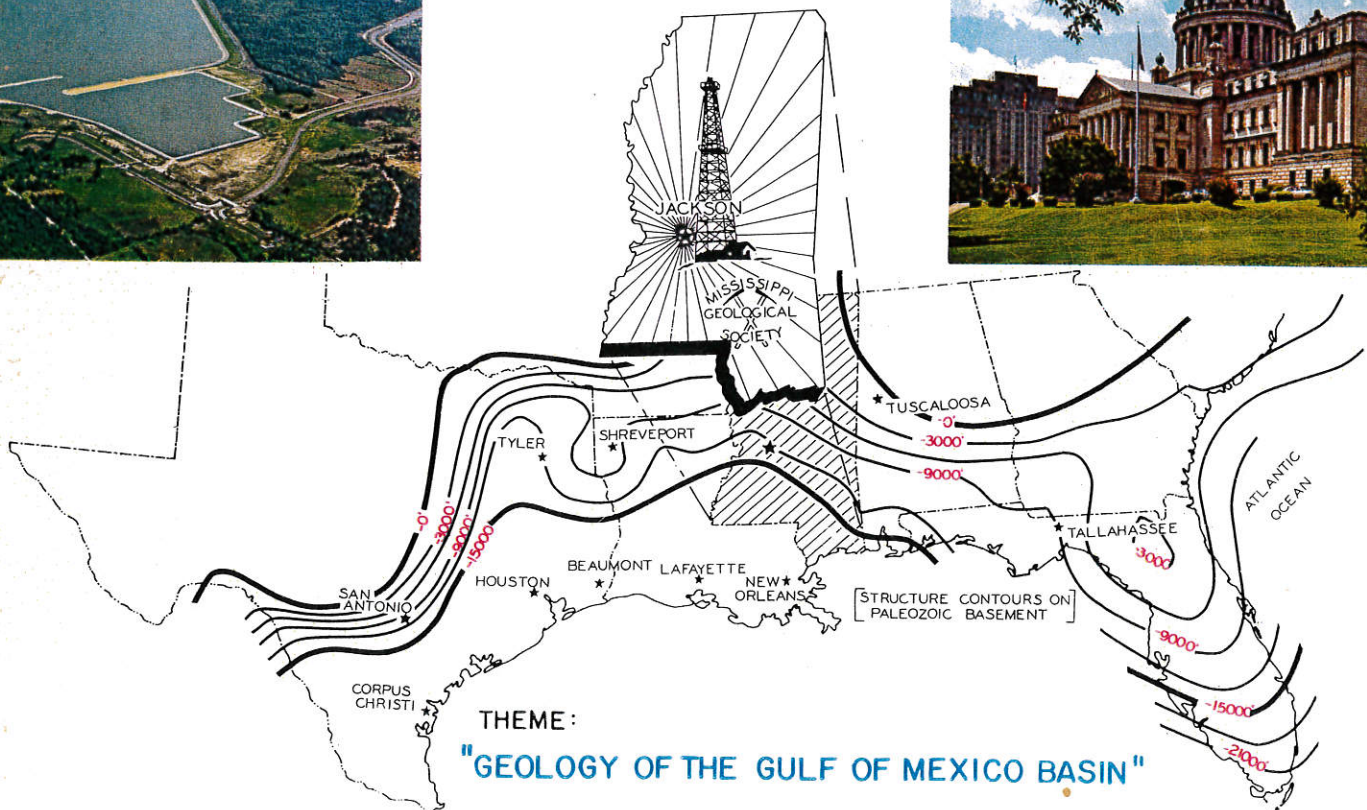


Neil M. Sullivan

TRANSACTIONS GULF COAST ASSOCIATION OF GEOLOGICAL SOCIETIES

18th Annual Meeting



JACKSON, MISSISSIPPI

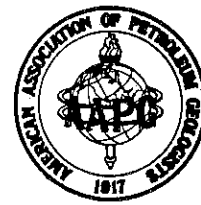
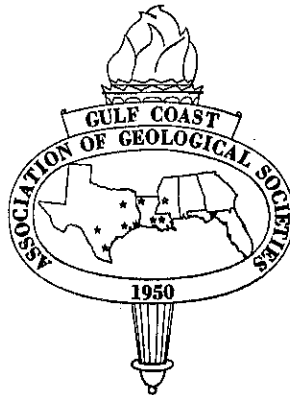
OCTOBER 23, 24, 25, 1968

Neil M. Sullivan

TRANSACTIONS

Gulf Coast Association of Geological Societies

VOLUME XVIII 1968



A Section of the American Association of Petroleum Geologists

J. O. Snowden, Jr.
Editor

Prepared for the

EIGHTEENTH ANNUAL MEETING OF THE GULF COAST ASSOCIATION OF GEOLOGICAL SOCIETIES AND REGIONAL A.A.P.G. MEETING

held in cooperation with the
SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS

OCTOBER 23-25, 1968

JACKSON, MISSISSIPPI



Published at
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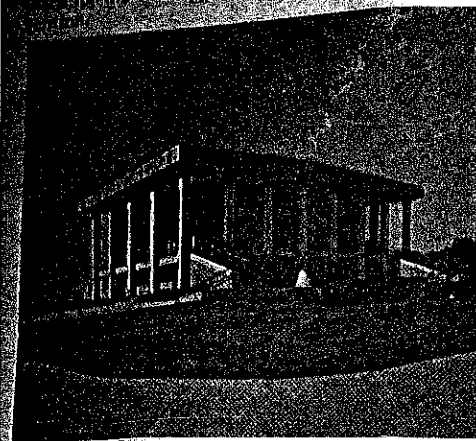
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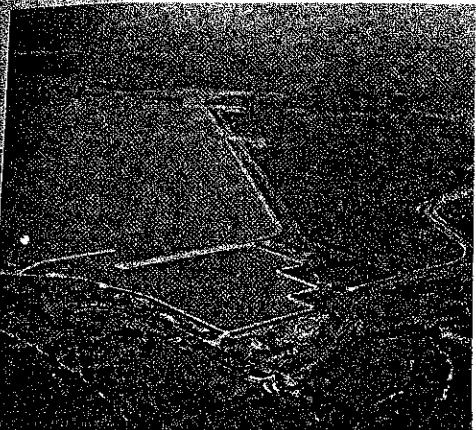
GULF COAST ASSOCIATION OF GEOLOGICAL SOCIETIES

18th Annual Meeting

Mississippi Memorial Stadium with 46,000 seat capacity. Site of Ole Miss vs. Houston football game October 26, 1968.



Aerial view looking east of downtown Jackson.



Pearl River Reservoir covers over 30,000 acres with 50 square miles of water only a few miles northeast of Jackson City Limits.



New Capitol with Mississippi State Office Building in background, located just north of downtown area.

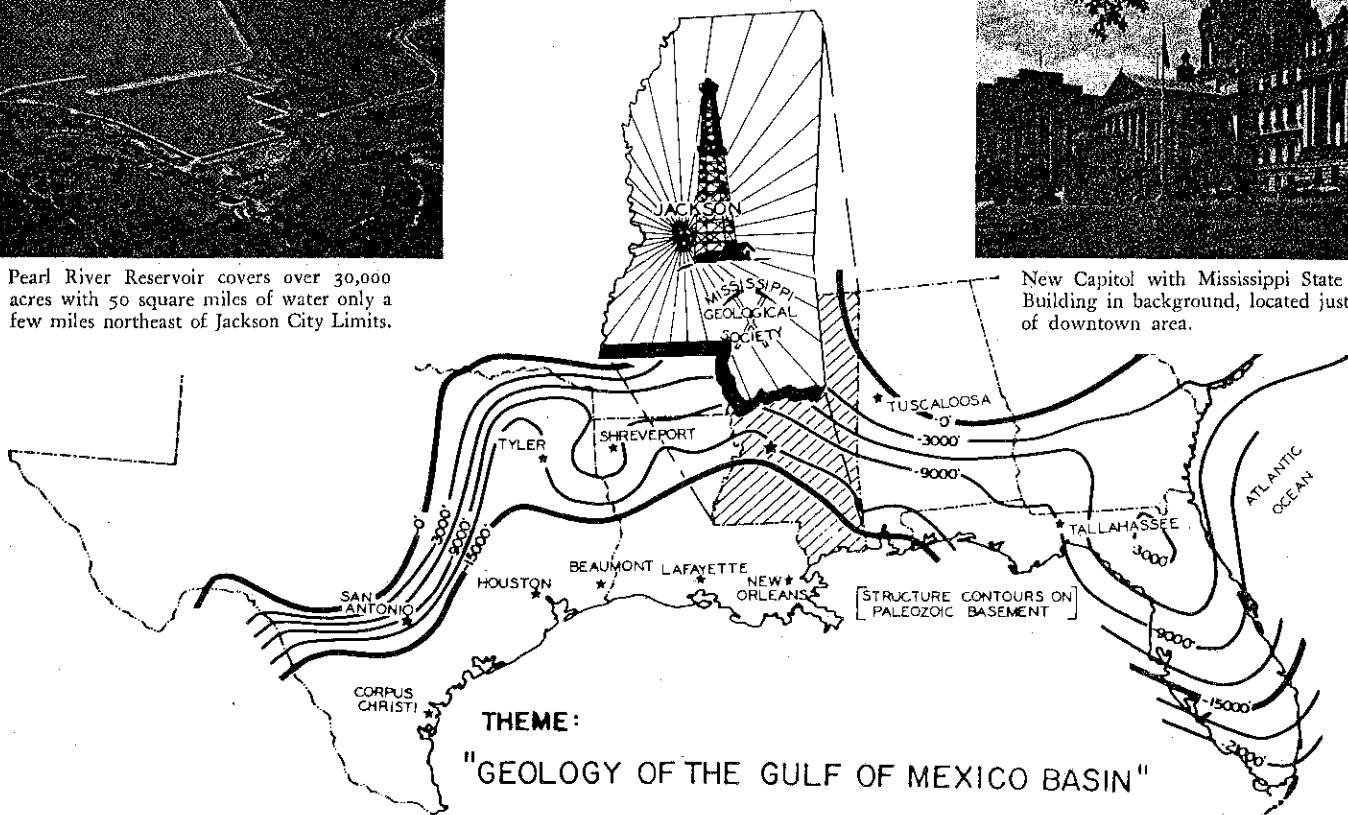


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REPORT OF THE PRESIDENT OF GCAGS

On May 15, 1951, a group of dedicated men met in Houston, Texas and organized the GCAGS. I think it is appropriate that Volume 18 of the *Transactions* be dedicated to these men, and we are proud to have them as our honored guests during the convention. The success of their endeavor can be measured by the success of the *Transactions* as a widely sought publication on Gulf Coast Geology.

We are attempting to carry on the tradition set by these men in the 18th Annual Meeting of the Gulf Coast Association of Geological Societies. The Mississippi Geological Society welcomes you, and I wish to pay tribute to all the hard work done by its members to stage this convention. Next year the convention is scheduled for Miami Beach, where the Southeastern Society will host the convention for the first time, and an invitation is extended to all to attend.

GCAGS is continuing its remarkable growth. Under the able chairmanship of Bob Vernon assisted by Vice-Chairman A. T. Green, the Special Projects Committee is working on several projects. Foremost among these is a "Gulf Coast Bibliography" to be published jointly with the USGS next year, with Jules Braunstein as editor for the GCAGS. Also a Tectonic Map Committee, under the chairmanship of Harold Hickey, is preparing a "Tectonic Map of the Northern Gulf of Mexico," which should be ready next year.

Last but not least, Barkley Souders is heading up our Publications Promotion Committee, which not only promotes sales of our publications but also republishes *Transactions* which have sold out.

As you are aware, the officers of the GCAGS move around each year to the host society. The officers because of their short tenure and unfamiliarity with the job have rather severe limitations as to their effectiveness. In all fairness, however, this may be an asset rather than a liability because the virtually complete change of officers makes it impossible for a clique to form who could control GCAGS, but rather it is the member societies who control it.

It has been my pleasure to be your President over the past year. Not only has this been an educational experience for me, but more importantly, I have formed many friendships within the geologic profession through this association. I wish the association continued success in the years ahead and will be looking forward to attending these conventions for many years.

M. D. HORTON

**REPORT OF THE GENERAL CHAIRMAN
EIGHTEENTH ANNUAL MEETING 1968**

This is the 18th Annual Convention of the Gulf Coast Association of Geological Societies. It is a joint meeting with the Gulf Coast Section of S.E.P.M. and a Sectional meeting of A.A.P.G. The purpose of this convention is the same as it was to those men who were responsible for the organization of this Association, namely, "to provide for discussion and publication of papers on subjects and problems coming within the scope of the Geological profession, and with particular emphasis on Gulf Coast geology."

The success of past conventions has been the result of hard work done by a lot of people and full cooperation of the member societies. If successful, this Convention will be no exception. The members of the Mississippi Geological Society and Ladies Auxiliary must receive most of the credit. The excellent reports of each Committee from San Antonio were most useful to our Committees and to them we are indebted. The financial arrangements provided for this meeting have been good.

This marks the culmination of almost two years planning. Throughout this time the complete cooperation and total involvement of each of our Committee Chairmen has been one of the most rewarding experiences of the General Chairman. It is an honor and a pleasure to work with people such as these.

LINCOLN E. WARREN

REPORT OF THE EDITOR

1968

One of the original goals established for GCAGS at the conceptual meeting in Biloxi in 1949 was to provide a rapid means of publication for geologists working in the Gulf Coast, together with a less "rigid" editorial policy. Rapid publication we have — certainly more rapid than any other comparable journal. However, there will always be differences of opinion over editorial policy. Some will think we are too rigid, more, probably, will think we are not rigid enough. Considering the always impending deadlines, I feel that the local editorial committee and the Associate Editors from the member societies have done a creditable job.

Two recurring problems in maintaining a continuity of editorial effort for the *Transactions* have been the lack of written statements of duties of the Editor and Associate Editors representing the member societies and of the GCAGS policy regarding the form of manuscripts and figures to be submitted for publication. The lack of instruction to authors greatly adds to the editorial load, as the manuscripts, figures, and bibliographies are received in a variety of forms and must be changed to a common one. These and other needs outlined by my predecessors have been transmitted to the Executive Committee and are hopefully near fulfillment. The importance of the GCAGS *Transactions* to the geological literature of the Gulf Coast has been articulated often, and our constant goal should be the highest possible quality consistent with rapid publication.

Our theme for the 1968 program was apparently one of broad general interest, judging from the good response of contributors. Much of the credit for this success, however, is the result of the efforts of William D. Lynch and his program committee, who began identifying and soliciting contributors at a very early stage of convention planning. The continuing close cooperation of Program Chairman Lynch has contributed immeasurably to the editing of the *Transactions*.

Assistant Editor Peter K. H. Groth has helped with all phases of the editorial effort and assumed the duties of Editor during a three week period in August. The other members of the local editorial committee and the Associate Editors of the member societies have also given generously of their time in prompt and competent editing. SEPM Editor Wendell B. Johnson has contributed substantially to the *Transactions* and given us the benefit of his experience as the 1960 *Transactions* Editor. Chairman Charles Brinkley and his printing committee have worked closely with the Editor and deserve much credit for their excellent job of contracting, layout, and design. President Marvin Horton and General Chairman Lincoln Warren have been very helpful in coordinating all convention efforts. Acknowledgement of the Department of Geology, Millsaps College, for providing space and secretarial help for the Editor must be included. Miss Jane Woolley, who has done most of the seemingly endless typing, addressing and mailing for the Editor is deserving of special recognition. Mr. Tom Gunter and his staff at Capitol Blueprint and Printing Company have been most cooperative and helpful throughout production of the *Transactions*.

We of the editorial committee hope you will find the 1968 *Transactions* a significant addition to the Gulf Coast geological literature.

J. O. SNOWDEN, JR.

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**REPORT OF THE PRESIDENT
GULF COAST SECTION — S.E.P.M.
1968**

In keeping with the objectives of this organization, i.e., promoting the advancement of the sciences of paleontology, mineralogy, sedimentology, biostratigraphy and paleoecology, especially as applied to petroleum exploration, the GCS-SEPM has had another successful year. We have proudly enjoyed very close and harmonious cooperation with GCAGS and again appreciate having the opportunity to participate in the annual convention. A number of our members are contributing technical papers at this annual meeting. Other members have assisted or are assisting with program planning, field trip arrangements, editing of technical papers, etc.

During the year, in geographical areas of larger membership concentration such as Houston, Lafayette and New Orleans, the GCS-SEPM has held successful quarterly luncheon meetings which have been well attended. Reports and programs with unclassified topics of mutual interest and friendly fellowship have generated an excellent esprit de corps amongst the membership. Throughout the year work continued on projects begun in previous years, such as type locality descriptions and Gulf Coast cross-sections with paleoecologic and biostratigraphic data. Other plans include participation of a GCS-SEPM speaker on the general subject of "Important Sample Catching Techniques" at a training school for tool pushers of South Louisiana to be conducted this fall. Although we did not have a GCS-SEPM sponsored field trip during this year, a number of members assisted in the planning and leadership of field trips conducted by other geological organizations in the Gulf Coast area. Similarly, GCS-SEPM was well represented with its members participating in the AGI Paleocology short course, the AAPG Continuing Education lecture series and activities of local geological societies.

The Gulf Coast Section has maintained close liaison with the national SEPM in assisting with membership recruiting, by representation at the Council meetings at the annual convention, and in the dissemination of pertinent information. Likewise, we have cooperated with the AAPG Committee on Stratigraphic Correlations by indexing and forwarding copies of each of the GCS-SEPM publications.

At this writing, membership of GCS-SEPM has reached an all-time high total of 360 Honorary, Active and Associate members. Included are 40 new members. This represents a very fine achievement by our Membership Chairman, Dan McGregor, and business representatives who have so ably contributed to this effort. A current membership directory, compiled by B. Ray Holifield, was distributed to all members. We are very sorry to have lost Al Barrelle, Paleontologist, Chevron Oil Company, New Orleans, who was fatally injured in an automobile accident earlier in the year.

I wish to express my sincere appreciation and thanks to the members of our Council, our Editor - W. B. Johnson, Program Chairman - Wayne Moore, Field Trip liaison - Don Cameron, business representatives and all other committee members and individuals who have worked so diligently to make this a successful year for GCS-SEPM. It has been a great pleasure and honor for me to have served as President for the year 1968.

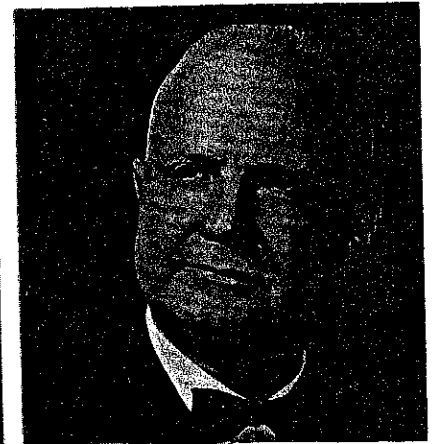
B. J. PETRUSAK



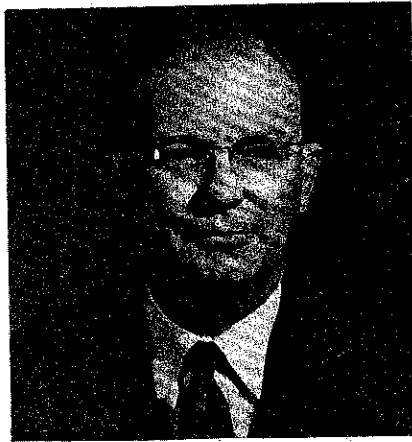
R. W. EATON
East Texas Geological Society



L. BOWLING
Chairman
New Orleans Geological Society
Shreveport Geological Society



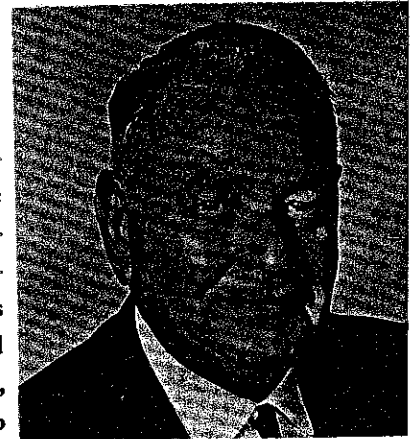
T. H. PHILPOTT
Shreveport Geological Society



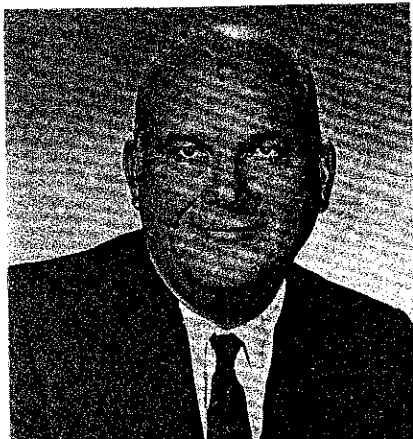
E. L. EARL
Houston Geological Society

Dedication

The 1968 TRANSACTIONS is humbly dedicated to the members of the Steering Committee who, in 1949 - 1950, fostered the initial development of the Gulf Coast Association of Geological Societies. It is fortunate that these individuals were both farsighted enough to realize the need for a regional unification of geological societies, and resolved enough to pursue their vision to reality. The Association is indebted to these men for their unrelenting efforts in successfully laying the foundation of the Gulf Coast Association of Geological Societies.



R. D. SPRAGUE
Mississippi Geological Society



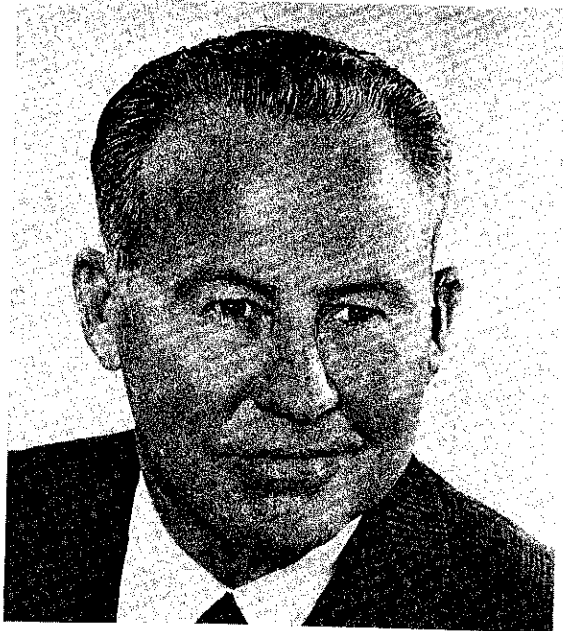
W. R. FARLEY
South Louisiana Geological Society



W. H. WALLACE
Corpus Christi Geological Society

BEST PAPER AWARDS, 17th ANNUAL MEETING

SAN ANTONIO, TEXAS



Hunter Yarborough

First Place Paper:

GEOLOGIC HISTORY OF THE GULF BASIN

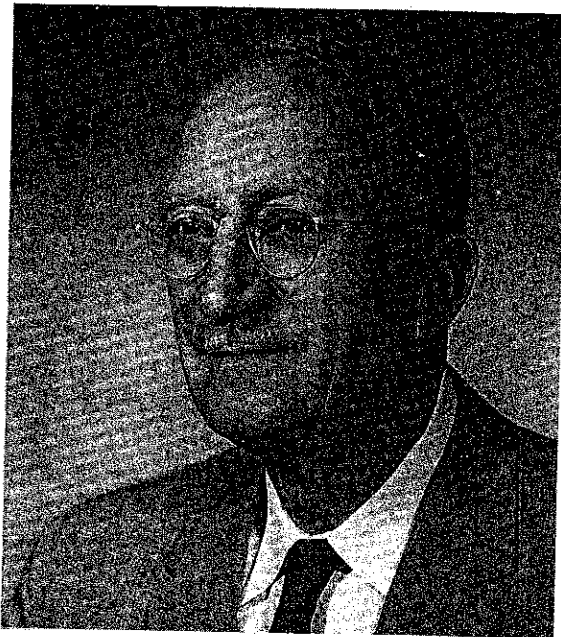
Mr. Hunter Yarborough, Box 2180, Houston, Texas, has, since the end of World War II, been associated with Humble Oil and Refining Company. He has been active in all phases of geological and geophysical research and has travelled over much of the Free World working and consulting with active exploration groups. Mr. Yarborough attended the University of Texas from 1934 to 1940, receiving a B. S. degree in geology with Honors and minors in physics and petroleum engineering. Two years were spent in graduate studies. He is a recent recipient of the A. I. Levorsen Memorial Award.

Second Place Paper:

DEVELOPMENT OF THE BASIN-IN-BASIN HONEYCOMB OF FLORIDA BAY AND THE NORTHEASTERN CUBAN LAGOON

Dr. W. Armstrong Price, 1213 Ocean Drive, Corpus Christi, Texas, is a consulting geologist and oceanographer. He received the A. B. degree from Davidson College in 1909 and the Ph. D. degree in geology from the John Hopkins University in 1913. During his career, Dr. Price has worked on a broad range of geologic problems, and has recently been very active in the area of Quaternary shoreline studies. He served as the Corpus Christi Geological Society's first president in 1942, and was made an honorary life member of the Corpus Christi Society in 1963.

John Ewing



W. Armstrong Price



John Ewing

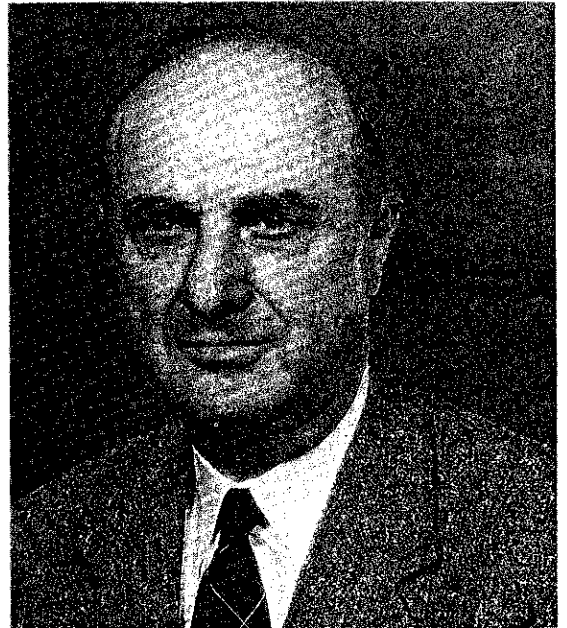
Third Place Papers:

**DIAPYRS IN THE SOUTHWESTERN
GULF OF MEXICO**

Mr. John Ewing, Heyhoe Woods Road, Palisades, New York, is a senior research associate at the Lamont Geological Observatory of Columbia University. He received a B. S. degree in physics from Harvard College in 1950. Mr. Ewing is engaged in marine seismic studies, underwater sound propagation, and ocean-bottom photography. He is an author of several papers on seismic refraction and reflection studies of oceanic crustal structure and deep-sea sediments.

**DEMAND AND SUPPLY OF FREE WORLD SULPHUR
AND FUTURE ADDITIONAL RESERVES**

Mr. Myers, 1207 Bank of Southwest Building, Houston, Texas, graduated from the University of Colorado with a B. A. degree in geology. He has been a consultant in oil, gas sulphur and other minerals since 1932.



John C. Meyers

PUBLICATIONS
of the
GULF COAST ASSOCIATION OF GEOLOGICAL SOCIETIES

Following is a list of available publications of the G.C.A.G.S. They may be ordered from Cambe Log Library, 718 Milam Street, Houston, Texas 77002. Prices are postpaid but 2% sales tax must be added to all orders. Make your check payable to Cambe Log Library, Inc. A discount of one dollar per volume is available on orders for complete sets of Transactions and Guide Books.

TRANSACTIONS

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1954 Volume 4 — Houston	6.50
1955 Volume 5 — Biloxi	6.50
1956 Volume 6 — San Antonio	6.50
1957 Volume 7 — New Orleans	8.00
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1959 Volume 9 — Houston	8.00
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1961 Volume 11 — San Antonio	8.00
1962 Volume 12 — New Orleans	8.00
1963 Volume 13 — Shreveport	8.00
1964 Volume 14 — Corpus Christi	8.00
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1964 - Depositional Environments So. Cent. Tex. Coast	6.70
1965 - The Deltaic Coastal Plain	4.00
1966 - Fault and Salt Map of South Louisiana, by W. E. Wallace, Jr. (54"x108") Scale 1:250 000	8.00

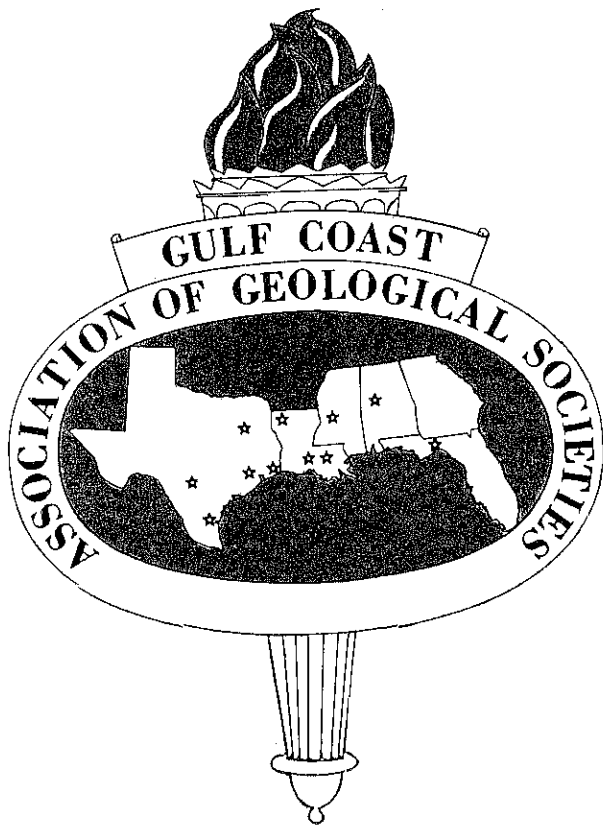
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Gulf Coast Type Locality Unit II, 20 Localities, 1962	\$2.50
Gulf Coast Type Locality Unit III, 15 Localities, 1963	\$2.50
Guidebook, Oligocene and Eocene of W. Miss., Cent. La., E. Tex., 1957	\$1.25
Guidebook, Middle Eocene of Houston County, Texas, 1961	\$3.00
Guidebook, Little Stave Creek and Salt Mountain, Alabama, 1962	\$3.00
Guidebook, Selected Cret. and Tert. Depositional Environments - Texas, 1967	\$4.00



- ALABAMA GEOLOGICAL SOCIETY
Tuscaloosa, Alabama
- BEAUMONT GEOLOGICAL SOCIETY
Beaumont, Texas
- CORPUS CHRISTI GEOLOGICAL SOCIETY
Corpus Christi, Texas
- EAST TEXAS GEOLOGICAL SOCIETY
Tyler, Texas
- HOUSTON GEOLOGICAL SOCIETY
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- LAFAYETTE GEOLOGICAL SOCIETY
Lafayette, Louisiana
- MISSISSIPPI GEOLOGICAL SOCIETY
Jackson, Mississippi
- NEW ORLEANS GEOLOGICAL SOCIETY
New Orleans, Louisiana
- SHREVEPORT GEOLOGICAL SOCIETY
Shreveport, Louisiana
- SOUTH TEXAS GEOLOGICAL SOCIETY
San Antonio, Texas
- SOUTHEASTERN GEOLOGICAL SOCIETY
Tallahassee, Florida

TECHNICAL PAPERS

