



MISSISSIPPI GEOLOGICAL SOCIETY

Volume XXXIV

No. 1

September, 1986



1986-87
~~1985-1986~~



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Editor - John Hinton	Cities Service Oil & Gas Co.
Advertising - John Cox	ANR Production Co.

COVER THE HOGBACK 25 miles West of Farmington,
New Mexico.

PRESIDENT'S MESSAGE

By now, everybody has heard the joke about the oilman who had turned into a talking frog and couldn't convince a girl to kiss him and change him back to an oilman because she said he was worth more as a talking frog. Several days ago, in a discussion about the present state of the oil business with my wife, I told her the frog joke. About 30 minutes later, my four year old daughter, who had apparently overheard our conversation, came up to my wife and in a very serious voice asked her, "Mommy, is Daddy going to turn into a frog?"

I haven't started hanging out on lily pads or eaten any bugs lately so I guess I can still be considered an oilman. We have all gone through some type of changes recently with the last few months especially disastrous for some of us. Hopefully, the worst is behind us now and we can go about trying to repair some of the damage. The Geological Society is feeling the loss of many supporting members and the 1986-87 year will be important to the continued success of the Society. Hopefully, the Society meetings can function as supportive social gatherings and morale boosters this year for those of us left to rebuild the industry.

Now down to business. It is membership renewal time. If you received this bulletin, it indicates you are on last years membership list. When you renew, by mail or in person at the barbeque, please return the renewal card with any address changes that may have occurred. This is very important because of the many changes in address which have occurred since our last list was compiled. We don't want to lose anyone because of address problems.

Unfortunately dues will be \$15.00 this year. Hopefully, this will not be a burden to anyone, but the Executive Committee voted unanimously to do this out of necessity to offset some of the carried over expenses of last year and the inevitable drop in membership that will occur this year. With bills to pay and fewer people to pay them this increase will hopefully allow us to maintain the high quality speakers and meetings of the past.

Regarding speakers, at our first noon meeting of the year, September 9, 1986, Christopher Cameron from U.S.M. will present his paper on the Lower Tuscaloosa in McComb field. I have heard this is an excellent paper, if somewhat controversial. I know I want to hear it. Let's have a good turnout for this important paper on a trend close to home.

The Fall Barbeque is Friday, September 5, at Fowlers Lodge. T.C. Rader never lets us down in the cooking department and there will be plenty of refreshment. Let's start off this year right and let OPEC know we are still kicking.

Finally, please note the new officers for the 1986-87 year listed on Page 1. If any member ever has a compliment, comment, complaint, or suggestion, please call one of us to discuss it. The officers are here to serve you, the members, and we can do a much better job if we hear from your.

Thank you for your time, see you at the meeting.

Bob White

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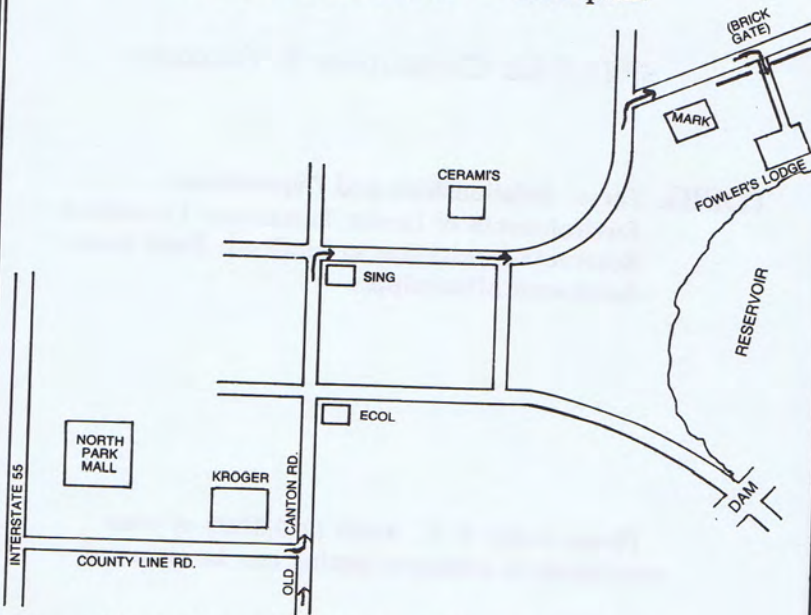
TAKE NOTICE

Mississippi Geological Society

FALL BARBEQUE

FRIDAY, SEPTEMBER 5, 1986
FOWLER'S LODGE

FESTIVITIES START — 4:30 p.m.
SUPPER SERVED — 6:30 p.m.



Please phone T. C. Rader with your reservations
by Wednesday, September 3rd at 969-3286.
Door Charge — \$7.00 per MGS member (1986-87 dues paid)
\$10.00 Non-member



Mississippi Geological Society

NOON MEETING

TUESDAY, SEPTEMBER 9, 1986

Smackover Room, Petroleum Club

SPEAKER: Christopher P. Cameron

TOPIC: Facies Relationships and Depositional
Environments of Lower Tuscaloosa Formation
Reservoir Sandstones in McComb Field Area,
Southwest Mississippi

*Please notify T. C. Rader (969-3286) of your
attendance so adequate seating can be arranged.*



ABSTRACT
FACIES RELATIONSHIPS AND DEPOSITIONAL
ENVIRONMENTS OF LOWER TUSCALOOSA FORMATION
RESERVOIR SANDSTONES IN McCOMB FIELD AREA,
SOUTHWEST MISSISSIPPI

By
CHRISTOPHER P. CAMERON* AND
WILLIAM S. HAMILTON, JR.

Excellent conventional core control and isolith maps based on core analysis and electric log (SP) signatures provide the opportunity to interpret and compare the McComb and Little Creek fields. Part of the updip lower Tuscaloosa productive trend, these fields are "structurally modified stratigraphic traps," formed by the combination of gentle structural nosing and updip pinch-out of the reservoir sandstones. Cumulative oil production exceeds 100 million bbl in this area.

Productive sandstones of the Little Creek field (Denkman Sand) were deposited by a well-developed, mature stream that meandered with moderate to high sinuosity on a low-gradient flood plain. The thickness and continuity of full point bars identified in the core indicate that the sandstones were deposited by a stream approximately the size of the modern lower Brazos River in Texas.

The McComb sand was deposited as part of a transgressive barrier island complex at a time when sand supply to the area was diminishing. Coarsening-upward sequences highlighted by large-scale, low angle, planar cross bedding were identified in 10 of 14 McComb cores, and probably represent shoreface and barrier facies. The remaining cores exhibit generally thinner fining-upward sequences typical of tidal channel and inlet sequences. The McComb sand is surrounded by lagoonal and marine mudstones and siltstones.

The meander-belt deposits occupy a lower stratigraphic position in the formation than the barrier island sandstones. The barrier facies mark the shore zone of the Upper Cretaceous marine transgression in the McComb field area.

*University of Southern Mississippi, Hattiesburg, MS.

Guest Speaker

Christopher P. Cameron

Christopher Paul Cameron is presently an associate professor at the University of Southern Mississippi.

He served in the U. S. Navy from 1957 to 1963 and in 1966 received a B.S. in Geology and Geophysics from the University of New Orleans. He obtained a Ph.D. in Geology and Geophysics from the University of Alaska in 1970 and was then employed by Exxon where he worked in both domestic and international operations. He left Exxon in 1983 for his present position.

Where Has Our Optimism Gone?

In 1974 when Larry Boland recommended the Dry Creek Prospect (Greens Creek Field) to Harkins & Company, the economics section of his recommendation contained the following numbers: Price of gas - \$.75 per MCF, 16,500' dry hole cost - \$450,000. In 1976, Harkins prepared a "Selling Package" to show Greens Creek to prospective partners. The discussion on economics showed gas prices at \$1.55 per MCF, oil at \$11.25 per barrel and drilling costs of \$545,500. The deal sold easily and a substantial field was found.

In 1986, the numbers are essentially the same as in 1976 yet we think we can not drill with them.

Why not?

Harry Spooner

New Orleans Chapter of SIPES Seminar
"The Business of Being a Petroleum Independent"
Tuesday, September 23, 1986 — 8:30 a.m. - 5:00 p.m.
New Orleans Petroleum Club - 38th Floor
R. W. (Dick) Boebel, Chairman

— • —

The New Orleans SIPES Chapter, together with the SIPES Foundation, will conduct this seminar to aid engineers, geologists, geophysicists, and landmen, who are considering becoming an independent or who have recently become independents. Topics include: setting up the business; organization and accounting; land and legal considerations; consultant's role; the prospect generator; and past and future projections.

Cost: \$30 pre-registration — \$35 at door

For information call Mary Lee Carona (504) 561-8980 or Bob Douglass 1-764-7463

SIPES SEMINAR — September 23, 1986

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Treasurer's Report
1985-1986 Operating Year

Cash Balance, May 31, 1985 \$ 2,910.09

Sources of Cash:

Cash generated by operations.....\$23,524.50

Money Market (A.I.A.) Account..... 10,398.90

33,923.40

Uses of Cash:

Operating Expenses 31,165.72

Total uses of cash 31,165.72

Cash Balance, May 31, 1985 13,342.35

Current Balance, May 31, 1986

Regular Checking Account 2,943.45

Income Statement for Operating Year Ending

May 31, 1986

GROSS REVENUES:

Membership dues	\$ 4,440.00
Advertising	4,630.00
Monthly Luncheon Meetings	6,360.00
Publication Sales	4,304.50
Fall Barbeque	1,020.00
Fall Barbeque Sponsorship	600.00
Tinsely Field Trip	290.00
Spring Fling	680.00
Spring Fling Sponsorships	<u>1,200.00</u>
	\$23,524.50

GROSS OPERATING EXPENDITURES:

Printing (incl. Membership Directory)	8,570.23
Monthly Luncheon/Meetings	5,270.31
Postage and Postal supplies	1,235.26
Redbook	6,664.27
Speaker Expenses	500.67
Fall Barbeque	1,668.17
Tinsley Field Trip	493.38
Spring Fling	4,724.87
Miscellaneous	522.16
Professional Fees (Acct., Earth Ent.)	1,417.00
Photo Directory	<u>99.40</u>
	\$31,165.72

(\$ 7,641.22)

Transfer from A.I.A. account to checking account	6,000.00
	(\$ 1,641.22)



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JOHN HENRY GALEY (1840-1918)

Among the great wildcatters, no man can be said to stand above John Henry Galey. His parents had migrated from Ireland with the Mellons of Pittsburgh and settled in Parker, Pa.

Galey was a teacher at 16. He became interested in oil on the very day the Drake well came in. Before he was 21 he had brought in the most famous gusher of its day — the "Maple Shade" well near Pleasantville. His later successes with William Hartley in the famous "Island Queen" and "Island King" wells on Stump Creek Island and the "Annie Lee" at Foxburg stimulated development in the Butler, Armstrong, and Clarion areas.

By the 1870's Galey was a partner in the largest operating firm in the country and a developer of the Butler, McKean, and Bradford Fields. By 1880, when he became associated with Colonel James M. Guffey, Galey was recognized as "the greatest and most aggressive oil operator in the country."

He was a student of oil sands and suggested the practical application of the anticlinal theory to George Westinghouse and Israel C. White, the men who surveyed locations of many anticlines in West Virginia for Guffey and Galey.

Galey drilled the first two wells at Coalinga, discovered the Neodesha Field in Kansas, drilled the first commercial oil wells in Texas at Corsicana, drilled the first wells at Muskogee and Red Fork in Oklahoma, and, after persuading the Mellons to finance Guffey and Galey's backing of Captain Lucas at Spindletop, staked the location for the great Lucas Gusher. He told reporters the Lucas Gusher was the "beginning of the liquid fuel age."

Galey was a gentle, considerate man of moderate habits. While a central figure in the mining boom at Tombstone, he befriended Wyatt Earp, the Clantons, Buffalo Bill, and Pawnee Bill.

His discoveries helped found the Forest Oil Company, Sinclair Oil and Gas Company, Magnolia Petroleum, Barnsdall, and the Gulf Oil Corporation.

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SCHEDULE

Noon Luncheon Meetings

1986

September 9

October 14

November 11

December 9

1987

January 13

February 10

March 10

April 14

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All Types of Prospect Submittals Invited

John Franklin Carll was born in Bushwick, New York, now a part of Brooklyn. He received a liberal education at Union Hill Academy in Jamaica, Long Island, and later studied civil engineering.

Carll has been called the father of petroleum engineering and a pioneer in petroleum geology.

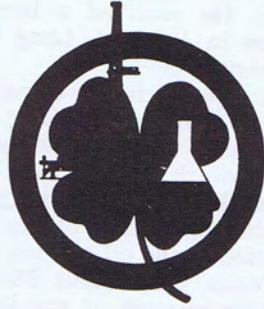
Carll was a farmer, a civil engineer, editor of the *Morning Eagle* in Newark, New Jersey, and later a wire manufacturer. After the accidental death of his wife and two children and the destruction of his factory by fire in 1864, he was attracted to the oil regions. In 1866, he went to Nacogdoches, Texas, with about \$5000 worth of machinery. As the representative of the Brown Brothers of Titusville, he helped Lynis T. Barret drill for oil. But, in 1867, his clients ordered his return because of a drastic drop in oil prices.

Carll was the first man to describe, in written form, problems involving the assembly of accurate drilling data. He performed crude experiments in capillary attraction and, in the 1870's, pointed out possible benefits of water flooding. He outlined various phases and aspects of what are today recognized as the fundamentals of petroleum engineering and collected on a large scale the first organized well records for correlation purposes. He was an inventor of many early oil field tools and an innovator in drilling techniques; he was the first to suggest and promote unit operations and the first to predict formation thinning; he headed a committee to study direction and dip of oil sands. He carefully observed rock strata and wrote exhaustive, complete treatises on geology of oil formations and the phenomena of oil and gas production.

In the famous Second Pennsylvania Geological Survey he wrote about tools and equipment used in the first 20 years of oil well drilling, describing, with his own illustrations, drilling techniques and casing, tubing, and various tools. He was a faithful and accurate chronicler of early production methods.

Carll was the father of reservoir engineering and pioneered water, gas, and air injection to stimulate oil wells. In 1880 he made the earliest estimates of porosity in oil sands. His work was the first organized research in petroleum production.

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The Paleozoics of Northwest Arkansas Sixteenth Field Trip, 48 p, May, 1962	_____	5.00	_____
Cenozoic of Horn Island and the Pascagoula Valley, Mississippi 10th Annual GCAGS Meeting, 24 p, October, 1960	_____	2.50	_____
Cenozoic of Southeast Mississippi and Southwest Alabama, Fifteenth Field Trip, 52 p, May, 1980	_____	6.00	_____
Upper Cretaceous Outcrops, Northeast Mississippi and West Central Alabama, Fourteenth Field Trip, 29 p, May 1959	_____	4.00	_____
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Composite Mesozoic Log of South Mississippi and South Alabama	_____	2.00	_____
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PRESIDENT'S MESSAGE

Two things I wanted to avoid this year were late bulletins and personally missing any meetings. So much for good intentions. I am sorry for the last bulletin's late arrival. The printing and postal gremlins were out in full force and wiped us out. Hopefully this will not happen again. As far as missing the Barbeque and First Meeting, well, I seem to be healing on schedule. Let me take this opportunity to thank all of you who came by or called while I was in the hospital--it meant a lot to me.

Please take note! Our next meeting will be Friday, October 10th. This is a break from our traditional Tuesday meeting date but was necessary to accomodate our speaker. He is Roger Sassen from the Basin Studies Institute at L.S.U. We are all aware of the Basin Studies' excellent work, so please come to hear Roger's talk on Smackover source rocks. Please note the full particulars of his talk elsewhere in this Bulletin.

If you haven't paid your dues yet, they are overdue. Before even thinking about it, write out a check and fill out the card in last month's Bulletin and mail it in today.

Thanks again to Schlumberger, Gearhart-Owen, Dresser, Location Sample Service, and Seismic Exchange for their monetary contributions to help offset the Barbeque costs. These donations are deeply appreciated during these times of belt-tightening.

Bob White

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NOON MEETING

FRIDAY, OCTOBER 10, 1986

Smackover Room, Petroleum Club

SPEAKER: Roger Sassen

**TOPIC: Geochemical Basin Analysis of The Eastern
Smackover Trend**

*Please notify T. C. Rader (969-3286) of your
attendance so adequate seating can be arranged.*



ABSTRACT
GEOCHEMICAL BASIN ANALYSIS
OF THE EASTERN SMACKOVER TREND

By
ROGER SASSEN *

A regional source rock model contributes to explaining the distribution of crude oil, gas-condensate, methane, and dry holes in the Smackover Trend of Mississippi, Alabama, and Florida. The source rock model is based on organic geochemical analysis of Smackover core and hydrocarbon samples in conjunction with calculated thermal maturity models.

Although the Smackover is a significant source rock across the trend, source potential is variable and localized in the lower member of the formation. Oil-prone kerogen is preserved in organic-rich laminated carbonate mudstones of the lower Smackover that were deposited at subtidal depths under anoxic and hypersaline conditions.

Thermal maturity is the key factor that controls the generation of crude oil in the lower Smackover source facies, and the eventual destruction of hydrocarbons in upper Smackover and Norphlet reservoirs. Once the regional thermal maturity framework is understood, it is possible to explain the distribution of hydrocarbons in the eastern Smackover Trend and to suggest geochemical strategies for future exploration.

* Basin Research Institute, Louisiana State University

GUEST SPEAKER

ROGER SASSEN

Roger Sassen is presently a Research Professor at the Basin Research Institute at L.S.U.

After serving as a military intelligence officer during the Vietnam War, he attended Hunter College and received his B.A. in Chemistry. After receiving at Ph.D. in Geological Sciences from Lehigh University in 1975, he worked in frontier exploration for Getty Oil Company. After the merger, he was Supervisor of Geochemistry at Texaco.

POSITIVE THOUGHT FOR THE MONTH

The gas bubble will end this winter if we have at least 30 days of unusually cold weather or next winter if we don't. Gas prospects will sell in 1987 or 88 and now is the time to generate them. That prediction is partly hunch and partly fact.

The hunch is that deliverability and thus the bubble is less than most people think. Producers and pipelines have not run deliverability test on a regular basis and pipelines think more deliverability exist than is actually the case.

The fact is that only a third as much drilling is going on this year as last when we found about 14.5 TCF reserve. Thus we will only find about 5 TCF this year and produce 17.5 TCF. A 12.5 TCF decline in reserves should translate to a 1.5 TCF per year reduction in deliverability.

My hunch is that the bubble will burst in early 1987. We produced only 19.5 TCF in 1979 when all purchasers were buying all they could. Between 1979 and the first of 1986 reserves declined about 8 TCF so deliverability surely was almost down to 19 TCF per year beginning in 1986. If we lose another 1.5 TCF per year capacity this year, we will be down to 17.5 TCF per year which equals our current producing rate.

Harry Spooner

It is possible that the oil industry would have been much longer coming to the world if it had not been for Samuel M. Kier.

Kier created a market for oil as a medicine, developed oil as a good illuminant, built the first crude oil refinery in the nation, started activity on a 10-acre tract of land on Oil Creek that inspired the first well ever drilled, bought the first oil from the Drake well for 60 cents a gallon, and found a market for it until the well burned up.

Born at Saltsburg in Indiana County, Pennsylvania, in 1813, Kier, a bright, handsome, and imaginative young man, moved to Pittsburgh in 1834. He engaged in numerous enterprises, one of the first being to run canal boats between Pittsburgh and Philadelphia with his partner, James Buchanan — later president of the United States.

In 1847 Kier and his father bought several acres of land at Tarentum on which they bored two wells and built a salt works. The petroleum sludge that came up with the brine fascinated Kier. In 1848 his wife developed consumption and a doctor prescribed "American Oil." Kier had it tested in a laboratory and found it contained the same constituents as the oil that came up with brine.

In 1849 he bottled the oil and put it on the market as "Kier's Petroleum or Rock Oil" for 50 cents an ounce. It was advertised as being good for consumption, burns, rheumatism, gout, coughs, blindness, cholera, corns, piles, indigestion, urinary and liver troubles, and other ills.

In 1850, in partnership with John J. Kirkpatrick, Kier built a small one-barrel capacity still, making him the first American to attempt commercial refining of crude oil. He named his product "carbon oil" and invented a lamp burner that would fit any kind of lamp to burn the product, thereby making himself the world's first marketer of a crude oil product.

Without Samuel M. Kier there may have been no oil industry — at least for many years after 1859.

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Noon Luncheon Meetings

1986

September 9
October 14
November 11
December 9

1987

January 13
February 10
March 10
April 14

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Born in Columbus, Ohio, Doherty was forced to quit school when he was 12 years old. In spite of this educational disadvantage, Doherty became one of the world's most prolific inventors and inaugurated the large scale hiring of scientists and technologists.

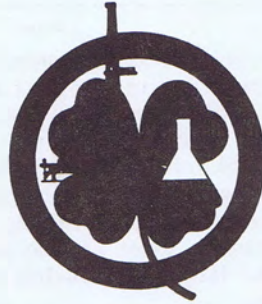
Throughout his life, he engaged in a continuous program of self-education which gained for him many honorary degrees and numerous honors from his own industry.

Doherty is credited with being one of the first men to recognize the geological possibilities in the finding of oil and gas. He pioneered in the field of combustion engineering; he developed oil heating equipment for homes and was among the first to advocate the development of the oil-burning locomotive. He was also a pioneer in the field of petrochemicals and gave that industry a needed impetus through the development of methods to recover useful chemical residues.

Cities Service, which was formed by Doherty and his associates in 1910 with foreign money when they could not get financial backing at home, was the first to establish gas storage fields.

Under Mr. Doherty, Cities Service was the first to develop large-diameter, long-distance pipelines constructed of high tensile steel capable of withstanding high pressures. The first such line was completed in 1931. It extended from Amarillo Field to Chicago.

In 1937 he was awarded the coveted Anthony F. Lucas medal "for distinguished achievement in improving the technique and practice of finding and producing petroleum."



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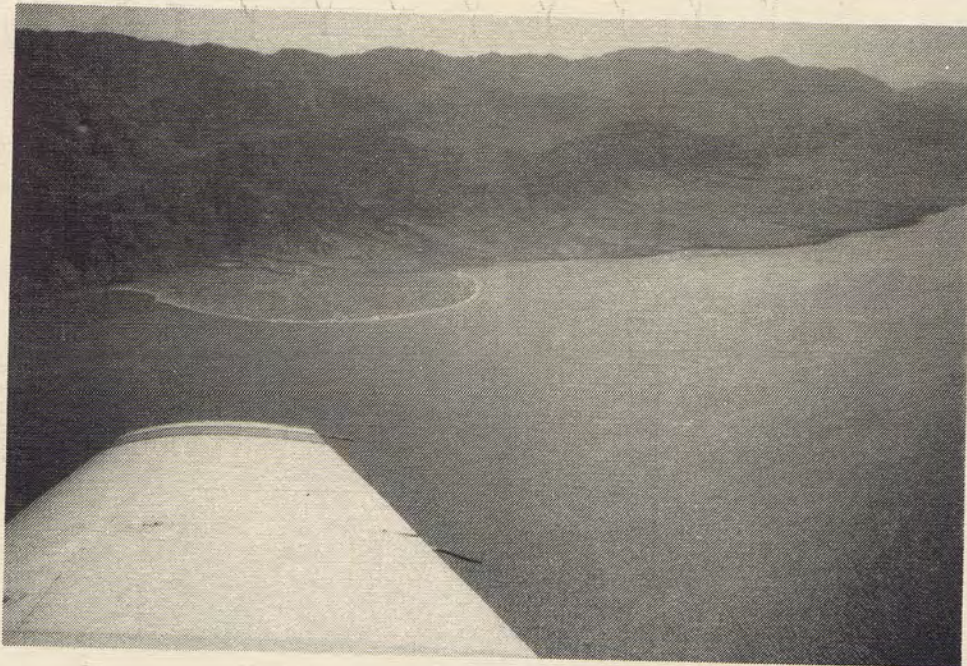
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COVER FAN DELTA BUILT INTO THE INUNDATED LAGUNDA
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PRESIDENT'S MESSAGE

I just read the results of AAPG's random poll to determine how many of their members were unemployed. They list only 30 percent of Jackson's members working with 40 percent unemployed and 30 percent "retired". If you assume AAPG and MGS memberships are comparable, our figures show the situation to be less dramatic with currently over 50 percent renewal of last years members. With renewals still rolling in, hopefully we will retain two-thirds to three-fourths of our former members. Of course this doesn't mean that all of the current members are employed, but at least they are trying to keep in touch with the local industry. I don't know what all of this means, but I will keep you posted as time goes on.

November 30th will be the cut-off date for the 1986-87 membership directory. Please renew before then so you can be included. Also, no December bulletins will be mailed to non-current members. New member and renewal cards are included in this bulletin so please us them.

The November Luncheon meeting will put the double whammy on members stuck on tradition. We won't meet at the normal place or time. We will meet Friday, November 14th at the Holiday Inn Downtown. Parking will be free if you park in the Holiday Inn garage and have your ticket validated at the MGS table when you pay for lunch.

At the October meeting I announced a program to aid and council unemployed or underemployed Geologists. If you or someone you know may be interested, call me for details. This program is currently unused in Mississippi but over 200 Geologists participated in the Denver area earlier this year. This may be just what some people need to tide them over to the next "Boom".

Bob White

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NOON MEETING

FRIDAY, NOVEMBER 14, 1986

Devonshire Room, Holiday Inn Downtown

SPEAKER: Dr. Lawson M. Smith

TOPIC: Geological Investigation of
Bluff Failure at Natchez,
Mississippi

Please notify T.C. Rader (969-3286) of your
attendance so adequate seating can be arranged.



Geological Investigation of Bluff Failure at Natchez, Mississippi

ABSTRACT

by: *Lawson M. Smith*

USAE Waterways Experiment Station

A geological investigation was conducted at Natchez, Mississippi, to determine geological conditions and the erosional processes and failure mechanisms responsible for failure and retreat of the bluff. The bluff at Natchez is composed of the following sequence: a thick deposit of loess and complex fluvial deposit composed of beds of clay, silt, sand, and gravel called the Natchez formation, which is underlain by a hard clay shale called the Hattiesburg formation. Along the length of the bluff at Natchez, the top of the clay shale occurs at elevations between mean low water and mean high water of the Mississippi River. The bluff rises 150 ft. to 200 ft. above the adjacent Mississippi alluvial valley.

Erosional processes and failure mechanisms that are important in causing bluff retreat at Natchez include rotational slumping of various scales, soilfall, soil slide, solifluction, mudflow, and erosion by surface wash. Rotational slumping occurs in the loess, Natchez formation, and Hattiesburg formation. Soilfall and soil slide are restricted to the loess. Solifluction and mudflow occur primarily within the slide debris that mantles the steep bluff slopes. Erosion by surface wash is effective in undercutting slopes and removing slide debris. These erosional processes are all interrelated and any long-term bluff stabilization program must consider the entire spectrum of processes.

GUEST SPEAKER

Dr. Lawson M. Smith

Dr. Smith holds the B.S. from Mississippi State University (1975), the M.S. from the University of Southern Mississippi (1977), and the Ph.D. from the University of Illinois (1983). He has been working as a geologist in the Engineering Geology Applications Group of the Engineering Geology and Rock Mechanics Division since 1979, and has conducted various investigations and research projects in the fields of geomorphology, engineering geology and environmental geology. As Chief of the Engineering Geology Applications Group, he is responsible for the conduct of studies in the areas of regional engineering geology, geomorphology, hydrogeology, sedimentology, and environmental geology. Dr. Smith is a certified professional geologist in the state of Indiana and a member of a number of professional and honorary societies.

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THE LOUISIANA L.E.A.P. LAW

(Or, "Did I hear you say 100% Net Revenue Interest?")

by Michael B. Dudley

On July 10, 1986, Louisiana Governor Edwin Edwards made history by signing into law Act 763 of the 1986 Louisiana Regular Legislative Session. The Act, authored by Senate President Samuel B. "Sammy" Nunez, Jr., is known as the LEAP law. LEAP stands for the Louisiana Economic Acceleration Program. Historically, it is without precedent.

I will quote the most pertinent part of the Act, and I am quite sure that it will surprise (and please) you. "All state natural gas royalties on production from certified LEAP oil and natural gas wells are hereby suspended until January 1, 1990, or until the posted price of West Texas Intermediate, the United States benchmark crude, equals or exceeds twenty-nine dollars and fifty cents per barrel, whichever comes first." You did not read this incorrectly. It means just what it says: Royalties are waived for this period without retroactive liability. This means it is possible to have a wildcat gas prospect on state leases with 100% NRI.

In September of last year, it became apparent to some in the industry that there would be a drastic downturn. While the latter part of 1985 and the first half of 1986 may be bad, the latter half of 1986 and all of 1987, could be a disaster. Louisiana was experiencing the worst unemployment in its history. A quarter of a million people were without full-time employment. It did not appear that things were going to get any better. Although the oil industry is expected to remain a potent economic force in Louisiana, it was recognized that the cyclical nature of the industry leads to drastic periodic swings in the State's economy. Reducing the dependence of Louisiana on the oil industry through economic diversification become imperative.

With the support of the Louisiana Energy Development Commission (which Nunez chairs) and the Governor's Task Force on Natural Gas, as well as the support of many others, the outlines of the program were put together. The first objective was to encourage re-employment of those who had lost their

jobs in the downturn. The second was to minimize the impact of any program legislation on the Louisiana General Fund. The third was to avoid the shutting-in of any gas production due to the "gas glut". The fourth was to assure that revenues generated by the program would forever be dedicated to the economic diversification of the State of Louisiana.

The salient parts of the LEAP law have far-reaching impact on our industry, both on the supply side and the demand side. The Act provides for (among other things):

The suspension of severance tax on both oil and natural gas production from certified LEAP wells.

The suspension of state natural gas royalties from certified LEAP oil and natural gas wells.

The establishment of the Louisiana Economic Diversification Fund.

The dedication of future severance tax revenues and state oil and natural gas royalty revenues accrued from certified LEAP oil and natural gas wells to the Louisiana Economic Diversification Fund.

The establishment of the LEAP Tax Warrant Fund.

As mentioned earlier, this Act will have a great impact on supply and demand. The Act provides for the establishment of the LEAP Tax Warrant Fund. Industries that use LEAP gas will receive a substantial tax credit for the use of this gas. The Act establishes a "base" consumption, which is that particular user's 1985 gas consumption level. Any consumption of LEAP gas above and beyond this "base" will provide tax benefits to that user amounting to five cents per thousand cubic feet of gas used. Tax warrants will be issued to qualified gas users that will allow them to pay taxes to the State or any political subdivision of the State using the warrants. The legislature will appropriate monies from the Tax Warrant Fund to cover the warrant expenses. This part of the Act should provide a powerful incentive for industry to consume LEAP gas.

(continued on page 12)



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As you have no doubt speculated, the utility of this act to our industry hinges on one very important factor: the definition of a LEAP well. The Act, as signed states:

A certified LEAP oil and natural gas well is one designated as such by the Secretary of Conservation after determining that:

- a. The well is a discovery well drilled as a wildcat well or subsequent development well in the same field.
- b. The well was completed between July 1, 1986 and January 1, 1990, or the date on which the posted price of West Texas Intermediate, the United States benchmark crude, equals or exceeds twenty-nine dollars and fifty cents per barrel, whichever comes first.
- c. The drilling operator has certified that Louisiana residents were employed to the maximum extent possible during exploration and production activities in connection with the well.
- d. The drilling operator has certified that, to the maximum extent possible, at least ten percent of the operator's service contracts related to the well have been made available to minority-owned businesses.

A wildcat well is one so designated by the Assistant Secretary of Conservation, drilled in search of oil or natural gas accumulations located in a non-productive area, away from a known productive geological structure. Hopefully, this definition of a "wildcat well" will be interpreted broadly enough to include most of the wells that we in the industry think of as wildcats.

A similar bill, H.B. 1083, was signed into law as Act 673 on July 7, 1986. This Act provides for severance tax exemptions

for certain wells. The first ten thousand barrels of oil produced from a well which is drilled between July 15, 1986 and July 16, 1987 are exempt from the oil severance tax, provided the value of the oil produced (on a monthly basis) does not exceed twenty-one dollars/bbl. This exemption applies to the first fifty barrels of oil produced each day from such a well. This Act, which applies to both development wells and wildcats, will make some "marginal" wells economically feasible.

In conclusion, it is quite clear that the government of the State of Louisiana has made sweeping changes in the taxation and regulation of our industry. These changes will promote both short-term and long-term economic stability for the State, while providing our industry with desperately needed incentives to drill and produce. This author fervently hopes that other states, and the Federal Government, will be as far-sighted and sensible as the State of Louisiana.

Acknowledgment

The author would like to gratefully acknowledge the assistance of Jim Blackwell and Lori Cameron. Jim is currently employed, as a Land Manager with Texoil in Houston, Texas. Lori Cameron is Senator Nunez's Legislative Counsel in Baton Rouge, Louisiana.

Michael B. Dudley, CPL, is currently employed as a Landman in the Continental Division of the Standard Oil Production Company.

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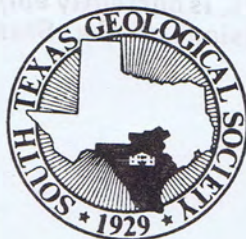
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The report stated that his laboratory analysis estimated 50 per cent of the petroleum from Oil Creek could be distilled into a satisfactory illuminant for camphene lamps. It added that 90 per cent of the oil had commercial application possibilities.

It was upon this report that sufficient interest was aroused to promote the drilling of the Drake well four years later. Eveleth and Bissell paid \$526.08 for the report, which Silliman refused to deliver until the two promoters paid him. The report also accurately forecast the products which would be the backbone of the oil industry 50 years later.

Silliman, a native of New Haven, was a genial, kindly, and industrious man of unquestioned integrity. He graduated from Yale in 1837. In 1854 he succeeded his father in the chair of chemistry at that institution. Previously his scholastic work had formed the nucleus of the Sheffield Scientific School in 1847. Two years later he became professor of medical chemistry at the Louisville Medical College. His lectures on agricultural chemistry at New Orleans in 1845-46 were the first on the subject in the United States.

Silliman proposed fractional distillation of petroleum by "high steam" in 1855. In 1864 in a report for Thomas A. Scott, Pennsylvania Railroad executive, Silliman said oil in California "is struggling to the surface at every available point and is running down the rivers for miles." The report was the foundation of the California Petroleum Company.

Criticism of the report by geologists, J.S. Whitney and W.H. Brewer of California's state geological survey virtually ruined Silliman's career at Yale. In 1892 when Union Oil's famous Adams gusher blew in, Silliman's prophecy was recalled and his good name restored.

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He took his first job at 14 as a barber because he liked the striped pants barbers in Creston wore. By the time he was 24 he owned the town's three barber shops. He had also developed a hair tonic based on rainwater because he observed pigs got a lot of rainwater and had good hair. It made him a small fortune.

When Phillips married the daughter of the local banker, he took out on a horse and buggy trip with his bride selling Chicago Coliseum bonds and made an astonishing \$75,000 in commissions. With this money he went to Oklahoma to take a flyer in the oil business.

He persuaded his brother, L.E. Phillips, to join him in a string of wildcats. The first two were dry. The 'next' 80 hit oil. The Phillips brothers sold out to Tidal Oil Company. Frank retained some unwanted acreage and went into the banking business in 1903 in Bartlesville, Oklahoma. He wanted a nation-wide chain of banks. He soon found that banking in the Bartlesville area extended into oil operations, and his oil operations grew over the years whether he wanted them to or not. His resumed dabbling in oil reached such a magnitude that he again had to make a choice.

In 1917, when the price of oil doubled due to World War I, he went back to his dusty, unwanted acres and hit a gusher on his first try. That convinced him. Frank, in company with his brother, L.E., formed the Phillips Petroleum Company that year. Including themselves, the company personnel totaled 27. Five years later the company had reached unexpected heights. Earnings were \$3 million on gross income of \$12.5 million. The company's assets were \$50 million and Phillips was on its way.

Highly conservative in all of his business undertakings, Frank Phillips was a man of extreme modesty, an unusual trait in his business at that time. He possessed a magnetism and personal charm which constituted one of his most valuable personal assets.

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Volume XXXIV

No. 4

December, 1986



1986-1987

PRESIDENT'S MESSAGE

During the month of December we all tend to look back over the past year and analyze it in hindsight. For many of us, 1986 will be the low-water mark for our careers. Those of us in the oil business are painfully aware of what has happened to our industry and totally frustrated that we could do nothing to stop or even slow down the price collapse. Even the Society members not directly associated with the oil business such as students, University professors, and even some Government workers have experienced the effects of the downturn in one way or another. As I see it, the challenge before us now is to adapt to the new situation as best we can and get back to the business at hand. "Go find that grease!" 1987 is going to be a year of adjustment and adaptation. The rules are not etched in stone but at least our past mistakes are known and can hopefully be avoided in the future. The prospects and investors are out there somewhere, let's go find them!

December 9th we will have an opportunity to learn more about the elusive Black Warrior Basin Project. Dr. Maurice Maylan will give his paper on some recent work in this interesting Paleozoic Basin. We will meet at 11:30 in the Smackover Room at the Petroleum Club.

Congratulations to the Boland Scholarship recipients shown on the cover this month with three of the Scholarship Committee Members. From left to right, we have Kipp Ferns, Julie Cox - Millsaps Recipient; Jennifer Herndon - Ole Miss Recipient; Jerry Zoble, William Sadler - Miss. State Recipient; Tracy Middlestead - USM Recipient, and Steve Oivanki. It is a true honor to receive a Boland Scholarship and we as Society members should be proud to be associated with it. As far as I know, the Scholarships are some of the largest individual geologic scholarships awarded in the Gulf Coast Area. Hats off to Jerry Zoble and the other Boland Scholarship Committee Members (not pictured are Steve Walkinshaw and Harry Spooner) for their time and effort in this most worthwhile project.

Merry Christmas to all and may '87 bebetter!

Bob White
President

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Mississippi Geological Society

NOON MEETING

TUESDAY, DECEMBER 9, 1986

Smackover Room, Petroleum Club

SPEAKER: Dr. Maurice A. Meylan

TOPIC:

**Petrology & Hydrocarbon Reservoir Potential
of Subsurface Pottsville (Pennsylvania) Sandstones,
Black Warrior Basin, Mississippi**

*Please notify T.C. Rader (969-3286) of your
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PETROLOGY & HYDROCARBON RESERVOIR POTENTIAL
OF SUBSURFACE POTTSVILLE (Pennsylvania) SANDSTONES,
BLACK WARRIOR BASIN, MISSISSIPPI

ABSTRACT

by Russell H. Beard & Maurice A. Meylan
University of Southern Mississippi

The Black Warrior Basin of Mississippi and Alabama is a Paleozoic foreland basin developed between the North American craton and the Appalachian and Ouachita orogenic belts. The basin fill consists of a Middle Mississippian to Early Pennsylvania clastic wedge transitional in character between Appalachian molasse and Ouachita flysch. Pottsville (Pennsylvania) sandstones, shales, coals, and thin conglomerates make up the greater portion of the wedge, thickening to 11,000 feet in NE Mississippi. Although the outcropping and near-surface Pottsville is an important source of coal in Alabama, only minor amounts of gas have been derived from the subsurface Pottsville of Mississippi (Clay and Monroe counties). Production from the Black Warrior Basin, mostly gas, is contributed chiefly by Chester (Mississippian) sands and limestones from the shallower part of the basin, especially Monroe County.

Cores of Pottsville sandstones from four wells in the deeper part of the Black Warrior Basin (Calhoun and Choctaw counties) have been examined to determine their petrography, diagenetic history, and reservoir quality. This part of the basin is relatively unexplored, and the primary objective of the study was to determine if suitable hydrocarbon reservoirs are present.

Based on Folk's classification, the sandstones studied are mostly very fine- to fine-grained sublitharenites and litharenites, consisting of about 65%-75% monocrystalline quartz with lesser amounts (6%-8%) of polycrystalline quartz, metamorphic rock fragments (10%-18%), feldspar (2-5%), matrix (2%), and miscellaneous grains (2-4%). The framework grains are interpreted as having an Ouachita provenance area, and probably represent recycled orogenic-belt detritus.

The Pottsville sandstones examined apparently were deposited in a nearshore marine delta fringe environment. Evidence for this includes glauconite, carbonates, and marine invertebrate fossils,

along with plant debris. The original depositional texture has been markedly altered, particularly by "over-compaction" and suturing of quartz grains. Porosity has also been reduced by ductile grain deformation which has contributed to a "pseudomatrix". Partial to complete pore filling in places has been accomplished by silica, calcite, siderite, and chlorite cements. Porosity reduction has been partially offset by dissolution of feldspar and rock fragments, yielding secondary porosity. Measured porosity values range from 1.2 to 14.7%, averaging 7.6%, indicating that reservoir quality is generally poor to fair. In one well there is an obvious increase in porosity (secondary) with depth.

GUEST SPEAKER

Dr. Maurice A. Meylin

Dr. Meylan is an Associate Professor of Geology at the University of Southern Mississippi, where he is also an associated faculty member with the Center for Marine Science. He received his Ph.D. in Geological Oceanography from the University of Hawaii in 1978, an M.S. from Florida State in 1968, and a B.A. from SUNY/Buffalo in 1964. Prior experience includes five years as an exploration geologist with the Offshore Division of Shell Oil in New Orleans, consulting with the Mining Ventures Division of Shell Oil, technical coordination with a manganese nodules industry project for the State of Hawaii, and teaching at the University of Wisconsin--Milwaukee. His current research includes the subsurface geology of the Mississippi Salt Basin and Black Warrior Basin, and Pacific Ocean manganese nodule facies delineation.

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When George H. Bissell, a young New York lawyer, saw a bottled sample of oil from Dr. Francis B. Brewer's Oil Creek farm in the winter of 1853, the first thought of oil for illumination was born.

Brewer had shown the sample to his uncle, Dr. Dixie Crosby, professor of surgery and obstetrics at Dartmouth College. Professor O.P. Hubbard of the Dartmouth chemistry department examined it (but without chemical analysis) and pronounced it valuable, but hardly an article of commerce due to its limited quantity.

Dr. Brewer left the bottle with Dr. Crosby. A few weeks later, Bissell visited the campus of his alma mater and saw the sample. It occurred to him that he could promote a company and obtain a new client for himself and his law partner, J.G. Eveleth. He gave birth to the idea of using petroleum for an illuminant to replace coal oil. Bissell paid the expenses of Dr. Crosby's son, Albert, to Titusville to look over the prospects. The report was favorable and young Crosby returned with an option on 100 acres on the Hibbard farm for \$5000 plus oil rights on an additional 12,000 acres if Bissell and Eveleth would promote a company.

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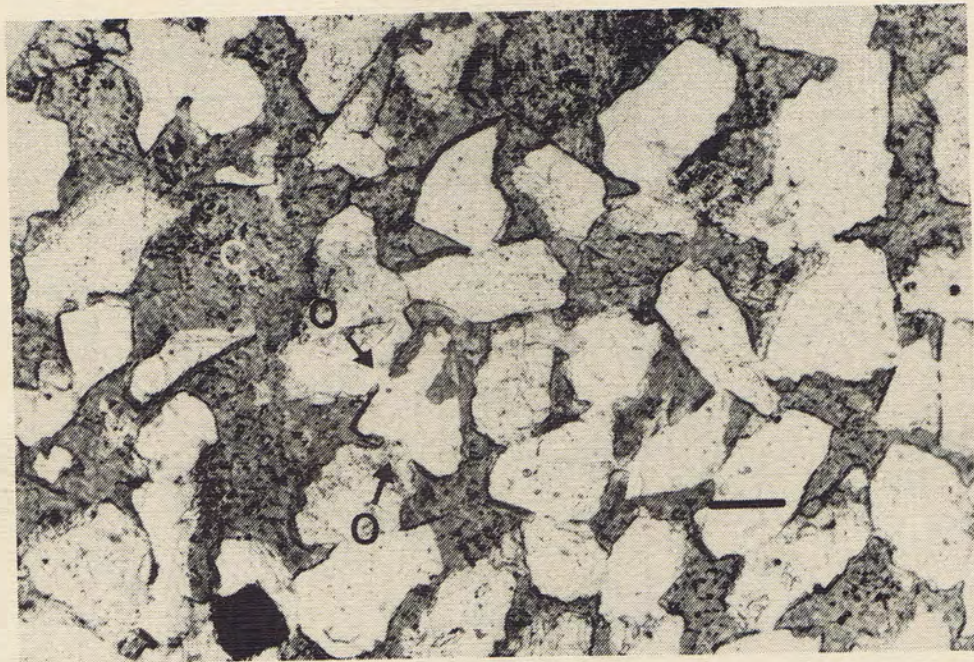


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TUESDAY, JANUARY 13, 1987

Smackover Room, Petroleum Club

SPEAKER: Dr. D. Joe Benson

TOPIC:

Smackover Reservoirs in Southwest Alabama

Please notify T.C. Rader (969-3286) of your attendance so adequate seating can be arranged.



Smackover Reservoirs in Southwest Alabama

D. Joe Benson
Department of Geology
University of Alabama

ABSTRACT

One of the major problems encountered during exploration for hydrocarbons in the Smackover in southwestern Alabama is delineation of reservoir trends within the unit. Unlike Smackover reservoirs in Arkansas, Louisiana, and Mississippi, which are dominated by primary interparticulate porosity, Smackover reservoirs in southwestern Alabama are complex and include significant amounts of secondary porosity which does not correlate with primary depositional facies. Thus, delineation of reservoir trends depends upon a thorough understanding of both depositional and diagenetic controls on porosity development.

Smackover reservoirs in southwestern Alabama can be divided into 3 general classes: interparticulate-moldic reservoirs, intercrystalline dolomite reservoirs, and vuggy reservoirs. Interparticulate-moldic reservoirs occur in a narrow band that parallels and lies 10-20 mi. downdip of the updip limit of the Smackover. Porosity consists of small amounts of interparticulate and moderate amounts of fabric selective moldic (ooidic or pelmoldic) porosity. Interparticulate-moldic reservoirs are characterized by moderate to high porosities (10-20%) but relatively low permeabilities (5-10 md) unless the lithology is dolomitized. These reservoirs may have significant amounts of microporosity which can affect water saturation evaluation. Intercrystalline dolomite reservoirs are common along the updip limit of the Smackover and across prominent paleohighs such as the Conecuh Ridge and the Wiggins Arch. Reservoirs possessing only intercrystalline porosity have low porosity (6-8%) and variable permeability and are rarely productive unless

fractured. Vuggy reservoirs are also common across paleohighs or along the updip margin and represent the nonfabric selective enlargement of interparticulate, moldic, or intercrystalline porosity. They are characterized by good porosity (10-20%) and permeability (10-100 md), but can possess large amounts of microporosity.

GUEST SPEAKER

D. Joe Benson
1512 Briarcliff
Northport, Alabama 35476

Education

B.A. College of Wooster
M.S. University of Cincinnati
Ph.D. University of Cincinnati

Work Experience

1973-1978 - Research Geologist, Ohio Geological Survey
1978-Present - Assistant to Associate Professor,
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W. SCOTT HEYWOOD (1872-1951)

Louisiana's first oil discovery was made by W. Scott Heywood, six miles notheast of Jennings on September 21, 1901. The well was drilled by the Heywood brothers in the name of the Jennings Oil Company; both company and well were largely promoted by Scott Heywood.

Heywood was a trumpet player, one of five theatrical brothers who were sons of a college professor. He was born in Cleveland, Ohio, while his father was president of Hiram College. Scott Heywood started his career as a newsboy but also worked spare time in a bakery and a soda water plant to help make ends meet when his father died in 1888.

His first interest in oil occurred in Florence where the Heywood brothers were playing a concert during the oil boom there in 1893. He soon moved to California, where he pursued his oil activities, but was diverted by an adventure into the Klondike.

The gold fever finally wore off in Alaska and Heywood returned to California. He was there when he read of the Spindletop strike and rushed to Beaumont. He arrived the day the famous Lucas Gusher was controlled. He became associated with a driller named Dobbins and a capitalist named W.C. Tyrrell. He obtained leases and drilled the largest producer ever brought in on Spindletop hill.

Shortly after that a group of Jennings businessmen contacted Heywood and told him they would form the Jennings Oil Company, give him a quarter interest, and give the drilling contract to his own firm if he would drill. Their enthusiasm was based on gas seeps.

Heywood agreed and took the contract to drill two 1000-foot wells. When the first well was dry at 1000 feet, he chose to start the second well at the bottom of the first. His associates objected, but he insisted. It was a good decision. He hit oil at 1800 feet and opened Louisiana production.

Scott Heywood died during the golden anniversary of his beloved Spindletop and was unable to attend the celebration. The State of Louisiana has memorialized his achievement with a historic marker.

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JOSEPH STEPHEN CULLINAN (1860-1937)

They call him "Buckskin Joe." His name was Joseph Stephen Cullinan. Most oilmen consider him the father of the Texas oil industry.

There was no oil industry in Texas before 1897. Cullinan was practically shanghied in Dallas by a group of leading citizens. He was prevailed upon to go to Corsicana and the newly, accidentally discovered oil field to bring some kind of order into what promised to be a new and exciting industry.

Cullinan accepted the challenge. He went to Corsicana, the first commercial oil producing field in the state, and created a total industry with production, refining, transportation, and marketing.

His J.S. Cullinan & Company at Corsicana became the foundation of the Magnolia Petroleum Company, later absorbed into Mobil Oil.

The day after the Lucas Gusher came in at Spindletop, Cullinan was on the ground. He was the primary founder of Texaco, a company he headed in its formative years.

Cullinan was a daring, restless man of unlimited ability. His greatest asset was his boundless optimism. He had a formula for mixing caution with boldness that was unrivaled. Many regarded him as an industrial genius. He was tall, handsome, and distinguished; his magnetic personality commanded attention wherever he went.

Joe Cullinan was born in Sharon, Pa., on the last day of 1860. He went to work for Standard Oil as a laborer when he was 21. He was a gang pusher at 22. Before he left Standard he was in charge of its natural gas interests.

It was the friendships he gained at Standard, particularly those of Calvin Payne and Henry C. Folger, that helped him start the Texas oil industry in Corsicana.

If any single individual may be called the founder of Texaco, that man was J.S. Cullinan. He was one of the first to see the possibilities of the ownership of crude oil reserves in the prolific fields being discovered in Texas and Louisiana as a basis on which to build and compete successfully with the Standard Oil Company. As Texaco's first president, he was active on all fronts. He handled sales in the South and West, he built Texaco's first bulk plant (Laredo, Texas, 1905), and he organized its central sales division (1907). Cullinan early recognized the importance of nationwide marketing, and he was largely responsible for Texaco's first moves toward coast-to-coast marketing backed by consistent advertising.

POSITIVE THOUGHT FOR THE MONTH

For our positive thought for the month let's look at the numbers on a couple of deep gas wells.

The first is the Sonat Exploration Co. #4 Hart at West Sandy Hook Field in Marion County.

The well was completed in February, 1982. Thru July, 1986 it had cumulative production of 9 BCF. It made 2.5 BCF the first 7 months of 1986. That is about 12,000,000 cubic feet per day.

The well cost about \$2,200,000 to drill and complete.

Assuming \$1.50 per MCF, 20% royalty, 6% severance tax and current producing rates and well pays out twice a year.

I don't have any reserve numbers but they must be huge. The well has already produced 9 BCF and there is no indication of decline.

The other well is the Proper Energy Corp. #1 Williams 23-10 in Poplarville Field in Pearl River County.

It was completed in September, 1985 and went on production in October, 1985.

It produced nearly 700 million cubic feet last year and about 1.8 BCF the first seven months of 1986 for cumulative production in 10 months of 2.5 BCF. It currently produces over 8 million cubic feet per day with no indication of decline.

Completed well cost in Poplarville are about \$2.5 to \$3,000,000.

Again assuming \$1.50 per MCF, 20% royalty, 6% severance tax the well paid out in 10 months.

I don't have pressure or reserve data but reserves here must be very large also.

With wells that pay out multimillion dollar costs in 6 to 10 months and eventual returns that probably exceed 10 to one why can't we sell some deep Mississippi gas prospects. Where else in the world can investors get returns like these?

Harry Spooner

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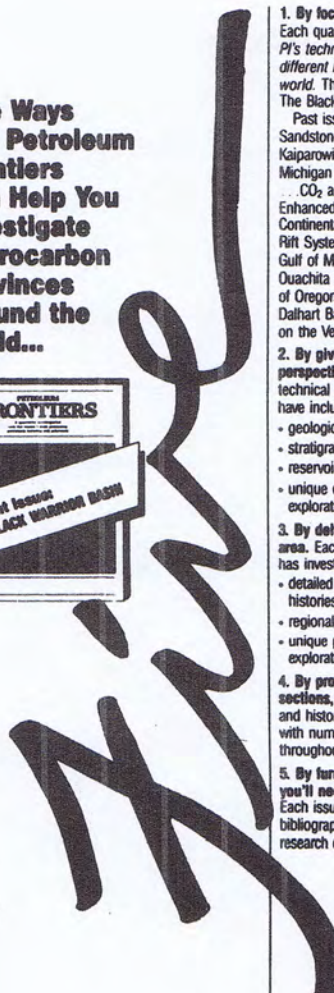


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COVER Outcrop of the Fluvial Torrvio Member of the Gallup Sandstone. Interpreted as braided stream deposition.

PRESIDENT'S MESSAGE

As a follow-up to January's talk, Fred Meendsen from the L.S.U. Basin Studies Group will give his talk February 10th on the Smackover of South Mississippi. Following Joe Benson's talk last month on the Alabama Smackover, we will all be Smackover experts before this summer. Of course we will meet in the Smackover room!

Those of you still in school may want to make a special effort to visit with Fred. He is somewhat of a rarity in that he recently graduated in geology and found a job doing geology as opposed to selling shoes or hamburgers. I do not know what his secrets are but you may want to ask him.

As announced at January's meeting, Volume III of the "Redbook" is completed. Fifty-seven new fields or updates are included spanning a cross-section of producing areas in Mississippi and Alabama. Stan Galicki did an outstanding job as editor and I take this opportunity to thank him for the tremendous effort and dedication he exhibited throughout this monumental task. Volume III may be ordered from Earth Enterprises, Inc., who handles the sales of all other M.G.S. materials. The price is \$50.00 and an Earth Enterprises order form is located in this bulletin. They have not updated their order form yet so you will have to specify "Volume III" on your order.

As I write this, the price of oil is still climbing. Let's all keep our fingers crossed that it stays up!

Bob White
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NOON MEETING

TUESDAY, FEBRUARY 10, 1987

Smackover Room, Petroleum Club

SPEAKER: Fred Meendsen

TOPIC:

**Upper Jurassic Stratigraphy, Porosity Distribution, and
Hydrocarbon Potential of Southeast Mississippi**

*Please notify T.C. Rader (969-3286) of your
attendance so adequate seating can be arranged.*



UPPER JURASSIC STRATIGRAPHY, POROSITY
DISTRIBUTION, AND
HYDROCARBON POTENTIAL OF SOUTHEAST
MISSISSIPPI

Abstract

Upper Jurassic deposition in southeast Mississippi was controlled by preexisting basement configuration, eustatic sea level fluctuations, salt tectonism, and subsidence. Facies patterns indicate the presence of an updip platform, a restricted interior basin with local salt-generated topography, and a downdip basement island complex.

Lower Smackover mudstones and wackestones were deposited across the basin in response to an initial rapid marine transgression, while eolian sandstones accumulated on the eastern end of the Wiggins Uplift. Salt movement was initiated during lower Smackover deposition and influenced upper Jurassic sedimentation and diagenesis. A high energy, open carbonate platform was established updip as sedimentation kept pace with slowing relative sea level rise and subsidence during upper Smackover deposition. A continuous platform margin buildup was not present. Local shoals developed on the crests of salt-cored highs within the basin, while a moderate energy shoal complex was initiated on the Wiggins Uplift as the structure began to subside. A sea level lowstand and subsequent slow rise resulted in a lower Haynesville sabkha-tidal flat, and later a moderate energy shoal complex, on the platform and on local salt highs within the interior basin. Evaporitic mudstones were generally deposited off structure. A fringing shoal-lagoon complex developed on the Wiggins Uplift and evolved into shoals capping the structure by the end of lower Haynesville deposition. Upper Haynesville clastics subsequently prograded across the basin in response to a sea level standstill and tectonic rejuvenation.

Most hydrocarbon production occurs from limestone porosity in upper Smackover platform carbonates.

Northern zone secondary porosity characterizes updip areas of the platform, while primary preserved intergranular southern zone porosity is dominant downdip. Moldic, vuggy, and intercrystalline dolomite porosity dominates near the Smackover updip limit, on the crests of salt highs within the interior basin, and on the Wiggins Uplift. Upper Jurassic reservoir rocks are locally sourced from lower Smackover laminated mudstones. Salt-cored anticlines are the most common trap type.

A large potential Norphlet-Smackover gas play extends along the southern flank of the Wiggins Uplift. Many salt anticlines within the interior basin may be underdrilled and remain viable targets. Small discoveries should continue from stratigraphic traps, subtle salt structures, and basement blocks on the platform.

GUEST SPEAKER

Fred Meendsen received his B.A. in geology from Colgate University in May, 1982 and subsequently entered the master's program at Louisiana State University. Fred's summer experience with Franks Petroleum (Shreveport, LA) and Phillips Petroleum (Bartlesville, OK), as well as his academic work at LSU, has largely concentrated on the Mesozoic of the Gulf Coast. Fred recently defended his thesis on upper Jurassic stratigraphy, porosity distribution, and hydrocarbon potential of southeast Mississippi and is presently with the Basin Research Institute at LSU, continuing work on upper Jurassic depositional and diagenetic systems of the eastern gulf.

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Endowment Started In Blanton's Name

An endowment in memory of longtime AAPG member Sankey L. Blanton, Jr. has been established at the University of North Carolina.

A member of AAPG for over 25 years, Blanton served as an AAPG Distinguished Lecturer in 1976-77 and was the principal speaker for the 1977 Offshore Technical Conference in Houston. At the time of his death in 1978 he worked for Sunmark Exploration Co. in Irving, Texas.

In keeping with his lifelong interest in professional education and geological oceanography, Blanton's family chose to establish a fund for a lectureship in oceanography at UNC, where he complete a bachelor's degree in geology in 1948.

Contributions may be sent to the Sankey L. Blanton Jr. Lectureship Fund, c/o Office of Development, The University of North Carolina at Chapel Hill, P.O. Box 309, Chapel Hill, N.C. 27514.

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PATTILLO HIGGINS (1863-1955)

Had there been no Pattillo Higgins it is reasonable to guess that the liquid fuel age would have been delayed many years.

Higgins was a self-educated son of a gunsmith. He dropped out of school in the earliest grades and became a logger in the timberlands of southeast Texas.

A leading lumberman in his hometown of Beaumont, Texas, recognized Higgins as an unusually intelligent and determined young man. He helped Higgins form a company for the express purpose of drilling for oil on Spindletop mound. Higgins said he would find wells that would produce "tens of thousands of barrels of oil daily." The leading geologists, oil experts, and governmental people scoffed at his claims.

Higgins, a self-trained geologist, draftsman, engineer, inventor, and promoter, was finally thwarted after almost ten years of trying to get a proper well drilled at Spindletop. Then he asked for one more chance, ran an advertisement in an engineering journal, and attracted Captain Anthony F. Lucas to Beaumont. Lucas, after one failure, finally succeeded with the backing of the Mellon Brothers through Guffey and Galey. But Higgins had been dropped from the project by that time.

It was the dogged persistence of Higgins that kept the interest in Spindletop alive even when his own state geologist warned Beaumonters "not to fritter away your hard earned dollars in the vain hope of finding oil near Beaumont." He also withstood the Standard Oil experts' warning that there would "never be a drop of oil produced from the unconsolidated sands of the Texas Gulf Coast."

With Drake, Joiner, and D'Archy, Higgins is one of the four important prophets of petroleum.

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WILLIAM BARNSDALL, SR. (1810-1902)

William Barnsdall, Sr. drilled the second oil well on Oil Creek after the Drake well and built the first refinery in the oil region. Among his other noteworthy accomplishments in the early petroleum history was the discovery of the first oil in commercial quantities in the famous Bradford Field.

A native of Biggleswade, Bedfordshire, England, William Barnsdall arrived in New York when he was 21, after learning the shoemaking trade in his native country. Two years later, in 1833, he migrated to Titusville, Pennsylvania, where he established his own shop. Prior to the discovery of oil near Titusville in 1859, Barnsdall had become a prominent shoe and boot manufacturer in Titusville.

After the Drake well came in, Barnsdall obtained a lease on the Parker farm and began drilling immediately. Before the well was completed he sold half interest in it for \$10,000 to William H. Abbott. Barnsdall was not discouraged when his well failed to hit oil in the first sand. He simply announced that "It's a long way from the bottom of that hole to China and I'm bound to bore for tea leaves if we don't get grease sooner." The well required three months to drill to 112 feet. It came in as a 25-barrel producer. The oil sold for \$10 barrel. Barnsdall's next important venture was to go back to a location offsetting the Drake well on the Leslie farm and bring in a 140-barrel well.

Barnsdall and his partner Abbott were joined by James Parker, on whose land they found their first oil, to build the first refinery on Oil Creek in 1860.

In 1878 Barnsdall was overwhelmingly elected mayor of Titusville. At the next election in 1880 he was also made city treasurer. He served in these capacities with distinction for several terms before retiring from public life.

He was the father of another famous oilman, Theodore N. Barnsdall, who founded what is today the Sunray DX Oil Company.

POSITIVE THOUGHT FOR THE MONTH

The most important thing that has happened for the U.S. domestic oil industry in over a year happened a few weeks ago when OPEC reached a permanent agreement to cut production and fix its price at \$18 per barrel. About three months ago I mentioned that a former ambassador to Saudi Arabia said that there was a 90% chance this would happen. He was right on the money. He also gave 50% odds that OPEC could make it stick.

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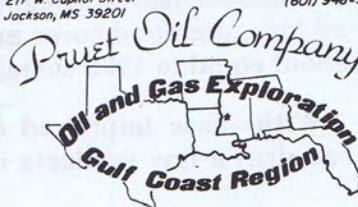
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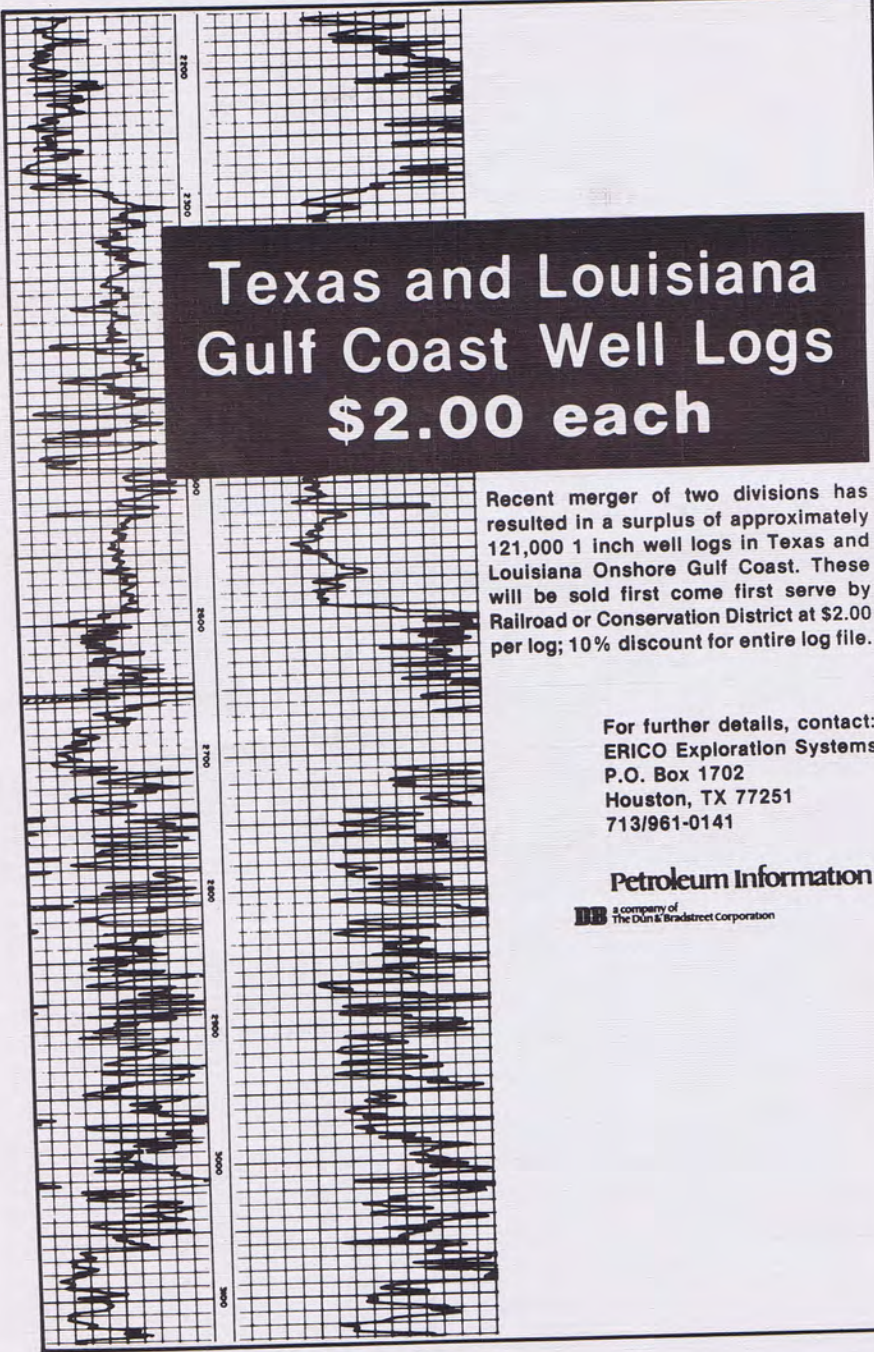
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COVER Aramco executive staking location for possibly yet another billion barrel find.

PRESIDENT'S MESSAGE

If you attended February's luncheon, you are aware of the local "political" interests at work which have begun to directly affect most of us as geologists. While M.G.S. is not a political organization, it seems that in the last few years several issues have necessarily been addressed by the society for the protection of its members. Last year M.G.S. was represented before the Mississippi Oil and Gas Board regarding the Rule 24 Amendment on required well logs and information. This matter is currently unsolved. Presently, the Society is addressing through the Mid-Continent Oil & Gas Association a proposal to rewrite Rule 63 primarily governing disposal and injection wells in an effort to grant the State Oil & Gas Board primacy in such matters over the E.P.A. M.G.S. is also addressing the Oil and Gas Board directly regarding their new rules on access to well logs and other state records. Also, due to the concerns of some of our members, the effort to consolidate the Bureau of Geology and the Bureau of Land and Water Resources has been temporarily abandoned. While this may come up again, the Legislature, due to our concern, decided it needed more study and consideration. As always, any comments any of you have regarding these matters or others that may effect the Society are always welcome. Just give me or any of the other officers a call and let's talk about it. As a group, you may be surprised how effective we can be in voicing our opinions.

Our March meeting will feature Arthur Cleaves and David Bat from Oklahoma State talking on the Black Warrior Basin. Registration will begin at 11:30 a.m. in the Petroleum Club. Come and bring a friend!

Bob White
President

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NOON MEETING

TUESDAY, MARCH 10, 1987

Smackover Room, Petroleum Club

SPEAKERS:

Arthur W. Cleaves
and David Bat

TOPIC:

Subsurface Terrigenous Clastic Depositional
Systems and Diagenesis of the Chester Group,
Northern Black Warrior Basin,
with emphasis on the Lewis and Evans Sandstones

*Please notify T.C. Rader (969-3286) of your
attendance so adequate seating can be arranged.*



ABSTRACT

SUBSURFACE TERRIGENOUS CLASTIC DEPOSITIONAL SYSTEMS AND DIAGENESIS OF THE CHESTER GROUP, NORTHERN BLACK WARRIOR BASIN, WITH EMPHASIS ON THE LEWIS AND EVANS SANDSTONES

Arthur W. Cleaves * and David Bat *

Deltaic depositional systems of the Chester Group on the Northern Shelf of the Black Warrior Basin produce natural gas and a minor quantity of oil from 12 Upper Mississippian reservoir units. Within the Chester, four major genetic sequences, each containing 3 to 5 discrete lobes, have been mapped throughout northeastern Mississippi and northwestern Alabama. These sequences include: (1) the lobate and elongate river-dominated Lewis System, (2) cusped and strike-elongate wave-dominated Evans and Hartselle Systems, (e) river-dominated elongate and lobate deltas of the Muldon Complex (Rea, Abernathy, Sanders A and B, Carter A and B, and "Millerella" Sandstone) and (4) the hybrid high-constructive deltas of the supra-"Millerella" Limestone Gilmer and Coats Systems. The best gas production is obtained from channel-mouth bar and bar finger deltaic facies in Mississippi and from marine reworked Carter sandstone bodies deposited on the poorly compactible upper ramp carbonates of the Alabama Bangor shelf margin.

Chester cratonic deltas responsible for the hydrocarbon production in the Black Warrior Basin prograded southeastward on the stable Northern Shelf from a Mid-continent, non-orogenic source area. A small sub-basin centered in southern Lamar and southern Monroe Counties developed after deposition of the Lewis Interval and served as the site of accumulation for the "Neal" Black Shale. This basin controlled the down-dip progradation of the Evans and Hartselle deltas and developed concurrent with the sub-"Millerella" Bangor Carbonate Ramp. Subsurface evidence for a northerly cratonic source for all of the Chester producing units include (1) a tendency for most of the sub-"Millerella" reservoir sandstone units to thicken northwestwardly to erosional truncation, (2) thickening of the total Tusculumbia-"Millerella" Limestone isopach interval toward the northwest, and (3) the presence of a north-south oriented Carter channel in the Beans Ferry Field of Itawamba County that incises and removes most of the underlying Bangor Limestone.

Limited petrographic evidence from the Lewis and Evans sandstone units associated with the dominant subsurface deltaic facies tract demonstrates a dominance of monocrystalline quartz and chert rock fragments, as well as an absence of abundant orogenic lithologic indicators such as polycrystalline quartz grains and metamorphic rock fragments. Porosity development in the two sandstone units results largely from the development of moldic secondary porosity and enlarged intergranular porosity.

.....
* Department of Geology, Oklahoma State University, Stillwater, Oklahoma 74078.

Primary porosity within these quartz-arenite and sublitharenite sandstones is occluded by the development of quartz overgrowths and early calcite cementation. Secondary, moldic porosity was generated through the dissolution of feldspars, shale rock fragments, and rare phyllite rock fragments. Enlarged intergranular porosity resulted from the dissolution of detrital illite matrix. Secondary porosity is partially occluded by authigenic kaolinite and illite and by the formation of late stage pyrite and dolomite.

GUEST SPEAKERS

Arthur Cleaves received his geological training at Brown University (B.A.) and at the University of Texas at Austin, (M.A., 1971; Ph.D., 1975). In 1969, he began his geological career with a summer exploration position with the Shell Oil Company in Midland, Texas. Later he worked as a Research Scientist Associate for the Texas Bureau of Economic Geology (1975-76). From 1976 to 1979 he worked as an Assistant Professor of Geology at the University of Mississippi (Oxford) and subsequently was appointed a Research Assistant Professor with the Mississippi Mineral Resources Institute. In the Fall of 1981, Dr. Cleaves took a position in the Geology Department at Oklahoma State University, where he is now an Associate Professor. He teaches courses in Stratigraphy, Sedimentology, Clastic Depositional Systems, and Subsurface Geologic Methods.

Dr. Cleaves is a member of AAPG, GSA, SEPM (National, Mid-Continent and Gulf Coast Sections), Mississippi Geological Society and the Oklahoma City Geological Society. His current research interests include (1) Paleocene-Eocene depositional systems and lignite resources of Mississippi, Tennessee, and Arkansas (Wilcox Group), (2) regional stratigraphy, surface and subsurface, of the Chester and Pottsville Groups in the Black Warrior Basin, (3) subsurface depositional systems in the Strawn and Canyon Groups of North-Central Texas, and (4) subsurface Pennsylvanian stratigraphy of the Arkoma Basin in Oklahoma.

David Bat attended the University of Mississippi (1981-1983) and completed his Bachelor of Science degree in Geology at the University of Oklahoma (May, 1985). He is currently a graduate student at Oklahoma State University and his thesis study concerns a subsurface facies analysis of the distribution, depositional environment(s), and diagenetic overprint of the Lower Chester Evans and Lewis Sandstones in the Black Warrior Basin. He began his geological career in 1985 with a summer exploration position with Browning and Welch, Inc. in Jackson, Mississippi. He has since worked in the Jay Trend of northwestern Florida and the South Florida Basin for Chevron U.S.A. Inc in the summer of 1986. He is anticipating employment with Chevron U.S.A. Inc. in New Orleans, Louisiana upon completion of his Masters degree in May, 1987.

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LAFAYETTE GEOLOGICAL SOCIETY SPRING FIELD TRIP

"Sequence Stratigraphy of the Uppermost Cretaceous and Paleogene of the Alabama/Western Georgia Coastal Plain"

Field Trip Leaders: Peter R. Vail, Maurice Ewing Professor of Geology, Rice University

Gerald R. Baum, Research Director, ARCO Oil and Gas Company

assisted by: Arthur A. Donovan and Tom S. Loutit, Exxon Production Research Company
Ernest A. Mancini, Alabama State Geologist

organizers for the L.G.S.: Robert L. Tabbert, Shaw Resources, Inc.
Brian E. Lock, University of Southwestern LA.

Sequence stratigraphy is a new way to group rocks into chronostratigraphically constrained genetic intervals, introduced by Peter Vail and his Exxon co-workers (AAPG Memoirs 26, 29 and 39). The technique has revolutionized the way sedimentary rocks are subdivided, correlated and mapped, particularly by means of seismic stratigraphic recognition of unconformities and other key seismic facies. The sequences thus identified have predictable stratal patterns and facies, can be recognized in outcrop, on well logs and (if thick enough) on seismic lines, and correlate throughout basins. Indeed, since many sequences are believed to relate to eustatic sea level cycles, they may correlate on the global scale.

Many basic aspects of this powerful new tool for the explorationist will be discussed and demonstrated on the field trip. Eustatic sea level changes may be interpreted from the unconformities, condensed sections and other stratal relations exposed in excellent outcrops in quarries and cliff sections in the beautiful scenery of the region.

The field trip will start and end in Mobile, Alabama. The field trip fee includes guide book, evening lectures on Wednesday, transportation Mobile to Mobile, liquid refreshments, breakfast and lunches. Participants will be responsible for their own dinners and lodging. Group reservations have been made at the hotels.

Dates: Wednesday, April 29, meet in Mobile airport at 4:00 p.m. Return to Mobile Sunday afternoon by 5:00 p.m.

Fee: \$95.00 per person, payable to "Lafayette Geological Society."

To Register: Write to Brian Lock, Geology Department, Box 44530, USL Station, Lafayette, LA 70504. Phone: (318) 231-6823.

REGISTER EARLY: Numbers will be strictly limited to one busload and enrollment will be closed when 40 participants have registered.

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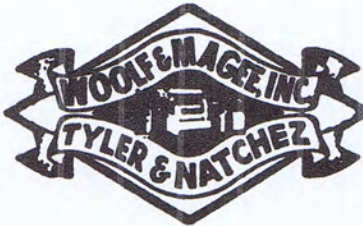
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Richard R. Priddy Endowment

An endowment in memory of Richard R. Priddy, has been established at Millsaps College.

Dr. Priddy, geologist, professor, and educator established the Department of Geology at Millsaps in 1946. He served as Chairman of the Department until 1972 when he took an early retirement and moved to Indianapolis. Prior to his coming to Millsaps he had worked for the Mississippi State Geological Survey and also in the petroleum industry with Texaco.

Dr. Priddy is well deserving of being honored and by so doing will keep the Department of Geology at Millsaps College strong and better serve the community.

The endowment would serve to upgrade and maintain equipment, sponsor speakers, provide for better faculty salaries, provide geology awards to students to help defray summer field course expenses, and to consider scholarships for junior and senior geology majors.

Contributions may be sent to Millsaps College - Richard R. Priddy Endowment Fund, Jackson, Mississippi 39210.

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AAPG NOTICE CHANGE

ANNUAL CONVENTION

JUNE 7 - 10, 1987

AMERICAN ASSOCIATION OF PETROLEUM
GEOLOGISTS

HOST: PACIFIC SECTION

Housing and Advance Registration is now open for the 1987 AAPG Annual Convention, to be held in Los Angeles, California, June 7-10, 1987. The annual meeting of AAPG's Divisions — SEPM, EMD and DPA will be held in conjunction with the meeting. The technical program will include over 500 papers presented in both oral and poster sessions.

Reservations must be made through AAPG on the official registration form available from AAPG, P. O. Box 979, Tulsa, Oklahoma 74101, 918-584-2555.

During the meeting, the services of an Employment Interviews Center will be available to facilitate arranging interviews between applicants and potential employers. If you are interested in this service contact: UNOCAL, P. O. Box 7600, Los Angeles, California 90051, telephone 213-977-7929.

The AAPG headquarters hotel will be the Westin Bonaventure, and the SEPM headquarters will be the Hyatt Regency Los Angeles. Technical sessions, exhibits, and our headquarters office will be at the Los Angeles Convention Center.

A supply of convention announcements are being mailed to society presidents for distribution at your upcoming meetings.

If you need additional information about the convention, please contact the AAPG Headquarters, P. O. Box 979, Tulsa, Oklahoma 74101, telephone 918-584-2555.

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Lecturer: Mr. Jerry H. Bartley — Midland, Texas

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Place: **Regency Motor Hotel**

Date: **Wednesday, March 25, 1987**

Registration Fee should be paid before March 15, 1987

Included is coffee-break refreshments and lunch.

NOTICE

Course is open to the public

CONRAD SCHLUMBERGER (1878-1936)
MARCELL SCHLUMBERGER (1884-1953)

Conrad and Marcel Schlumberger, born in Guebwiller province in Alsace, combined their genius to give the marvel of electrical logging to the petroleum industry. Surely, no one will dispute that without electric logging a large portion of the world's petroleum probable would still be undiscovered.

Conrad, and later Marcel, left his hometown then under German occupation, to receive his education in France. The older brother spent some time with the government Administration of Mines and in 1907 became Professor of Physics at the School of Mines. Here he began his experiments in using surface electrical measurements to study subsurface conditions, thus originating a new branch of geophysics. By 1913, with E.G. Leonardon, who had joined in the studies, Conrad had used his techniques to find an important copper deposit in Serbia. World War I caused suspension of their efforts.

Marcel, meanwhile, had completed his studies in engineering and had established himself as a successful technical consultant. Then military service temporarily suspended his career, too.

In 1919, after the war, Marcel joined Conrad and Leonardon and their electrical geophysical efforts were continued. There were some outstanding successes, such as outlining the Arcesti salt dome in Romania in 1925. However, the history of that period is marked much more by scientific than economic successes throughout Europe and Africa. During this period, in 1926, H.G. Doll, present Chairman of the Board of Schlumberger Limited joined the company, which had just become Societe de Prospection Electrique.

Then — as a means to aid their surface explorations — the group decided to measure the resistivity of the underground formations by lowering instruments into core holes. Credit for this first electric log goes to H.G. Doll at Pechelbronn, France, on a bleak September day in

1927. Almost immediately the group saw the vast possibilities of this technique — but, alas, not the mining or the oil industry.

There were to be some lean years before the oil industry, first in Venezuela and then throughout the world, realized electric logging's full potential. Not until 1934 was the business considered stable enough to organize as Schlumberger Well Surveying Corporation, which was then to grow by leaps and bounds to become a major service company of the oil industry.

Both Conrad and Marcel were men endowed with solid knowledge, good judgment, curiosity, imagination, daring and perseverance. Conrad, the philosopher of the two, was a physicist and miner. Marcel was a mechanical wizard.

The oil community in 1941 recognized the brothers' contribution by awarding them the coveted Lucas Medal. The accompanying citation read in part, ". . . the services and methods originated by them have substantially changed producing practices . . . have become one of the most important tools of the engineer studying subsurface geology . . . have revolutionized the ideas of engineers as to underground formations."

-18-

barrels per day compared to 10 million barrels in 1980. That is a decline of 800,000 barrels per day. The average decline on an annual basis was much less because the decline accelerated as the year progressed.

The December numbers are estimates because state conservation agencies' reports to DOE are about four months old. But the estimates are probably overly conservative. Regarding the estimates DOE says, "During 1986 the accuracy of the estimates deteriorated as actual production declined more rapidly than the estimation procedure predicted." Thus we probably lost nearly one million barrels per day of domestic production in 1986. If

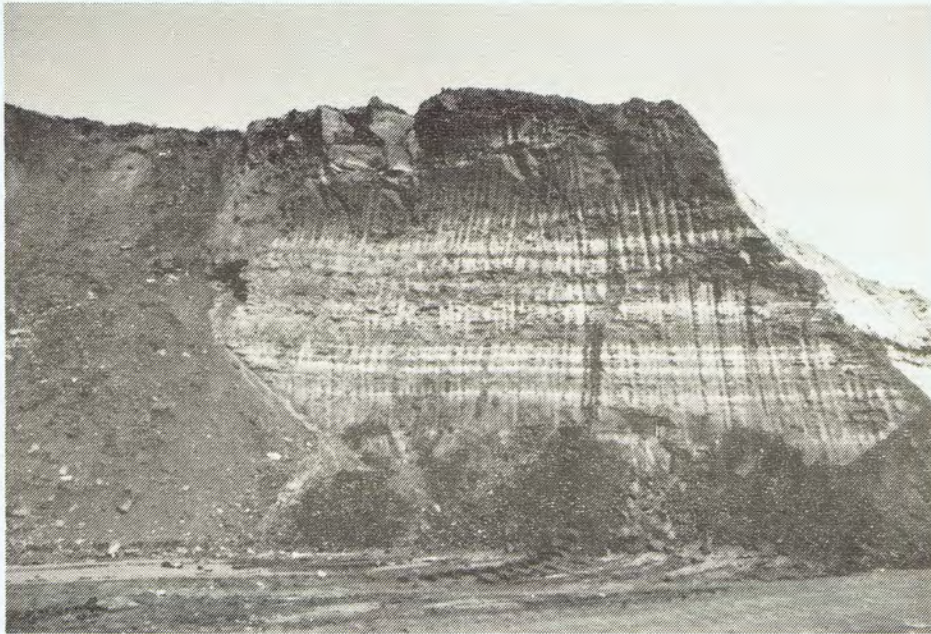


MISSISSIPPI GEOLOGICAL SOCIETY

Volume XXXIV

No. 8

April, 1987



1986-1987



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COVER Athabasca Tar Sands exposed in a bucket wheel cut, Suncor mine, located 40 miles north of Fort McMurray, Alberta. Exposed is the middle member of the Lower Cretaceous McMurray Formation. It takes 2 tons of oil sand to produce one barrel of oil.

PRESIDENT'S MESSAGE

The April Luncheon Meeting will be important. Not only will we have a good speaker, but there is some important business to discuss. Our speaker will be Mario Caputo from Mississippi State University. We always welcome speakers from our "local" universities so hopefully we will have good turnout.

The business to be discussed covers several areas. First, the nominees for next years officers will be announced. The voting will be done by mailed ballots you will receive following the meeting. The results of the election will be announced at the Spring Fling in May. Also, we hope to have on hand a copy of the updated bylaws being proposed. I think there may have been some misunderstanding of this proposal when it was mentioned at the March meeting. No major changes are being proposed. The bylaws have not been officially changed to reflect the standard operating procedure for the Society in the past several years. The rewording of several sections is needed to be consistent with the actual operations of the Society for the past five or more years. Technically, we have been operating outside of the present bylaws and that needs to be corrected. A ballot to vote on these proposed revisions will be included with the mailed out new officers ballot. Also, we will report on the Oil and Gas Board log and data access situation.

See you April 14th.

Bob White
President

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NOON MEETING

TUESDAY, APRIL 14, 1987

Smackover Room, Petroleum Club

SPEAKER: MARIO B. CAPUTO

TOPIC:

Middle Jurassic San Rafael Group of Southwestern
and East-Central Utah; Cyclic Sedimentation on an
Epicontinental Marine Shelf

*Please notify T.C. Rader (969-3286) of your
attendance so adequate seating can be arranged.*



ABSTRACT

MIDDLE JURASSIC SAN RAFAEL GROUP OF SOUTHWESTERN AND EAST-CENTRAL UTAH; CYCLIC SEDIMENTATION ON AN EPICONTINENTAL MARINE SHELF

Mario V. Caputo
Department of Geology and Geography
P.O. Drawer 5167
Mississippi State University
Mississippi State, MS 39762

Toward the end of early Jurassic time, a vast eolian environment extended across the western Colorado Plateau region, and other parts of the Western Interior, and produced crossbedded strata of the Navajo-Aztec-Nugget Formations. A period of deflation and erosion of the eolian deposits was followed by an epicontinental marine transgression. Throughout middle Jurassic time, recurring eolian, shoreline, and nearshore shelf associations were related to fluctuations in sea level. The history of sedimentation is preserved in the San Rafael Group exposed in southwestern and east-central Utah. In ascending order, the group includes the Carmel, Page, Entrada, Curtis and Summerville Formations.

The first transgressive-regressive episode and eolian-marine association are preserved in the Carmel-Page interval. A partial withdrawal of the interior seaway and erosional truncation is suggested by bevelled cross-bedded eolian sandstone and marginal marine siltstone in the Entrada.

During late middle Jurassic time, a second transgressive-regressive event is recorded in the Curtis and Summerville Formations and related Moab Member of the Entrada Sandstone. Coastal embayments were active with a system of sand shoals, inter-shoal channels, and sand flats controlled by tidal- and wave-currents. Tide-dominated conditions persisted across the Curtis-Summerville boundary as deposition of the Summerville occurred in a sand flat-sabkha complex.

Sedimentation in the Moab Member was contemporaneous with that of the Curtis as shifting wind deposited sand in the form of composite dunes farther eastward on the coastal plain. A fairly complete history of sand sea development is preserved in beds interpreted as marginal and central sand sea deposits. The Curtis-Summerville-Moab interval is the last Jurassic marine-eolian association in the western Colorado Plateau region.

The relative tectonic stability of the marine shelf setting and the recurring marine-eolian associations of the middle Jurassic seaway in the Western Interior are in marked contrast to conditions which existed in other regions of North America during Jurassic time. The opening of the proto-Gulf of Mexico in the Jurassic is a good example of a tectonically unstable region that was characterized by conditions evolving from a deep evaporite basin to carbonate shelf to rapid, sandy alluvial, deltaic, and shelf sedimentation.

BIOGRAPHICAL SKETCH

Mario V. Caputo

Earned B.Sc. degree in geology from San Diego State University in 1976; M.Sc. degree in geology from Northern Arizona University in 1980; studied at the Colorado School of Mines for one year; and is currently completing a Ph.D. degree in geology from the University of Cincinnati while teaching as Assistant Professor of Geology at Mississippi State University.

Served as exploration geologist for Mobil Oil Corporation, Denver Division, from 1979 to 1983. Oil and gas exploration efforts were concentrated in the Hugoton Embayment of the Anadarko Basin, southwest Kansas. Subsurface studies included the mapping of structural and isopachous trends in the Mississippian Chester, Ste. Genevieve, and St. Louis Formations, paleotopographic patterns along horizons in the Mississippian Chester and Pennsylvania Morrow intervals, and the distribution of sandstone lithofacies in the Morrow Formation.

Field research began in 1976 and focused on distribution and deformation of Pleistocene marine terraces, paleoecology of Pleistocene molluscan fossil assemblages, and shoreline ecology of molluscs in southern California. Interests then shifted to Jurassic strata of the western Colorado Plateau region particularly to ancient coastal and wind-blown sequences preserved in the Middle Jurassic San Rafael Group: Page, Carmel, Entrada, Curtis and Summerville Formations. Supplemental field studies have been devoted to geomorphologic and sedimentologic aspects of coastal environments in southern California, South Carolina, and Florida and wind-formed dune environments along Lake Michigan and California.

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LAFAYETTE GEOLOGICAL SOCIETY SPRING FIELD TRIP

"Sequence Stratigraphy of the Uppermost Cretaceous and Paleogene of the Alabama/Western Georgia Coastal Plain"

Field Trip Leaders: Peter R. Vail, Maurice Ewing Professor of
Geology, Rice University
Gerald R. Baum, Research Director, ARCO Oil
and Gas Company

assisted by: Arthur A. Donovan and Tom S. Loutit, Exxon
Production Research Company
Ernest A. Mancini, Alabama State Geologist

organizers for the L.G.S.: Robert L. Tabbert, Shaw Resources, Inc.
Brian E. Lock, University of Southwestern LA.

Sequence stratigraphy is a new way to group rocks into chronostratigraphically constrained genetic intervals, introduced by Peter Vail and his Exxon co-workers (AAPG Memoirs 26, 29 and 39). The technique has revolutionized the way sedimentary rocks are subdivided, correlated and mapped, particularly by means of seismic stratigraphic recognition of unconformities and other key seismic facies. The sequences thus identified have predictable stratal patterns and facies, can be recognized in outcrop, on well logs and (if thick enough) on seismic lines, and correlate throughout basins. Indeed, since many sequences are believed to relate to eustatic sea level cycles, they may correlate on the global scale.

Many basic aspects of this powerful new tool for the explorationist will be discussed and demonstrated on the field trip. Eustatic sea level changes may be interpreted from the unconformities, condensed sections and other stratal relations exposed in excellent outcrops in quarries and cliff sections in the beautiful scenery of the region.

The field trip will start and end in Mobile, Alabama. The field trip fee includes guide book, evening lectures on Wednesday, transportation Mobile to Mobile, liquid refreshments, breakfast and lunches. Participants will be responsible for their own dinners and lodging. Group reservations have been made at the hotels.

Dates: Wednesday, April 29, meet in Mobile airport at
4:00 p.m. Return to Mobile Sunday afternoon by 5:00 p.m.

Fee: \$95.00 per person, payable to "Lafayette Geological
Society."

To Register: Write to Brian Lock, Geology Department,
Box 44530, USL Station, Lafayette, LA 70504.
Phone: (318) 231-6823.

REGISTER EARLY: Numbers will be strictly limited to one busload and enrollment will
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Richard R. Priddy Endowment

An endowment in memory of Richard R. Priddy, has been established at Millsaps College.

Dr. Priddy, geologist, professor, and educator established the Department of Geology at Millsaps in 1946. He served as Chairman of the Department until 1972 when he took an early retirement and moved to Indianapolis. Prior to his coming to Millsaps he had worked for the Mississippi State Geological Survey and also in the petroleum industry with Texaco.

Dr. Priddy is well deserving of being honored and by so doing will keep the Department of Geology at Millsaps College strong and better serve the community.

The endowment would serve to upgrade and maintain equipment, sponsor speakers, provide for better faculty salaries, provide geology awards to students to help defray summer field course expenses, and to consider scholarships for junior and senior geology majors.

Contributions may be sent to Millsaps College - Richard R. Priddy Endowment Fund, Jackson, Mississippi 39210.

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AAPG NOTICE CHANGE

ANNUAL CONVENTION

JUNE 7 - 10, 1987

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HOST: PACIFIC SECTION

Housing and Advance Registration is now open for the 1987 AAPG Annual Convention, to be held in Los Angeles, California, June 7-10, 1987. The annual meeting of AAPG's Divisions — SEPM, EMD and DPA will be held in conjunction with the meeting. The technical program will include over 500 papers presented in both oral and poster sessions.

Reservations must be made through AAPG on the official registration form available from AAPG, P. O. Box 979, Tulsa, Oklahoma 74101, 918-584-2555.

During the meeting, the services of an Employment Interviews Center will be available to facilitate arranging interviews between applicants and potential employers. If you are interested in this service contact: UNOCAL, P. O. Box 7600, Los Angeles, California 90051, telephone 213-977-7929.

The AAPG headquarters hotel will be the Westin Bonaventure, and the SEPM headquarters will be the Hyatt Regency Los Angeles. Technical sessions, exhibits, and our headquarters office will be at the Los Angeles Convention Center.

A supply of convention announcements are being mailed to society presidents for distribution at your upcoming meetings.

If you need additional information about the convention, please contact the AAPG Headquarters, P. O. Box 979, Tulsa, Oklahoma 74101, telephone 918-584-2555.

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Wilcox Fields of Southwest Mississippi, Maps and production data on 171 fields, in ring binder, 350 p, 1969	_____	28.00	_____
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FIELD TRIP GUIDEBOOKS			
Mississippian Rocks of the Black Warrior Basin Seventeenth Field Trip, 79 p, April, 1978	_____	8.00	_____
Tertiary Type Localities of East-Central Mississippi 25th Annual GCAGS Meeting, 133 p, October, 1975	_____	5.00	_____
The Paleozoics of Northwest Arkansas Sixteenth Field Trip, 48 p, May, 1962	_____	5.00	_____
Cenozoic of Horn Island and the Pascagoula Valley, Mississippi 10th Annual GCAGS Meeting, 24 p, October, 1960	_____	2.50	_____
Cenozoic of Southeast Mississippi and Southwest Alabama, Fifteenth Field Trip, 52 p, May, 1980	_____	6.00	_____
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John J. Carter seemed to walk right out of the pages of Horatio Alger. Born in Ireland of good parents, he was impoverished as a boy when his parents died and relatives squandered his inheritance. As a child he migrated to America on a sailing ship so direputable he had to prepare his own food.

For years after his arrival he was raised by priests and benefactors.

When he was 20, he won the Congressional Medal of Honor at Antietam and at 23, came out of the Civil War a brevet colonel.

He was 24 when a "drummer" fascinated him with tales of the oil regions and the great opportunities there. Carter went to Titusville and opened a clothing store, which prospered under his good management.

Before he was 35 Carter entered the oil business at Bradford. His first venture was a success. He had the reputation of hardly ever drilling a dry hole. He studied geology and became one of the most respected men in the field in the earliest days. He is credited with development of the famous Sisterville Field in West Virginia.

In 1893 he founded the Carter Oil Company and immediately attracted the attention of Standard Oil officials. In 1894 he sold Standard 60 percent of his company through the South Penn Oil Company. In the deal he received over \$1 million he had invested since entering the business, \$415,000 cash, and 40 percent interest in one of the most profitable producing companies in existence at the time.

Even after his retirement, Colonel Carter traveled throughout the U.S. and the world for Standard Oil, recommending prospects and helping subsidiaries in serious trouble.

He succeeded in establishing geology and engineering firmly in oil property evaluation. His own geological knowledge was considered by oil leaders as almost infallible.

POSITIVE THOUGHT FOR THE MONTH

In recent months three new discoveries in Mississippi and Alabama have found new exploration targets. No new trends have been established yet but we definitely have some new ideas to work with.

All three discoveries were more or less the result of serendipity.

They are the —

1. Hughes #1 ATTIC 35-14 was completed in the Tuscaloosa flowing 190 BOPD on a Norphlet prospect in Escambia County, Alabama. This is the first Alabama Tuscaloosa discovery in 35 years and the first ever producing from an inner graben area.

2. Zinn #1 McCollough 1-13 flowed 215 BOPD from a Haynesville sand on a Smackover prospect after the Smackover was found to be missing. This is the first Alabama Haynesville production.

3. Esenjay #1 Menasco 11-14 which was drilled as a test in Nancy Field in Clarke County, Mississippi but found a thick new Lower Smackover pay. There is hardly any commercial Lower Smackover production anywhere.

I think these discoveries are encouraging. We have very few wildcats being drilled, yet in a few months span we have come up with three new objective zones and some different types of traps to look for.

Collectively we should be able to blow enough smoke about these three plays now to get a lot of wells drilled.

Harry Spooner

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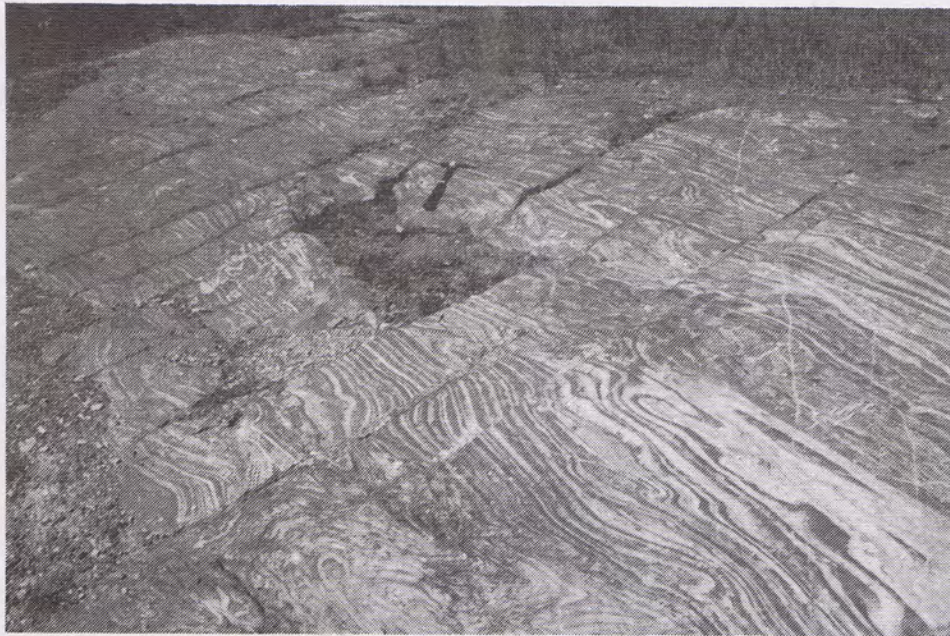


MISSISSIPPI GEOLOGICAL SOCIETY

Volume XXXIV

No. 9

May, 1987



1986-1987



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COVER Soudan Iron Formation, Tower Soudan State Park, Minnesota. Site of the first iron ore mine which began operation in 1884. The Soudan Iron Formation has been intricately folded into isolated, steeply plunging pockets of ore which extend within the subsurface to great depths. The Soudan consists of interbedded jasper, quartz, chert, and hematite (high-grade ore 65% iron). The Soudan overlies the mafic volcanic rocks of the Ely Greenstone (dated 2/7 b.y.) and in turn is overlain by the clastic rocks of the Vermilion Formation.

PRESIDENT'S MESSAGE

Right now, stop what you are doing, and mark May 15th on your calendar! That is the date for the ANNUAL SPRING FLING this year. There is a full announcement elsewhere in the bulletin, but in a nutshell; Fowler's Lodge, 4:30 p.m. til ?, shrimp, \$5.00, wives or dates or etc., and door prizes for the ladies. This is our last event until we skip a few months for the summer so come if you can to catch up on your socializing. Also, voting for next year's officers will take place at the SPRING FLING. We have an excellent slate of candidates so be sure to vote for your choice when you arrive. If you know you can't attend but would like to vote, you may obtain an absentee ballot from Stanley King.

Hopefully, by the time you see this bulletin, you will have received under separate cover a ballot to vote on updating the Society Bylaws. Please review this material carefully. Obviously a change of any form to the Bylaws must be studied in great detail and all present and future repercussions must be resolved. I recommend a vote for the changes for two reasons. One, it updates the wording to more closely comply with other professional societies and, two, the changes will streamline some of the operations of the Society to put less of a burden on future officers. However, if you disagree with the proposals, vote no. If you have any questions, call me at 948-5279.

Since this is my last official correspondence to all of the society members, I would like to take this opportunity to thank all of the people who have helped to make this year happen. It would be impossible to name the individuals who have contributed in some way to the running of the Society this year but you know who you are, and thank you. All of the comments, suggestions, and help have been appreciated. It has been a pleasure to serve such a great group of people!

Bob White
President

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Friday, May 15

Fowler's Lodge

4:30 p.m. - Refreshments

6:30 p.m. - Dinner

COST: \$5 per Person

Wives, Dates, Sweethearts Invited

**MISSISSIPPI GEOLOGICAL SOCIETY
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1987-88

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JAMES EDGAR PEW

(1870 - 1946)

James Edgar Pew was the pioneer in standardization of oil field equipment. He started the campaign in 1919. The American Petroleum Institute made him chairman of its Committee on Standardization in 1923 and adopted his program in 1924.

A native of Mercer, Pa., Pew started his career at 16 as a plumber's helper in Pittsburgh at the Peoples Natural Gas Company owned by his uncle, J.N. Pew, Sr. and E.O. Emerson.

At 26 he entered the oil industry in the Pews' Sun Oil Toledo refinery and was sent to Corsicana, Texas, to investigate a new source of oil supply. His report was not too favorable.

In 1901 Sun sent him to Beaumont to investigate the Spindletop boom. His early reports on the field inspired Sun to build its Marcus Hook refinery. Then he bided his time until the largest company in the field, Lone Star and Crescent, went broke and was sold at auction. He purchased its assets for \$100,000 and laid the foundation of Sun's vast operations in the southwest producing country.

Pew departed the family firm in 1909 to form his own Twin State Oil Company in Tulsa. In 1912 he joined Carter Oil Company, a Jersey Standard affiliate. There he once purchased 35 million barrels of crude oil at 35 cents per barrel and later sold much of it for \$3.50 and higher.

He was the first man to insist on a straight hole when letting a drilling contract. This led to the development of the Sperry-Sun gyroscope, which also led to the art of directional drilling. He was one of the earliest exponents of oil conservation. In 1929 he initiated at Van Pool in Texas what many consider the first genuine unitization of an oil field.

He was the second man to become president of the API in 1925. He was also chairman of the famous committee of 11 in 1925.

Edgar Pew was called the most loved man in the oil industry history.

MEMBERSHIP RENEWAL CARD

Please complete and return this card with \$15.00 to the above address:

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WILLIAM G. SKELLY
(1878 - 1957)

Few men in petroleum or any other industry ever had the honor and respect in their own communities that Bill Skelly received. they called him "Mr. Tulsa."

William G. Skelly, a native of Erie, Pa., went into the oil fields around Oil City when he was 16 years old. He never let anything divert him from his ambition to become a successful oil man.

As oil activity moved west, Bill Skelly moved with it. First he went to Indiana, then Illinois, and finally into Kansas and Oklahoma.

One of the first arrivals after the discovery of the significant Healdton Field, he obtained a contract to drill 10 wells for Wirt Franklin's Crystal Oil Company. It was there also that he obtained a 20-acre lease which turned out to be the most productive acreage in the field.

At El Dorado he was among the first arrivals and founded the Midland Refinery Company. Skelly expanded rapidly with production in Texas, Arkansas, Kansas, New Mexico, and, on October 2, 1919, he formed the Skelly Oil Company, absorbing the Midland Refinind Company. Within a few years his company was one of the most completely integrated and competitive nonmajors in the country.

With his company well founded, Skelly turned his attention to politics, civic affairs, church work, and especially to work with youth. For more than a quarter of a century, Bill Skelly carried the sobriquet of "Mr. Tulsa." He was a founder of the International Petroleum Exposition (Petroleum Exposition and Congress) in 1923 and was twice its president. He also served twice as president of Tulsa's dynamic chamber of commerce, founded radio station KVOO, organized the Spartan Aircraft Company, and was a founder of the Tulsa Aircraft Corporation.

Skelly, as much as any single individual, was responsible for his adopted home, Tulsa, becoming known as Oil Capital of the World.



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Richard R. Priddy Endowment

An endowment in memory of Richard R. Priddy, has been established at Millsaps College.

Dr. Priddy, geologist, professor, and educator established the Department of Geology at Millsaps in 1946. He served as Chairman of the Department until 1972 when he took an early retirement and moved to Indianapolis. Prior to his coming to Millsaps he had worked for the Mississippi State Geological Survey and also in the petroleum industry with Texaco.

Dr. Priddy is well deserving of being honored and by so doing will keep the Department of Geology at Millsaps College strong and better serve the community.

The endowment would serve to upgrade and maintain equipment, sponsor speakers, provide for better faculty salaries, provide geology awards to students to help defray summer field course expenses, and to consider scholarships for junior and senior geology majors.

Contributions may be sent to Millsaps College - Richard R. Priddy Endowment Fund, Jackson, Mississippi 39210.

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AAPG NOTICE CHANGE

ANNUAL CONVENTION

JUNE 7 - 10, 1987

AMERICAN ASSOCIATION OF PETROLEUM
GEOLOGISTS
HOST: PACIFIC SECTION

Housing and Advance Registration is now open for the 1987 AAPG Annual Convention, to be held in Los Angeles, California, June 7-10, 1987. The annual meeting of AAPG's Divisions — SEPM, EMD and DPA will be held in conjunction with the meeting. The technical program will include over 500 papers presented in both oral and poster sessions.

Reservations must be made through AAPG on the official registration form available from AAPG, P. O. Box 979, Tulsa, Oklahoma 74101, 918-584-2555.

During the meeting, the services of an Employment Interviews Center will be available to facilitate arranging interviews between applicants and potential employers. If you are interested in this service contact: UNOCAL, P. O. Box 7600, Los Angeles, California 90051, telephone 213-977-7929.

The AAPG headquarters hotel will be the Westin Bonaventure, and the SEPM headquarters will be the Hyatt Regency Los Angeles. Technical sessions, exhibits, and our headquarters office will be at the Los Angeles Convention Center.

A supply of convention announcements are being mailed to society presidents for distribution at your upcoming meetings.

If you need additional information about the convention, please contact the AAPG Headquarters, P. O. Box 979, Tulsa, Oklahoma 74101, telephone 918-584-2555.

PUBLICATION ORDER FORM
MISSISSIPPI GEOLOGICAL SOCIETY PUBLICATIONS

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SPECIAL VOLUMES			
Mississippi Geological Society Photo Directory, 1981	_____	\$ 2.00	\$ _____
Wilcox Fields of Southwest Mississippi, Maps and production data on 171 fields, in ring binder, 350 p, 1969	_____	28.00	_____
Mesozoic-Paleozoic Producing Areas of Mississippi and Alabama Volume I. Maps and producing data on 57 fields, with 2 composite logs. Clothbound, 139 p, 1957	_____	10.00	_____
Volume II, Maps and producing data on 77 fields, includes Supplement 1, 143 p., 1963	_____	15.00	_____
Supplements 2 through 7 for Volume II, Maps and producing data on 35 fields, 110 p, 1964-1972	_____	15.00	_____
Supplement 8 for Volume II, Maps and producing data on 34 fields, 108 p, 1980	_____	25.00	_____
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FIELD TRIP GUIDEBOOKS			
Mississippian Rocks of the Black Warrior Basin Seventeenth Field Trip, 79 p, April, 1978	_____	8.00	_____
Tertiary Type Localities of East-Central Mississippi 25th Annual GCAGS Meeting, 133 p, October, 1975	_____	5.00	_____
The Paleozoics of Northwest Arkansas Sixteenth Field Trip, 48 p, May, 1962	_____	5.00	_____
Cenozoic of Horn Island and the Pascagoula Valley, Mississippi 10th Annual GCAGS Meeting, 24 p, October, 1960	_____	2.50	_____
Cenozoic of Southeast Mississippi and Southwest Alabama, Fifteenth Field Trip, 52 p, May, 1980	_____	6.00	_____
Upper Cretaceous Outcrops, Northeast Mississippi and West Central Alabama, Fourteenth Field Trip, 29 p, May 1959	_____	4.00	_____
COMPOSITE LOGS AND CROSS SECTIONS			
Composite Mesozoic Log of South Mississippi and South Alabama	_____	2.00	_____
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JOHN DAVIDSON ROCKEFELLER (1839 - 1937)

John D. Rockefeller entered the oil business as a refiner in 1862 — with an investment of \$4,000 in a firm (Andrews, Clark and Company) which did not even include his name.

Within a few years he had organized and consolidated an infant, burgeoning oil industry, which had been floundering in a sea of waste and speculative chaos.

For his efforts his name became anathema to many and a byword to other.

He was born in Richford, New York. His was a normal family with the necessities of life but few luxuries. He quit high school in his junior year because he could not get interested in learning. He studied three months in a commercial college taking courses in bookkeeping, banking, and commercial law. His father taught him to buy and sell and endowed him with acquisitiveness, cunning, self assurance, and boldness.

He started his business career as a bookkeeper in 1855 on a salary of \$300 a year. He learned to get along with people, detest slovenly business methods, and respect careful accounting.

In company with a growing list of talented partners whom he personally selected, he expanded operations in the field of transportation and marketing. On January 10, 1870, he organized the Standard Oil Company of Ohio with a capitalization of \$1 million. This company was the progenitor of the great Standard Oil Trust. At 32 Rockefeller was the dominant figure in the oil industry and controlled 21 refineries.

A religious man, Rockefeller tithed regularly. He had little respect for intellectuals, but he endowed some of the greatest educational institutions in the world.

He never drank, followed sports, played cards, danced, read, or dallied with girls, chaste or otherwise. He was a good husband and father. His business career had no valleys. It was a continuous succession of peaks.

He died when he was 97, leaving an estate of little more than \$26 million, all of his other countless millions having been distributed to charities and religious and educational establishments.

REGIONAL FRAMEWORK OF THE WILCOX GROUP OF LOUISIANA

FRIDAY, MAY 29, 1987
8:00 A. M. - 5:00 P. M.
LSU UNION COLONNADE
LOUISIANA STATE UNIVERSITY
BATON ROUGE, LOUISIANA

The Basin Research Institute and Louisiana Geological Survey at LSU will hold a one-day conference on the Regional Framework of the Wilcox Group of Louisiana on Friday, May 29, 1987. Presentations and poster displays will synthesize the results of two and one-half years of applied interactive research as conducted by the staff of the Basin Research Institute and Louisiana Geological Survey. A broad spectrum of topics will be covered, and includes:

- REGIONAL STRATIGRAPHY AND GEOLOGIC FRAMEWORK
- SEDIMENTARY FACIES
- HYDROCARBON HISTORY AND GEOCHEMISTRY
- BIOSTRATIGRAPHY AND PALEOECOLOGY
- RESERVOIR GEOLOGY
- CLAY MINERALOGY
- SILICLASTIC DIAGENESIS

This conference provides for complete basin analysis of the Wilcox Group in Louisiana and is designed to be of most value to the geologist, geophysicist, engineer or manager from major or independent companies interested in the past, present, or future of the Louisiana Wilcox. Production trends, reservoir development, exploration models and hydrocarbon pathways will be examined in detail.

SEMINAR PRESENTATIONS

REGIONAL STUDIES

- The Wilcox of Louisiana: Perspectives and Overview
- Regional Stratigraphy of the Wilcox Group in Central Louisiana
- Stratigraphic Framework and Sedimentary Facies of an Ancient Clastic Shelf-Margin Complex: The "Deep Wilcox" Trend, South-Central Louisiana
- Wilcox Group Sand Body Distribution and Relationship to Hydrocarbon Production History
- Lower Tertiary Origin of Crude Oil in the Wilcox Trend of Louisiana and Mississippi: Evidence for Long-Range Migration
- Foraminiferal Biostratigraphy and Paleocology of Wilcox Group Strata in Central and Southwest Louisiana
- Regional Clay Mineralogy Patterns in the Wilcox Group of Louisiana

RESERVOIR STUDIES

- Sedimentary Facies and Reservoir Quality of an Ancient Stable Shelf Margin Sequence: Lockhart Crossing Field, South Central Louisiana
- Effects of Primary Sedimentary Processes on Reservoir Quality of "Deep Wilcox" Sandstones in Fardoche Field, South Central Louisiana
- Siliciclastic Diagenesis, Lockhart Crossing Field, Livingston Parish, Louisiana
- Clay Diagenesis, Lockhart Crossing Field, Livingston Parish, Louisiana

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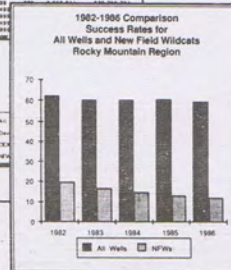
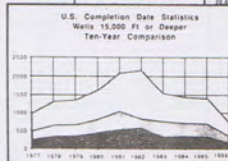
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2,500 - 3,749	1,075	2,547,000
3,750 - 4,999	1,060	6,214,400
5,000 - 6,249	1,000	6,916,400
6,250 - 7,499	688	6,441,300
7,500 - 12,499	925	3,384,847
12,500 - 14,999	92	884,800
15,000 - 17,499	18	230,700
17,500 - 18,999	11	188,100
19,000 - Over	7	45,517
1986 Total	7,876	35,316,456
1985 Total	15,378	70,788,172
1984 Total	13,305	77,211,614
1983 Total	12,888	64,867,000
1982 Total	15,000	17,490,000
1981 Total	13,000	14,000,000
1980 Total	11,000	14,000,000
1979 Total	10,000	14,000,000
1978 Total	9,000	14,000,000
1977 Total	8,000	14,000,000

Depth Range	Wells	Volume	Estimated Cost
0 - 1,249	481	324,074	\$ 822,217
1,250 - 2,499	715	1,211,763	38,392,264
2,500 - 3,749	378	876,740	21,201,000
3,750 - 4,999	280	1,105,585	14,752,300
5,000 - 6,249	226	4,204,151	37,478,400
6,250 - 7,499	150	1,100,000	15,000,000
7,500 - 12,499	100	1,000,000	10,000,000
12,500 - 14,999	50	500,000	5,000,000
15,000 - 17,499	20	200,000	2,000,000
17,500 - 18,999	10	100,000	1,000,000
19,000 - Over	5	50,000	500,000
1986 Total	2,418	12,278,016	\$ 187,475,000
1985 Total	4,500	20,000,000	\$ 250,000,000
1984 Total	3,500	15,000,000	\$ 187,500,000
1983 Total	3,000	12,000,000	\$ 150,000,000
1982 Total	3,500	14,000,000	\$ 175,000,000
1981 Total	3,000	12,000,000	\$ 150,000,000
1980 Total	2,500	10,000,000	\$ 125,000,000
1979 Total	2,000	8,000,000	\$ 100,000,000
1978 Total	1,500	6,000,000	\$ 75,000,000
1977 Total	1,000	4,000,000	\$ 50,000,000



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MISSISSIPPI GEOLOGICAL SOCIETY

Volume XXXIV

No. 10

July, 1987



1986-1987



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COVER Oblique view looking west of the faulted Southeastern corner of the Beartooth Uplift, Wyoming. A nearly complete section of Paleozoic rocks can be observed draped over the Precambrian basement. Uprturned Eocene beds document the post-Eocene movement of the Beartooth block. The sedimentary section is draped over the corner of the crystalline basement block. Intense fracturing of the basement resulted from cataclastic flow, thus providing the mechanism by which the rotation of the corner occurred.

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INCOME STATEMENT FOR OPERATING YEAR ENDING
MAY 31, 1987

Gross Revenues:	
Membership dues	\$ 5,535.00
Advertising	3,305.00
Monthly luncheon meetings	4,092.70
Publication sales	6,800.50
Fall barbecue	963.00
Fall barbecue sponsorship	550.00
Spring Fling	566.00
Spring Fling sponsorship	475.00
	<u> </u>
	\$ 22,287.20
Gross Operating Expenditures:	
Printing (incl. membership direc.)	5,306.81
Monthly luncheon / business meetings	4,092.70
Postage and postal supplies	660.76
Redbook	7,037.38
Speaker expenses	524.68
Fall barbecue	1,149.19
Spring Fling	2,627.09
Miscellaneous	395.53
Professional fees (Acctg., Earth Ent.)	2,333.50
GCAGS Ad (incl. Ad for 1987-88 oper. year)	650.09
	<u> </u>
	24,777.73
	<u> </u>
	(\$ 2,490.53)
Transfer from AIA account to to checking account	<u> </u>
	6,000.00
	<u> </u>
	3,509.47

PRESIDENT'S MESSAGE

TREASURER'S REPORT
1986-1987 Operating Year

Cash balance May 31, 1986 \$ 2,943.45

Sources of cash:

cash generated by operations \$ 22,287.20

Money Market (AIA) account 4,957.96

Total sources of cash 27,245.16

Uses of cash:

Operating expenses \$ 24,777.73

Total uses of cash 24,777.73

Cash balance May 31, 1987 11,781.80

Current balance May 31, 1987

Regular checking account 6,823.84

Stan Thieling
2nd Vice President &
Acting Treasurer

PRESIDENT'S MESSAGE

For many years normal operating procedures of the society have not conformed with the by-laws. In May we asked the membership to approve changes to bring the by-laws into conformance with current practices. The results so far are 191 for and 8 against. Twenty-four (24) more yes votes are needed for approval of the changes to pass. If you still have a ballot lying around that you did not return, please send it in so that we can conclude this matter.

The principal accomplishment for the Society for last year was publication of *Red Book Vol. III*. In my opinion it is our best publication to date. It contains maps and data concerning 46 new oil and gas fields and is available for \$50 from Earth Enterprises, Inc. (see ad elsewhere in this bulletin). Every member should have a copy.

Two of the main reasons for the Society's existence are to promote geological research and disseminate geological information. As far as Petroleum Geology is concerned, the basic data for research are well logs, cores and samples. As a practical matter the Society cannot be involved in the collection and storage of such data but the State of Mississippi can and should, through the Oil and Gas Board and the Bureau of Geology. To date these agencies have collected and stored only resistivity well logs and minor amounts of the other data. As a result much of our basic data was lost forever/

In 1986 the Society through its Well Data Committee attempted to rectify this situation at least in part as to future wells. We filed a petition with the Oil and Gas Board which would have altered its Rule 24 to require that additional types of logs must be filed. Although there was no opposition at the hearing, the Board rejected our proposal. I don't know why but we intend to try again.

As a Society our number one objective for the 1987-87 year should be to work with the Oil and Gas Board and Bureau of Geology to obtain a better data base for future geologic research. These efforts will surely lead to additional oil and gas discoveries.

It is possible there would be no Gulf Oil Corporation today if there had been no William Larimer Mellon.

With the discovery of the field that gave birth to the liquid fuel age at Spindletop, the Mellon Brothers found themselves in difficulty.

In 1902, they sent a nephew, William L. Mellon, to Beaumont with instructions to look things over and report back. Young Mellon, then only 34, was already one of the most experienced oilmen in the country. He had been a producer, refiner, pipeliner, marketer, and exporter.

Mellon proposed that his uncles sell their Texas holdings to Standard. An offer to sell was made, but Standard, prohibited from doing business in Texas, rejected it.

So, William L. Mellon was sent to Texas to take charge. He was made vice-president and general manager of the J. M. Guffey Petroleum Company and immediately surrounded himself with an imposing staff of highly competent men, several of whom were not previously oilmen. By 1905 Mellon had overcome most of the company's financial dif-

iculties. In the same year he formed the Gypsy Oil Company, explored in Glenn Pool, built a pipeline from Oklahoma to Port Arthur, and thereby ended most of the company's remaining money ills. In 1907 the J. M. Guffey Petroleum Company and the Gulf Refining Company (which had been formed in 1901) were reincorporated as the Gulf Oil Corporation with W. L. Mellon as president. From that point on the progress of Gulf was sound and steady.

W. L. Mellon, who was born in Pittsburgh in 1868, first entered the oil business in 1889, at Economy, Pa. His venture was successful and a source of pride to his uncles, A. W. and Richard Mellon. He formed a pipeline company, acquired a small refinery, and became an oil exporter. In 1895 he sold his holdings to Standard and retired from oil.

He was successful in electric utilities, street railways, and banking, and was on the verge of retirement from all business at 33 when his uncles insisted he was the only man to take over in Beaumont.

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The geologist's wife

TO HER HUSBAND SETTING OFF UPON AN EXCURSION

Adieu then, my dear, to the Highlands you go,
Geology call you, you must not say no;
Alone in your absence I cannot but mourn,
And yet it were selfish to wish your return.

No, come not until you have searched through the gneiss,
And marked all the smoothings produced by the ice;
O'er granite-filled chinks felt Huttonian joy,
And measured the parallel roads of Glenroy.

Yet still, as from mountain to mountain you stride,
In visions I'll walk like a shade by your side;
Your bag and your hammer I'll carry with glee,
And climb the raised beaches, my own love, with thee.

Me, too, you'll remember, for love claims no less,
And all your proceedings a fondness confess;
Each level you take, be it not from the sea,
But above the dear place where your Susan may be.

Let everyting mind you of tender relations —
See, even the hard rocks have *their* inclinations!
Oh, let me believe that, wherever you roam,
The axis of yours can be nowhere but — home!

Suppose that you find on the mountains of Lorn,
A boulder that long since from Nevis was torn.
'T will seem like that fond one who left his own shore,
'Perhaps to return to Lochaber no more.'

And if, in your wanderings, you chance to be led
To Ross-shire or Moray, to see the Old Red,
Oh still, as its mail-covered fishes you view,
Remember the colour is love's proper hue.

Such being your feelings, I'll care not although
You're gone from my side — for a fortnight or so;
But know, if much longer you leave me alone,
You may find, coming back you have two wives of stone!

Anon. (1847). The geologist's wife. *Living Age* 12, 231.

'The geologist's wife' was written in Britain, though the original source and the poet, 'Susan,' are unidentified by the *Living Age*. The Scottish Highland localities mentioned in the poem would make an arduous two-week field trip.

James C. Donnell built Ohio Oil Company* into the greatest producing company in the world, and then found the reins of the company entirely in his hands when Standard Oil was dissolved in 1911.

A native of Ireland, Donnell came to this country at the age of five in 1859, the year of Colonel Drake's great discovery. His father was a poor farmer who worked himself to death. For a while young Donnell was "farmed out" to neighbors for his room and board.

He received practically no formal education, yet he became one of the most remarkable leaders of the petroleum producing industry. Standard Oil Company chose him in 1889 to operate its producing company because of his skill in low-cost drilling and a remarkably high oil-finding success ratio.

Donnell, founder of a dynasty of oil industry leaders, became head of The Ohio almost by default in 1901 upon retirement of William Fleming, the man who first hired him. In that year he moved the company's corporate seal from Oil City to Findlay, Ohio. The head of the company in New York was John D. Archbold.

"Jim" Donnell became an oilman at 16 when he started hauling crude in a horse-drawn dray to a refinery near Titusville. He became a driller and a producer at Bradford at 22. Shortly after he was chosen by Standard to head up its production, the company had 10,000 wells. At one time it had more than 42,000. When he retired, the company was producing 11 million barrels of crude annually.

Donnell was a natural leader and a man of remarkable intuition. It was his great memory and ease of reciting accurate statistics that virtually blocked Senator LaFollette's effort to federalize the oil industry. Donnell was a founder of the American Petroleum Institute. He purchased some of Standard's most important foreign properties, including the Benedum and Trees production in Colombia.

Of the thousands of tributes received when he died, two were identical. They stated simply, "I have lost a true and devoted friend." One was from a Pullman porter on the New York Central. The other was from John D. Rockefeller, Sr.

*Now Marathon Oil Company.

Richard R. Priddy Endowment

An endowment in memory of Richard R. Priddy, has been established at Millsaps College.

Dr. Priddy, geologist, professor, and educator established the Department of Geology at Millsaps in 1946. He served as Chairman of the Department until 1972 when he took an early retirement and moved to Indianapolis. Prior to his coming to Millsaps he had worked for the Mississippi State Geological Survey and also in the petroleum industry with Texaco.

Dr. Priddy is well deserving of being honored and by so doing will keep the Department of Geology at Millsaps College strong and better serve the community.

The endowment would serve to upgrade and maintain equipment, sponsor speakers, provide for better faculty salaries, provide geology awards to students to help defray summer field course expenses, and to consider scholarships for junior and senior geology majors.

Contributions may be sent to Millsaps College - Richard R. Priddy Endowment Fund, Jackson, Mississippi 39210.

NOON LUNCH SCHEDULE

1987

September 8
October 13
November 10
December 8

1988

January 12
February 9
March 8
April 12

PUBLICATION LIST

SPECIAL VOLUMES

1. Mississippi Geological Society Photo Directory, 1981 \$ 2.00
2. Wilcox Fields of Southwest Mississippi, Maps and production data on 171 fields, in ring binder, 350 pp., 1969 28.00
Mesozoic-Paleozoic Producing Ares of Mississippi and Alabama.
3. Volume I. Maps and producing data on 57 fields, with 2 composite logs, clothbound, 139 pp., 1957 10.00
4. Volume II. Maps and producing data on 77 fields, includes Supplement 1, in ring binder, 143 pp., 1963 15.00
5. Supplements 2 through 7 for Volume II, Maps and producing data on 35 fields, 110 pp. 15.00
6. Supplement 8 for Volume II, Maps and producing data on 34 fields, 108 pp., 1980 25.00
7. Volume II, complete with Supplements 2-8, 361 pp., 146 fields 50.00
- ★ 8. Volume III, 85 pp., 46 fields, 1987 50.00

FIELD TRIP GUIDEBOOKS

9. Upper Cretaceous Outcrops, Northeast Mississippi and West Central Alabama, Fourteenth Field Trip, 29 pp., May, 1959 4.00
10. Cenozoic of Southeast Mississippi and Southwest Alabama, Fifteenth Field Trip, 52 pp., May, 1960 6.00
11. Cenozoic of Horn Island and the Pascagoula Valley, 10th Annual GCAGS Meeting, 24 pp., October, 1960 2.50
12. The Paleozoics of Northwest Arkansas, Sixteenth Field Trip, 48 pp., May, 1962 5.00
13. Tertiary Type Localities of East-Central Mississippi, 25th GCAGS Meeting, 133 pp., October, 1975 5.00
14. Mississippi Rocks of the Black Warrior Basin, Seventeenth Field Trip, 79 pp., April, 1978 8.00
15. Tertiary and Upper Cretaceous Depositional Environments, Central Mississippi and West Central Alabama, 33rd Annual GCAGS Meeting, 40 pp., October, 1983 7.50

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