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About the Cover: Massively bedded lower Cretaceous limestone forms the steep 1,400-foot high walls of Mariscal Canyon in Big Bend National Park, Texas. The Rio Bravo del Norte (Rio Grande) is visible in the bottom of the canyon marking the border between the United States on the left and Mexico on the right. Photograph by Graciela Moore, FG. All Rights Reserved.
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<td>President (P)</td>
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<td>President-elect (PE)</td>
<td>Gary Coburn Murphy Oil</td>
<td>281-675-9210 <a href="mailto:garycoburn.hgs@gmail.com">garycoburn.hgs@gmail.com</a></td>
</tr>
<tr>
<td>Vice President (VP)</td>
<td>Art Berman Labyrinth Consulting Services</td>
<td>713-557-9076 <a href="mailto:bermanae@gmail.com">bermanae@gmail.com</a></td>
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<td>Secretary (S)</td>
<td>Mike Jones Scout Petroleum</td>
<td>713-654-0080 <a href="mailto:mike@scoutpetroleum.com">mike@scoutpetroleum.com</a></td>
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<td>Treasurer (T)</td>
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<td>Treasurer-elect (TE)</td>
<td>Matt Boyd Southwest Energy</td>
<td>281-618-7379 <a href="mailto:matt_boyd@swn.com">matt_boyd@swn.com</a></td>
</tr>
<tr>
<td>Editor (E)</td>
<td>Michael Forlenza Malcolm Pirnie Inc.</td>
<td>713-960-7421 <a href="mailto:hgs.forlenza@gmail.com">hgs.forlenza@gmail.com</a></td>
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<td>Director 07-09 (D1)</td>
<td>Alison Henning H2B, Inc. / Rice University</td>
<td>832-203-5016 <a href="mailto:alison@henning.com">alison@henning.com</a></td>
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<td>Richard Howe Terrain Solutions</td>
<td>713-467-2900 <a href="mailto:hgs.howe@gmail.com">hgs.howe@gmail.com</a></td>
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<td>Director 08-10 (D3)</td>
<td>Ianthe Sarrazin Petrobras America</td>
<td>713-808-2775 ianth杭<a href="mailto:.hgs@gmail.com">.hgs@gmail.com</a></td>
</tr>
<tr>
<td>Director 08-10 (D4)</td>
<td>Walter Light Thunder Exploration</td>
<td>712-823-8288 <a href="mailto:wthunderx@aol.com">wthunderx@aol.com</a></td>
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<td>Sharie Sartain</td>
<td>281-382-9855</td>
<td><a href="mailto:smsartain1@comcast.net">smsartain1@comcast.net</a></td>
<td>D3</td>
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<tr>
<td>Academic Liaison</td>
<td>Brad Hoge</td>
<td></td>
<td><a href="mailto:hoge@uhd.edu">hoge@uhd.edu</a></td>
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<td>713-328-1069</td>
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<td>Lilly Hargrave</td>
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<td>Arrangements</td>
<td>Matt Boyd</td>
<td>281-618-7379</td>
<td><a href="mailto:matt_boyd@swn.com">matt_boyd@swn.com</a></td>
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<td>Awards</td>
<td>Mike Deming</td>
<td>281-925-7239</td>
<td><a href="mailto:michael.deming@deepwater.com">michael.deming@deepwater.com</a></td>
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<td>Paul Hoffman</td>
<td>713-783-7880</td>
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<td>713-461-7420</td>
<td><a href="mailto:dod895@aol.com">dod895@aol.com</a></td>
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<td>Community Outreach</td>
<td>Walter Light</td>
<td>713-529-2233</td>
<td><a href="mailto:wthunderx@aol.com">wthunderx@aol.com</a></td>
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<td>Continuing Education</td>
<td>Ken Schwartz</td>
<td>281-690-0995</td>
<td><a href="mailto:kenschwartz@mail.com">kenschwartz@mail.com</a></td>
<td>D1</td>
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<tr>
<td>Directory</td>
<td>Michael S. Benrud</td>
<td>713-785-8700</td>
<td><a href="mailto:mbenrud@sbres.com">mbenrud@sbres.com</a></td>
<td>EE</td>
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<td>Earth Science Week</td>
<td>Martha McRae</td>
<td>713-869-2045</td>
<td><a href="mailto:mcrae_1125@comcast.net">mcrae_1125@comcast.net</a></td>
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<tr>
<td>Engineering Council</td>
<td>Claudia Ludwig</td>
<td>713-723-2511</td>
<td><a href="mailto:petra@hal-pc.org">petra@hal-pc.org</a></td>
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<td>Environmental &amp; Eng Geologists</td>
<td>Matthew Cowan</td>
<td>713-777-0534</td>
<td><a href="mailto:wrcowan1@hal-pc.org">wrcowan1@hal-pc.org</a></td>
<td>VP</td>
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<td>Exhibits</td>
<td>Paul Carter</td>
<td>713-826-0540</td>
<td><a href="mailto:pcarter@charters.net">pcarter@charters.net</a></td>
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<td>Field Trips</td>
<td>Gary Moore</td>
<td>713-466-8960</td>
<td><a href="mailto:gmoore@wellhub.com">gmoore@wellhub.com</a></td>
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<td>Finance</td>
<td>Joe Lynch</td>
<td>281-496-9898</td>
<td><a href="mailto:jly@sgtgroup.com">jly@sgtgroup.com</a></td>
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<td>713-860-2114</td>
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<td>713-557-9076</td>
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<td>Mark Dennis</td>
<td>281-494-2522</td>
<td><a href="mailto:mdennis@petrolog.com">mdennis@petrolog.com</a></td>
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<td>Government Affairs</td>
<td>Arlin Howles</td>
<td>281-808-8629</td>
<td><a href="mailto:tidenv@sbglobal.net">tidenv@sbglobal.net</a></td>
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<td>Henry Wise</td>
<td>281-242-7190</td>
<td><a href="mailto:hmwise@yahoo.com">hmwise@yahoo.com</a></td>
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<td>Bill Osten</td>
<td>281-293-3160</td>
<td><a href="mailto:bill.w.osten@conocophillips.com">bill.w.osten@conocophillips.com</a></td>
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<td>Houston Energy Council</td>
<td>Sandi Barber</td>
<td>713-955-7830</td>
<td><a href="mailto:sbarber@seismicmicro.com">sbarber@seismicmicro.com</a></td>
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<td>281-497-3857</td>
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<td>HGS Office Manager</td>
<td>Sandra Babcock</td>
<td>713-658-4811</td>
<td><a href="mailto:sandra@hgs.org">sandra@hgs.org</a></td>
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<td>International Explorationists</td>
<td>Justin Vanden Brink</td>
<td>281-877-9400</td>
<td><a href="mailto:vandenbrinkj@rpsgroup.com">vandenbrinkj@rpsgroup.com</a></td>
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<td>Ad Hoc Int'l Year of Planet Earth</td>
<td>Sandi Barber</td>
<td>713-955-7830</td>
<td><a href="mailto:sbarber@seismicmicro.com">sbarber@seismicmicro.com</a></td>
<td>D3</td>
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<td>Membership</td>
<td>Steve Levine</td>
<td>713-624-9273</td>
<td><a href="mailto:steve.d.levine@conocophillips.com">steve.d.levine@conocophillips.com</a></td>
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<td>Membership Growth</td>
<td>Linda Sternbach</td>
<td>281-679-7333</td>
<td><a href="mailto:linda.sternbach@gmail.com">linda.sternbach@gmail.com</a></td>
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<td>Inda Immega</td>
<td>713-661-3494</td>
<td><a href="mailto:immega@swbell.net">immega@swbell.net</a></td>
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<td>Cecelia Baum</td>
<td>713-268-5238</td>
<td><a href="mailto:cecilia.baum@maeisk.com">cecilia.baum@maeisk.com</a></td>
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<td>281-392-0613</td>
<td><a href="mailto:rizerwd@gmail.com">rizerwd@gmail.com</a></td>
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<td>Nominations</td>
<td>Linda Sternbach</td>
<td>281-679-7333</td>
<td><a href="mailto:linda.sternbach@gmail.com">linda.sternbach@gmail.com</a></td>
<td>P</td>
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<tr>
<td>North American Explorationists</td>
<td>Steve Getz</td>
<td>713-871-2346</td>
<td><a href="mailto:sgetz@jaev.com">sgetz@jaev.com</a></td>
<td>VP</td>
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<tr>
<td>Northsiders</td>
<td>Tony D’Agostino</td>
<td>832-237-400</td>
<td><a href="mailto:tony.dagostino@weatherfordlabs.com">tony.dagostino@weatherfordlabs.com</a></td>
<td>VP</td>
</tr>
<tr>
<td>Office</td>
<td>Ken Nemeth</td>
<td>713-689-7605</td>
<td><a href="mailto:kneneth@houston.oilfield.slb.com">kneneth@houston.oilfield.slb.com</a></td>
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<td>Personnel Placement</td>
<td>Peter Welch</td>
<td>713-862-2287</td>
<td><a href="mailto:peter-welch@sbglobal.net">peter-welch@sbglobal.net</a></td>
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<td>Publication Sales</td>
<td>Tom Mather</td>
<td>281-556-9539</td>
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<td>Lee Shelton</td>
<td>713-595-5116</td>
<td><a href="mailto:lshelton@knowledge-reservoir.com">lshelton@knowledge-reservoir.com</a></td>
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<td>Tom McCarroll</td>
<td>713-353-4728</td>
<td><a href="mailto:tom_mccarroll@yahoo.com">tom_mccarroll@yahoo.com</a></td>
<td>D1</td>
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<td>Technofest</td>
<td>Deborah Sacrey</td>
<td>713-468-3260</td>
<td><a href="mailto:dsacrey@auburnenergy.com">dsacrey@auburnenergy.com</a></td>
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<td>713-659-3131</td>
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<td>Web Site Manager</td>
<td>Tarek Ghazi</td>
<td>713-432-4562</td>
<td><a href="mailto:hgs.webmanager@yahoo.com">hgs.webmanager@yahoo.com</a></td>
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<tr>
<td>Web Mastert</td>
<td>Lily Hargrave</td>
<td>713-463-9476</td>
<td><a href="mailto:webmaster@hgs.org">webmaster@hgs.org</a></td>
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For more on short courses and field seminars, call 918-560-2650 or visit www.aapg.org/education.

**SHORT COURSES**

**Basic Well Log Analysis**
July 7-10 / Denver, CO
Instructors: George B. Asquith, Texas Tech University, Lubbock, TX; Daniel A. Krygowski, The Discovery Group, Denver, CO

**An Introduction to the Petroleum Geology of Deepwater Settings**
July 27-29 / Houston, TX
Instructor: Paul Weimer, University of Colorado, Boulder, CO

**Exploring for Stratigraphic Traps Using Pressure/Depth Plots & Salinities**
July 28-30 / Houston, TX
Instructor: Hugh W. Reid, Hugh W. Reid & Associates, Calgary, AB, Canada

**Folds, Faults and Hydrocarbons in the Southern Canadian Cordillera – Principles and Practices**
August 3-7 / Calgary, Alberta, Canada
Instructor: Peter B. Jones, International Tectonic Consultants, Ltd., Calgary, AB, Canada

**FIELD SEMINARS**

**Grand Canyon Geology via the Colorado River, Arizona**
June 19-26 / Begins at Marble Canyon, AZ; ends at Marble Canyon or in Las Vegas, NV
Leader: John E. Warme, Colorado School of Mines, Golden, CO

**Seismic Interpretation of Compressive Structures: Field Trip to the Southern Canadian Rocky Mountain Foreland**
July 18-24 / Begins and ends in Calgary, AB, Canada
Leaders: John H. Shaw, Harvard University, Cambridge, MA, & Dr. Frank Bilotti, Chevron, Houston, TX

**Fractures, Folds, and Faults in Thrusted Terrains: Sawtooth Range, Montana**
August 17-21 / Begins and ends in Great Falls, MT
Leaders: William B. Hansen, Jireh Consulting Services, Great Falls, MT; Steve Boyer, Consultant, Tacoma, WA; Chuck Kluth, Kluth & Associates, Littleton, CO; Jim Sears, University of Montana, Missoula, MT

More Science Than You Can Shake A Pick At. American Association of Petroleum Geologists
From the President
Kara Bennett
kcbhgs@gmail.com

Creative Self-Examination

Recently, the HGS Board has been examining the future of the organization. We held a brainstorming session in March and plan another in April to answer the following questions:

What is HGS doing well?
What are we doing that we could improve?
What are we doing that we shouldn’t be doing, and what are we not doing that we should be doing?

It was an interesting session. We came up with a number of issue areas:

Continuing Education – Are we providing the right programs? Should we bring back some of the basic skill short courses, such as those pertaining to ARCVIEW, SMT interpretation, well log interpretation, and business skills? Are there other areas we should address?
Volunteers – Often we have the same people volunteering to do the bulk of the work. How do we bring in a larger volunteer pool? Do we need more training for volunteers and an active volunteer coordinator?
Public Image of Geoscientists – As a profession, geoscientists tend to be either misunderstood or unknown. How do we improve the knowledge level of non-geoscientists, including government and the general public, so that they see the value of our contributions? Should we plan more public outreach?
Mentorship – How can we help early-career geoscientists with their professional development? How do we encourage full integration of the NeoGeos and other early-career geoscientists into full professional society participation?
Membership renewals and attrition – Membership renewals have shown a gradual but steady decline over the last decade. Why? What can we do to improve?
Technology – How better can we help our members get up to speed on the latest technological improvements?
Employment issues – How can we help members who have recently become unemployed?

Communications – Are we using the HGS website and Internet to its full capacity? How can we improve communication with our members?
Demographics – It has been over ten years since our last membership demographic survey. Who are our members now? What are their concerns?

These issues and others were discussed. Many of them came around to the issue of volunteers, so we are addressing that one first. Without a large volunteer pool, many of the other ideas become moot, because we simply do not have the people to do the things we would like to do. One idea proposed was to ask for volunteers directly. Often people are willing to volunteer, but they do not know what to do or what needs to be done. With that in mind, we are instituting a new regular email which lists the needs we have for volunteers at the moment. Volunteering does not have to take a lot of time; often we need people for a short commitment, such as a day to judge the Houston science fair, or to help select student interns for the HGS-sponsored student internships at the Museum of Natural History.

A second item was referred to the President’s Advisory committee. This committee’s job is to look far into the future and advise the president about trends that will affect the HGS in five, ten, or twenty years. The Advisory committee ran the last general survey of the membership in 1998. They have been tasked with finding out whom our members are now and how the HGS can best serve them. Over the next few months, they will be sending out one or more surveys to gather some hard data about who we are and the roles that the HGS and the profession of geology play in
26th Annual HGS SKEET SHOOT
Saturday, June 27, 2009
Greater Houston Gun Club
6702 McHard Road, Missouri City

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

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

IMPORTANT!!

WE ARE LIMITED TO 160 SHOOTERS IN FOUR ROTATIONS. ENTRY FEE IS $65 PER SHOOTER FOR REGISTRATIONS RECEIVED BY FRIDAY, JUNE 19. AFTER THAT, REGISTRATION WILL BE STRICTLY ON A “SPACE AVAILABLE” BASIS AND THE ENTRY FEE WILL BE $80 PER SHOOTER. REGISTER EARLY!!

For more information, contact: Tom McCarroll at (713)419.9414 or tom_mccarroll@yahoo.com.

*******************************************************************************
HGS SKEET SHOOT REGISTRATION FORM
*******************************************************************************

Name: ____________________________ Company: ____________________________

Email: ____________________________ Phone: ____________________________

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

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

Please return form(s) with check for $65.00 per shooter, payable to: Houston Geological Society

Mail to: Tom McCarroll • Patriot Exploration • 1177 W. Loop South, Suite 1515 • Houston TX 77027

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

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

*******************************************************************************
ALL SHOOTERS WILL BE REQUIRED TO SIGN A DISCLAIMER OF RESPONSIBILITY BEFORE THEY WILL BE ALLOWED TO SHOOT!
Most people who have seen the evocative and haunting image of “Earthrise,” the photograph taken from Apollo 8 on Christmas Eve in 1968, are struck by the rare beauty of the gem-blue orb of our planet suspended in the black void of space over the barren lunar surface. That image, during those turbulent times, conveyed the precious uniqueness of our Earth.

Earth Day is celebrated on April 22 and most people know that it has something to do with the environment and cleanup activities. More importantly, Earth Day is an effective learning opportunity for young people and the wider public audience. Geoscientists should and do play an important role in Earth Day by providing unique perspectives and guidance based on our experience and study of earth systems and processes. But how did Earth Day get started?

Earth Day grew out of the activism and social upheaval of the 1960s. The 1960s were a time of civil rights demonstrations, Vietnam War protests, and generational clashes. Added to this volatile mix was a growing concern about ecological and environmental issues.

“The idea for Earth Day evolved over a period of seven years starting in 1962,” said Gaylord Nelson, United States Senator from Wisconsin and the primary force behind the creation of Earth Day. “For several years, it had been troubling me that the state of our environment was simply a non-issue in the politics of the country,” he continued. “Finally, in November 1962, an idea occurred to me that was, I thought, a virtual cinch to put the environment into the political ‘limelight’ once and for all. The idea was to persuade President Kennedy to give visibility to this issue by going on a national conservation tour.”

In the 1960s, Americans slurped 30-cent per gallon leaded gasoline through massive and inefficient V8 engines. Unchecked industry belched out smoke and sludge with little fear of legal consequences, bad press, or protest. Air pollution was commonly accepted as the smell of prosperity. Lifeless waterways were common throughout the nation. Environment was a word that appeared more often in spelling bees than on the evening news.

From the Editor

Michael F. Forlenza, P.G.
hgs.forlenza@gmail.com

Starting at the Beginning: Earth Day Origins
April 22

…on April 22, 1970, Earth Day was held, one of the most remarkable happenings in the history of democracy...
American Heritage Magazine, October 1993

Earthrise viewed from Apollo 8 in 1968. Astronaut Bill Anders remarked, “We came all this way to explore the Moon, and the most important thing is that we discovered the Earth.” (NASA Photo)
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For more information, visit www.tgssonpec.com today.
By 1969, there was an awakening of public environmental concern. Rachel Carson’s seminal 1962 bestseller, *Silent Spring*, shocked the nation with its description of the devastating effects of pesticide use on wildlife. The title referred to a future without birds and presented in plain language a discussion of the destructive effects of toxic chemicals on ecosystems and ultimately on mankind. In 1964, Congress passed the sweeping Wilderness Act creating the legal, and poetic, definition of wilderness in the United States:

...an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain.

The Wilderness Act protected more than nine million acres of federal land from development.

A weather inversion in 1965 created a four-day air pollution incident in New York City with 80 deaths. In March 1967, the tanker Torrey Canyon struck Pollard’s Rock spilling 29 million gallons of crude oil and fouling the coastlines of England and France. More than 200,000 gallons of crude from a blowout on a Union Oil platform washed up on Santa Barbara’s beaches in January 1969. And in June 1969, Ohio’s polluted Cuyahoga River burned.

The United States Congress passed the National Environmental Policy Act (NEPA) in 1969 establishing a “national policy which will encourage productive and enjoyable harmony between man and his environment.” At a conference in Seattle in September 1969, Senator Nelson, announced a plan for a nationwide grassroots demonstration on the environment in the spring of 1970. He proposed the event to thrust the environment onto the national agenda and modeled it on the highly effective Vietnam War protests of the time. Senator Nelson chose April 22 to maximize participation on college campuses for what he conceived as an environmental teach-in. He determined that the week of April 19-25 was the
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On February 19, 2009, the Executive Board of the Houston Geological Society voted to adopt the following resolution in support of the Texas Geoscientist Practice Act and the Texas Board of Professional Geoscientists.

Resolution of the Board of the Houston Geological Society

February 2009

There is a perception within the geoscience community that there are ongoing questions by some within the Texas Legislature regarding the need for licensing of geoscientists in Texas. The Houston Geological Society (HGS) hereby resolves that the Texas Board of Professional Geoscientists (TBPG) is necessary to protect the health and safety of the citizens of Texas.

Geoscientists play an essential and integral role in the planning, siting and assessment of both public and private facilities. These include homes, hospitals, office buildings, warehouses, schools, commercial and industrial structures, dams, bridges, roads, power plants and other critical facilities. Geoscientists are uniquely qualified to perform environmental assessment and remediation studies and to evaluate surface water and groundwater supplies and other natural resources. TBPG assures the public that licensed geoscience practitioners are competent to perform geoscience work before the public and, through continuing education requirements, assures that licensed geoscientists remain competent. TBPG provides penalties for malpractice of geoscience. Through reciprocity it provides for the public practice of geoscience in Texas by qualified geoscientists licensed in other states.

Any effort to dissolve the Texas Board of Professional Geoscientists under the guise of fiscal responsibility puts the public at risk and, in the long term, costs the citizens of Texas more money. TBPG does not restrict the practice of geoscience in Texas by those qualified to perform such work. It simply ensures that individuals are qualified to engage in the practice of geoscience in Texas as it impacts public health and safety. TBPG carries the same responsibility to the public as professional boards governing medical doctors, lawyers, engineers, and surveyors. The TBPG does not cost the state money. The fees generated by TBPG exceed the cost of its administration, thus generating a surplus for the state treasury.

The Houston Geological Society recognizes the need for the Texas Board of Professional Geoscientists, and it encourages the Texas Legislature to continue to support this agency and its efforts to protect the health and safety of the citizens of Texas.

Senator Nelson selected Denis Hayes, a Harvard University graduate student, as the national coordinator of activities. Mr. Hayes said he wanted Earth Day to “bypass the traditional political process.” Thousands of colleges and universities organized protests against the deterioration of the environment. Groups that had been fighting against oil spills, polluting factories and power plants, discharge of raw sewage, toxic dumps, uncontrolled use of pesticides, extensive freeway construction, the loss of wilderness, and the extinction of wildlife suddenly realized they shared common values.

On April 22, 1970, 20 million Americans took to the streets, parks, and auditoriums to demonstrate for a healthy, sustainable environment and policy reform. Senator Nelson stated that Earth Day “worked” because of the spontaneous response at the grassroots level and directly credited the first Earth Day with persuading United States politicians that environmental legislation had a substantial and lasting constituency. “It organized itself,” said Senator Nelson.

Significant legislation was passed by the United States Congress in the wake of Earth Day 1970, including the Clean Air Act Extension, laws to protect drinking water, wild lands, and the ocean. The United States Environmental Protection Agency, charged with protecting human health and with safeguarding the natural

From the Editor continued from page 9

best because the date did not fall during exams or spring breaks, did not conflict with religious holidays such as Easter or Passover, and was late enough in spring to have good weather.

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From the Editor continued from page 27

Each year, the United States Army celebrates Earth Day at approximately 200 major commands, installations, and organizations at home and around the world.

From the Editor continued on page 27
U.S.A. LOGS FOR:

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WYOMING

CANADIAN LOGS FOR:

ALBERTA
BRITISH COLUMBIA
SASKATCHEWAN
MANITOBA
FEDERAL AREAS
Letter to the Editor – HGS Bulletin
Against New TBPG Senate Bill SB 940

One of the challenges the Texas Board of Professional Geoscientists (TBPG) is currently facing is that it doesn’t receive enough complaints about potential violations. Why does TBPG need more complaints? The politically correct answer from any licensing board is “to protect the public.” The politically incorrect but probably more practical answer is that the volume of complaints that an occupational licensing agency receives is a metric used to determine not only workload and funding but also for the Texas Sunset Advisory Commission to evaluate whether a particular agency is really performing a necessary governmental function. The Sunset process works by setting a date on which an agency will be abolished by default unless legislation is passed to continue its functions. The Sunset review considers whether an agency is efficient, effective, fair, and accountable in its mission to protect the public. Currently the TBPG authorizing statute includes a Sunset date of September 1, 2015 in Section 1002.003.

The policy issue with regard to complaints that TBPG needs to address is that if the public really needs protection from unscrupulous, unqualified, and rogue geoscientists as they say, then the public should be bringing such issues to the Board’s attention. The TBPG has only received a handful of complaints since its inception and so they have been considering ways to increase the volume of complaints filed. The Board has determined that they do not have enough authority to enforce their program because the current statute requires that a written, signed complaint must be received from the public before a formal investigation can commence. Therefore, they have authored Senate Bill SB 940 (introduced to the Texas Senate on February 18, 2009 as authored by Senator Jeff Wentworth) to address this issue by giving themselves new power to self-initiate complaints. The Bill would also allow the identity of those who file complaints to be kept confidential. The TBPG has implied that it expects passage of SB 940 to increase complaints from a handful to hundreds (September 5, 2008 Board meeting agenda item U). If you think giving the TBPG more power is a good idea then unleash them by voicing support for SB 940 to your representatives. If not, let them know you are against SB 940. While the TBPG authorizing legislation is open, it is also an opportune time to suggest expediting the Sunset review date if you are so inclined. These are just my personal opinions and I appreciate the opportunity to present them here for your consideration.

Keith Linton
keith_linton@yahoo.com

Keith Linton is a project manager at a Houston area environmental consulting firm. He holds B.S. and M.S. degrees in environmental science and has over 15 years experience in environmental investigation and risk assessment of contaminated soil and groundwater sites in Texas.

Re: January 2009 Editor's Column
Sustainability: What Is It and Why Should I Care?

Dear Michael:

Bravo!

You have articulated what I've been feeling for ages. Aside from the credit due Jared Diamond and the other sources you cite, you have synthesized a meaningful message for your colleagues to ponder. Leave it to a fellow geologist to read the world. I guess we’re down to earth by definition. I haven’t even finished the editorial yet; I’ve been savoring it. So I don’t know where you’ll leave off. I have been cheerfully reducing my environmental footprint, and I haven’t suffered a bit. I look forward to future editorials from you.

What do you think of a sustainability club, or group within the HGS?

Cheers,

Neil Lisco
Former oilfield trash

Be sure to cast your vote in the HGS election by May 10, 2009.

April 2009
Houston Geological Society Bulletin

13
Expand your opportunities . . .

**E-Octopus Phase VI acquisition in progress**

Our E-Octopus wide-azimuth surveys, and our wide-azimuth cooperation agreement with TGS in the Mississippi Canyon area, utilize industry-leading Q-Marine* technology, survey design, and state-of-the-art processing.

**E-Octopus IV** - Sediment Flood available end of February for the March ‘09 lease sale.

**E-Octopus V** - Fast track volume available end of January for the March ‘09 lease sale.

**E-Octopus VI** - The latest addition to our extensive wide-azimuth portfolio. Now in acquisition, illuminating new potential in the ultra deepwater of Walker Ridge.

Experience the benefits of higher signal-to-noise ratio, broader bandwidth, and a greater range of azimuths – designed to give you greatly improved confidence beneath challenging subsalt formations.

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Sustainable Development of the Upper Texas Coast: 
A Call for More Science and Less Politics

Hurricane Ike was a stark reminder of the risk of living on barrier islands. Yet, even as the loss of human life and material damage were still being assessed, city of Galveston officials and former United States presidents were talking about rebuilding a bigger and better Galveston. The fate of Bolivar Peninsula, however, remains more problematic.

What should be done to maintain a sustainable coast given restricted sand supply, increasing rates of sea level rise, and potential for increasing storm impact in the future?

What is the future of the upper Texas coast, especially this century, and can Galveston Island sustain the unbundled development that existed prior to Hurricane Ike? The reality is that Ike is a stark reminder that the upper Texas coast is a highly unstable setting that will experience significant change with or without future storm impact. This presentation will focus on the evolution of the upper Texas coast and on those changes that are occurring today. How do natural forces regulate these changes and what role have humans played in coastal change? What should be done to maintain a sustainable coast given restricted sand supply, increasing rates of sea level rise, and potential for increasing storm impact in the future? These questions were being posed long before Ike, but city and state officials were then largely ignoring the call for a more scientific approach to coastal development. The geological community must play a greater role in preserving our coast for future generations.

Biographic Sketch

JOHN ANDERSON is the Maurice Ewing Professor of Oceanography at Rice University. His research interests are in Antarctic ice sheet evolution, Quaternary geology of the Gulf of Mexico, and Texas

HGS General Dinner continued on page 17
9th ANNUAL GSH/HGS
SALTWATER FISHING TOURNAMENT
Saturday, June 20, 2009
Tackle Box Storage & Fish Spot Marina • 4009 20th Street North • Texas City, Texas
Galveston Bay Complex and Offshore

This year’s Saltwater Fishing Tournament will include an Offshore Division to be held on Saturday, June 20 at the Tackle Box Storage & Fish Spot Marina, Texas City, Texas. We are looking forward to a big event this summer and we encourage full family participation.

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

Galveston Offshore Division
Trophies will be awarded for the heaviest individual Red Snapper, King Mackerel, and Mahi-mahi.

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

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

GSH/HGS SALTWATER TOURNAMENT

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

Please return this form with your check for $60.00 per contestant payable to: GSH/HGS SALTWATER TOURNAMENT and Mail to:
Geophysical Society of Houston, 14811 Saint Mary’s Lane, Suite 250 • Houston, Texas 77079

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

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

Signature: ____________________________________________ Date __________________________
coastal geology. Dr. Anderson has led 25 scientific expeditions to Antarctica and has spent over 30 years conducting research closer to home in the Gulf and along the Texas coast. Cambridge University Press published the culmination of his Antarctic research in a book Antarctic Marine Geology. The results of his and his students’ research in the Gulf of Mexico were published in SEPM Special Publication No. 79, Quaternary Evolution of the Gulf of Mexico Margin. In 2007, he published a book, Formation and Future of the Upper Texas Coast, and in 2008, he and his former students published a Geological Society of American Special Paper “Response of Upper Gulf Coast Estuaries to Holocene Climate Change and Sea-Level Rise.” He has authored and co-authored over 180 refereed publications and mentored more than fifty graduate students. John received the Gulf Coast Association of Geological Societies Outstanding Educator Award in 1992, was an AAPG Distinguished Lecturer in 2003, President of the SEPM in 2003-2004, and was the 2007 recipient of the SEPM Shepard Medal.
SECOND ANNOUNCEMENT AND CALL FOR PAPERS
THE 8TH PESGB / HGS CONFERENCE ON AFRICAN E & P

Africa: New Concepts for the Oldest Continent

QE II Conference Centre, London, 9 - 10 September 2009

Alternating between London and Houston, this annual conference has established itself as the primary technical E & P conference on Africa for Operators, Consultants, Governments and Academics.

Oral programme to include about 25 high quality presentations with an associated large poster display.

Papers received to date include: * Messinian Fairway, Gulf of Sirt * Palaeo-Drainage Patterns, N Africa * Hercynian Unconformity, Petroleum Effects * Structural History of E African Rift * Frontier Prospectivity, DRC * Jurassic Petroleum System, Madagascar * Okoro Field, Nigeria.*

Session Themes
  * New Exploration Basins in Onshore Africa and in Deepwater
  * New Concepts in Established Petroleum Basins
  * Old and New Petroleum Systems
  * Technology Advances in Exploration and Production

ABSTRACTS: (circa 200 words) should be sent as soon as possible and no later than 13 March 2009 for sub-Saharan Africa to Duncan MacGregor (duncan.macgregor2@ntlworld.com) and for North Africa to Richard Dixon (dixonr2@bp.com).

Pre-registration will be available from the PESGB office from 1st April, at an early bird discounted rate of £250 for PESGB/HGS/Geol Soc. Members and £300 for non-members. For sponsorship opportunities and exhibition booths please contact Rebecca at the PESGB office on 020 7408 2000, rebecca@pesgb.org.uk or visit www.pesgb.org.uk
Statistically, there are few countries which can match Iraq’s petroleum potential: 115 billion barrels of proven reserves, 100 billion barrels of undiscovered potential, and some 535 known structures, only 88 of which have been drilled. Yet Iraq’s production is only around 2.4 million barrels per day, much less than that of its peers. An analysis of the potential suggests that production could double or triple in the next five to seven years, just based on the current reserve base (Figure 1).

In addition, a large exploration potential exists with whole provinces such as the Western Desert and Northern Zagros relatively unexplored. The Western Desert has sparse seismic coverage, only one gas condensate discovery – Akkas – and only a handful of wells. Recent work in the region suggests large Lower Paleozoic potential. Farther east, potential abounds both above and below the Gotnia Salt. Jurassic reservoirs in Kuwait may also extend into Iraq.

Companies have seized upon Iraq’s potential and have mapped out their entry strategies. Independents have chosen to work in the Kurdistan portion of northern Iraq, where prospects are still in the super-giant class but smaller and logistically less challenging than those in central and southern Iraq. Super majors are focusing on the producing super-giant fields, such as Qurna, Kirkuk, and Rumalia, opting to work on field growth. And some others, such as Shell and Ivanhoe, are carving out niches in gas and heavy oil.

The entry tactics have been different for the three types of strategies as well. In the Kurdistan portion of Iraq, operators secured rights via direct negotiations with the KRG local government. Some 20 companies now hold rights in the KRG portion of Iraq. In the KRG, companies have been signing PSCs whose terms generally provide the operators with a 10-15% production share.

In the south and central areas, companies began with study groups and technical study/assistance agreements which lasted one to three years. These are now concluded. Despite the expectation that these study groups would result in signed joint-venture agreements, the Iraqi government has chosen to go to a quasi-open bidding system with companies qualifying based on size. Necessary qualifications start at greater than 500,000 barrels of oil per day down to 100,000 barrels of oil per day for round one and dropping some for round two. This will ensure that the world’s super majors—NOC and IOC, that worked on the technical studies—still have key roles, but not necessarily on the project they originally worked. Figure 2 shows the locations of round one licensing blocks.
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In parallel and in the background of the technical studies are several legacy contracts with companies such as CNPC, Lukoil, Total, which were re-negotiated, along with gas, heavy oil, and downstream projects.

Unlocking those reserves will require overcoming a long laundry list of above-ground issues and challenges which vary from region to region. In the KRG portion of Iraq, at the top of the list is the ability to export and contract validity. There is still a strong debate between the central government and KRG over the region’s authority to prosecute and design contracts. In the south and central portions of Iraq, the main issues are those of security and the types of contracts. For both regions, issues of access to manpower, equipment, and infrastructure round out the top challenges.

Utilizing a panel format, this dinner meeting will address the remaining potential in the known Iraqi fields and the exploration potential. The discussion will provide some insights into how some operators and potential operators are dealing with above-ground risks. The panel will also take questions and comments from the audience.

A large exploration potential exists with whole provinces such as the Western Desert and Northern Zagros relatively unexplored. The Western Desert has sparse seismic coverage, only one gas condensate discovery and only a handful of wells.

Biographic Sketches

BOB FRYKLUND brings 28 years of industry experience to his role as Vice President of Global E & P Analysis for IHS. Based in the company’s Houston office, he focuses on global strategic leadership and opportunity access and assessment. Prior to joining IHS, Mr. Fryklund served as Libya President and Brazil Country Manager for ConocoPhillips. He also has held various leadership positions with British Borneo, Union Texas, and Amerada Hess. He is a member of the Houston Geological Society and the American Association of Petroleum Geologists, and has published numerous articles in three languages. He has served on several boards, including the IBP (a Brazilian oil and gas association), the Libyan-U.S. Council (a bilateral trade association), and the American School of Tripoli. Mr. Fryklund earned an A.B. from Hamilton College in Clinton, New York in 1980, and has completed advanced studies in business at the University of Houston and geology at the University of Tulsa. He also holds an advanced certificate in management.

HARRY (BUD) T. HOLZMAN JR. joined the United States Marines in 1966 and transferred to the United States Army in 1967 to attend helicopter flight school. He had a distinguished record in Vietnam which earned him, among many other decorations, the Distinguished Flying Cross, two Purple Hearts, Vietnamese Cross of Gallantry, 40 Air Medals, and the Bronze Star. He left active duty in 1971 but continued flying helicopters in the Texas National Guard for the next five years.

Mr. Holzman received a degree in geology from Trinity University in San Antonio in 1974. After graduation, he went to work for the Geomap Company as a geologist and stayed with that company for the next 26 years, eventually becoming its president. In 1976, he transferred from the Texas National Guard to the United States Army Reserves to serve as a medical evacuation helicopter pilot in Houston.
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In the Army Reserves, Mr. Holzman was cross-trained in 1993 as a counterintelligence agent. In 2000, he was recalled to active duty in the Army and assigned to Camp Bullis, Texas. He was then deployed to Iraq in 2004 as a counterintelligence agent and assigned as the Chief Analyst-Iraq Oil and Gas Infrastructure. Mr. Holzman has authored numerous (mostly classified) papers on Iraq pertaining to that country’s future reserves and exploration potential. He has also worked with the Iraq Oil Ministry and government agencies to rebuild their infrastructure, and he was involved in giving advice on several articles of their constitution as related oil and gas. He retired from military service in 2008 after 42 years and was awarded the Legion of Merit.

Now employed as an international petroleum geologist for McCombs Energy and the Dan A. Hughes Company/Hupecol, Mr. Holzman is working the Kurdish region of Iraq. In addition, he currently advises the United States Central Command (CENTCOM) on oil and natural gas issues throughout Iraq.

BEN LANDO is editor of United Press International’s (UPI) Energy Resources desk, founder and editor of IraqOilReport.com and a freelance reporter covering, among other issues, global energy and geopolitics. At UPI, his reporters cover energy and geopolitical issues around the world and his reporting focuses almost exclusively on Iraq’s energy-related stories. The Iraq Oil Report is a website devoted to news directly or indirectly related to Iraq’s oil sectors, providing readers information on investment opportunities, trends, and risks in Iraq.

Mr. Lando has reported around the United States and from Iraq, Saudi Arabia, Russia, Turkey, Jordan, the United Arab Emirates and the UK. His work has been published in the Jerusalem Post, the Washington Times, and other news outlets. He has been cited or interviewed in print and radio news; sourced in reports written by United States agencies such as the State Department and Congressional Research Service; and quoted in letters from Congress to United States Secretary of State Condoleezza Rice. Mr. Lando is a member of the Society of Professional Journalists, Investigative Reporters and Editors, National Press Club, Online News Association, and Young Professionals in Energy (YPE), serving on the board of the YPE’s Chicago chapter.
Only a small percentage of original oil in place (OOIP) is produced during primary production from most carbonate reservoirs. Secondary recovery programs, such as waterflooding, commonly double the amount of oil recovered, but much of the OOIP remains in the reservoir. To effectively improve recovery, development programs must target the location of remaining oil. The reservoir characterization challenge requires building a model that images remaining oil saturation and can be used to predict the outcome of various development (i.e., secondary recovery) programs.

Building a carbonate reservoir model begins with an understanding of the relationship between pore space and petrophysical properties. This relationship must be linked to depositional and diagenetic models so that the petrophysical properties can be imaged in 3D space. One rock fabric method for making this link has been developed at the Bureau of Economic Geology by an integrated team of geologists, petrophysicists, and reservoir engineers. Pore-size distribution is the key link between petrophysical measurements and rock fabric descriptions, and rock fabric is the key link to sequence stratigraphic models.

Rock fabrics are composed of matrix fabrics—which contain interparticle and separate-vug porosity—and nonmatrix fabrics—which contain interconnected vugs. How a reservoir performs during production will be related to the volume and distribution of these basic fabrics. To properly analyze a reservoir with matrix fabrics, understanding its sequence stratigraphic framework is crucial. The primary stratigraphic element is the high-frequency cycle within which basic rock fabrics are systematically distributed. However, the primary petrophysical element is the rock-fabric flow unit, which is defined by facies stacking within a high-frequency cycle. The result is a static 3D model of porosity, permeability, and initial oil saturation suitable for input into a numerical flow simulator. Production history of the field is simulated, and the end result is an image of the location of remaining oil saturation.

Biographical Sketch

F. Jerry Lucia is a Senior Research Scientist at the Bureau of Economic Geology, The University of Texas at Austin. He is an expert in carbonate reservoir geology, reservoir characterization, and carbonate petrophysics. His technical expertise includes carbonate sedimentation, origin and distribution of dolomite, and developing relationships between carbonate rock fabrics and petrophysical properties.

Before joining the Bureau in 1985, he was a Consulting Geological Engineer for Shell Oil Company assigned to the head office staff. Mr. Lucia retired from Shell in 1985 after 31 years of experience as a geological engineer in research and operations. He is currently co-principal investigator of the Reservoir Characterization Research Laboratory, developing new techniques and methods for characterizing carbonate reservoirs to improve recovery from existing oil fields through the integration of geological, petrophysical, engineering, and production data. Project areas include the Permian Basin and the Middle East. Mr. Lucia is an active member of the American Association of Petroleum Geologists, the Society of Petroleum Engineers and the Society for Sedimentary Geology (SEPM), and is a Fellow of the Geological Society of America.
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Wetland consultants have arrived at a narrow specialty of environmental consulting through a wide variety of professional avenues. Regardless of professional roots, the primary role of any wetland consultant involved with delineations, permitting, mitigation design, and the subsequent construction of wetland areas is to assist property owners by promoting responsible development that is appropriate to current wetland regulations. Wetland experts know the regulations and can offer advice based on a sound technical evaluation of a specific site or situation as well as the U.S. Army Corps of Engineers standards. Wetland regulations are dynamic and change frequently so staying on top of the latest changes is the responsibility of wetland experts.

Biographic Sketch
BARBARA CASTILLE has 20 years of environmental and wetland experience in Texas and will share her insights into the ever changing wetland industry. She received a B.S. degree and M.S. degree in biology (chemistry minor) in 1986 and 1988, respectively. Ms. Castille additionally holds a B.S. degree in industrial hygiene.

From the Editor continued from page 11

The old Lakota was wise. He knew that man’s heart away from nature becomes hard; he knew that lack of respect for growing, living things soon led to lack of respect for humans too.

~Chief Luther Standing Bear

environment, was created in December 1970 by President Richard Nixon. Among the provisions of these bills was the requirement that automobiles use unleaded gasoline, achieve a minimum number of miles-per-gallon of gasoline, and be equipped with catalytic converters.

Most calendars indicate that Earth Day is April 22, however another Earth Day is celebrated on the equinox around March 20th or 21st to mark the astronomical start of spring in the Northern Hemisphere. The idea for the equinoctial Earth Day was introduced by peace activist John McConnell at a United Nations Educational, Scientific and Cultural Organization (UNESCO) Conference on the Environment in 1969. The mayor of San Francisco issued a proclamation for this Earth Day in 1970 and the United Nations Secretary General signed a supporting proclamation in 1971. During the March Earth Day celebration, the precise moment of the equinox is marked by the ringing of the Japanese Peace Bell.

Interest in Earth Day flagged in the 1980s and then was renewed in the late 1990s. Earth Day 2008 was one of the largest observances to date with people participating in activities in thousands of places around the globe. Now observed in 175 countries, Earth Day is “the largest secular holiday in the world, celebrated by more than a half billion people every year,” according to the coordinating non-profit Earth Day Network. Environmental groups have sought to make Earth Day into a day of action, awareness, and learning which changes human behavior and provokes policy changes.

What now? What should we do on Earth Day? Everyone can make a difference: walk more, ride less, buy less, grow some of your own food, recycle, plant a tree, join a group, participate, volunteer, get involved. As geoscientists, we can educate and inform young people and our communities about earth processes, earth science, and the sustainable use of earth’s resources. Canadian educator and philosopher Marshall McLuhan said in 1964, “There are no passengers on Spaceship Earth. We are all crew.”
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Dissolution processes, hydrology, void dimensions, and architecture are useful in understanding karsted rocks that serve as reservoirs for oil and natural gas. Three-dimensional cave surveys can be used to assign properties to “karst” cells in geocellular models. Surveys of long karst passages (e.g., Yucatan flooded caves) can be used to infer connectivity (i.e. how many “karst” cells can be neighbors?).

Karst processes ranging from surface weathering to deep burial dissolution have affected numerous karsted intervals that host petroleum accumulations. Recognition and prediction of subsurface paleokarst from seismic or borehole information and prediction of potential petroleum production involves addressing the following questions:

• Does the layer in question consist primarily of carbonate rocks?
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• Is there evidence to suggest subaerial exposure of the carbonates?
• Can a humid paleoclimate be documented?
• What was the paleo-relief?
• Does the tectonic history include episodes of jointing, faulting, or fracturing that would focus flowing water in the paleohydrologic setting?
• Is there reason to suspect burial dissolution?
• Did karst dissolution pre-date petroleum migration?
• What differences would karsting make to wellbore deliverability, well spacing, drilling operations, injection strategies, and production profiles?

Analogs and regional studies incorporating the elements of these questions can be used in the exploration and production workflow to identify potential problems and opportunities, to constrain geo-model input, and to improve communication of subsurface risks and uncertainties.

Biographic Sketch
Charles T. Feazel is a senior scientist in the Subsurface Technology group at ConocoPhillips. In 34 years with the company, he has had research and management assignments in Oklahoma, Texas, and Norway. He earned a B.A. in geology from Ohio Wesleyan University and M.A. and Ph.D. degrees from Johns Hopkins. His specialties include carbonate sedimentology, reservoir description, field development, and a wide spectrum of reservoir characterization from depositional facies to flow units. Dr. Feazel has experience in numerous geographic regions and geological settings, including the Nevada desert, various Caribbean islands, Greenland, the Beaufort Sea, the North Sea, Alaska, the Gulf of Mexico, the United States Midcontinent, the Mid-Atlantic Ridge, the Caspian Sea, and the Middle East.

Karst processes ranging from surface weathering to deep burial dissolution have affected numerous karsted intervals that host petroleum accumulations.
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Why do salt-floored minibasins subside? An almost universal explanation is that salt is forced from beneath the sinking basin by the weight of its sedimentary fill. This explanation is valid if the average density of the basin fill exceeds that of salt, which needs at least 1,600 meters of siliciclastic fill to ensure enough compaction. However, most minibasins start sinking when the fill is much thinner than this. Some mechanisms other than density inversion must explain the early subsidence history of these minibasins. Conventional understanding of minibasin subsidence is thus incomplete.

We identify five alternatives to density-driven subsidence of minibasins. During diapir shortening, the squeezed diapirs inflate, leaving the intervening minibasins as bathymetric depressions. In extensional diapir fall, stretching of a diapir causes it to sag, producing a minibasin above its subsiding crest. During decay of salt topography, a dynamic salt bulge subsides as upward flow of salt slows, which lowers the salt surface below the regional sediment surface. During sedimentary topographic loading, sediments accumulate as a bathymetric high above salt. Finally, subsalt deformation affecting the base of salt may produce relief at the top of salt. Each mechanism (including density-driven subsidence) produces a different bathymetry, which interacts with sediment transport to produce a different facies pattern in each type of minibasin. The particular mechanism for minibasin subsidence depends on the tectonic environment, regional bathymetry, and sedimentation rate. The spatial variation of minibasins on a continental margin creates provinces in which a given minibasin style is dominant. An appreciation of subsidence mechanisms should thus improve understanding of minibasin fill patterns and allow genetic comparisons between minibasins.

Biographic Sketch

Michael R. Hudec, Martin P. A. Jackson, and Daniel D. Schultz-Ela
Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin

The Paradox of Minibasin Subsidence into Salt

April 2009 Houston Geological Society Bulletin
At Weatherford Laboratories, we hold fast to Higher Standards. Our purpose is to continually push past conventional solutions to find new and better ways to optimize oil and gas production.

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Reservations:
The HGS prefers that you make your reservations on-line through the HGS website at www.hgs.org. If you have no Internet access, you can e-mail reservations@hgs.org, or call the office at 713-463-9476. Reservations for HGS meetings must be made or cancelled by the date shown on the HGS Website calendar, normally that is 24 hours before hand or on the last business day before the event. If you make your reservation on the Website or by email, an email confirmation will be sent to you. If you do not receive a confirmation, check with the Webmaster@hgs.org. Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. No shows will be billed.

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Connecting the Industry’s Experts

Upcoming GeoEvents

May 4 – 7
2009 Offshore Technology Conference
Houston, Texas

May 11
General Dinner Meeting
Dr. Lesli J. Wood, Senior Research Scientist, Bureau of Economic Geology
Source-to-Sink Linkages between Clinoform Architecture and Deepwater Deposits, Eastern Mexico Margin, Southern Gulf of Mexico

May 12 – 14
TCEQ 2009 Environmental Trade Fair and Conference
Austin Convention Center, Austin, Texas

May 14
HGS Continuing Education
Reservoir Engineering Tools for Geoscientists
John R. Farina, Petroleum Engineer

May 15
HPAC Annual General Meeting and Luncheon
Houston Racquet Club

May 19
Northsider’s Luncheon
Deepwater Hydrates in the Gulf of Mexico, Bob Hardage, Distinguished Lecturer, The University of Texas at Austin

June 7 – 10
AAPG Annual Convention
Denver, Colorado

June 20
9th Annual GSH / HGS Saltwater Tournament
Tackle Box Storage & Fish Spot Marina, Texas City

June 21 – 29
HGS Grand Canyon Field Trip

June 27
26th Annual HGS Skeet Shoot
WHY SETTLE FOR LESS CABLE WHEN FAIRFIELD CAN SET YOU FREE OF ALL CABLES

Z Land is unlike anything else available in the Land Seismic Data Acquisition Industry. Z Land is completely Cable-Free with absolutely no external cables required for acquisition whatsoever. Everything necessary for autonomous seismic data acquisition is internal. Housed in an impact resistant shell are the Sensor (Velocity Geophone), Acquisition Electronics (24bit ADC with K-Gan Amplifier and Filters), CPU for control, GPS disciplined clock (+/-100 second), Batteries (Lithium-ion) and 2Gbyte of FLASH memory.

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“This new system from Fairfield is going to change everything we know about land seismic.”

For more information on how Z Land continuous recording is going to change the way you do land seismic forever, contact Systems Division at Fairfield Industries.
SIPES members across the country have been very active along with members of other professional societies, especially those of the American Association of Petroleum Geologists, in representing the geological community regarding critical issues affecting their livelihoods. While the current economic crisis has shifted attention away from energy, President Obama and the Congress are planning to return to the topic. Putting political rhetoric aside, the challenges facing the United States in the realm of energy security, the environment, and other issues involving earth science deserve serious attention and careful policy solutions. These solutions must be based on science and fact, not wishful thinking.

In 2005, the American Association of Petroleum Geologists took deliberate action to bring science to our nation’s policy makers by establishing the Geoscience and Energy Office Washington D.C. (GEO-DC). The mission of this group is to provide the scientific and energy expertise of AAPG members (many of whom are also SIPES members) to the policy making process. There are two points of focus:

1. Advise and educate government officials and science and energy policy organizations; and

2. Communicate to the geological community timely information on relevant legislative and regulatory actions.

This talk will discuss current political realities, activities of GEO-DC, and the policy challenges facing the 111th Congress.

Biographic Sketch

DAN SMITH has over 50 years of oil and gas exploration and production experience. His background includes prospect generation, property evaluation, structural and stratigraphic interpretations, well log analysis, geophysics, and business and financial management. He has been responsible for discovering numerous new fields. Mr. Smith started his career at Amoco after graduation from the University of Texas at Austin with a degree in geology. He became Executive Vice President and part owner of Texoil after a period at Roberts and Whitson Petroleum. In 1992, he joined the Meridian Resource Corporation as a consultant, accepting a position as Vice President in 1996. He continued with Meridian until 1999, when he again became an independent. Mr. Smith joined Sandalwood Oil & Gas, Inc. as Executive Vice President in 2001. He also manages his own independent company.

Mr. Smith has served as the Houston SIPES chairman, president of the SIPES Foundation, and president of both the HGS and AAPG. He received the Distinguished Service and Honorary Life Membership Awards from HGS and GCAGS, and the HGS’s highest honor, the Gerald A. Cooley Award. He also received the Distinguished Service and Honorary Member awards from AAPG as well as the Honorary Member award from the House of Delegates. Mr. Smith is currently the AAPG representative to the AGI Member Council and is Vice Chairman of the AAPG Washington D.C. Office Governance Board. He has been the Political Affairs Chairman of the Houston SIPES Chapter for approximately 15 years.
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- Wide-azimuth - Kirchhoff, Beam & WEM
- Narrow azimuth
- Proposed Wide-azimuth - Beam & RTM

Contact your local PGS representative for more information
The homepage of the Lamont-Doherty Earth Observatory (LDEO) features a plain white field with icy blue-gray blocks of text and headers. This seems appropriate because the LDEO is one of the leading climate research facilities in the world. A large field in the center of the homepage presents information on current research projects. The LDEO's research divisions listed along the right side are Biology and Paleo Environment, Geochemistry; Marine Geology and Geophysics; Ocean and Climate Physics; and Seismology, Geology, and Technophysics. Columns on the lower half of the homepage list upcoming events, pertinent news items, featured researchers and research projects, and videos.

The featured videos found at the links from the homepage could not be more different. The first link presents a page with a series of high-quality, graphic-heavy videos narrated by Tom Brokaw discussing a range of research topics conducted at LDEO and the second link presents a low-quality video of a lecture.

Clicking on the links to the areas of research opens new pages with a stunning photographs and graphics and brief description of three project highlights. The project highlights open additional pages discussing the type of work that the researchers are conducting and some of the findings. Many of the project highlight pages have links to separate websites for the specific research groups. For instance, on the Marine Geology and Geophysics page there is a link to the Borehole Research Group website that presents information using a variety of media including YouTube videos. The Borehole Research Group conducts downhole geophysical investigations involving a wide range of applications and participated in all the recently concluded Ocean Drilling Program expeditions.

As a leading research institution of marine geoscience, LDEO has operated a series of five research vessels since 1953. One of the most interesting parts of the website is the Office of Marine Operations found by clicking on the Marine Ops link in the homepage header. A history of the LDEO research ships is found here. The links on the left side of this page provide an interesting and detailed discussion of marine seismic methods and seismic sound sources. Here is where you can learn about air bubbles, tuned arrays, free surface reflection, source metrics, and array directivity.
EXPERIENCE For over a half-century Dawson has helped its clients succeed. In both seismic acquisition and processing, we deliver high quality data that gets clear-cut results. From field equipment to software, we put the latest technologies into the hands of seasoned professionals who have geophysical knowledge specific to all major U.S. basins. Decades of acquiring data and imaging objectives to provide total subsurface picture. That’s what our experience gives you.practice every day.
Geologic Website of the Month

The LDEO is located on a green campus overlooking the Hudson River in Palisades, New York about fifteen miles north of Manhattan and is operated in association with Columbia University. According to the website:

The Lamont-Doherty Earth Observatory (LDEO) is a leading research institution where more than 200 research scientists seek fundamental knowledge about the origin, evolution, and future of the natural world. LDEO scientists observe Earth on a global scale, from its deepest interior to the outer reaches of its atmosphere, on every continent and in every ocean. They decipher the long record of the past, monitor the present, and seek to foresee Earth's future. From global climate change to earthquakes, volcanoes, nonrenewable resources, environmental hazards and beyond, the Observatory's fundamental challenge is to provide a rational basis for the difficult choices faced by humankind in the stewardship of this fragile planet.

LDEO houses the world's largest collection of deep-sea and ocean-sediment cores that have been collected over more than 60 years of research cruises. The collection has more than 13,000 cores from every ocean and sea. The LDEO is a key component of the Earth Institute at Columbia University which links Earth scientists with engineers, economists, and social and political scientists. These cross-disciplinary research teams allow for the building of powerful connections between understanding the Earth's systems and devising applications that benefit humankind directly.

Considering the leading-edge nature of the research conducted at LDEO, the website content is rather shallow. One or two clicks will take the visitor to the end of the line and many of the entries are only a few paragraphs long. Still, with its excellent graphics, maps, and photographs and a chance to find out what kind of work is conducted at a world-class earth science research facility, a visit the LDEO website interesting and informative.
Just how do you go about teaching people how long geological time is? One common way is by analogy with the length of a football field. If you spread 570 million years (radioactive age date for the beginning of animals with hard body parts during the Cambrian period) over 100 yards, trilobites appear at the five yard line, mammals at the 88 yard line, and historic times (starting at about 10,000 years before present) in the last one-third of an inch. Just how well does the public grasp this analogy? We decided to find out. HGS volunteers set up this analogy for visitors at the celebration of Darwin Day (February 7, 2009) at the Houston Museum of Natural Science.

The Grand Hall of the museum is perfect for this activity because it is more than 100 yards long. We laid out duct tape, stretching from the Butterfly Center to the ticket counters, and marked off the geological periods. We made about 200 stick-on labels – each with a picture of an organism and its dates – for visitors to stick on the floor next to the timeline. They loved it, particularly the parentally-suppressed young decorators. We had numerous visitors, including numerous geoscientists, walking the timeline to see when various animals appeared and how species progressed from simple to complex. People frequently commented on just how many things were crammed into the last foot (Pleistocene to Recent). I think that visitors could better visualize time from this linear model than from a verbal one. If you want to try this at your venue, I have placed all the computer files for the labels on the publicly-accessible Houston Gem and Mineral Society website (www.hgms.org) in the K-12 directory. You might get a better reception from the custodial staff if the labels had removable glue.

Many of the geo-volunteers involved thought we should bring in a pavement saw and make the display permanent. Geology professors from Blinn and San Jacinto Colleges were thinking about nice long sidewalks on their campuses where this kind of timeline could be made out of brick and tiles.

The timeline runs from the present to ……

Volunteer Janet Kid helping a young visitor to make his mark.
Killer whales produce whistles, clicks, pulsed calls, low-frequency pops and jaw claps for two overlapping functions—to communicate and echolocate.

For years PGS has been communicating closely with operators in exploration basins worldwide to help locate new prospects, to expand production from existing ones and to lower finding and development costs. Recent significant successes from our depth imaging teams are giving geoscientists clear images by using state-of-the-art migration algorithms and advanced velocity model building workflows. To find out more about the bottom line benefits of PGS data processing, please contact Frank Dumanoir at (713) 509-8354.
The HGS Undergraduate Scholarship Foundation has been providing scholarships to deserving students since 1984. To date, over $153,000 in scholarships have been awarded. This year the Foundation awarded seven scholarships totaling $10,500. Foundation Chairman John Adamick presented the scholarships to the recipients at the February 9th HGS General Dinner meeting. Universities included in the undergraduate scholarship program include Lamar University, Sam Houston State University, Stephen F. Austin State University, Rice University, Texas A&M University, the University of Houston, and the University of Texas.

Vitae for our scholarship winners are listed below. These students are to be commended for their accomplishments.

**Madelyn Percy**  
*University of Texas*

Madelyn Percy is a senior at the University of Texas at Austin, double majoring in geology and anthropology, with a concentration in archaeology. Stating her goal of being the first ever archaeologist AND geologist as early as kindergarten, she feels incredibly fortunate that she has been allowed to pursue both studies. Madelyn's research interests currently follow two trajectories, working with Dr. Charlie Kerans on a late Albian carbonate rudist reef complex in Medina County, Texas and with Dr. Fred Valdez, Jr. in Belize, studying the water management features and agricultural techniques used at a late Classic Maya archaeological site. She is applying to Ph.D. programs in both geology and archaeology, hoping to work in the field of geoarchaeology. Outside of school, Madelyn is the director of an amateur production of the musical "Chicago" and loves to travel, swim, read, cook, and hike.

**Buck Johnson**  
*Stephen F. Austin State University*

Buck Johnson is a senior at Stephen F. Austin State University majoring in geology, with petroleum land management as a minor. He serves as secretary for Sigma Gamma Epsilon and Geological Society of America for his chapter and is also a member of AAPG. Buck is on the President’s Honor Roll and the Dean’s List. Special topics include: XRD and a two-week geochemical field study of the Southwestern United States. After graduation in fall of 2009, Buck intends to pursue his master’s degree in geophysics. While not in class, Buck enjoys fossil collecting, biking, hiking, and many other outdoor activities.

**James Burnes**  
*Lamar University*

James Burnes grew up on a farm in Fred, Texas. He is a senior at Lamar University with a dual major in geology and history and minors in anthropology and earth science. James is also planning to take several biology courses to help with his plans to study paleontology and obtain his Ph.D. and teach as a research professor at the university level. James is currently treasurer of LUGS (Lamar University Geological Society), former president of the Lamar Anthropology Association, a member of the National Geographic Society, Safari Club International, and a current McNair Scholar. He is also a member of the Phi Kappa Phi national honor society, the Phi Alpha Theta International Honor society for history, the Texas Academy of Science, and holds a student membership to the Geological Society of America. James has spent the last two field seasons doing research in Utah’s Uinta Basin searching for Eocene micro-mammal fossils. He also spent a month in Belize doing Maya archaeology fieldwork with the University of Texas. James has co-authored an abstract on the results of his Uinta field work and currently teaches an historical geology laboratory at Lamar University. His interests are wide-ranging and include paleontology, geology, biology, archaeology, and the history of science. When not studying, teaching, or doing research, James likes to read and to spend time with his grandfather and family up on the farm.

**Ashley Jordan**  
*Texas A&M University*

Ashley Jordan is a junior in the geology program at Texas A&M University. She is a social chair in the Geology and Geophysics Society. Her other school activities include the National Society of Collegiate Scholars and the Aggie Undergraduate Scholarships.
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Speleological Society. She has gained experience through her internship with Schlumberger WesternGeco in Houston in the summer of 2007 and with her job with the Bureau of Land Management at Craters of the Moon National Monument and Preserve in Idaho during the summer of 2008. She plans on participating in undergraduate research this fall and will graduate in December.

Tabitha Bittinger  
*Sam Houston State University*

Tabitha Bittinger is a student at Sam Houston State University currently finishing her undergraduate geoscience degree with a minor in mathematics. She is active with the Sam Houston Association of Geology Students (SHAGS), planning and coordinating field trips and other events. For the past three years, Tabitha has been employed as a geological technician with McAllen Oil and Gas. She has worked extensively on projects focused on the Vicksburg sands of south Texas. Tabitha also teaches introductory geology laboratories at Sam Houston State University and serves as a tutor for most other introductory level classes. She plans on attending graduate school, a decision that was solidified by attending a research expedition for undergraduates led by Professor Chris Baldwin to the Ainsa Basin in the Spanish Pyrenees during the spring of 2008. Tabitha’s current research interests combines aspects of basin sequence stratigraphy, sedimentology, and structural controls on basin development.

Mairi Litherland  
*Rice University*

Mairi Litherland is a senior at Rice University majoring in earth science with a concentration in geophysics. She has worked on research projects studying mantle anisotropy in Alaska using S-wave splitting and modeling volcano formation on different planets at the Lunar and Planetary Institute. Currently she is working with Dr. Fenglin Niu to do research on the inner core. Her other activities include writing and making cakes, and she is an active member of the Marching Owl Band and the Rice Light Opera Society. She hopes to attend graduate school to study seismology following her graduation in May.

Denet Pernia  
*University of Houston*

Denet Pernia is a junior at the University of Houston majoring in geology and the treasurer of the UH Geosociety. She works in the Earth and Atmospheric Sciences Department at the University of Houston where she carries out data and site management for HNET (Houston Network of Environmental Towers) along with instrument maintenance and trouble shooting. Denet is a member of the Alpha Lambda Delta Honor Society and is also enrolled in the UH Honors College. Denet plans to attend graduate school after she graduates in May 2010 to pursue a master’s degree in geology. Her interests include hiking, traveling, and volunteer work.

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The Houston Geological Society officer election voting period opens in April 2009 and continues to May 10, 2009. HGS members can vote online for the following candidates: President-Elect, Vice-President, Secretary, Treasurer-Elect, Editor-Elect and two HGS Directors.

An email will be sent to active HGS members that will contain the ballot web link. The highlighted link will take you to a secure webpage. Follow the easy instructions and review the candidates. Vote for HGS candidates of your choice using a personal Voting ID number.

1. Go to the HGS Website at www.hgs.org
2. Logon to the HGS Website with your member user name and password (If you don’t remember your user name and password contact the HGS Webmaster)
3. Click the link on the e-mail and you will be taken to the voting page
4. On the voting page, input the unique voting ID number located on the email. Each member has a unique voting ID number. Please do not share your number with anyone. You will be taken to the candidate list page.
5. Cast your votes by clicking on the boxes next to the candidate names. You will also see the candidate bio’s that you can read to help you decide on the candidate you want to vote for.
6. When you are done selecting candidates, click the “submit vote” button at the bottom of the page.

The HGS Website committee and HGS Webmaster have worked to make the online voting process efficient and easy to use. In 2007, 949 HGS members voted. If you have suggestions for improvements or encounter any problems with the new online voting process, please contact the Website Committee Chair (Bill Osten) or HGS Webmaster (Lilly Hargrave at lilly@hgs.org).

President-Elect (two candidates)

Cheryl Desforges

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

Experience:
2006–Present Sabco Oil and Gas Company
2004–2006 Consultant, Ryder Scott Company, SCA
1989–1995 Consultant in both the Petroleum and Environmental Industries

Professional Affiliations:
Licensed Professional Geoscientist, State of Texas # 2174
American Association of Petroleum Geologists – Certified Petroleum Geologist #2925
Geological Society of America
Houston Geological Society
Society of Exploration Geophysicist
SEPM

John B. Tubb, Jr.

Education:
Ph.D Geology 1963 University of Illinois
M.S. Geology 1961 University of Illinois
B.S. Geology 1959 Southwestern Louisiana Institute (now called the University of Louisiana at Lafayette)

Experience:
1996–present Consulting Geologist, currently with INEXS
1987–1996 Japex, Exploration Manager
1985–1987 Consulting Geologist
1984–1985 WR O&G, Senior Geologist
1981–1984 Consulting Geologist
1977–1981 Michigan-Wisconsin Pipeline Company, District Manager; Vice-President Exploration
1969–1977 Signal O&G, Senior Geologist; District Geologist; Division Development Geologist
1963–1969 Tenneco Oil Company, Geologist

Professional Affiliations:
HGS, AAPG, DPA Certified Geologist,
Texas Professional Geoscientist License # 503

Professional Activities:
2008–2009 HGS Treasurer
2007–2008 HGS Treasurer-elect
2000–2007 AAPG Delegate from HGS
1994–1998 AAPG Delegate from HGS

Cheryl Desforges continued on page 57
John B. Tubb, Jr continued on page 57

Houston Geological Society Bulletin
April 2009
Vice-President (two candidates)

Arthur (Art) D. Donovan

Education:
Ph.D. Geology Colorado School of Mines
M.S. Geology John Hopkins
B.S. Biology & Geology University of Rochester

Experience:
2008–present BP North America Gas: Senior Geoscience Advisor
2004–2007 BP Exploration: Exploration Technical Assurance Team
1984–2000 Exxon Production Research: Sequence Strat Specialist & Team Lead
1978–80 USGS: Eastern Regional Team Geologist

Professional Affiliations:
American Association of Petroleum Geologists
American Geophysical Union
Geologic Society
Houston Geological Society
Society of Exploration Geophysicist
Society of Economic Paleontologists & Mineralogists

Professional Activities:
2008 GCAGS Technical Program Chair
2007–present Adjunct Professor of Geology & Geophysics TAMU
2005–present Member North American Commission Stratigraphic Nomenclature
2004–present Aapg International Conference Committee
1995–present GSA Sequence Stratigraphy for Graduate Students Short Course Instructor
1990–present Technical Session Chair: GSA, Aapg, & Sepm
1980–present Over 50 published technical abstracts and papers
2001–2003 Sepm Nominations Committee
2001–2003 GSA Professional Development Committee
1999–2001 Chair Sepm Sequence Stratigraphy Research Group

Elizabeth Fisher

Education:
Ph.D. Geoscience, The University of Texas at Dallas
B.S. Physics, California Polytechnic State University at San Luis Obispo

Experience:
2008–Present Hess Corporation, Geophysical Advisor
1997–2007 Fugro-Jason, Technical Manager North and South America
1991–1997 Amoco, Senior Geophysicist
1987–1991 UTD, Research and Teaching Assistant, Amoco Exploration Intern
1984–1987 SEPCO, Geophysicist
1982 Dresser Atlas, Junior Field Engineer

Professional Affiliations:
HGS – Houston Geological Society
SEG – Society of Exploration Geophysicists
HGMS – Houston Gem and Mineral Society
Texas Board of Professional Geoscientists (#2025)

Professional Awards:
HGS Rising Star 2004
Tanya Atwater Encourage Award 2002 – Association for Women Geoscientists
Women of Excellence Honoree 1996 – Federation of Houston Professional Women
SEG scholarship (2 years)
Geoscience Fellowship at University of Texas at Dallas

Professional Activities:
2008 GCAGS Poster Chairman, October 2008
2004–2006 GCAGS/GSA Conference
2004–2006 HGS Board of Directors
2004–2006 Association for Women Geoscientist scholarship committee
2002–2004 HGS Co-chair for Earth Science Week
2001–present HMNS Certified Volunteer Geologist
2000 Houston Gem and Mineral Society President
1997–1998 Houston Gem and Mineral Society Dealer Chairman
1997–2000 Geophysical Society of Houston newsletter staff
Candidates for the 2009–2010 Executive Board (continued)

Secretary (two candidates)

Cecelia Baum

Education:
B.S. Geology, Columbia University

Experience:
2007–present Geologist, Mærsk Oil America
2007 Geologist, Fugro Multi Client Services

Professional Affiliations:
HGS, AAPG, GSH, SEG

Professional Activities:
2008-Present Co-Chairman NeoGeos

Statement:
I am flattered to be nominated for the position of Secretary for the HGS and would be thrilled to serve the HGS community in this capacity.

As co-chair of the NeoGeos, my interest in the workings of the HGS has increased markedly. Working with a smaller group within the HGS, I was able to experiment with and implement innovative ways of increasing membership, participation, and communication, such as creating a Facebook Group Page, liaising with the GSH for new member activities, and organizing participation for the Student Intern Party at Techno Fest. I look forward to bringing more innovation, enthusiasm, and energy to the HGS board and would be honored to serve as Secretary for the HGS.

Amy E. Sullivan

Education:
University of Iowa M.S. Geology (1986)
University of Iowa B.S. Geology (1983)
University of Iowa, B.A. Archeology and Anthropology (1978),
University of California at Bakersfield,
Total Quality Management (1994-1995)

Experience:
2001–present Shell International E&P, Brazil and Egypt deep-water appraisal and development, Senior Staff Geologist and Team Lead
1999–2001 ExxonMobil Production Company, Venezuela
Orinoco Heavy Oil Belt – Senior Staff Geologist
1997–1999 Mobil New Exploration Ventures, Peru Camisea appraisal – Staff Geologist
1990–1997 Mobil – San Joaquin heavy oil fields (Midway Sunset, Belridge) – Staff Geologist
1986–1990 Mobil – Kansas Hugoton Field – Production Geologist

Professional Affiliations:
AAPG, HGS, GSA, SEG, SEPM

Professional Awards:
1985 American Association of Stratigraphic Palynologists, L.R. Wilson Best Student Paper

Professional Activities:
2008–2010 AAPG Energy Minerals Division (EMD) Secretary
2008–2009 GCSEPM Corporate Representative
2008 AAPG Annual Convention EMD Short Course and Field Trip Chair
2006 AAPG Annual Convention EMD Short Course and Field Trip Co-Chairperson
2003 and 2004 HGS Earth Science Week Volunteer
2001 Joined HGS!
1995-1996 SPWLA Publicity Officer for San Joaquin Well Logging Society
1994 Mobil, Bakersfield CA, United Way Chairperson

Statement:
Why would I consider running for an HGS office? Having

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Ewing Exploration Company
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E-mail: ewingdj@yahoo.com

Amy E. Sullivan continued on page 58
Candidates for the 2009–2010 Executive Board  (continued)

Treasurer-Elect (Two candidates)

Steven L. Getz

Education:
B.S. Geology, University of New Mexico, 1969

Experience:
2003–2004 Senior Geophysical Advisor—Santos USA
1980–2003 Geoscience Consultant (Getz Exploration Consultants Inc.)
1978–1980 Geophysical Consultant, Geoquest International
1969–1978 Geophysicist, Cities Service Oil Company

Professional Affiliations:
AAPG, HGS, SEG, AIPN, SPE
DPA Certified Geologist #4747
Texas Professional Geoscientist # 6848
SIPES

Professional Activities:
2008–2009 HGS North American Group Chairman
2005–2008 HGS North American Group Treasurer
2005–2008 AAPG Alternate Delegate
2002-2005 AAPG Delegate

Statement:
During my career I spent more than two decades running an independent consultant company. In that time, I learned the value of maintaining a good fiscal stance in the face of a lengthy industry decline. I plan to provide a 'prudent man' approach to HGS investments while attempting to streamline the economics of the society. I welcome the chance to serve as Treasurer of the Houston Geological Society.

David P. Meaux

Education:
MS Geology, University of Houston
BS Geology, University of Houston

Experience:
2006–present BP America, Staff Geophysicist-R&D
1998–2006 AOA Geophysics, Senior Geoscientist, Director

Professional Affiliations:
AAPG, HGS, SEG, EAGE

Statement:
I would like to serve the HGS as the Treasurer-elect, and then Treasurer. The HGS is a great organization which I have found very beneficial both in terms of professional development and career networking. I’d like to have the opportunity to serve the HGS in a greater capacity and give back to this organization which has served me throughout my career.

I joined the HGS in 1989 and soon after became involved as an activities coordinator for the North American Explorationists Group. Since then I have maintained an active level of involvement in the HGS. In 1999, I assumed the coordinator role for the University of Houston Geoscience Alumni Association (UHGAA), where I established the annual HGS-UHGAA Robert Sheriff Lecture series. For the past ten years I have worked closely with the HGS International Explorationists Group to organize and maintain this annual event which brings some of the best-known geologists and geophysicists in the world to the Houston community.

Great organizations like the HGS stay great because of the active involvement of its volunteers and its membership. In 2009, I’d like to utilize the experiences and skills I have gained as both an HGS volunteer and alumni coordinator, as well as those skills I have picked up along the way in my professional path, to contribute to this organization as your Treasurer-elect, and subsequent Treasurer.
Candidates for the 2009–2010 Executive Board (continued)

Director – Two-year term (four candidates) Vote for two candidates

Tarek Y. Ghazi

Education:
MS Geology, Stanford University, 1982
BS Geology, Stanford University, 1976

Experience:
2007–present Aramco Services Co. Geoscience Specialist
2005–2007 GeoKnowledge USA Technical Director
2002–2005 Gaffney, Cline & Assoc. Senior Geologist
1996–2000 Landmark Graphics Product Marketing Director
1976–1996 Conoco, Inc. Staff Geologist

Professional Affiliations:
HGS, AAPG, SPE, SEG
Texas Professional Geoscientist License 5204

Awards:
2008 HGS President's Award

Professional Activities:
2008–present HGS Web Manager & “Email Blaster”
2007–2008 HGS International Explorationists Chairman
2006–2007 HGS International Explorationists Treasurer
2004–2005 AAPG Continuing Education Courses (2):
Assessment, Classification and Reporting of Oil and Gas Reserves – Co-Instructor
2007–present SPE Books Committee member
2003–2006 SPE Forum Series – Co-Chairman for one Forum, and SPE Liaison for a second Forum Also served on the Forum Series Implementation Committee - W. Hemisphere

Statement
Volunteering with the HGS has been one of the best decisions of my professional life. In each of my HGS roles, I have found plenty of meaningful work to do, and great people to work with. This year as HGS Web Manager and “Email Blaster” has been especially fun, as it has introduced me to an even wider circle of HGS friends and has made me aware of most of what goes on in our Society.

Christina M. Higginbotham

Education
B.S. Engineering Geology, Texas A&M University, 2001

Experience:
2003–present Brown and Caldwell – Senior Geologist
2001–2003 TRC Solutions – Staff Geologist
1999–2001 Texas A&M University - Electron Microprobe Lab Technician

Professional Affiliations:
Houston Geological Society (HGS)
Texas Association of Environmental Professionals (TAEP)

Professional Activities
2004–Present HGS Environmental & Engineering Group Committee Speaker Coordinator

Statement
I am elated to be nominated for the position of Director of the HGS. I have been dedicated to the HGS Environmental and Engineering group for the last four years. Although still relatively new to the community of geoscientists in Houston, the power of networking and building of professional relationships facilitated by the HGS has been unmistakably rewarding. From petroleum exploration to environmental remediation, we all share the common fundamental interest in geology, and the joint focus on continuous training. We want to promote the geosciences and grow the organization. I would be honored to serve on the board and help to ensure that ideas and goals of the various committees are communicated and achieved.

Tarek Y. Ghazi continued on page 58
Candidates for the 2009–2010 Executive Board
(continued)

Director – Two-year term (four candidates) Vote for two candidates

Ray G. Martin

Education:
MS geology (1965) University of Tennessee
BA geology (1963) Vanderbilt University

Experience:
2005–Present Consultant, Martin Geoscience, Inc.
1985–1985 Senior Staff Geologist, Elf Aquitaine Petroleum
1982–1985 Senior Staff Geologist, Gulf Oil Exploration & Production Co.

Professional Affiliations:
AAPG, GSA (Fellow), HGS, GCSEPM
Licensed Professional Geologist, State of Texas # 3833

Professional Activities:
1983–1988 AAPG Stratigraphic Correlations Committee
1983–1992 AAPG Research Committee
1980–1988 GSA Continental Margins Transects Program

Statement:
I am extremely honored to be nominated for the position of Director of the Houston Geological Society. At this point in my professional career in research and exploration geology and geophysics, I feel a strong obligation to repay the geoscience community by taking an active role in guiding the Society toward the continued fulfillment of its educational, professional, social, and community service responsibilities. I pledge to do my best to encourage a continued strong technical program that features high-interest, emerging trends in exploration, production and technology, provides continuing education requirements for State licensure, and encourages young people to seek careers in our profession.

Robert E. Pledger

Education:
MBA Business (1972) University of Dallas
BS Geology (1969) Lamar University

Experience:
June, 2008–Present Consulting Geologist
1978–2008 Benchmark Oil & Gas Company; Houston, Texas President & Founder
1986–2001 Petroleum Consultant
1986–2002 Ashford Oil & Gas Company; Houston, Texas Vice President/ Co-Owner
1976–1977 Shenandoah Oil Corporation; Ft. Worth, Texas Exploration Geologist
1974–1976 General American Oil Company of Texas; Dallas, Texas District Geologist
1973–1974 May Petroleum Company; Dallas, Texas Vice-President-Southeastern Region
1972–1973 Taylor Publishing Company; Dallas, Texas Manpower Schedule Coordinator
1967–1972 Sun Oil Company; Beaumont, Texas Exploration and Development Geologist

Professional Affiliations:
Registered Professional Geoscientist
State of Texas, No. 2033
American Association of Petroleum Geologists
Certified Geologist No. 3357
Society of Independent Professional Earth Scientists
Certified Geologist No. 829
American Institute of Professional Geologists
Certified Geologist No. 2359
Geophysical Society of Houston
Houston Geological Society
Houston Producers Forum
Houston Energy Finance Group
World Affairs Council
Society of Exploration Geophysicists
Society of Petroleum Engineers

Robert E. Pledger continued on page 58
Barry J. Katz

Education:
Ph. D., University of Miami, 1979, Marine Geology and Geophysics
B.S., Geology 1974, Brooklyn College, New York

Experience
2005–Present Chevron Corporation
2001–2005 ChevronTexaco
1979–2001 Texaco

Professional Affiliations
Texas Professional Geologist no. 4169

Honors and Awards:
AAPG Distinguished Service Award (2004)
ChevronTexaco Fellow (2001)
AAPG Robert H. Dott Sr. Memorial Prize for Outstanding Special Publication (2000)
Texaco Fellow (1998)
AAPG Rocky Mountain Section Steve Champlin Memorial Award (1989)
University of Miami Rosenstiel School of Marine and Atmospheric Sciences F. G. Walton Smith Prize (1979)
Brooklyn College Robert Perlmutter Award for Environmental Geology (1974)

Professional Activities:
2006–Present Member of the Advisory Editorial Committee – the Journal of Mining and Geology, Nigerian Mining and Geosciences Society
2005–Present AAPG Research Committee
2004–Present Associate editor for AAPG Bulletin
2002–Present Integrated Ocean Drilling Program – Environmental Protection and Safety Panel, chair

2003–2006 AAPG Annual Conference and Exhibits Committee
1995–2006 AAPG Publications Committee
2004–2005 AAPG Future of Earth Scientists Committee
2002 JOI Committee of the Corporation
2000–2002 SEPM Research Concepts Committee
1989–2002 Ocean Drilling Program - Pollution Prevention and Safety Panel
1998–2001 Geochemical Society – member of Executive Committee Organic Geochemistry Division
2000 Co-Chairman Technical Program AAPG International Conference and Exhibition, Bali, 2000
1987–1998 Associate editor for AAPG Bulletin
1997 Co-organizer AAPG Hedberg Conference “Petroleum Systems of the South Atlantic Margins”
1984–1996 AAPG Marine Geology Committee
1995 Co-organizer AAPG Hedberg Conference “Lacustrine Basin Exploration in China and Southeast Asia”
1995 Editor, Springer-Verlag Casebook “Petroleum Source Rocks”
1993 Co-editor AAPG Studies in Geology 37, “Source Rocks in a Sequence Stratigraphic Framework”

Statement:
I was honored when asked to stand for HGS editor-elect. After discussing expectations, I decided that I could serve the Society at a level that would maintain the quality of the Bulletin.

The Bulletin serves the membership as a newsletter. The Bulletin also provides an opportunity to capture and preserve the knowledge that has been gained by this membership. I hope that during my tenure as editor we begin capturing some of this knowledge as the “great crew change” begins to accelerate.
Cheryl Desforges—Candidate for President-Elect

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

Professional Activities:
2009, et al Regional Science Fair Awards/Interns Selection Committee
2008–2010 AAPG House of Delegates
2007–2008 GCAGS 2008 Houston Convention Treasurer
2005–2007 HGS Treasurer/Treasurer-Elect
2005    Co-Chairman "Coastal Subsidence, Sea-level and the Future of the Gulf Coast Conference"
2003–2004 Member and Chairman HGS Continuing Education Committee
2002    Volunteer Liaison Committee AAPG Convention
1985–1989 Chairman HGS Publication Sales Committee
1982–1984 AIPG Screening Committee

Statement:
We live in a period of time when "science", particularly related to Earth Science, is being invoked for the purpose of promoting political and social changes of epic proportion. Unfortunately, the general media and politicians who are most vocal do not understand the scientific method of investigation or, for that matter, they do not even understand the selective results they pluck from literature to support their cause. A large portion of the general population is scientifically illiterate, and unable to recognize that they are only being told part of the complex process of ongoing scientific investigation. Increasingly, science is being misrepresented and conclusions that ultimately will not materialize are being promoted as the only truth. When the general population realizes that they have been mislead, the future pursuit objective, evidence driven science will be in jeopardy, because science will be disregarded as “unreliable.” We know if properly represented and applied, science has great value for solving problems and providing the resources to sustain and advance civilization. Because of our scientific training, work experience, and general ability to connect seemingly disparate information, earth scientists are uniquely qualified to effectively educate our elected officials and the general population in the scientific investigative process, as well as in the range of natural, historical variability in Earth systems.

In addition to actively promoting our current, very effective technical and social programs, if elected President-Elect of the HGS, I will:
• Continue the current and past efforts to expand our active membership base.
• Expand our organizational structure to involve more active participation of a significant portion of our membership in educating the Houston-area population, including school children, in non-politicized Earth science and Earth history.

Cheryl Desforges

John B. Tubb, Jr — Candidate for President-Elect

1983–1985 AAPG Delegate from HGS
1974–1975 Secretary of Lafayette Geological Society
1974–1975 Chairman Resolutions Committee for AAPG House of Delegates
1973–1975 AAPG Delegate from LGS

Publications:

Statement:
I am very honored to be asked to run for the President of the HGS. I have served the HGS as a Delegate to the AAPG, Treasurer-elect, and Treasurer. These positions, especially the Treasurer’s job, have given me an insight to the inner workings of the Society. One-third of my professional career has been in Management positions. The training I received in these positions would be very valuable as HGS President. The fact that I am a Consultant at the present time would give me the option to spend the time required to run the HGS organization. If given the opportunity to serve as President of the Houston Geological Society, I will strive to maintain the reputation of the HGS as a world class organization.

The Houston Geological Society is a large professional organization with a budget of nearly...
I am happy to be nominated for a Director position, particularly because I think that web and email matters are vital to the continuing success of the HGS, and should be better represented on the Board. Regardless of the outcome of the election, I look forward to continuing to serve in my current capacities or in other areas where there is a need and a good match with my skills.

Tarek Y. Ghazi — Candidate for Director

I am happy to be nominated for a Director position, particularly because I think that web and email matters are vital to the continuing success of the HGS, and should be better represented on the Board. Regardless of the outcome of the election, I look forward to continuing to serve in my current capacities or in other areas where there is a need and a good match with my skills.

Robert E. Pledger — Candidate for Director

Professional and Community Activities, Achievements, Presentations and Awards:
Chairman, Advisory Board; Department of Space and Earth Sciences Lamar University, Beaumont, Texas
Member, Board of Trustees; Lamar University, Beaumont, Texas
Houston Geological Society:
Vice-President 2002-2003
Chairman Continuing Education Committee, 1998-2002
American Association Petroleum Geologists
Chairman, Short course Committee, 2002 National Convention
Liaison between Division of Professional Affairs and Society of Independent Professional Earth Scientists 1998-2000
Robert E. Pledger—Candidate for Director

Alternate Delegate, House Representatives, 1986, 2002
Delegate, House Delegates, 2008-Present
American Institute of Professional Geologists
District IV Representative, 1983-1985
Society of Professional Earth Scientists
Chairman, Houston Chapter, 1984-1985 and 1990-1991
National Director, 1983-1986
Chairman, National Energy Advisory Committee, 1986-1987
Chairman, Deal Buyer’s List, 1983 and 2002
Chairman of the Board, West Houston Assistance Ministries, 2003-2006
Chairman, Board Chair Breakfasts, United Way, 2005-2006
Guest Lecturer, National Association Lease and Title Analysts
Conventions 2003, 2004, 2005
Guest Lecturer, Rotary Club, 2009, and various professional organizations world-wide

Statement:
Over the past 40 years of my professional career, I have had the fortune to have had mentors that helped me chart a course in my career. As a member of various professional organizations, I enjoy giving back the same at these mentors did for me. I am honored to be asked to participate in helping chart the future of one of the greatest professional organizations of my chosen profession. Serving on the HGS Board would be an honor for me and a privilege to be able in some small way to repay those that took the time and had the patience to help me along the way. ■

Be sure to cast your vote in the HGS election by May 10, 2009.

AEG — Texas Golf Benefit
April 3rd, 1:30 pm tee time
Bear Creek Golf Course

IT’S BIRDIE TIME!
Come Join in the Fun

18 hole scramble format. . . . Banquets. Awards. Raffles Prizes and More
Benefitting the Texas Section Geology Scholarship Fund
AEG Foundation 501(c)(3) Organization

Contact Bill Flanigan
Phone: 214-502-0580
E-mail: bflanigan@txi.com
Registration forms at http://aeg-tx.org/e.asp
Scott Tinker, President of the AAPG 2008-2009, addressed a crowd of about 120 geoscientists at the Houston Geological Society General Dinner Meeting on Monday February 9th, 2009 with his “Energy Sound Bites and Counter Bites.” Dr. Tinker is Director of the Texas Bureau of Economic Geology, the State Geologist of Texas, and a professor of geosciences at The University of Texas at Austin.

HGS Vice President Art Berman welcomed attendees to the dinner meeting. The first order of business was the annual Undergraduate Student Awards. Outstanding geology students, selected by their academic professors, attended the meeting, and were introduced by John Adamick of TGS Nopec, chairman of the undergraduate awards committee.

Dr. Tinker’s presentation opened with a listing of the common sound bites heard in the media. He humorously suggested some Counter Bites:

1) We cannot drill our way out of an energy crisis.
   Counter bite: We can “not-drill” our way INTO an energy crisis!
2) The United States should be energy independent.
   Counter bite: In reality, such independence will be unachievable for several decades, and the idea distracts us from the more important goal of energy security.
3) Renewable energy will end dependence on foreign oil.
   Counter bite: Fossil fuels are the bridge to an alternate energy future.
4) Big Oil is evil.
   Counter bite: Preserve Big Oil for global energy security.
5) Americans are addicted to oil.
   Counter bite: Healthy economies rely on energy.
6) Fossil fuels hurt the environment.
   Counter bite: Healthy economies allow for significant investment in environmental stewardship. Fossil fuels are the path to a clean future!

The talk presented a discussion of the question of whether fossil fuels cause global warming by showing temperature charts that the current measured rise of earth surface temperature is based on 0.0001% of the history of the Earth. He said, “We know the Earth has warmed in the past, and is likely to cool again in the future, based on the history of climate change over millions of years.”

Dr. Tinker talked about energy usage dividing the discussion into liquids (oil), gas, coal, and unconventional resources like nuclear, wind, biomass, and geothermal. He said studies predict less use of oil in the next 50 years and an increase of “non-carbon” energy.
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"RETURN TO THE VALLEY"

SUBMIT ABSTRACTS (500 WORDS OR FEWER) TO:

William R. Brice, 116 Luna Lane, Johnstown, PA 15904-3068
Scott Tinker, AAPG President, Discusses Counter View Points

In the future, petroleum will only account for 80% of total world energy consumption and the remaining 20% will be fed by increasing alternate energy sources like nuclear, hydrothermal, geothermal, biomass, and wind. Dr. Tinker was also optimistic about the increasing role of natural gas in powering the energy future for the next 60-70 years. He talked about geothermal energy as a new career path for geoscientists, as the need for oil exploration declines.

A graph showed oil price spikes since the 1970s and how these coincided with recessions in the United States and layoffs in the oil industry. Dr. Tinker commented that today’s low oil prices, after last year’s high oil prices, was predictable in terms of 15-20 cyclical recessions in the economy. He admitted that the United States private oil business is not “as healthy” as in the past and listed all the independent oil companies that have merged over the last ten years.

Discussing wind power, Dr. Tinker noted the limited potential in the amount of energy it can provide due to the large amount of turbines and land needed. He said that replacing one coal-fired electricity plant would need a wind farm the size of Los Angeles (469 square miles).

Dr. Tinker was upbeat about increasing the use of nuclear power in the United States citing the successful use of nuclear power in Japan, France, and other countries. His travels as AAPG President have taken him to the Middle East and Asia. He spoke about air pollution in Beijing, China, as a by-product of the increased use of oil and coal to fuel their economy. He was optimistic about the chances that future leaders in the Middle East could reverse the current anti-western sentiment. The audience had many questions and people stayed after the night closed to get more information from the AAPG President.
W. L. Calvert Memorial Graduate 2008 Scholarship Fund Report

The W. L. Calvert Memorial Scholarship Fund provides scholarships to graduate students from nearby universities. Each year a total of over $10,000 worth of scholarships are presented to deserving individuals. These reductions to the corpus of the Fund are partially offset each year by donations from individual HGS members and friends. These donations allow us to maintain the number and size of scholarships each year. The HGS and the Memorial Scholarship Fund Board gratefully acknowledge the following contributions to the Fund during 2008. The three categories of contributions are Patron ($500 or more), Donor ($100 to $499), and Contributor (less than $100).

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Gibson, Eugene (In Memory of Elmer Dobbins)
St. Martin Family Trust (In Memory of Bevian C. St. Martin)

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Light, Walter
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Bishop, Richard
Hoffman, Paul F.
Ragsdale, James

Contributors (up to $100)

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Ballard, Jack W.
Barba, Bob
Bourgeois, Fay M.
Casey, Joe E. (Jr.)
Christie, Ronald
Clark, Jerry
Cumming, H.
Davies, William
D’Onfro, Peter
Doud, Kim
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Franey, Matthew
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Hefner, John
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Miskelly, Thomas E.
Mitchum, Robert
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Munn, Richard
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Pittman, William
Pusey, Walter
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Rathke, Marvin
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Revilla, Charles
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Shaffer, Bernard
Sholl, V.H.
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Smith, Arthur E. (Jr.)
Smith, Donald
Smith, George T.
Sommer, Kurt G.
Sweigart, Michael T.
Tollestrup, A. Kurt
Wall, Keith
Waszczak, Ron F.
Yoakum, Thomas
James (Jim) Hawes Ruffin

Houston geologist and palynologist James (Jim) Hawes Ruffin died suddenly at his Bellaire residence January 16, 2009 at the age 77. He was born during 1931 in Greensboro, NC. Mr. Ruffin served in the U.S. Air Force and received an M.S. in geology from the University of Oklahoma. He worked for Pan Am (Amoco) in Tulsa before moving to Houston in 1961. In Houston, he worked for Texaco before working at Tenneco from 1964 to 1986. Mr. Ruffin taught night geology courses at University of St Thomas from 1969 to 1976. Following the break-up of Tenneco, he consulted for various clients.

He is survived by his wife of 39 years Janet Hull Ruffin, his daughter Leslie Ruffin Ramirez, and grandson Daniel Ramirez. Mr. Ruffin was very active musically with several groups including the Houston Concert Band and formed a German folk band.
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, Canvas or CorelDraw. Files should be saved and submitted in .eps (Adobe Illustrator) format. Send them as separate attachments via email 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 QuarkX Press. 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.**

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All ads appear in the “Our Sponsors” box in the upper left of the page. Each ad is displayed for a short time and replaced by the next ad in the list. Each ad will be randomly displayed on each page.

All Sponsor logo images must be 55 x 166 pixels and be no more than 8 bits per pixel with a maximum of 256 colors. The format can be either GIF or JPG, preferably interlaced or progressive. It is important to make the image file size as small as possible so that it will transfer to the users’ browser quickly.

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### Qualifications for Active Membership

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

### Qualifications for Associate Membership (including students)

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

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

Annual Dues Expire Each June 30. (Late renewals – $5 re-instatement fee)
Annual dues are $24.00; full-time students and emeritus members pay $12.00.

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### Application to Become a Member of the Houston Geological Society

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

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**Earth Science Work Experience**

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

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**Membership Chairman** __________________________________________ **HGS Secretary** ______________________________________

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Mail this application and payment to:

**Houston Geological Society**

14811 St. Mary's Lane, Suite 250 • Houston, TX 77079-2916
Telephone: 713-463-9476 Fax: 281-679-5504

Payment method:

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April 2019 Houston Geological Society Bulletin

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**Earth Science Work Experience**

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**Membership Chairman** __________________________________________ **HGS Secretary** ______________________________________

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

Payment method:

[ ] Check, [ ] VISA, [ ] MasterCard, [ ] American Express, [ ] Discover

Card # __________________________ Card I.D. __________________________
Expiration Date: ____________ (Card I.D. – 3 or 4 digit number on front or back of card)
Springtime is at its finest during April in Houston, cool enough to really enjoy outdoor activities and the beautiful flowers that appear in everyone’s front yard. Although the official first day of spring was March 20, it is in April that we can really enjoy spring clothing like those we will see at the HPAC general meeting. Of course, Easter Sunday, which is on April 12th gives everyone an excuse to go out and buy that new Easter outfit. Hats and gloves are not necessarily a part of that outfit anymore, but I can recall when it wasn’t an Easter outfit if you did not have a new hat. Easter, of course, has nothing to do with clothes but has everything to do with something new. New hope is what Christians celebrate when they celebrate the resurrection of Jesus Christ, the son of God. Without Easter, without the Resurrection of Christ, there would be no Christian Faith. Christ’s resurrection is the proof of his divinity. I wish you all a blessed Easter.

The final 2008–2009 event for HPAC will be the annual general meeting and luncheon which is scheduled for May 15th at the Houston Racquet Club. There will be a style show featuring fashions from Cold Water Creek and modeled by some of our very lovely HPAC members. Norma Jean Bacho and Shirley Gordon will be co-chairing this event. Look for more information on this event in the May Bulletin.

The Geowives annual road trip took place on Thursday, March 12th. Martha Lou Broussard put together another interesting historical adventure combined with lunch, a little shopping, and time on the trip back for discussions about all they had seen and heard about “Victorian” Victoria. All who take advantage of these opportunities, to learn a little more about our state, come back infinitely more informed and pleasantly entertained. Thank you, Martha Lou, for another well-orchestrated Texas History Tour. Enjoy the springtime! We’ll have a Hot Houston Summer soon.

See you at something geological!

Norma Jean

---

You are invited to become a member of HPAC

2008–2009 dues are $20.00
Mail dues payment along with the completed yearbook information to Nan Pye, 18219 Longmoor, Houston, TX 77084

YEARBOOK INFORMATION

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Please choose a committee assignment if you are interested.

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- [ ] Spring Event
- [ ] SOS
- [ ] Notification
- [ ] May Luncheon
- [ ] Membership
- [ ] Game Day
- [ ] Courtesy
Large acreage blocks available for lease in Goliad and Karnes Counties, Texas.
On trend with Wilcox and other producing horizons. Re-entry opportunities.
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You can take advantage of our great training lineup in two ways:
1) **Public** classes with open enrollment, offered in our state-of-the-art Houston training facility or in locations around the world.
2) **In-house** classes scheduled to fit your needs and conducted at any of your facilities around the world. In-house courses can be tailored, as appropriate, to your audience.

**SCA’s Spring and Summer Public Schedule**

<table>
<thead>
<tr>
<th>April</th>
<th>Houston, Texas</th>
<th>4 day course</th>
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<tbody>
<tr>
<td>6 - 9</td>
<td>Applied Subsurface Geological Mapping</td>
<td></td>
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<tr>
<td>13 - 15</td>
<td>Seismic Interpretation Workshop</td>
<td></td>
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<tr>
<td>16 - 17</td>
<td>Basic Reservoir Engineering for Non-Engineers</td>
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<tr>
<td>May</td>
<td>Houston, Texas</td>
<td>3 day course</td>
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<tr>
<td>4 - 8</td>
<td>Descriptive Lithology Analysis of Cuttings &amp; Cores</td>
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<tr>
<td>12 - 13</td>
<td>Practical Applications of SPE Petroleum Resources Management System (PRMS)</td>
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<tr>
<td>18 - 22</td>
<td>Seismic Survey Design, Acquisition &amp; Processing</td>
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<tr>
<td>18 - 22</td>
<td>Carbonate Sediments: Application to Exploration &amp; Development</td>
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<tr>
<td>19 - 20</td>
<td>Reservoir Engineering Fundamentals for Engineers</td>
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<tr>
<td>27 - 29</td>
<td>Practical Applications of SPE Petroleum Resources Management System (PRMS)</td>
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<table>
<thead>
<tr>
<th>May</th>
<th>Houston, Texas</th>
<th>2 day course</th>
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<tbody>
<tr>
<td>June</td>
<td>Houston, Texas</td>
<td>5 day course</td>
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<tr>
<td>8 - 12</td>
<td>Applied Subsurface Geological Mapping</td>
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<tr>
<td>8 - 12</td>
<td>Structural Styles in Petroleum Exploration &amp; Production</td>
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<tr>
<td>15 - 17</td>
<td>Geopressure: Prediction, Analysis and Risk Assessment for E &amp; P</td>
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<tr>
<td>15 - 18</td>
<td>Applied Problems in Interpretation of Clastic Reservoir Systems</td>
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<tr>
<td>15 - 19</td>
<td>Principles of 3-D Seismic Interpretation</td>
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<tr>
<td>15 - 19</td>
<td>Petroleum Geology of Deepwater (Turbidite) Depositional Systems</td>
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<tr>
<td>22 - 26</td>
<td>AVO and Seismic Attributes</td>
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<tr>
<td>July</td>
<td>Calgary, Canada</td>
<td>5 day course</td>
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<tr>
<td>6 - 10</td>
<td>Applied Subsurface Geological Mapping</td>
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<tr>
<td>6 - 10</td>
<td>Seismic Survey Design, Acquisition and Processing</td>
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<tr>
<td>13 - 15</td>
<td>Basics of the Petroleum Industry</td>
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<tr>
<td>15 - 17</td>
<td>Quality Control for Subsurface Maps (QLT’s)</td>
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</tr>
<tr>
<td>27 - 31</td>
<td>AVO and Seismic Attributes</td>
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Visit our website: [www.scacompanies.com](http://www.scacompanies.com) for our complete list and schedule of public courses, and to REGISTER ONLINE TODAY!

SCA is supported by IACET to offer Continuing Education Units (CEUs).

Subsurface Consultants & Associates, LLC.
10255 Richmond Avenue, Suite 300W, Houston, Texas 77042
Phone: +1.713.789.2444  Fax: +1.713.789.4449  [www.scacompanies.com](http://www.scacompanies.com)

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