

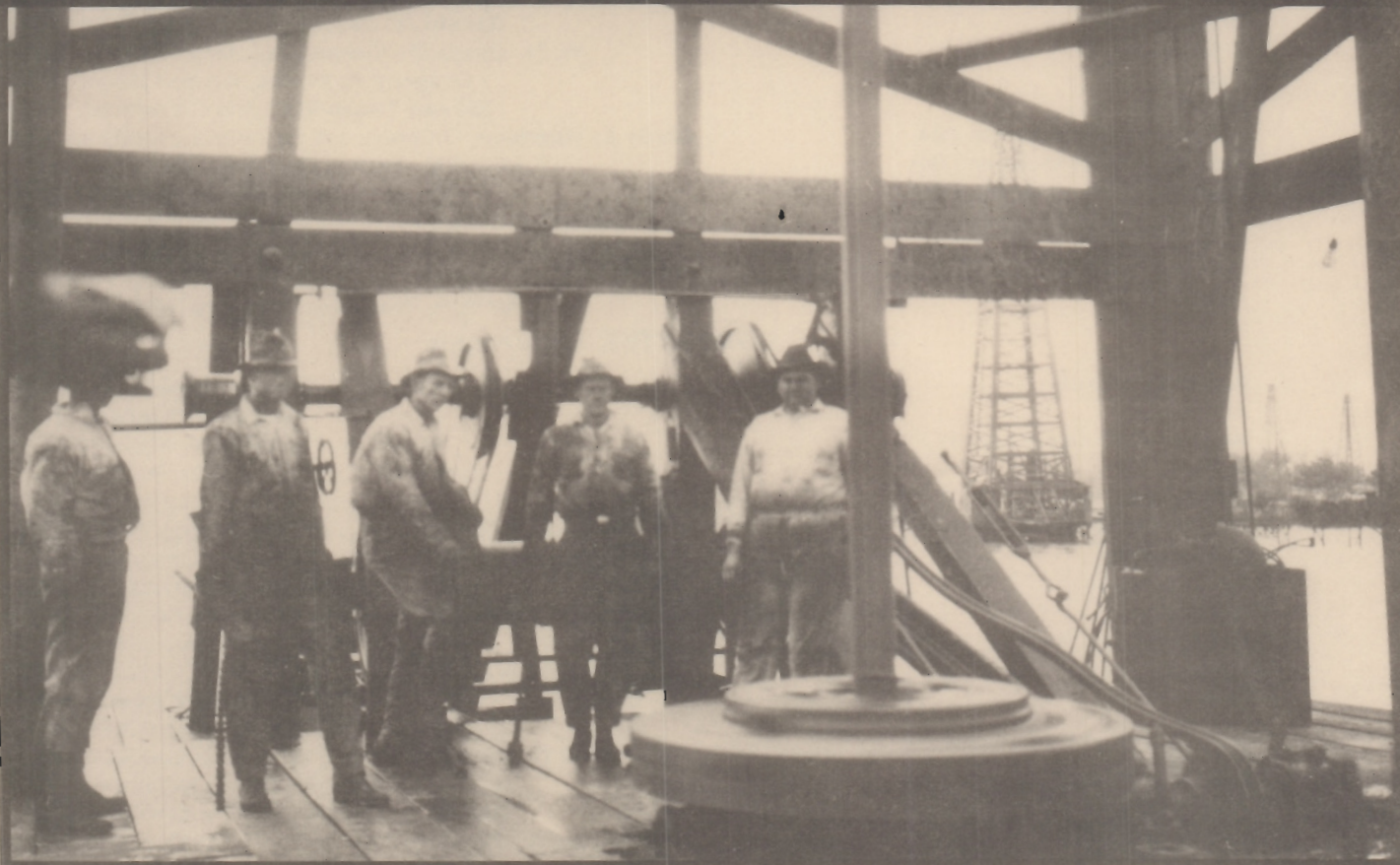
October, 1983

BULLETIN

HOUSTON GEOLOGICAL SOCIETY

Volume 26

Number 2



HGS OCTOBER CALENDAR

October 12, 1983 (Dinner Meeting)

Westin Oaks Hotel - 5011 Westheimer

Clemont H. Bruce

Mobil Research and Development Corp.

"Relation of Illite/Smectite Diagenesis and Development of Structure in the Northern Gulf of Mexico Basin"

Social Hour: 5:30 PM, Dinner and Meeting: 6:30 PM

Reservation by name (telephone only **771-8315**) must be made or cancelled by **noon, Monday, October 10, 1983.**

October 19, 1983

HGS International Explorationists

Westin Galleria Hotel - 5060 W. Alabama

Donald C. Swanson,

Swanson Petroleum Enterprises

"Depositional History of the Cerro Negro Region in the Orinoco Tar Belt, Venezuela"

Social Hour: 5:30 PM, Dinner and Meeting: 6:30 PM

Tickets must be purchased by **Monday, October 17, 1983.** (See page 1).

October 7, 1983 (Shrimp Peel)

607 E. Whitney, Knights of Columbus Hall

Festivities start at 5:30 PM

October 22, 1983

HGS Field Trip (See page 7).

"Seismic Data Acquisition in the Field"

October 24, 1983 (Luncheon Meeting)

Meridien Hotel, 400 Dallas

Jeffery V. Morris

Transcontinental Gas Pipe Line Corporation

"How Much is Down There?"

Social Hour: 11:30 AM, Luncheon and Meeting: 12:00 noon

Reservation by name (telephone only **771-8315**) must be made by **noon, Friday, October 21, 1983.**

HOUSTON GEOLOGICAL SOCIETY

6916 Ashcroft

Houston, Texas 77081

771-8315

(Alternate phone: 771-5421)

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BULLETIN

Editor	Jerry A. Watson , Consulting Geologist	783-2828
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OPPORTUNITY KNOCKING

The 1983-84 year of the Houston Geological Society will bring an opportunity for more than one-hundred additional members to actively participate in society business. The Research and Study Committee will need the help of at least that many people to publish **Typical Oil Fields of Southeast Texas** this year.

A recent decision was made to set up numerous small groups to work-up the studies on selected fields. We will need thirty-to-thirty-five of these small groups in addition to fifteen-to-twenty individuals contributing studies to reach the fifty-field objective for publication. It will be a big job to do all of the work required, but one that is worthwhile because of all of the benefits we can receive.

First, there is the obvious benefit to all explorationists in this area in the form of the reference book itself. Secondly, this will be beneficial to those who work on the project in the form of getting to know fellow geologists in the society and changing one's perspective from "The Society" to "Our Society." There will also be the satisfaction of a job "well done" when the task is completed.

Members who are interested in participation at any level should contact R. R. McLeod (Dick), Gulf Oil Exploration and Production Company, P.O. Box 1635, Houston, Texas 77251; Telephone Number 754-8893.

Dick McLeod
Chairman, Research and Study Course Committee

The guest column this month replaces the vacationing Matt Daura's President's Column.

PRICE SCHEDULES—HGS OCTOBER MEETINGS

Westin Oaks Hotel, October 12
Dinner \$18.00

Meridien Hotel, October 24
Luncheon \$14.00*
*Includes Parking in Hotel

RESERVATIONS (771-8315)

Telephone reservations are required. Deadline for making reservations for the meeting at Westin Oaks is noon Monday, October 10, 1983.

Please make reservations for the Meridien meeting by noon Friday, October 21, 1983.

HGS INTERNATIONAL GROUP

Westin Galleria Hotel, October 19
International Dinner \$21.00

RESERVATIONS

Contact:
Moin Hussain (960-6705)
Hadi Khoja (682-2335)

International Group tickets may also be obtained by sending a check for \$21 and a *stamped, self-addressed envelope to:* Houston Geological Society - International (specify International).

TRADER'S COLUMN

The "Traders Column" makes free advertising space available to HGS members who have items available for *one time transactions*. So, if you are trying to find a good home for a rare set of books, or want to sell or buy some unusual business equipment, send your ad to the *Bulletin*. Items must be submitted six weeks in advance of publication.

HGS PIPELINE

The HGS *Bulletin* publishes letters to the editor in an opinion column called the **HGS Pipeline**. This is your chance to raise issues, express views, and share perspectives with your fellow members. Letters should be less than 500 words and should address topics of **technical or professional interest**. Space limitations require selectivity, thus it may not be possible to print all letters. We shall, however, attempt to print a representative sampling of the opinions which are submitted. Send your letter to:

Editorial Staff
Houston Geological Society
6916 Ashcroft
Houston, Texas 77081

HOUSTON GEOLOGICAL AUXILIARY

The Houston Geological Auxiliary will meet on Wednesday, January 11, 1984 at the Racquet Club, with Ellen Helbing of Denver presenting a style show of her line using HGA models. Hostesses for the meeting are Evelyn Sherman and Janet Tietz.

Also put on your calendar the future parties for the 1983-84 year. Saturday, March 3, 1984, HGA will have a couples dinner/dance at the Petroleum Club with music from the forties. The final meeting of the year will be Tuesday, May 8, 1984, at the Junior League Clubhouse. In addition to installation of officers, Barbara Fairfield, who sings at the Great Caruso, will entertain. The HGA looks forward to seeing all of you at these parties.

TIME TO RENEW HGS COMMERCIAL ADS

November 1st is the deadline for renewing commercial advertising in the HGS *Bulletin*. Revenues from advertising offset costs of printing the *Bulletin* and provide visibility for the advertising firms. The *Bulletin* is published monthly except in July and August; with a current circulation of 4500, the *Bulletin* goes to members representing over 1000 companies.

Advertising Rates:

Full Page \$2000
Half Page \$1050
Quarter Page \$575
Eighth Page \$350

Priority space is available on request. For further information contact Claudia Ludwig at 723-1436.

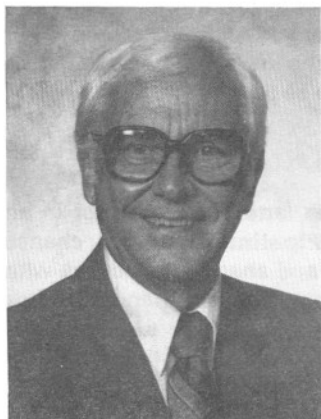
SOCIETY CALENDAR FOR NOVEMBER

Monday, November 14 Dinner Meeting
Westin Galleria, 5060 West Alabama
Speaker is President of the A.A.P.G. John Amoruso

No Luncheon meeting for November.

DINNER MEETING—OCTOBER 12, 1983

CLEMONT H. BRUCE—Biographical Sketch



The University of Kentucky awarded Clem Bruce his BS and MS Geology degrees in 1948 and 1949, respectively. He joined Magnolia Petroleum Company (now part of Mobil Oil Corp.) upon graduation and has remained a Mobil employee ever since. His experience includes mid-continent work in Denver and in the Illinois Basin. More than 20 years of his time has been spent working Gulf Coast geology in

Jackson, Houston, Corpus Christi and Dallas. Bruce now serves as a research associate with Mobil Research and Development Corp. in Dallas.

Bruce is a member of AAPG's Advisory Council and Research Committee. He was formerly chairman of the Research Committee and a member of the Continuing Education Committee. Bruce was an AAPG distinguished lecturer in 1973-74. He was winner of AAPG's 1983 Matson Award for his paper, "Relation of Illite/Smectite Diagenesis and Development of Structure in the Northern Gulf of Mexico Basin."

RELATION OF ILLITE/SMECTITE DIAGENESIS AND DEVELOPMENT OF STRUCTURE IN THE NORTHERN GULF OF MEXICO BASIN

Water expelled from smectite into the pore system of the host shale during the process of diagenesis may migrate out of the shale early or may be totally or partly trapped and released slowly through time. When the water is trapped, abnormal fluid pressures develop which partly controls the geometry of growth faults and related structures in basins formed through rapid deposition. Dips of some faults in Texas have been observed to flatten rapidly within the interval of smectite diagenesis and some faults formed in the overpressured Miocene and younger sections become bedding plane types at depths near or above the temperature level required for thermal generation of petroleum. This observation suggests that while these faults may be important for fluid migration at shallow depths, they play a minor role in moving hydrocarbons out of deep shales in much of the Texas offshore area.

Fluid movement upward through microfracture systems overlying and extending upward from fault trends in the pre-Tertiary section is proposed as a mechanism for flushing fluids from the deep portion of the Northern Gulf of Mexico Basin. This flushing process would be enhanced by smectite diagenesis since large volumes of trapped water derived from smectite could cause the microfracturing process to continue for longer periods of time and to extend to greater depths than could be attained if only remnants of original pore water were present in the section.

HGS EMPLOYMENT COLUMN

The HGS employment column is an extension of the HGS Personnel Placement Committee. The services offered by the committee presently involve three types of activities:

1) **Job Openings:** A file of job openings listed with the committee by either companies or employment agencies is maintained in the offices of John Simpson, at 900 One Allen Center (telephone 759-9258). Job applicants are welcome to review the listings weekdays from nine to five.

2) **Resume File:** A file of applicant resumes is maintained in the offices described above. Resumes are held for one year unless the applicant requests their removal. Potential employers are welcome to review these resumes for openings with their firms.

3) **Advertisement Column:** The committee will publish short "Positions Available" ads from companies but not from employment agencies in the HGS monthly *Bulletin*. Responses to these ads should be addressed to the attention of the code number and will be forwarded unopened.

"Positions Wanted" ads may be placed by the applicant at no cost, but should include a phone number and hours to contact.

Ads will not be re-run automatically, but may be submitted again for subsequent issues. Submit 2-3 line ads, and responses to code numbers to:

Personnel Placement: Advertisement Column
Houston Geological Society
6916 Ashcroft
Houston, TX 77081

Direct questions concerning the column to Sherry Laufer, at 965-2865 (days).

The committee is attempting to increase communication between geologists and prospective employers with speed, discretion and simplicity. To do this, we have omitted a means of following up, so if our efforts are productive for you, please let us know.

GEOLOGIST: 3+ years in Mississippi Salt Basin and Onshore/Offshore Southern Louisiana. BS +9 hours graduate. Willing to relocate. 601/373-6779.

GEOLOGIST: BS, 27 years experience, development and exploration. 7 years Gulf Coast, 15 years Permian Basin, and 5 years foreign. Desires production or exploration position. 437-5200 (days or eves).

CONSULTING PETROLEUM ENGINEER: specializing in producing property acquisitions and drilling fund appraisals. Seeking professional association and office space with independent exploration and production company. Exchange of expertise and client contacts seen as beneficial to both. Code 3704.

GEOLOGIST: M.S., 20 years Gulf Coast exploration experience mainly in South Louisiana and East Texas as employee and independent. Seeking retainer or employment. 781-8028 (days or eves).

TERTIARY - CRETACEOUS GENERATOR: BA, graduate work with 25 years geology; 7 years successful prospecting West Texas, Mid Continent and 9 years Gulf Experience including Deep Wilcox with log analysis and engineering. 334-1558.

LUNCHEON MEETING—OCTOBER 24, 1983

JEFFERY V. MORRIS—Biographical Sketch



Jeffery V. Morris is Manager of Reservoir Geology with Transcontinental Gas Pipe Line Corporation. He received his BS degree in Petroleum Geology from Texas Tech University in 1952. Mr. Morris has been employed by Transco since 1961. Prior to that he worked for Plymouth Oil Company, Gulf Oil Company, El Paso Natural Gas Company and Sun Oil Company. He has held several offices in the

Houston Geological Society and was President in 1978-79.

Since 1976 he has been a member of the AGA Committee on Natural Gas Reserves and is currently Chairman of Area "5" (Texas Gulf Coast and Offshore Area). He is a member of the Potential Gas Committee and has served on the work committees for Areas "B", "E", "G". He was chairman of Area "G" from 1976-1980 and is currently Vice-Chairman of the Eastern Region of the United States.

"HOW MUCH IS DOWN THERE?"

Since Col. Drake started poking holes in the ground, our industry has discovered and produced approximately 800 Tcf of natural gas. At year end 1981 the EIA - Form 23 Report showed the United States with 200 Tcf remaining proved reserves. At the current rate of United States consumption that gives us about a 10 year life.

Is that all we have left? What can we look for in the future? The United States has a large resource potential of natural gas still undiscovered. The Potential Gas Committee has released their latest estimate of the potential supply of natural gas in the United States as of December 31, 1982.

Estimated Potential Supply of Natural Gas (trillions of cubic feet at 14.73 psia and 60°F)

	Probable	Possible	Speculative
Lower 48 States			
—Onshore	151	263	179
—Offshore	33	63	53
Alaska			
—Onshore	6	16	28
—Offshore	2	13	69
Total United States	192	355	329

The sum of these estimates represents a total resource potential of 876 trillion cubic feet (Tcf).

The foregoing estimates represent the conventional potential supply expected to be recovered by future drilling under conditions of:

1. adequate economic incentives in terms of price/cost relationships and
2. current or foreseeable technology

These estimates do not assume any fixed time schedule for the discovery and production of future gas supply.

The Potential Gas Committee comprises volunteer members from the natural gas industry, government agencies, and academic institutions who are concerned with natural gas

resources. The Committee functions independently, but with the guidance and assistance of the Potential Gas Agency of the Colorado School of Mines. The Potential Gas Agency is supported by the American Gas Association. Biennial estimates of the potential supply of natural gas have been prepared and published since 1966, with the exception of 1974.

PROFESSIONAL AND ORGANIZATIONAL NEWS

PROFESSIONAL AND ORGANIZATIONAL NEWS may be sent to Mrs. Virginia Lee Bick, Apt. 1701, 1701 Victoria Station Drive, Victoria, Texas 77901, or telephoned to (1) 512-572-8558. Announcements must be sent six weeks in advance of publication in the *Bulletin*.

"Professional and Organizational News" relies largely upon HGS members to send in news about movement within the Society. Obviously, a lot more change occurs than is reported. If you are making a move or know of a member who is making a move, send it to Virginia.

Michael Smith has joined Anschutz Corporation as district geologist.

ENTERTAINMENT CALENDAR 1983-84

The Entertainment Committee is responsible for organizing the social activities of the HGS and is one of the largest and most active of the HGS committees.

This year the committee is arranging for the following events, so mark your calendars early:

EVENT	COORDINATOR	SPONSOR(S)
<i>Shrimp Peel</i> Friday, October 7	John Gorman (Sohio) 988-0310	Data Log Milchem
<i>Las Vegas Night</i> February	Stu Dorn (Stratagraph) 784-2144	
<i>Racquetball</i> March	Stu Stouffer (Hunt Oil) 681-9742	
<i>Tennis</i> April/May	Wayne Sealey (Core Lab) 460-9600	
<i>Golf</i> April	Gary Wirey (Wirey Resources) 469-1874	Data Log Cambe Geomap
<i>Skeet & Trap Shoot</i> May	David Lazor (Valero) 497-6711	Baroid, ExLog, Dresser, The Analysts
<i>Bar-B-Q</i> Friday, May 18		Data Log

CALL FOR PAPERS

The West Texas Geological Society is inviting manuscripts on any aspect of Permian Basin Geology for publication in their monthly *Bulletin*.

They are especially interested in topics such as petroleum geology, stratigraphy, sedimentology, field studies, subsurface geology, tectonics, etc.

Please submit manuscripts or inquiries to Mr. Paul H. Pause, Editor, HCW Exploration, Inc., P.O. Box 10585, Midland, TX 79702. (915) 683-3303.

**INTERNATIONAL EXPLORATIONISTS GROUP
DINNER MEETING—OCTOBER 19, 1983**

DONALD C. SWANSON—Biographical Sketch



Donald C. Swanson is a partner in Swanson Petroleum Enterprises (which provides technical services to Venezuelan companies) and Swanson and Crow (an independent exploration company) as well as President of Cygnet Group Inc. He received a B.S. degree in General Arts and Sciences from Colorado State University, a B.S. degree in Geology from the University of Tulsa, and did graduate studies at the

University of Oklahoma. Before forming his own companies, he spent 29 years with Exxon — 15 years in operations and 14 years at the Exxon Production Research Center. While at Exxon he organized and taught classes in a wide range of subjects including clastics, reservoirs, logging, and computer applications. These classes were held at various sites in the U.S. as well as in Venezuela and Colombia. He continues to teach industry classes in clastics and exploration techniques through Swanson Petroleum Enterprises.

Mr. Swanson is a leader in the utilization and application of integrated stratigraphic and facies analysis to both exploration methodology and reservoir studies. He is considered to be an authority on the petroleum geology of the Anadarko Basin and the geology of Venezuela. He has done detailed reservoir studies of fields in the U. S., Netherlands and Venezuela and has published papers on a wide range of subjects within Exxon and his own company, as well as in AAPG bulletins, memoirs and special publications, in local geological society bulletins, in "World Oil" and in "Shale Shaker".

Mr. Swanson has made presentations of technical papers to numerous professional societies in Texas, Oklahoma, California, Kansas, Wyoming, Louisiana, Colorado, Venezuela and Colombia as well as to the national AAPG meetings. He has received many professional honors and acknowledgements including the A. I. Leverson Award from AAPG for best paper in 1968 and 1979. He is a member of the Explorer's Club, the American Association of Petroleum Geologists, the American Association for the Advancement of Science and is a fellow of the Geological Society of America.

**DEPOSITIONAL HISTORY OF THE
CERRO NEGRO REGION IN THE
ORINOCO TAR BELT, VENEZUELA**

The Orinoco Tar Belt in eastern Venezuela holds one of the world's largest accumulations of unexplored energy reserves. Although the oil is low gravity and will present difficult and expensive production problems, the size of the reserves alone should make the tar belt or "Faja" of considerable interest to petroleum geologists. Estimates vary, but everyone agrees that there are hundreds of billions of barrels of oil held in the fluvial-deltaic clastics that make up the reservoir facies.

The oil is contained in sandstones of the Miocene Oficina Formation, the basal unit of a thick wedge of Tertiary clastic sediments which thins southward over the stable southern shelf of the Eastern Venezuelan Basin. It terminates near the surface along the Orinoco River just north of the Guyana Shield. Structure in the area is relatively simple and consists principally of normal faults. The trapped hydrocarbons move updip from the basin southward through "conduits" consisting of fluvial-deltaic and fluvial valley fill deposits (similar to Fisk's substratum in the Mississippi River trench).

The stratigraphic framework of the Oficina Formation includes onlap onto an unconformity consisting of stream-dissected Cretaceous and igneous rocks. Although the stratigraphic pattern is one of onlap, the actual shoreline either remained stationary or often prograded basinward as the result of laterally shifting regressive deltaic lobes or "tongues". The principal stratigraphic facies sequence was one of transgressing valley fill followed by numerous episodes of regressive deltaic sedimentation which filled a stratigraphic "skeleton" of onlap.

Facies and stratigraphic relationships are markedly similar between the Orinoco Tar Belt accumulations and those in Alberta, Canada. Both occur in essentially thick sandstones which lie upon and are molded by a stream-dissected paleotopographic surface.

SOCIETY ELECTIONS

CORPUS CHRISTI GEOLOGICAL SOCIETY

The CCGS has announced the following slate of officers for the 1983-84 year:

- President:** W. D. "Rip" Dobbins
Geological Resources, Inc.
- 1st Vice President:** Curtis R. Mayo
 Fargo Trading Company
- 2nd Vice President:** Charlie Wisdom
Esenjay Petroleum Corporation
- Secretary:** John G. Drake
Harkins & Company
- Treasurer:** Sherry Harding
Texas A & I University

EAST TEXAS GEOLOGICAL SOCIETY

The ETGS has elected the following officers for the administrative year 1983-1984:

- President:** Chris H. Reed
Reed & Strawn Exploration Consultants
- Vice President:** Mark W. Presley
Delta Drilling Company
- Secretary:** Scott O. Shaver
Locklin Oil Company

**JOINT GEOSAT-NASA/JPL TEST CASE
PROGRAM REPORT READY**

The 3-volume set will have approximately 1500 pages, 1700 illustrations, 300 color plates, and 40 tip-out maps.

Price, although still undefined, looks like it will be around \$200; all Corporate Members of The Geosat Committee will receive one free copy and can purchase additional copies at a reduced rate.

Contact: Geosat
153 Kearny Street, Suite 209
San Francisco, California 94108
(415) 981-6265

Attend! 33rd Annual

Gulf Coast Association of Geological Societies



CONVENTION ... 1983

JACKSON, Mississippi

October 24 - 28

MISSISSIPPI GEOLOGICAL SOCIETY TO HOST GCAGS MEETING, OCTOBER 24-28, 1983

The 33rd annual meeting of the Gulf Coast Association of Geological Societies will be held in Jackson, Mississippi, October 24-28, 1983. Convention headquarters will be located at the Coliseum Ramada Inn.

A program of field trips, technical presentations, sports events, ladies activities and a cocktail party and dance are planned.

Two field trips are being offered, both pre-convention trips. Field trip #1, Monday, October 24 to Wednesday, October 26, will examine the Appalachian Thrust Belt of Alabama, to include the large thrust faults of late Paleozoic age and evidence of the complex prethrusting history. Field trip #2, Tuesday, October 25 to Wednesday, October 26, will examine Depositional Environments of Cretaceous and Tertiary rocks of Central Mississippi and West Central Alabama. Participants will visit select outcrops and roadcuts examining strata of upper Cretaceous and lower Tertiary age.

The technical session will consist of many papers presented in concurrent AAPG and SEPM sessions. GCAGS will publish the papers in its annual *Transactions*.

An AAPG short course will be held on Wednesday, October 26, 2-5 p.m., titled "DELTAIC RESERVOIR WORKSHOP". The course will be taught by Donald C. Swanson and will emphasize commonly encountered ancient deltaic reservoir facies including, 1) their recognition, 2) their characteristics, 3) their environmental setting, and 4) the processes that molded them. Attention will be given to their size, shape, trend, lateral extent and internal distribution of porosity. Particular emphasis will be directed to the recognition and utilization of log patterns and shapes. The use of electric log facies will form an important part of several exercises that illustrate, 1) the recognition and significance of deltaic couplets (the joint occurrence of deltaic plain over delta front, reservoir facies, 2) the lateral extension of electric log facies along cross sections, and 3) facies based contouring techniques. Participants attending the workshop should acquire information that will be helpful in the construction of the three dimensional stratigraphic frame-work of deltaic

reservoir deposits, as well as skills in the preparation of exploration and reservoir study maps.

The Division of the Professional Affairs of AAPG Luncheon will be held Thursday, October 27, in the Coliseum Ramada Inn. Social hour will begin at 11:45 a.m., followed by the luncheon and guest speaker.

Ladies events will include a tour of historic Natchez, a luncheon-fashion show, a microwave cooking course, a Highland Village shopping spree, and a farewell brunch.

Sports events will include racquetball, tennis, cross country run, and golf tournaments.

HGS TENNIS TOURNAMENT

The 10th annual HGS Tennis Tournament was held on Friday, May 27, 1983 at Pine Forest Country Club with sixty society members participating. Winners of the tournament are as follows:

- A Flight 1st - Bill Sanders
- 2nd - Bill Sherman
- 3rd - Jerry Glaser
- B Flight 1st - G. Pete Cokinos
- 2nd - Doug Bacon
- 3rd - Ray Blackhale

Service companies below who contributed to the success of the tournament include:

- | | |
|-------------------------|------------------|
| Alliance Research | Ragsdale Logging |
| Arrow Graphics | Schlumberger |
| Core Laboratories, Inc. | Seismic Exchange |
| Core Service | Seis Pros. |
| Dibbler Seismic | Stratagraph |
| Dresser Atlas | Welex |
| Geological Consulting | The Analysts |
| Petroleum Information | |

E. J. Bacon and Evelyn Sherman of the Societies' Auxillary and committee members Mary Page and John Aubrey contributed their time and efforts in making this tournament enjoyable for everyone.

PHOTOGEOLOGIC EXPLORATION FOR FRACTURED RESERVOIRS

Santiago Reynolds

In the last few years, oil companies have become more involved in fractured reservoirs and the important role they play in the production of hydrocarbons. Classic examples of fractured reservoirs in Texas are the Austin chalk, Abo sands, Ellenberger dolomite, Sprayberry Trend, and the Devonian novaculite. These are a few of the many fractured reservoirs in production today, although other formations are important, i.e., the carbonates of the entire Cretaceous sequence.

The main objectives are those limestones that have been neglected because of their poor porosity, permeability and lack of a certain type of trap. Such limestones can become commercial reservoirs if they are found to be fractured and if the well location is drilled on an *intersection* of two or more fractures of certain longitudinal extension.

Fractured reservoirs have been drilled successfully for the last 60 years, although few geologists or engineers have completely understood or studied such reservoirs. These reservoirs become further complicated if intercrystalline or intergranular porosity and some form of matrix permeability is present. Although some of the most productive fields have been influenced by fractures, most analysts justify production from the first parameters instead of associating it with the influence of fractures. A classic example of this is the McElroy Field in West Texas where the first producing well was drilled in 1924. This field had been abandoned three different times because it was thought to be depleted. Time after time it has become active and today is still an excellent producing field with very low porosities and permeabilities.

Though currently "neglected," the effective system of photogeology reached its peak during and after the Second World War; consequently some geologists were trained to identify surface features on stereo-pair photos through a prism-mirror stereoscope. Some geologists had the opportunity to check and corroborate in the field the surface features identified on the photographs, and a number of these geologists specialized in fracture identification. They tried to identify oil fields where fractures represented the main porosity, permeability and migration media. In a vertical stereo photograph some of the identifiable features include different hydrology patterns that undoubtedly represent fracture lineament, in many instances the fractures themselves, vegetation lineaments, interruptions in bedding, changes in tone of soil coloration, faults and structures. After establishing a relationship among all these geomorphic characteristics, the analyst can map a fracture pattern and its aerial extension. Well locations are positioned at the intersection of two or more of the larger fractures. This ability to determine cross patterns and areal extensions to fracture systems is not shared by the seismic fracture identification technique.

The immediate objective of the photogeologist then is to determine those areas that are close to already established production and which contain identifiable fractures through the use of aerial photographs. Later exploration can expand into areas farther away from established production, but with well identified fracture patterns. A particularly suitable area to use the photogeology system of identifying fractures is across the Cretaceous trend of Texas, from the Rio Grande to the northern portions of Louisiana.

Analysis of high resolution stereo pair photographs is one method used to identify fracture systems. These photographs

are taken by commercial aircraft specially equipped to take these kinds of photos at heights of 20 to 30 thousand feet. These photographs should not be confused with landsat photo mosaics which are not explicit enough for the detail work necessary for fracture pattern identification.

The validity of this method was proved by PEMEX in the early 1970s in two different basins:

- 1) The Sabinas Basin located approximately 100 miles south of Eagle Pass.
- 2) The Maverick Basin that extends into Mexico for more than one hundred miles directly across the border from Eagle Pass and covering most of Maverick, Zavala, Dimmit and portions of Webb, Kinney, Uvalde, Frio, and LaSalle counties in Texas.

Pemex has drilled more than 50 wells in these two basins with an 80% success, and has established production in Lower Cretaceous and Jurassic formations of 2 MMCFGPD, up to more than 15 MMCFGPD and 1,000 BCPD. The primary gas producing formations are the Lower Glen Rose, Pearsall, and Sligo, and such alternating pays as the Upson, Olmos, San Miguel, Anacacho, Austin, Eagleford, Salmon Peak and West Nueces formations.

Recently, Texas Ranger Oil & Gas, Inc. drilled the Simpson #3 in Maverick County, Texas, based on this system of identifying fracture patterns. The preliminary results are encouraging. The mud log showed three zones which could have commercial production in the Pearsall and Sligo formations. Testing of the well continues at this time.

The reserves estimated for fractured reservoirs vary from well to well and are often difficult to determine due to frequent lack of available petrophysical and core data. To estimate reserves, petroleum engineers require various core samples to determine size, spacing and density of fracture patterns. Also required is the extension of the fractured area. Fractures have a longitudinal, lateral, and vertical extension with high permeability but low porosity. This information can be gathered after several wells are drilled; consequently, the reserves for a fractured reservoir must often be tentatively assigned by the previous history of wells drilled in the area that are on similar fracture patterns.

Santiago Reynolds is the founder and president of Sanco and Associates, Inc., a geological consulting firm in Houston, Texas. Mr. Reynolds spent 13 years working as a photogeologist for PEMEX. Using both photogeology and field work, he has mapped in detail the geology of the Maverick Basin in Mexico and Texas. His work has been cited in publications of the Texas Bureau of Economic Geology.

Santiago is a member of the HGS Awards and Student Loans Committee and is responsible for the photography used in the Speakers Award.

AIPG GROUND WATER BOOKLET

The American Institute of Professional Geologists has just published an illustrated booklet on ground-water development, management and protection. The purpose of the booklet is to provide policy makers, legislators, and the general public with information and data to better understand U. S. ground-water resources.

Copies in bulk can be purchased for \$2.25 a copy and in smaller quantities for \$3.00 per copy. They can be purchased from A.I.P.G., 7828 Vance Drive, Suite 103, Arvada, Colorado 80003.

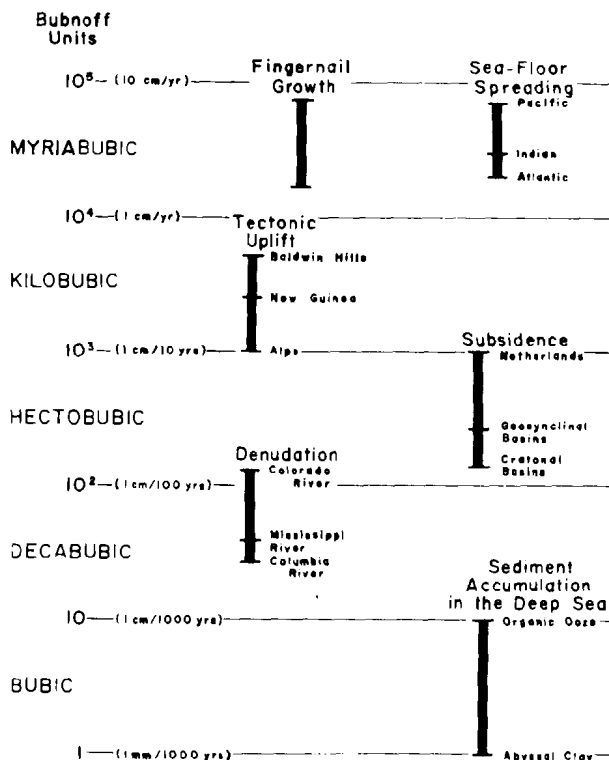
PLATE TECTONICS AND FINGERNAIL GROWTH

Stephen M. Rowland, an Assistant Professor of Geology at the University of Nevada - Las Vegas, has devised an amusing yet instructive way to teach his students an appreciation for the rates of geologic change. Rowland described his approach in a recent article in the *Journal of Geological Education* (31:177-178; 1983). He notes that fingernail growth rates are approximately the same as sea-floor spreading rates and can be used for comparison with rates of various other geologic processes such as tectonic uplift, subsidence, denudation, and sediment accumulation. Rowland's students measure the growth of their fingernails during the course of the semester and then compare their measured rates with those of various geologic processes (see figure). Fingernails grow a few centimeters per year, an order of magnitude faster than mountains and two orders of magnitude faster than rapidly subsiding basins sink. Our thanks to Diana C. Dale for bringing this item to our attention.

Deet Schumacher
Bulletin Committee

Figure at right shows time-distance rate of fingernail growth compared with five geologic processes.

TIME-DISTANCE RATES OF GEOLOGIC PROCESSES



HGS OCTOBER 22ND FIELD TRIP

"Seismic Data Acquisition in the Field"
Instructor: Mr. Gerald Jasko, Grant Geophysical

ABSOLUTELY FREE OF CHARGE.

Participants will provide their own transportation. The number of people who can attend is limited. Please complete the pre-registration form and mail as soon as possible. PARTICIPANTS WILL BE NOTIFIED BY TELEPHONE OF TIME AND POINT OF DEPARTURE.

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Houston, TX 77252

HGS UPCOMING FIELD TRIP

"Geology Field Trip for Non-Geologists"
Instructor: Dr. Richard P. Zingula
Exxon Company, U.S.A.

Date: November 12, 1983

Visit: An oil well rig, Erosion and Deposition of Sediments by river, several outcrops, and learn geology. Collect petrified wood and fossils. If possible, visit a seismic crew.

ABSOLUTELY FREE OF CHARGE:

Participants provide their own transportation. Please complete the pre-registration form and mail as soon as possible.

Geological and geophysical technicians, drafting personnel, spouses and all interested persons are welcome.

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REVIEW OF EXPLORATION ACTIVITY

OFFSHORE GULF COAST

Cities Service will drill a 14,100' **Miocene** test on **Matagorda Island Block 654**, offshore Calhoun County, Texas. The #2 OCS-G-4546 is 6 miles southwest of Miocene gas production at Block 624 Field.

Also offshore Texas, Corpus Christi Oil & Gas will test the **Miocene** at a 12,000' wildcat on **Brazos Block 336-L**. The #1 State Tract 336-L (NW/4) is 3 miles west of Miocene gas production at Galveston Block 310 Field.

An 11,500' **Pliocene** wildcat has been scheduled on **High Island Block A-171** by Atlantic Richfield. The #2 OCS-G-4741 is 6 miles south of Miocene gas production at Block 129 Field.

Gulf Oil will drill a 15,000' **Miocene** wildcat on **Eugene Island Block 41**, offshore southwestern Louisiana. The #1 OCS-G-4857 is 3 miles northeast of Eugene Island Block 32 Field, a Miocene oil and gas reservoir.

In the Mustang Island area, offshore Texas, Inexco is testing an apparent **Frio** gas discovery at its #2 **State Tract 797-L**. Flow rate is 6.3 MMCFGPD and 67 BCPD from 12,334-12,452'.

On **Main Pass Block 49**, offshore southeastern Louisiana, Santa Fe Minerals is completing the #2 State Lease 10445 as a new **Miocene** field discovery. The wildcat flowed 214 BOPD and 546 MCFGPD from the 6600' Sand at 6642-45' and 1.3 MMCFGPD and 24 BCPD from the 6400' Sand at 6338-44'.

ONSHORE GULF COAST

Lower Texas Gulf Coast

Shell has staked location for a 20,000' **Wilcox** wildcat, the #1 FNB-Peters, 2-1/2 miles north of nearest Wilcox production at Rancho Solo Field in **Duval County**, and in the midst of shallow Jackson and Yegua production. The deepest previous test in the area, located in Hoffman Field 7 miles northeast, reached 15,995' in the Wilcox and encountered poorly developed deeper sands. At the Carrizo Wilcox horizon, the wildcat spots on the north flank of a large faulted anticline.

In **Webb County**, Conoco has scheduled a 13,000' **Wilcox** test near very shallow Frio gas production in North Jasper Field. The #1 Billings, Sr. is 7 miles northeast of nearest Wilcox and Lobo production at Picoso and Nordan Fields. Good Wilcox sand development is present in nearby dry holes. The wildcat spots on the south flank of a small anticline bounded by regional down-to-the-coast faults at the Carrizo Wilcox horizon.

Three new field discoveries have been reported in **Duval County**. Shell has opened Bold Forbes Field at its #1 Welder Heirs, about 4 miles northeast of Los Reyes Field, flowing 3660 MCFGPD and 177 BCPD from the **Carrizo "D"** Sand at 9512-42'. Gathings Oil has completed the #12 **Deluna** from the **Jackson "4530"** Sand at 4532-42' and from the **Yegua "5160"** Sand at 5160-66', flowing at a combined rate of 1,119 MCFGPD to open Deluna Field. About one mile north, Gathings also opened North San Diego Field at the #10 **Deluna**, flowing 339 MCFGPD and 6 BCPD from the **Yegua "5030"** Sand at 5033-36'. Both new fields are near Hockley, Frio and Yegua production at A & H Field.

In **Webb County**, TDC Engineering opened Ortiz Field at the #1 Ortiz, about a half mile west of Laredo Field. Completion was in the **Eocene "Lobo"** Sand at 7181-7212', flowing 5310 MCFGPD and 89 BCPD. Also in **Webb County**,

Conoco's #2 Frost flowed 1720 MCFGPD from **Eocene "Lobo-Walker"** at 7686-97' to open Rapture Field, 1-1/4 miles east of Carr and Lundell Fields.

Exxon has completed the #152 East to open Turcotte Field, 2 miles east of Frio gas production at Southeast Rita Field in **Kenedy County**. The discovery tested ARO 2,038 MCFGPD and 60 BCPD from the **Frio 1-93 Sand** at 8920-26'.

Middle Texas Gulf Coast

The AAA Operating Company will drill a 12,500' wildcat 10 miles southeast of older Carrizo Wilcox fault line production at Julie Ann Field in **Fayette County**. The #1 Melinda is also 5 miles southeast of a recent Austin Chalk oil discovery designated as another southwest extension to Giddings Field, and it seems likely that the operator is attempting a further extension of **Austin Chalk** production here. There is no Edwards or Glen Rose production in the area. Structure at the Base Austin Chalk is regional southeast dip.

In **Zavala County**, Woodham Oil has completed a dual gas discovery 2 miles north of Olmos production at Ike Prior Field to open Darsey Field. The #1 Jesse flowed 856 MCFGPD from the **San Miguel "B"** Sand at 1809-13' and 668 MCFGPD from the **San Miguel "A"** Sand at 1788-92'. The discovery spots on a small south-plunging nose at the Olmos horizon.

Sun Exploration & Production has opened Sun TSH Field 1-1/2 miles south of Olmos, Wilcox and Edwards production at West Cooke Field in **LaSalle County**. The #1 Martin flowed 135 BOPD and 1068 MCFGPD from **Olmos** perms at 7684-7734'. Structure at the Wilcox horizon is irregular southeast dip.

Upper Texas Gulf Coast

Exxon has scheduled a 16,500' **Wilcox** test, the #1 Exxon-Friendswood Development Company, 2-1/4 miles southeast of Yegua gas production at West Paul Nelson Field in **Montgomery County**. The nearest deep test, 8-1/4 miles northeast, encountered well-developed Wilcox sands down to 12,080' and scattered sands below this to 16,980'. At the Top Wilcox horizon, the wildcat spots on the south flank of a faulted structural anomaly.

In **Harris County**, Quintex Petroleum has staked location for a 13,700' **Wilcox** test one mile east of Cockfield oil production at Springs Field. The #1 Christian Unit should encounter porous Wilcox sands below 9400' as well as shallow Yegua sands already productive in the area. The wildcat spots near the crest of the Springs Field structure at the Top Wilcox horizon.

Texas Crude Exploration will drill a 15,500' **Yegua** test, the #1 Weakley, 1 mile northeast of Frio production at Cotton Lake North Field in **Chambers County**. Deepest Yegua production so far is at Barbers Hill Field, 4 miles northwest. At the *Textularia warreni* mapping horizon, the wildcat spots on the steep northeast flank of a complexly faulted structure.

Also in **Chambers County**, Prudential Drilling has scheduled a 14,500' Vicksburg test 2-1/4 miles southeast of **Frio** production at Anahuac Field. The #1 Brown, et al, is also 3 miles northwest of Vicksburg gas production at Elwood Field and should encounter similar sands near TD as well as shallower *Nodosaria* sands, productive nearby. Structurally, the wildcat appears to be on the southeast flank of the large, faulted Anahuac dome.

Delta Drilling has completed the #1 Kirby Lumber Co. as a new **Wilcox** discovery 5 miles north of Wilcox and Yegua

production at Segno Field in **Polk County**. Flow rate was 151 BOPD and 540 MCFGPD from perfs at 7517-82'. Structure at the Top Wilcox horizon is regional south dip with minor nosing.

South Louisiana

O.I.L. Energy will drill an 18,000' **Wilcox** test 1-1/4 miles northwest of Cockfield production at West DeQuincy Field in **Beauregard Parish**, southwest Louisiana. The #1 Boise-Southern is 4 miles south of nearest Wilcox production at Fields Field, to date the southernmost Wilcox production in the area. Structure at the Cockfield horizon is south dip interrupted by several down-to-the south faults.

Farther east, in **Iberia Parish**, Huffco Petroleum has staked location for the #1 Maude Granger, a 13,000' wildcat 4-1/2 miles northwest of lower Miocene production at Iberia Field. Projected depth should be sufficient to penetrate the upper **Anahuac** which contained fairly well-developed *Heterostegina* sands in a nearby dry hole. The wildcat spots on the Southwest flank of a faulted structural anomaly at the Base Lower Miocene horizon.

Slightly north, in **St. Martin Parish**, Exchange Oil & Gas will drill a 13,500' *Marginulina texana* test, the #1 Barras, 2-3/4 miles southeast of Anahuac and Frio production at Section 28 Field. Closest deep control shows somewhat poorer sand development than at Bayou La Rose Field, the nearest *Marg tex* producer 4 miles northeast. At the *Camerina* "A" horizon, the wildcat spots down dip from current production and downthrown to a regional fault.

Artra Resources has staked location for its #1 Sabine Corporation, a 14,000' **Anahuac/upper Frio** test 3-1/4 miles southeast of abandoned *Heterostegina* production at Reserve Field in **St. John the Baptist Parish**, southeast Louisiana. The closest deep test, in Reserve Field, encountered a fairly well-developed Anahuac section but a poorly developed upper Frio sequence. The wildcat spots on moderate southeast dip in the downthrown block of a large regional fault at the *Heterostegina* horizon.

In **Plaquemines Parish**, Pel-Tex Oil has scheduled a 12,000' middle **Miocene** *Textularia* "W" wildcat 3-1/3 miles northwest of abandoned middle Miocene *Bigenerina* "2" production at Pelican Point Field. The #1 Orleans Levee District should encounter good sand development in the Big "2" interval, but the *Textularia* "W" sequence is speculative. At the Big "2" horizon, the wildcat spots near the crest of a small faulted structural feature.

Stone Petroleum has completed the #1 Ellender Heirs as a new **Miocene** discovery 1-1/4 miles northwest of Miocene production at Lirette Field in **Terrebonne Parish**. Flow rate was 983 BOPD and 1091 MCFGPD from perfs at 13,663-675'. The discovery is located on the northwest flank of a fault closure upthrown to the Lirette Field producing structure at the *Bigenerina* "2" horizon.

Farther east, in **Plaquemines Parish**, Texaco has completed a **Miocene** oil discovery 2-1/2 miles southeast of Miocene production at Bastian Bay Field. The #3 State Lease 8665 gas lifted 124 BOPD and 135 BWPD from 14,976-995'. The new discovery appears to be located on the southeast flank of the large, faulted Bastian Bay Field structure.

MESOZOIC TREND

East Texas Basin

Creswell Oil is planning to drill an 8000' wildcat 5-1/4 miles northeast of **Smackover** production in the one-well Megan Field in **Bowie County**. The #1 Reed should test through the Smackover and into Paleozoic sediments. A thin

Smackover section was present in a dry hole 5 miles southwest, but no Smackover was encountered 3 miles north. Structure at the Smackover horizon is regional south dip.

Texas Crude Exploration has completed the #1 Gray, et al, as a **Travis Peak** gas discovery 2/3 mile east of Blossom sand production in Marion Shallow Field, **Marion County**. Flow rate was 520 MCFGPD (after acidizing) from perfs 6651-59'. Structure at the Base Cotton Valley "B" Lime horizon is gentle northwest regional dip.

Two **Travis Peak** gas discoveries have been reported in **Rusk County**. Sunnybrook Oil & Gas has completed the #1 Goode 1-1/4 miles southwest of Pinehill West Field, flowing 2254 MCFGPD and 78 BCPD from perfs 7282-92'. In the Cyril Field area, Hill International has completed the #1 Young from perforations at 7778-82', flowing 2 MMCFGPD and 34 BCPD.

Farther south, in **Nacogdoches County**, Arkla Exploration is completing a dual gas discovery 2-3/4 miles south of **Cotton Valley** production in Appleby North Field. The #1 McFaddin flowed 2660 MCFGPD from Travis Peak perfs 8420-96', and 9350 MCFGPD from Pettet perfs 7862-70'. Structure at the Base Cotton Valley "B" Lime horizon is moderate regional south dip.

Cico Oil & Gas has completed a new **Austin Chalk** oil discovery 7 miles south of Saratoga-Annona gas production at Pineland field in extreme southern **Sabine County**. The #2 Arco, originally drilled by Amoco, flowed 107 BOPD and 214 MCFGPD from perfs 8840-81'. The discovery spots on a mild structural nose interrupting regional southeast dip at the Base Austin Chalk horizon.

North Louisiana-South Arkansas

Woods & Deas will drill a 10,600' **Smackover** wildcat, the #1 Smith Estate, 4-1/2 miles northeast of Smackover oil and gas production at Bayou D'Arbone Lake Field in **Union Parish**. Nearby tests encountered generally tight Smackover lime with some thin porous streaks. At the Top Smackover horizon, the wildcat spots on regional southwest dip and near the western terminus of a west-east regional fault.

Farther South, in **Winn Parish**, McCormick Operating Company has scheduled a 12,000' **Hosston** test 4-1/4 miles northeast of Wilcox production at Dodson Field. The #1 Newson should encounter well-developed James and Sligo sections in addition to porous Hosston sands. The wildcat spots on a broad southwest plunging nose at the Base Cotton Valley "B" Lime horizon.

Mississippi-Alabama-Florida

Mobil Oil will drill a 16,500 **Cotton Valley** test, the #1 Thigpen, et al, 7-1/4 miles northwest of Rodessa, Hosston and Cotton Valley production at Oak Ridge Field in **Warren County**. The Cotton Valley section in the closest deep test (4-3/4 miles south) is essentially sand and probably in a predominantly red bed sequence. Structure at the Top Smackover horizon appears to be southeast dip into a large reentrant.

In **Hinds County**, Windfall Oil has completed its #1 Gaddis Farms as a new **Mooringsport** oil discovery one mile south of Bolton Field. Flow rate was 210 BOPD from perforations at 10,514-530', one of three Mooringsport pays in the well. The discovery spots on the southeast end of the faulted Bolton Field Structure at the Base Ferry Lake horizon.

Arco Oil & Gas is preparing to drill its #1 Arco-Amoco, et al, Koch 10-6, a 14,500' **basement test** in southern **Greene County**, Alabama, 53 miles northeast of nearest production (Smackover) at Toxey Field. This is Arco's second deep test

along the western edge of the Eastern Overthrust Belt, the first being drilled to 17,005' in Shelby County, Alabama with no commercial shows reported. Structure at the top of the Paleozoic appears to be gentle southwest dip, with deeper structure effectively masked.

In **Mobile County**, Mobile Oil has scheduled a 22,140' wildcat, the #1 State Lease 528, in **Alabama Offshore Block 72**, Mississippi Sound area, about 12 miles west of Norphlet production in the Lower Mobile Bay-Mary Ann Field. There are two other wildcats currently being drilled in Alabama coastal waters, one by Exxon in Block 62, just north of the Lower Mobile Bay-Mary Ann Field, and the other by Mobil in Federal Block 823, on the Gulf side of Dauphine Island.

Bill Eisenhardt
Geomap Company

INTERIOR SENDS \$246.7 MILLION TO STATES

The Interior Department's Bureau of Land Management on May 5 distributed more than \$246.7 million to 23 States as their share of Federal mineral leasing receipts received during the six-month period which ended March 31, 1983.

States that received the biggest payments were Wyoming, \$94.0 million; New Mexico, \$63.9 million; Utah, \$18.3 million; California, \$17.2 million; Colorado, \$16.1 million, and Montana, \$10.2 million.

With the exception of Alaska, each State receives semiannual payments equal to 50 percent of bonuses, rentals and royalties collected from mineral leasing activities on federally owned public lands within that State. Alaska receives 90 percent of the mineral leasing receipts. The funds are used for any public purpose the States choose, giving priority to localities adversely affected by mineral production on Federal lands.

PSST

See page 13 for some great buys on specially priced HGS publications.

1984 GCAGS-GCS/SEPM CONVENTION

October 24-26, 1984

Shreveport, Louisiana

GCAGS President John Palmer
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General Chairman (GCAGS) Jim Forgotson, Jr.
Program Chairman (GCAGS & GCS/SEPM) Nolan Shaw

Papers and/or abstracts should be submitted to:

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Robert S. Kier	GCAGS 1984
Camp Dresser McKee, Inc.	604 Beck Building
3445 Executive Center Dr.	Shreveport, Louisiana 71101
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Austin, Texas 78731	
(512) 345-6651	

Theme: Gulf Coast - Energy Heart of the Nation

Logo: Drilling rig on top of the Gulf States' map with a directional hole to each member city.

ASSOCIATION FOR WOMEN GEOSCIENTISTS

AWARDS BANQUET:

The Association For Women Geoscientists-Houston Chapter will have the pleasure of honoring Dr. Susan A. Longacre at the second annual Federation of Houston Professional Women's Awards Banquet on October 15, 1983 at the Sheraton-Houston Hotel. A graduate of the University of Texas, Dr. Longacre is presently a senior scientist/professional specialist at the Getty Oil Research Center in Houston where she established their first geological laboratory in 1972. An outstanding scientist and respected leader, Dr. Longacre also became the first woman to chair an A.A.P.G. committee in 1982.

By honoring leading professionals such as Dr. Longacre, the Association For Women Geoscientists hopes to promote the participation of women in the geosciences. AWG-Houston is one of twenty-two member organizations of the Federation of Houston Professional Women honoring outstanding women in Houston. Those wishing to join in honoring Dr. Longacre on October 15 may contact Nancy Uziemblo at (713) 932-7183.

MEETING:

The Association for Women Geoscientists invites all interested persons to attend their dinner meeting. The meeting will include a talk by Paula C. Lonquist, M.Ed. on "Asserting In Business". The meeting will be held October 18 at the QUALITY INN GREENWAY PLAZA located at 4020 S.W. Freeway at Wesleyan. Cocktails are at 5:30 and dinner at 6:30. Cost is \$10.50 for members and \$12.50 for non-members.

R.S.V.P. to Joan F. Sarah-Foster 463-6934 by Friday, October 14, 1983. All no shows and late cancellations will be financially responsible for the cost of the dinner.

NEW AT U of H

The Department of Geosciences at the University of Houston announced that Dr. Kevin Burke will join the faculty in September, 1983. Dr. Burke will serve as the Director of the Lunar Planetary Institute. He will be offering a seminar and courses in Basin Analysis and Tectonics in the coming semesters.

In addition to Dr. Burke, Dr. James Lee Wilson is a visiting professor (from the University of Michigan) during the spring semester, 1984. Dr. Wilson will be teaching a course in Regional Geology. Members of the geosciences community are invited to visit the Department, talk with the faculty, take courses or work toward a degree.

PASSAGES

PAUL H. ALLEN, JR., consulting geologist, died in Houston May 26, 1983.

JOHN SMITH IVY, geologist, geophysicist and petroleum engineer, died in Houston July 11, 1983.

CARL W. VAN WORMER, oil operator, died July 23, 1983.

JAMES H. EIFFERT, geologist for Lingen Exploration Co., died August 16, 1983.

**FOSSIL FUELS OF EUROPE
CONFERENCE AND EXHIBITION
JULY, 1984**

The Fossil Fuels of Europe Conference and Exhibition is the second conference sponsored by AAPG in Europe. Much has happened since the first meeting in Brighton in 1969, chaired by Michel T. Halbouty. Although European producing countries will never rival OPEC in ultimate reserves, it now is clear that European oil production is significant enough to be a primary factor in OPEC's price fixing deliberations.

Therefore it is timely for AAPG to provide its members and other interested geoscientists with the opportunity to take another look at Europe. The theme of the meeting will focus on current perceptions of the geologic evolution of Europe with emphasis on those factors concerning the creation and preservation of fossil fuels. New data are available and, even more important, new concepts to guide our exploration efforts in Europe and elsewhere are helping us organize and examine that data more intelligently.

AAPG was honored when several European geological societies invited us to organize a meeting of this caliber. We expect significant attendance by European geologists and by others assigned to European offices. In addition, we believe that the conference will also attract senior executives from corporations all over the world who are concerned with developing strategic technical plans in anticipation of reviving energy needs of the industrialized world.

The meeting will be held in Geneva, Switzerland.

TECHNICAL PROGRAM

The Geneva Conference will be more tightly focused than the traditional "convention" because the Technical Program Chairman, John F. Dewey of the University of Durham, is selecting speakers who will develop a modern view of the geological development of Europe with emphasis on those factors having a significant bearing on the creation and preservation of the minerals, oil, gas and coal. The program will examine the current hypotheses of plate tectonics, thermal maturation, basin development and basin fill from the viewpoint of mineral explorers. He believes that the industry's activities in Europe in the last 20 years have created a valuable and well-documented data base from which all of us can learn.

The program for Geneva will involve earth scientists from academia and industry, presenting complementary topics. Some of the distinguished speakers who will be presenting their current work are Professors E. R. Oxburgh and Dr. D. P. McKenzie from Cambridge University in the United Kingdom, Dr. S. Richardson of British Petroleum, Dr. Lucien Montadert of I.P.F., Dr. A. Perrodon of Elf Aquitaine, Dr. Dietrich Welte of Rhein Westfalische Technische Hochschule, Germany; Dr. D. Bernoulli of the University of Basel and Dr. Ricci Lucchi of the University of Bologna. In addition, papers will be presented by Professor John G. Sclater of the Massachusetts Institute of Technology, Dr. Peter Ziegler of Shell and Dr. Walter Ziegler of Exxon; Michel T. Halbouty will present a paper on the Mediterranean.

GEOLOGICAL EXCURSIONS: An interesting series of pre and post-conference geological excursions have been developed around the conference dates of July 15-18. Special low air fares can be guaranteed if you pay a deposit of 25% prior to January 1, 1984.

For reservations or information, send the attached coupon as soon as possible to:

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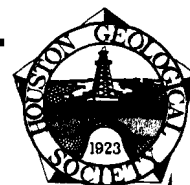
I WOULD LIKE FURTHER INFORMATION ON THE PRE-AND POST-CONFERENCE EXCURSIONS:

YES _____ NO _____



AAPG HOUSE OF DELEGATES

HGS members of the AAPG House of Delegates were honored recently at a reception at the Summit Club. The reception was hosted by Don Degen (Consultant), Judd Dualline (Getty), Calvin Chimene (Florida Exploration), and Chuck Noll (Frio Drilling and Exploration).



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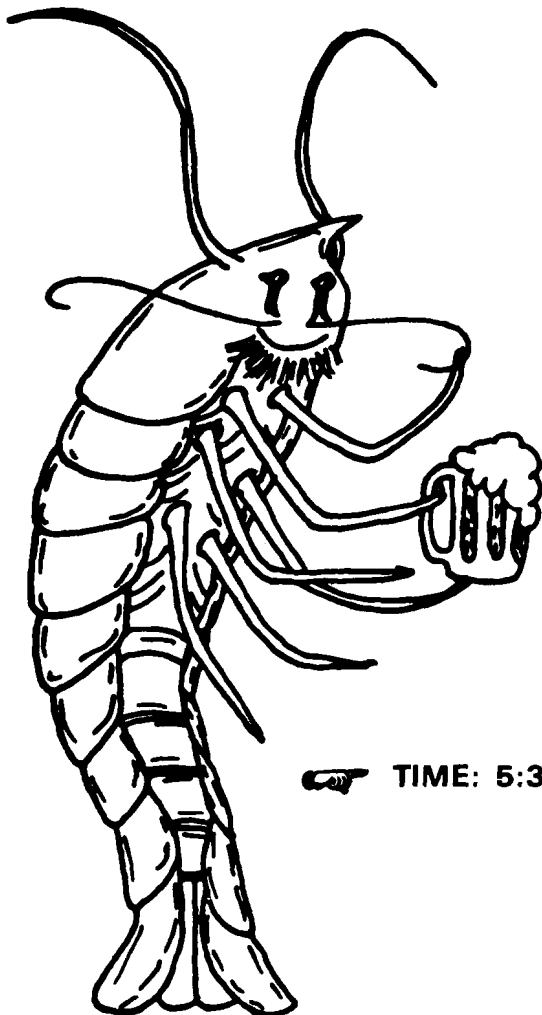
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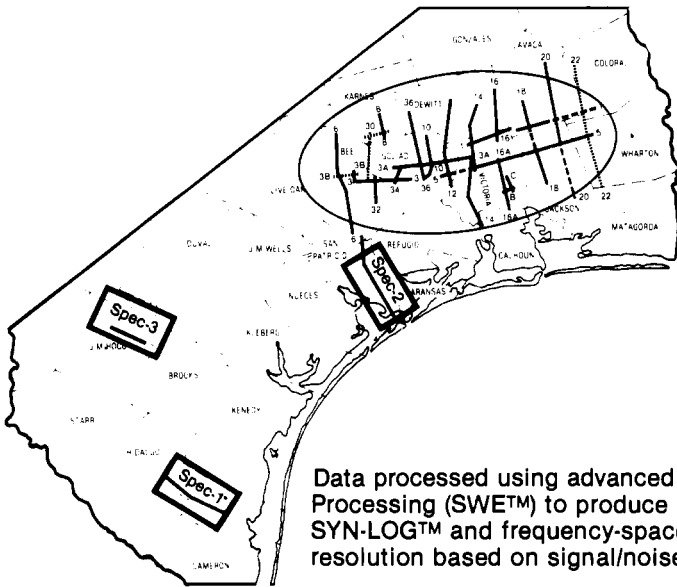
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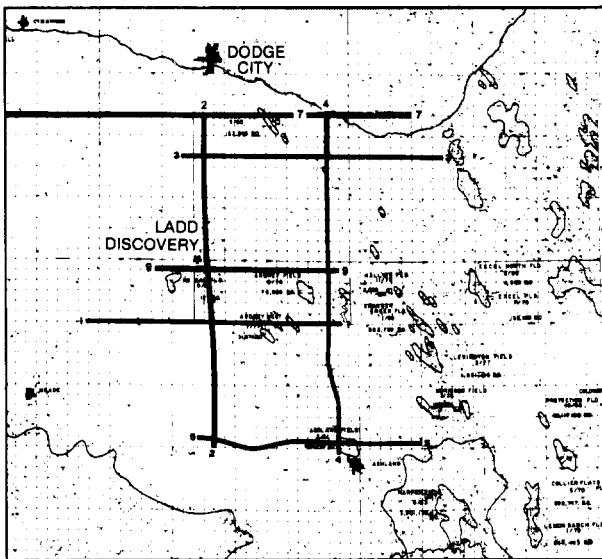
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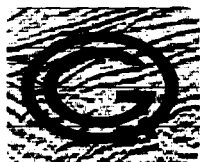
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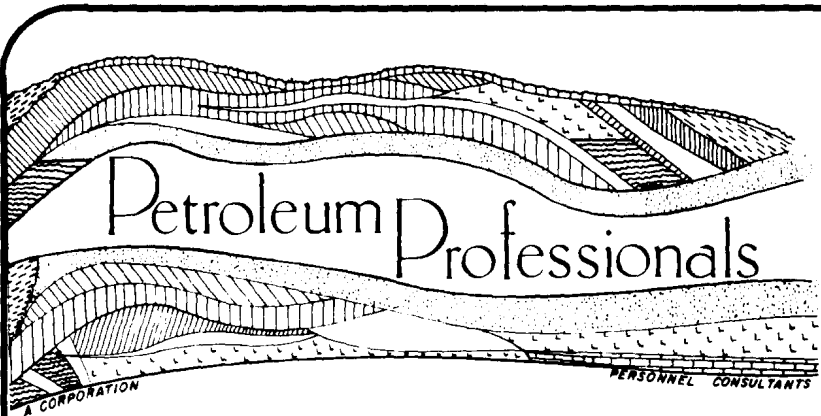
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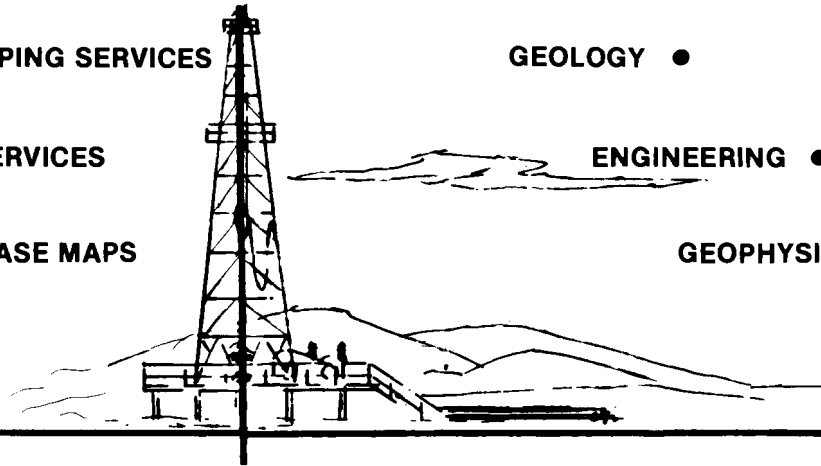
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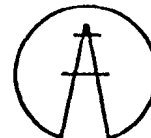
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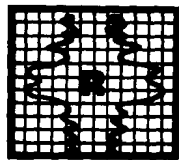
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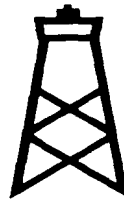
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