops in the late 1990's compounded this situation as companies in the oil and gas sector saw their valuations reduced and had to respond to shareholder demands for stock price increase through a combination of superior financial returns and long-term resource base growth. Portfolio management (with the divestiture of assets which did not meet internal growth and value hurdles), optimization of operations to reduce costs and minimization of expediture have all been undertaken to maximize value by increasing cash flow, net income and earnings, as well as enhancing metrics. Maximizing reserves to provide options for future production growth was accomplished in two ways: first, inorganically through mergers and acquisitions and/or asset purchases; secondly, organically through exploitation.

Reserve replacement from exploration during the last decade has declined considerably and now only accounts for a relatively small proporation of produced oil.

Exploration conducted during this time primarily involved low risk, step-out drilling. Thus, as a strategy to organically replace and grow reserves and production, exploration has been secondary except for those companies which did not have the optional to grow inorganically due to balance sheet size or leverage. As a consequence reserve replacement from exploration during the last decade has declined considerably and now only accounts for a relatively small proportion of produced oil.

Today the industry is in a new era, one of higher commodity prices. Prices have risen due to longer term, below-ground concerns and, additionally, for oil, prevailing above-ground supply threats. This has led to recent shareholder value appreciation. Companies have to continue to focus on returns, maximizing production and minimizing costs and expenditures for short-term value. An inorganic strategy, however, to deliver future value and growth is threatened by today's higher prices (which have inflated acquisition costs) as well as by uplifted operating expense, thereby reducing return and increasing risk and exposure to future lower cycle prices. It will also be affected by an ever-maturing resource base, a limited opportunity set and high competition.

For these reasons, as well as current market sentiment of not rewarding growth without value, M&A transactions have reduced significantly. Some companies may still either take advantage of current prices and sell or wager on future prices and acquire. Some asset trades are likely to continue as portfolios are rationalized rather than liquidated. However, exploitation and low risk exploration is now the principal operating strategy. Notwithstanding, many companies are currently using excess cash flow to pursue stockholder value increase through financial strategies of paying down debt and buying back stock.

While companies and their shareholders have benefited recently from the commodity price increase and though overall higher prices may be the future norm, they will no doubt continue their cyclicity. Thus, companies cannot depend solely on future price increases to deliver continued value growth. It will be the companies which are able to progressively increase reserves and production at a competitive unit cost and with high value metrics that will survive and prosper. This performance will be delivered by one or both of two operating strategies. These include further industry consolidation coupled with exploitation and new exploration.

To date, however, companies have not re-directed their efforts to focus on value creation and growth through exploration. For many upstream companies exploration still remains a secondary strategy as evidenced by the still-suppressed activity and expenditure indicators. The forthcoming exploration challenge is further compounded by the ever increasing difficulty of our function, as we pursue new petroleum systems, fairways and/or plays.

Northsiders *continued on page 47*

Northsiders continued from page 49

Unfortunately, exploration is a risk business and, as history has shown, it offers a greater chance of failure than success and more losers than winners. The consistent creation of value through successful exploration with the drill-bit is the aspiration of all but the feat of only a few. As explorers we are obligated to regain the confidence of management and shareholders, re-position exploration as the primary business development strategy and create our own future.

The presentation reviews where high volume and value oil may be expected to be found in the future and considers the factors which combine to characterize and differentiate failed exploration, the "accidental" or "occasional" oil finder and the "true" or "serial" one. The speaker addresses the organization and its culture, its people and their behaviors, the technical and business decision-making proces, and team and individual roles, together with personal competencies. ■

Biographical Sketch

From 2002-03, **Mr. Maxted** was Senior Vice President of Global Exploration and New Ventures for Amerada Hess Corporation. Under his guidance, the company participated in several finds in the deep water Gulf of Mexico, and made new field wildcat discoveries offshore West Africa. Previously, Mr. Maxted was Senior Vice President, Exploration for Triton Energy Limited and led the team that made the Ceiba Field discovery offshore Equatorial Guinea in 1999 and several follow-up finds. Joining Triton in 1994, Mr. Maxted was seconded as Exploration Manager to Carigali-Triton Operating Company (CTOC) in Kuala Lumpur, Malaysia. CTOC, jointly owned by Hess and Petronas Carigali, is the operator of Block A-18 in the Malaysia-Thailand Joint Development Area. During his tenure, the company found several multi-TCF gas/condensate fields.

Mr. Maxted began his career in 1979 and worked in the UK sector of the North Sea before being assigned in various roles to Egypt, Canada, Colombia and Norway with BP. As Exploration Manager in Colombia during the early 1990's he was involved in the discovery and confirmation of the giant Cusiana-Cupiagua oil fields. Educated in England, Mr. Maxted holds a master's degree in organic geochemistry from the University of Newcastle-upon-Tyne and a bachelor's degree in geology from the University of Sheffield.

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North American Explorationists Dinner Meeting

*by **L. Frank Brown Jr., Robert G. Loucks, Ramón H. Treviño,** and **Ursula Hammes,** Bureau of Economic Geology, John A and Katherine G. Jackson School of Geosciences, The University of Texas at Austin, Austin, Texas*

The North American Explorationists would like to welcome everyone to what we hope will be another season of exciting geology. We lead off with an update of the fine regional work being done by the Bureau of Economic Geology. For the last twenty years, the Bureau has published a wealth of information on the main trends in Texas, helping companies find and produce more reserves. Join us to see their latest thinking on the Frio and some of the controls that can help predict reservoirs.

Steve Earle, Chairman

Understanding Growth-Faulted, Intraslope Sub-basins and Associated Reservoir Targets by Applying Sequence Stratigraphic Principles: Examples from the South Texas Oligocene Frio Formation

Detailed analysis of Oligocene Frio Formation intraslope, growth-faulted sub-basins in the Corpus Christi, Texas area indicates that deposition during relative lowstands of sea-level was the main cause or "trigger" of growth faulting. Lowstand depocenters on the low-gradient, upper continental slope comprising basin-floor-fan facies, slope-fan systems and prograding, lowstand delta systems exerted sufficient gravity stress to trigger major sections of outer shelf and upper slope strata to fail and move basinward. The faults sole out deep in the basin and rotation of hanging-wall blocks mobilized deep-water muds and forced the mud basinward and upward to form mud (shale) ridges that constitute the basinward flank of intraslope sub-basins overlying footwall fault blocks.

Understanding the origin of the growth-faulted sub-basins and their chronostratigraphic relationships and depositional processes provides a perspective that can improve deep on-shelf exploration.

Lowstand sedimentation associated with third-order falls of relative sea-level produced load stress that triggered major regional syndepositional growth-fault systems. Sub-basins on the downthrown side of each arcuate fault segment composing a regional fault system were filled during a single lowstand of sea-level. Consequently genetically similar but diachronous lowstand depositional systems filled each successive growth-faulted sub-basin trend. Sub-basin development and fill extended the Frio shelf-edge stepwise into the Oligocene Gulf of Mexico Basin. Thus each successive, basinward sub-basin was younger than the previous landward sub-basin.

Lithostratigraphic Frio and Anahuac strata comprise six chronostratigraphic, third-order depositional sequences (~32.0–23.38 Ma) and myriad fourth- and fifth-order sequences or parasequence sets. Except for incised valley-fills, lowstand tracts comprise off-shelf systems deposited within active, growth-faulted, intraslope sub-basins. Off-shelf and on-shelf deposition are temporally unique. Maximum Anahuac flooding (~24.57 Ma) provided a regional, dated marker to which latest published ages of sequence surfaces were calibrated. Maximum flooding surfaces and type 1

North American *continued on page 51*

unconformities are essentially isochronous, but sand-rich lith ofacies are mostly diachronous.

Sequence-stratigraphic analyses of Oligocene (Frio Formation) growth-faulted sub-basins in Corpus Christi Bay and offshore Mustang Island demonstrate that current exploration targets consist of sand-rich, proximal, deltaic, prograding wedge and incised-valley-fill sandstones, respectively. Postdepositional crestal faults on rollover anticlines provide reservoir trapping mechanisms. Wireline-log facies of productive reservoirs in the sub-basins are genetically similar, but more than 10 mi (> 15 km) apart, and several major faults separate successive sub-basins. A methodology is presented that incorporates the sequence-stratigraphic interpretation of each sub-basin which improves correlations of systems tracts between the widely separated sub-basins. This methodology consists of composite wireline logs created by splicing unfaulted and relatively conformable log segments from the deepest wells in an area. The composite log provides a stratigraphic record that captures a complete succession of depositional and cyclic history. Site-specific sequence-stratigraphic-section (S5) benchmark charts contain composite logs and additional data that summarize available geologic information for a specific sub-basin.

Growth-faulted sub-basins all along the Texas coast have been prolific petroleum targets for decades and are now the focus of prospecting for deep, on-shelf gas. Lowstand basin-floor and slope-fan sandstones are the principal gas targets. Understanding the origin of the growth-faulted sub-basins and their chrono stratigraphic relationships and depositional processes provides a perspective that can improve deep on-shelf exploration. ■

Biographical Sketches

Robert Loucks (Speaker) is a Senior Research Scientist at the Bureau of Economic Geology, working on siliciclastic and carbonate reservoir characterization. He was the recipient of the 1999 AAPG Wallace E. Pratt Memorial Award for Best Paper, the 1982 SEPM Excellence of Presentation Award, and the 1991 SEPM Excellence of Poster Presentation Award. Bob served as the Mideast AAPG Dean A. McGee International Distinguished Lecturer in 1999.

Frank Brown received his BS degree in geology and chemistry from Baylor University in 1951 and his MS and PhD from the University of Wisconsin, Madison, in 1953 and 1955, respectively. Frank has worked for Standard Oil of Texas (Chevron), 1955–57, the Bureau of Economic Geology (BEG), 1957–60 and 1966–89, and as an International Consultant, 1989–1999. From 1960 through 1966 he was associate professor at Baylor University. He was Professor of Geological Sciences at The University of Texas at Austin, 1971–1989 and Emeritus Professor, 1989–1999. Since 1999 he has been a Research Professor at BEG, where he continues his studies of the sequence stratigraphy of the Gulf Coast of Texas and Mexico.

Ramon Trevino received his BS degree in geology (Texas A&I University, 1983) and his MS degree in geology (The University of Texas at Arlington, 1988). He worked for Mobil from 1988 through 1992 and received an MBA from the University of Oklahoma in 1994. Since 1995, he has worked on sequence stratigraphic reservoir characterization at the Bureau of Economic Geology.

Ursula Hammes obtained her Diploma in Geology from the University of Erlangen, Germany, in 1987, and her PhD from the University of Colorado at Boulder in 1992. She spent 10 years in industry and joined the Bureau of Economic Geology in 2002 as a Research Associate. Her main research focus is in clastic and carbonate sequence stratigraphy, depositional systems, and image analysis.

Wednesday, September 29, 2004

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

Cost: $28 Preregistered members; $33 Nonmembers & 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, email address, meeting you are attending, phone number and membership ID#).

HGS General Luncheon Meeting

by ***Richard G. Green***
LaRoche Petroleum Consultants

Predicting Future Product Prices

The history of the oil industry has repeated periods of both low and high commodity prices and boom or bust cycles. The actual price received for the product becomes the most critical factor in profitability once the hydrocarbon has been found. Unfortunately it is the least understood although the most non-technical factor. Most experts attempt to use reserves or perceived lack of reserves to estimate future product prices. The author believes this is incorrect. Price is determined partially by supply and demand and indirectly by reserves but, most importantly, by deliverability to the market. The author believes history can be a useful guideline in predicting future price trends and periods of boom or bust. Understanding these historical trends and creating company models of price prediction is as critical to making correct business decisions as any reservoir model or probability methodology. ■

Price is determined partially by supply and demand and indirectly by reserves but, most importantly, by deliverability to the market.

Biographical Sketch

Richard Green began his career in New Orleans with Shell Oil Company in 1973 after graduating from Kansas State University with a BS degree in geology. In 1978, he accepted a position with DeGolyer and MacNaughton Consultants in Dallas, Texas. From 1980 to 1986 Mr. Green worked for several small Dallas independent oil companies concentrating on exploration and development in the Permian Basin, Mid-Continent and Gulf Coast of the United States prior to co-founding his own firm, Dallas Petroleum Partners, in 1986. He generated and drilled prospects in Kansas, Montana, Louisiana, Colorado and Oklahoma. He then joined Netherland Sewell and Associates in 1994 as Vice-President-Geology (geologic manager) and gained extensive international experience in West Africa, Russia and South America. He co-founded LaRoche Petroleum Consultants in 1996 and has performed numerous studies both domestically and internationally since that date.

Mr. Green is an AAPG Certified Petroleum Geologist and a Registered Geoscientist in the states of Kansas and Texas. He is a member of the American Association of Petroleum Geologists, Sigma Gamma Epsilon (Alumni), the Kansas Geological Society, the Dallas Geological Society (Honorary Life Member), the Society of Independent Professional Earth Scientists, the Paleontological Society and the Dallas Petroleum Club.

Members on the Move

Joe Lynch, formerly with Roxar, has moved to Landmark Graphics. He continues as Chairman of the HGS Vendor's Corner Committee.

Kevin J. McMichael, to president, Claymore Oil & Gas L. P., Houston, Texas. He was previously vice president, exploration, El Paso Production Company, Houston, Texas.

Matt Boyd has joined Marathon Oil Company as a geologist effective May 17, 2004. Previously he was a geologist with Kerr-McGee Oil and Gas Onshore L. L. C.

Stacy Jenkins has joined Sterling Energy Inc. in Houston as Senior Staff Geologist effective June 1, 2004. He was previously Geological Advisor - Brazil, Amerada Hess, Houston. (Posted 5/29/2004)

Bob Joyce has joined MicroTesla as Director of Business Development, based in Houston, Texas. He brings 24 years of MWD/LWD and wireline management experience with Schlumberger, Baker Hughes and Tucker Energy Services. MicroTesla provides design and manufacturing along with repair and maintenance of MWD and wireline directional instrumentation to the oilfield and related markets.

George D. Klein has published a novel entitled DISSENSIONS. It deals with geo-intrigue in academe focusing on surviving — outflanking dysfunctional colleagues, the academic system, and winning at the highest level.

In short, it is based on Klein's ringside seat(s) at a lot of internal bickering, dissensions, and intra-departmental strife as a professor in three different universities.

Xlibris Corp (888) 795-4274. $19.54 (softcover), $29.69 (hardcover), retail, plus shipping. Or click on: http://www1.xlibris.com/bookstore/bookdisplay.asp?bookid=22528 to go right to the on-line order page. (Posted 5/21/2004)

HGS GUEST NIGHT 2004 A HUGE SUCCESS WITH MARS ROVER THEME

*by **Linda Sternbach,** HGS Guest Night chairman*
*Photos by **Arthur Berman***

Houston Museum of Natural Science

Over 400 HGS members and guests filled the Houston Museum of Natural Science (HMNS), Saturday June 19th, for the 2004 HGS Guest Night event. Activities were dedicated to learning about the science achievements of the NASA Mars Rovers: Spirit and Opportunity. The night included a planetarium show on Mars, a display of a real Martian meteorite and an outstanding presentation of the Mars rover mission results by Dr. Gordon McKay of NASA Johnson Space Center. Guests were able to roam around the museum looking at exhibits and large posters of Martian landscapes and enjoyed barbecue and pies from Goode Company BBQ.

NASA Speaker Dr. Gordon McKay and 2004 Guest Night Chair Linda Sternbach

The hit of the social hour was the planetarium show and the exhibit from NASA on the Martian meteorite collected in Antarctica. Dr. Carlton (Carl) Allen, NASA Johnson Space Center, and co-presenter Jaclyn Allen are responsible for the curation and distribution of NASA's extraterrestrial samples including the Apollo Moon rocks, Antarctic meteorites and cosmic dust. Dr. Allen set up a poster display in the museum main lobby and hosted an informal question and answer discussion with HGS members over the baseball-sized, gray basaltic Martian meteorite which was shown inside a glass case. The number-one question answered by Dr. Allen was: "How do we know this rock is really from Mars?" The answer is "it contains gases from the Martian atmosphere which match those measured by the Viking spacecraft that landed on Mars in 1976."

Dr. Gordon McKay brought his family to Guest Night to enjoy the evening and hear his

Guest Night *continued on page 57*

HGS/GSH Shrimp Peel

Saturday, October 2, 2004 6p.m. - 10p.m

at

Sam Houston Race Park
7275 N. Sam Houston Pkwy. West
(281.807.8700)

Boiled Shrimp - Beer & Beverages - Horse Races - Music - Door Prizes - Boiled Shrimp - Beer & Beverages - Horse Races - Music - Door Prizes - Boiled Shrimp

Tickets $25 Advance/ $35 at the Door

> Event held indoors-Pavilion Centre
> Enter through North gates, 13-18
> Valet parking available
> Tickets mailed to address on form
> Pay with check or credit card
> Order by Sept 28 - No refunds

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Send form and check or credit card to:
Houston Geological Society, Shrimp Peel,
10575 Katy Freeway, Suite 290, Houston, Texas 77024

Name: _____ Company: _____

Address: _____ City/State: _____ Zip: _____

Number of tickets: _____ Phone: _____ Email: _____

If paying by Credit Card:

Name on card: _____ Billing Address: _____

Card Type: (circle one): VISA / MASTERCARD / AMERICAN EXPRESS / DISCOVER

Card Number: _____ Expiration date: _____

Signature: _____ Date: _____

Daytime Phone Number of Card Holder _____

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For more information call 832.351.8814 or e-mail lee_shelton@veritasdgc.com

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Guest Night continued from page 55

presentation. His wife Linda Uljon and daughter Alissa were guests of the HGS and sat in the audience with an appreciative crowd of 400 inside the museum's IMAX theatre. Dr. McKay is manager of the Astromaterials Research Office, part of the Space and Life Sciences Directorate. McKay received BA and MA degrees from Rice University and his PhD degree in geological sciences from the University of Oregon in 1977. He has worked at NASA most of his long career.

Dr. McKay's hour-long talk discussed the planetary geology of Mars and included a detailed discussion of the movements and scientific readings by the robots Spirit and Opportunity. His talk began with the landings of the rovers in January 2004 and ended with the latest information on the current positions of the two rovers 6 months later. Dr. McKay's NASA department website is: http://ares.jsc.nasa.gov/. If you are interested in the Mars rover program, the website address is: http://marsrovers.jpl.nasa. gov/home/index.html

The HGS Guest Night committee was headed by Linda Sternbach and included Mike Deming, Mary Kae Dingler, Craig Dingler, Art Berman, Tom and Annette Mather, and Andrea Reynolds. Thanks to corporate sponsors TGS Nopec (John Adamick), BHP Billiton (Ron Meers), Schlumberger and BP who contributed significant dollars to defray event costs. Thanks also to Betty Alfred and the HGA, Joan Henshaw and Lilly Hargrave of the HGS office staff, HGS President Steve Levine and HGS Webmaster Dave Crane for their help getting people registered for the event. ■

Here are some comments emailed to HGS about the Guest Night program:

"I thought the evening was a great success. Gordon McKay's presentation was great with just the right amount of science for a Guest Night, I thought Carl Allen's presentation was equally fascinating. All well done."

"The presenters did a very good job of sharing their material in a way that was informative to all present. I have been following the Mars exploration program fairly closely, but it was still nice to have things put in chronological order and hear first hand some of the issues NASA is dealing with and how they resolve them. Hopefully some of the younger members of the audience will be inspired to explore either our planet or other worlds."

"The presentations by both Dr. Allen and Dr. McKay were outstanding. I was responsible for Instrumentation and Field Service for a major geophysical contractor so I have some appreciation for the sort of work and planning required to do what the NASA folks are doing re the Mars exploration project as well as the other exploration programs underway. More discussions like the HGS presentation this year would help get the word out as to what a valuable resource the US, and indeed, the world has, in the programs going on at NASA. What outstanding people we must have directing the program if these two are typical folks guiding the efforts."

HGS President Craig Dingler and Claudia Ludwig Present Student Awarsds

President's Night 2004

Article and Photos by ***Arthur E. Berman***

"It's called President's Night but it's really about the people who make the HGS a great organization."

That is how outgoing Houston Geological Society President Craig Dingler described the annual awards ceremony held at Damian's Italian restaurant in late June. His comment says a lot both about the kind of person Craig is and the kind of HGS President he has been.

I did not know Craig Dingler well a year ago when he became HGS President and I began attending Board meetings as Editor-elect of the HGS *Bulletin*. At the first Board meeting I was immediately impressed by his soft-spoken and unassuming style of leadership. After introducing a topic he effortlessly moved into the background of the discussion. Everyone felt encouraged to participate and express their opinions by his careful listening, occasional note-taking and demonstration by his body language of his genuine respect and appreciation for what everyone had to say. From time-to-time he would quietly insert a comment into the dialogue to keep things on-topic or to remind everyone of some historical aspect of how the HGS had handled similar situations in the past.

At the end of discussion on each item Craig slipped back in with, "Is there a motion? A second? All in favor? All opposed? The motion passes."

Everything simply flowed on that September evening with Craig providing the foundation and framework for a comfortable and productive exchange of ideas.

Craig became HGS President just as the Society marked its 80th anniversary in August, 2003. In what I now see as classic Craig Dingler style he distributed copies of the 75th Anniversary Issue of the *Bulletin* at that first Board meeting. The 75th Anniversary issue traces the entire history of the Society with articles written by a "who's who" of the HGS both past and present and was published by then-*Bulletin* Editor Craig Dingler. It is fitting that, aside from editing that edition, Craig wrote an article paying tribute to John R. Suman, our first HGS president in 1923-24 and 1924-25.What was not clear to me then seems very clear now: Craig wanted to place the HGS's 80th year and his presidency in a context of clear continuity with the past as we moved forward into 2004.

At the beginning of Craig's term he declared professional growth and public outreach to be the themes for his year as president. It is not surprising that Craig looked back to the constitution of the

HGS 2003–2004 President Craig Dingler

HGS and chose these themes for his presidency in support of the four purposes stated in that document:

- to stimulate interest and promote advancement in the geosciences,
- to disseminate and facilitate discussion of geological information,
- to enhance professional interaction among geoscientists, and
- to aid and encourage academic training in the geosciences.

Everything the HGS has done during this remarkable year reflects those defining principles. I asked him how he felt about the past year.

"Things went well."

What an understatement! Technofest, the Africa Symposium and APPEX started the year with uncommon flair for the theme of professional growth. Craig told me that as a graduate student at the University of Idaho he first became aware of the Houston Geological Society through the *Bulletin*. He was impressed that a local geological society could consistently publish a high-quality journal and he wanted to know more about this society. When he came to Houston he found out and joined in.

The 2003 Africa Symposium was probably the most significant

Craig Dingler's dinosaur gift from the HGS

and best attended professional meeting of 2003-2004 outside the auspices of a major, national organization like AAPG; of course it came from that same surprising, local society that Craig had admired as a student, with Craig Dingler himself now as its president!

Throughout the year the HGS presented 35 superior technical meetings. The "Disappointing Seismic Anomalies" symposium set another HGS standard for a meeting with stature and attendance ordinarily only found sponsored by national geological organizations.

The Fall of 2003 saw great progress towards Craig's other goal of public outreach with Earth Science Week, the Conference for the Advancement of Science Teaching (CAST) and the student sessions at the annual GCAGS convention. As I was taking photos at the Earth Science Week opening at the Houston Museum of Natural Science (HMNS) I noticed Craig Dingler working one of the exhibits and showing young people the hidden wonders of the microscopic world. I delivered an HGS projector early one Saturday morning to a conference room at the CAST meeting and who other than Craig Dingler was there to give the opening technical talk on The Water Cycle? At this year's Guest Night at the HMNS over 400 members, their families and guests were given an inside, intimate view of the present Mars mission from one of NASA's leading scientists. It should not surprise anyone that Craig and Mary Kae Dingler were at the Museum early to help put up posters of Mars panoramic photos.

In addition to all these accomplishments toward Craig's objective of public outreach in 2003–2004 the HGS helped usher in the Professional Geoscience Act and facilitated establishment of the Unocal library at the Bureau of Economic Geology's Houston Research Center.

About President's Night Craig commented, "There was lots of energy there. Jeff Lund said maybe we should have just let everyone talk and pick up their awards on the way out!"

Craig says that incoming president "Steve Levine has a good plan for the year."

"So how does it feel to no longer be HGS President?"

"It feels pretty good but now I'm heading up the Nominations Committee for HGS." In other words, Craig is no longer president but he remains active. He will work to ensure the same standard of leadership that he provided through the selection of people nominated for future HGS positions of responsibility.

It is worth saying that Craig Dingler is the first HGS President, as far as I can tell, who comes from the Environmental and Engineering side of the geological business and not the petroleum side. In spite of this or perhaps because of this the Society moved forward without any perceptible change though possibly with a somewhat heightened awareness of the role and importance of the environmental and engineering contribution to the HGS.

It has been a great year under President Dingler. President's Night may have been about all the people who contributed to making the year successful. What I was thinking on President's Night, though, was how it was Craig's clear, steady and unassuming direction and guidance along with his personal volunteerism that helped make it a great year and made it work for everyone.

Professional growth and public outreach were the themes of 2003-2004; continuity with the foundations of the Houston Geological Society as it moves into the future was the sense of consciousness that uniquely guided Craig Dingler's quietly inspiring presidency. ■

President's Night *continued on page 60*

Craig Dingler and 2004–2005 HGS President Steve Levine

President's Night

continued from page 57

President's Night Committee Volunteer Recognition:

Committees

AAPG Delegate Foreman
Academic Liaison
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Earth Science Week
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Engineering, Science, & Technical Council of Houston (ECH)
Environmental & Engineering Geology
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Golf Tournament
Government Affairs
Guest Night
HGS Foundation/Undergrad Scholarship
Houston Energy Council
Houston Geological Auxiliary (HGA & Geowives)
International Explorationists
Library
Museum of Natural Science
NeoGeos
New Publications
North American Explorationists
NorthSiders
Office Management
Personnel Placement
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Publication Sales
Remembrances
Salt Water Fishing Tournament
Scouting
Shrimp Peel
Skeet Shoot
State Registration
Tennis Tournament
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Website

Individual and Corporate Awards

HGA/HGS Award:

Myrtis Trowbridge

Corporate Star Awards

Noble Energy
Kerr McGee
ConocoPhillips

Rising Star Awards:

Sherrie Cronin
Elizabeth Fisher
Jennifer Burton
Jim Grubb
Valdis Budrevics
Natalie Uschner

President's Awards:

Evelyn Medvin
Glenn Lowenstein
Carl Norman
Robert Hubbell
Rosemary Mullin

Distinguished Service Awards:

Richard Howe
Inda Immega
Larry Bartell
Al Danforth

Honorary Life Award

Claudia Ludwig
Dick Bishop

Cooley Award

Jeff Lund

Myrtis Trowbridge

Elizabeth Fisher

Jennifer Burton

Jim Grubb

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Richard Howe


Jeff Lund


Jean Cooley


Glenn Lowenstein


Inda Immega


Andrea Reynolds


Linda Sternbach


Carl Norman


Larry Bartell


Deborah Sacrey


Marsha Bourque


Robert Hubbell


Claudia Ludwig


Diane Yeager


Parrish Erwin


Rosemary Mullin


Dick Bishop


Janet Combes


Sandi Barber

HGS International Explorationists Group Gives Best Paper Award to Bill Ambrose

*by **Steve Henry, Al Danforth and Linda Sternbach***

William A. Ambrose of the Bureau of Economic Geology, Austin, Texas, received the HGS International Group Best Presentation Award for 2003-2004 for his talk: "Upper Miocene and Pliocene Gas and Oil Plays in the Macuspana Basin, Southeastern Mexico." The HGS International Group made the award presentation to Ambrose at their June 21 dinner meeting at the Westchase Hilton. Ambrose gave the award-winning presentation to the HGS International Group on March 15, 2004. The paper was the result of a joint study of the BEG and Pemex using cores, well logs and seismic to reconstruct sedimentary facies, and a written version was published in the September 2003 issue of the AAPG Bulletin.

The HGS International committee chooses best paper awards from its monthly technical talks based on a program year that runs from April to April. The group meets on the third Monday night of each month at the Westchase Hilton near Beltway 8 and Westheimer. 2003-2004 talks covered diverse topics including aspects of geology and exploration in Egypt, Trinidad, Morocco, Africa, Brazil, Indonesia and the winning talk by Dr. Ambrose in March 2004. Last year the Best Paper winner was Ken Nibbelink of Devon, who spoke on Ghana.

For the September 2004-June 2005 year, Steve Henry will be the International Explorationists co-chairman along with Al Danforth; past co-chairman Scott Thornton will continue in an advisor role on the committee. Technical chairman Linda Sternbach (Kerr-McGee) is handing off talk scheduling duties to Ian Poyntz (international consultant, and long time HGS International committee member). Jim Fluker (Nippon) will continue as treasurer; other committee chairs include Bonnie Milne-Andrews (student posters and talk judging), Phil Towle (directory), Terry Leyenburger (website and email newsletter), and Joe Lynch (vendors corner). A team of several individuals from International Companies also contributes as committee advisors to select great speakers on hot topics.

Technical talk chairman, Linda Sternbach (Kerr McGee), best paper award winner Dr. Bill Ambrose of the Bureau of Economic Geology, and John Boyd-Gorst (Shell).

Bill Ambrose

This month, the 3rd annual International Symposium on Africa E and P, organized jointly with the Petroleum Society of Great Britain (PESGB), will be held in London on September 7-8. Details are available at the HGS Website Calendar with a link to the full program at the PESGB website. We look forward to seeing the event back in Houston in September 2005.

This fall the HGS International Group will get together with the University of Houston Alumni to organize a joint HGS/ Robert E. Sheriff Lecture joint meeting in November 2004. Traditionally, this meeting is a huge event to organize because it involves a large number of undergraduate and graduate poster sessions presented before the meeting at the Westchase Hilton, followed by a dinner and guest speaker presentation. Bonnie Milne-Andrews and Al Danforth had everything set to go last year on November 17, 2003, but heavy rains and flooding prevented the speaker, Dr. Brian Wernicke of CalTech, from arriving by plane. Many students scheduled to give poster sessions were also unable to attend due to the bad weather. Al Danforth, at the last minute, resourcefully gathered Dr. Eric Williams of the Petroleum Ministry of Trinidad (and a former student of Bob Sheriff), who gave a short talk on the oil and gas resources of Trinidad. The International Group is committed making this year's November Sheriff Lecture a real success and an opportunity to re-connect with the U of H students and alumni.

The HGS International Explorationists monthly dinner meetings are consistently well-attended often with over 100 people in attendance. The HGS International Group meetings are a great place to learn about international oil and gas opportunities and tomeet knowledgeable geoscientists with a global prospective during the social hour before the main presentation. ■

2004 Fall Social Houston Chapter of SIPES

Date: Thursday, November 11, 2004
Time: 6:30 PM. Cocktails (Cash Bar), Complimentary Wine; 7:30 Dinner
Location: The Petroleum Club, Discovery Room

Exploring Mars — Robots and Humans; Geology and Biology (?)

Speaker: Dr. Carlton C. Allen, NASA Johnson Space Center

How would you conduct a program of geological fieldwork on the planet Mars? While our generation of scientists pursue this goal with robots, our sub-teen neighbor, son, daughter, or grandchild may walk on the red planet within our lifetime. How do we go about exploring Mars?

Our featured speaker Dr. Carlton C. Allen will give us his insights on the subject drawing on his experience in and contributions to methods of extraterrestrial exploration. Dr. Allen will present us with an overview and update of Mars geology, the observations we're making from the spacecraft currently operating on the planet's surface and from others in Mars orbit. He'll also discuss missions planned for the next decade, and the continuing controversy over possible evidence of life.

Mail this 2004 SIPES Social Registration form and a check (payable to SIPES Houston Chapter) to SIPES c/o BK Buongiorno, 1001 McKinney, Suite 801, Houston, TX 77002. Payment must be received no later than November 5, 2004. Entrée choices: (A) Tournedos Benjamin – Two (4 oz) Stuffed & Topped with Mushrooms-Madeira Sauce; (B) Snapper Ponchartrain-Crabmeat, Shrimp and Oysters with Wine Sauce; (C) Vegetarian Plate

Name	Entree Choice	SIPES Member	Telephone/email
_____	(A, B, C)	(Y or N)	_____
_____	(A, B, C)	(Y or N)	_____
_____	(A, B, C)	(Y or N)	_____

Number of persons attending _____ x $50 per person = _____Total payment due.

INTERNATIONAL GEOSCIENCE CONFERENCE

Regent Hotel, Jakarta

December 7-8, 2004

Deepwater and Frontier Exploration in Asia & Australasia

Technical Presentations: Focus on geosciences with approx. 50 technical papers to be presented (oral and poster) and published in a Proceedings Volume (hard copy and CD-ROM)

- ➢ nine technical sessions on Tues-Wed, 7th-8th Dec., comprising up to twenty-seven oral papers
- ➢ special informal evening session on Tues, 7th Dec., for a highlighted area or topic
- ➢ exhibition for up to 25 poster presentations

Registration: US$ 350 for IPA & AAPG Members / US$ 400 for Non-Members
Includes luncheon for 2 days, seminar, and evening session on Tues, 7th Dec.

Field Trips: 1. Miocene Mt. Messenger deepwater depositional system on the North Island of New Zealand, November 20th-24th
2. Cross Borneo: Comparison of Sedimentation, Stratigraphy and Structure in Kutei Basin, East Kalimantan and Northwest Borneo, November 28th-December 5th

Short Courses: 1. Deepwater Depositional Systems, December 6th, 2004
2. Deepwater Pore Pressures and Fracture Gradients, December 6th, 2004

Accommodation: The Regent Jakarta; room rate/night for Deluxe Room is US$ 127 net.

For details please contact the IPA secretariat,

phones: (62-21) 572-4284, 572-4285, 572-4286, 0811-938776 or fax (62-21) 572-4259,
e-mail ipa@cbn.net.id

HGS Welcomes New Members

Effective August 2004

ACTIVE MEMBERS
Mohd Ansari
Thomas Cloud
Dan Parker
John Spang
Mark West
Mark Evans
Thomas Miller
Randall Hunt
Thomas Klopf
Lisa Ashabranner
Bryan Sexton
Jeff Kraus
Alison McCutcheon
Rasoul Sorkhabi
Markus Lagmanson
Peter Purrazzella
Cindy Gillespie
Lisa Goggins
Mary Barrett
Ralph Steen
Don Hurtubise
Daniel Means
Eric Erigha
Robert Kerian
David Reimers
Ronald Stokes
Celine Wise
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Michael Harris
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Steven Campbell

STUDENT MEMBERS
Seyed Kariminia
Elias Carciente
Jarrad Berg
Dawn Standridge
Amit Kumar Bhokare
Alex Merecka

Welcome New Members

Big Rocks Found in Houston

by ***Jeannie Fisher Mallick, Beverly Blakeney DeJarnett,*** *and* ***Laura Zahm***
Photos by ***David Stephens,*** *Bureau of Economic Geology Photographer*

University of Texas Bureau of of Economic Geology Representatives and Program Sponsors

It is difficult to find rocks of appreciable size in Houston. This area was beneath marine waters of the Gulf of Mexico just 2 million years ago during the early Pleistocene period (Montgomery formation) resulting in much of our substrate here being comprised of particles not much larger than sand or clay. Now, however, you can find a wealth of rock right here in town. Whole cores, sidewall cores and cuttings taken from wells in almost every state in the lower 48 are available at the newly opened University of Texas Bureau of Economic Geology's Houston Research Center.

More than 210 people attended a June 4th dedication ceremony hosted by the Bureau of Economic Geology (BEG). Dr. Scott W. Tinker, Director of the BEG and State Geologist, came from Austin to welcome visitors to the facility and introduce special speakers from Shell, BP, Arco and Amoco, Marathon, Oxy Permian Ltd., Unocal, The United States Department of Energy and the National Science Foundation. These companies and government entities have either donated cores, samples and books or provided financial support for the Houston Research Center (HRC). Thanks are due these organizations for, as Scott Tinker said, "Knowledge not shared is lost.".

Housed within what was formerly the BP/Amoco core warehouse and laboratory is an 80,000 volume geoscience library and 500,000 boxes of core, outcrop samples and thin sections. The Integrated Core and Log Database (http://begdb1.beg.utexas.edu/Igor/) is a searchable database for all core, well cuttings and electric log holdings. Viewing a core is easy and inexpensive. Search the website or catalog on-site for state, county or parish, lease, operator, depth, sample type and/or API number to find the core you want. Request the core and interval of interest, and Warehouse Supervisor Randy McDonald will pull the boxes from the stacks. Material can be examined in the layout room or materials can be shipped off-site. Table layout charges range from $15–20 plus $3.00 per box of core. Petrographic and binocular microscopes are available for your use at the HRC.

The Bureau of Economic Geology (BEG), a research arm of the University of Texas at Austin, is actively seeking donations of cores, cuttings, thin sections and other geologic materials for permanent storage in their repositories. The BEG welcomes donations of any size from a few boxes up to tens of thousands of boxes. BEG asks for a cash contribution to accompany the donation in order to properly process and curate the materials. This donation and cash contribution may be tax deductible, depending on the advice of each donor's tax attorneys.

The donated material will then be properly and permanently curated in one of the three state-of-the-art BEG core repositories.

Scott Tinker, Bureau of of Economic Geology

Houston Research Center Core Storage Space

Houston Research Center Core Layout Area

Metadata for all donated material (such as location, depth of samples, sample type, well header information, etc.) is then entered into the BEG's on-line database and materials then become searchable and accessible for further research. Portions of donations that need to remain proprietary for a certain amount of time can also be accommodated. For more information on making a donation to the BEG, please contact either BEG geologists and curators Beverly DeJarnett (bev.dejarnett@beg.utexas.edu), Laura Zahm (laura.zahm@beg.utexas.edu) or Associate Director Jay Kipper (jay.kipper@beg.utexs.edu).

The BEG's Houston Research Center technical library also accepts donations of library materials. For information on the library or donating to the library, please contact Phyllis Vicars (Phyllis.Vicars@beg.utexas.edu).

The HRC is located on the west side of Houston at 11611 West Little York, Houston, 77041. Hours of operation are Mon-Fri, 8:00 am – 5:00 pm. BEG Research Associates Beverly DeJarnett (bev.dejarnett@beg.utexas.edu) and Laura Zahm (laura.zahm@beg.utexas.edu) are HRC geologists available for technical assistance and training. Technical librarian Phyllis Vicars is available to assist patrons with library needs, Tues–Fri from 10 am – 4 pm. Please contact the HRC at 713-466-8346 or visit the website at http://www.beg.utexas.edu/crc/houston.htm for more information. ■

Houston Research Center Grand Opening Attendees

As a member are invited to join

GeoWives

2004–2005 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 ☐

POPS begins 39th year

Houston's Pioneer Oil Producers Society, better known as P.O.P.S., is the only organization focused primarily on retirees from the exploration, production, pipeline and service/equipment segments of the oil and gas industry, although it has and welcomes members still actively employed. Formed in 1966, P.O.P.S. allows retirees to keep in touch with former industry colleagues and friends, and with current events in the business, through monthly luncheons.

Meetings are held on the third Monday of each month, excluding July and August, at the Houston Engineering and Scientific Society (HESS) located at 5430 Westheimer, just west of the Galleria. Social hour begins at 11 AM (and most members are present by that time or even earlier), with lunch at noon and the program at l2:30. Luncheon cost is $15 with choice of fish or meat and an open bar is available. Reservations are not required. Parking is available on the HESS lot and the adjacent underground garage.

Background.

P.O.P.S. was the brainchild of Harold Vance, long-time Chairman of the Petroleum Engineering Department at Texas A&M and subsequently head of the Oil and Gas Department of the old Bank of the Southwest. In May 1966, he contacted 100 prospects in Houston he thought might be interested in forming a luncheon group for retirees and 80% responded. A group of 40 attended the first meeting which was held on May 17. Among founding members were noted explorationists Dr. J. Brian Eby and Carleton D. Speed, Jr. To this day, an endowment from Mr. Speed provides scholarships for students of the earth sciences through SIPES.

Membership.

Annual dues for P.O.P.S are $25, which includes a membership directory. Membership is limited to persons who are or were formerly engaged in the oil and gas industry including support organizations serving that industry. Current members run the gamut from a self-proclaimed retired roughneck to chief executive officers, although most members have technical or professional backgrounds in exploration and production. Current membership totals 356.

Programs.

Most presentations are geared to oil industry speakers discussing topics of current interest (Some examples: deep water prospects and operations; the Barnett shale gas play (presented by P.O.P.S. member George P. Mitchell); petroleum potential of Iraq; liquefied natural gas status; solutions for stranded gas; drilling activity forecasts, domestic and international; oil and gas supply/demand and pricing forecasts; etc.). Other programs may focus on current events or topics of general interest. A special Christmas program is held each year to which wives/friends are invited. Attendance at meetings averaged 132 during the past year, with the largest totaling some 170 members and guests.

Welcome.

P.O.P.S. welcomes any interested HGS member (all qualify) and particularly those in the "elder statesman" category (also known as "geezers") to its first meeting in the fall on September 20 (or at any third Monday luncheon, thereafter). Simply identify yourself at the check-in desk at HESS as an HGS member and a prospective P.O.P.S. member, and P.O.P.S. will pick up the tab for your first lunch.

Come see us.

You are invited to become a member of
Houston Geological Auxiliary

2004–2005 dues are $20.00

make check payable to *Houston Geological Auxiliary* and mail to: Audrey Tomkins • 3007 Stalley • Houston, Texas 77092

HGA YEARBOOK INFORMATION

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

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.

Annual dues are $20.00; full-time students and emeritus members pay $10.00.

Mail this application and payment to:

Houston Geological Society
10575 Katy Freeway, Suite 290
Houston, TX 77024
Telephone: 713-463-9476 Fax: 713-463-9160

Payment method:

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

Card # _____ Expiration Date: _____

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. 5/5/2003

The HGS Website continues to improve as we add new features. By the time you read this article, the on-line membership application module will be available at http://hgs.org/en/memberships/. There is also a link from the home page navigation bars. When dues renewal time arrives next June, we plan to have on-line renewal capability, too.

The on-line membership application saves the HGS Office and our Membership Committee paperwork and time. Any authorized administrator can check the status of any application at any time and update it as needed. The applicant can also track progress without calling or e-mailing the office. When it's running smoothly, the average time between submission and going to the Executive Board for approvals will be reduced. That's because the applicants list can be created immediately before the approval meeting instead of a week in advance to be mailed around for review.

The old method of submitting a paper membership application or paying dues by mail will still work for folks who have no Internet access. However, the forms must be converted to the Internet format by the office staff when they are received by mail.

Similar on-line membership application software will be implemented on the GSH website as soon as final testing and acceptance is complete for the HGS Website.

The Website Committee is working very closely with the Membership Directory Committee to help print one of the most accurate directories ever. Any time a member updates their on-line information, an email is sent to the HGS Office showing the before-and-after contents of almost every field that changed. Obviously we don't report password changes or username changes – just the details that apply to the Membership Directory. As for the Directory printing schedule, this year dues renewal seems to have generated more than the usual number of personal data changes and the HGS/GSH Office is swamped. It will probably be the end of the dues renewal period, September 30th, before the directory is finalized and sent to the printer. You can stay informed by checking the HGS Website periodically.

If you are not checking the HGS Website regularly, please do so. It's not always necessary to log in but we would really appreciate it if you log in on every visit. No extra effort is required on your part other than putting a check mark in "Remember Me" the next time you log in. Please do that because we have no other way of identifying who uses the Website. We would like to know the member/non-member ratio on visitors.

If you have forgotten your username and password or never knew them, you can ask for your "forgotten" password. You will be asked for your email address and they will be sent there. You can contact the HGS office or webmaster@hgs.org to update our records with your new email.

Y'all come! And let us know what you like most about the HGS Website.

Dave Crane
HGS/GSH Webmaster
713/789-5916

HGA *and* GeoWives **News**

HGA

Welcome to the 2004-2005 year of activities.

Your Board has been hard at work ever since our "Turnover" meeting on June 2 to bring you the finest quality programs available within our budget. I think you will agree that Sally Blackhall has done a bang-up job. Look at her note to see the programs she has planned for you. The first meeting on September 23 is an evening meeting to which husbands or friends may be invited. Actually, husbands and friends are always welcome, but evening is best for those husbands who are still working.

Please get your dues in soon so that you can be included in the yearbook. We are making a concerted effort to enroll new members and are asking HGS members to please let their wives know about our club, which is just for HGS wives or lady members. We want them to know that we have fun together and also provide assistance to HGS when they need it.

The new members of the Board of Directors of HGA are:

President	Margaret Eisenhardt Jones
President Elect	Norma Jean Jones
First Vice President	Sally Blackhall
Second Vice President	Debra Munsell
Third Vice President	Vicky Pickering
Secretary	Edythe Bishop
Treasurer	Jean Allred
Historian/Photographer	Mary Kay Dingler & Millie Tonn
Parliamentarian	Betty Alfred
Directors	Betty Alfred, Elinor Macmillan, Geneva Quigley, and Mikki Ledbetter Wunderle

Committee Chairmen:

Yearbook	Gwinn Lewis
Membership	Debra Munsell
Notification	Connie Griffith & Dene Grove
Courtesy	Mary Harle & Janice Haye
Eclectic Log	Winona LaBrant Smith
Substitute Office Service (for HGS)	Vicky Pickering

We will be needing volunteers to help at the HGS Shrimp Peel this Fall so please call Vicky Pickering at (281) 498-5249 if you can help.

We hope to see you at the first meeting on September 23.

Margaret Eisenhardt Jones, President HGA

HGA *applications on page 69*

GeoWives

Welcome back Geo-Wives.

After a busy summer, we are ready to get together for our *Kick Off The New Year Brunch.* Come and bring a friend or perspective new member to Dean Grove's, 12715 Pebblebrook, on September 29, 2004. We will start at 11:00am. Spend time talking about all the fun and exciting things we have done since we last met in May. Bring your pictures. Lunch is $5.00 at the door. Notification committee will be calling and email will be flying. If you need additional information, please call Dean @713-467-3905 or Debbie @ 832-249-9442. Can't wait to see everyone.

Debbie Munsell, President GeoWives

GeoWives *applications on page 68*

HOUSTON GEOLOGICAL SOCIETY
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