## HOUSTON GEOLOGICAL SOCIETY



BULLETIN 1959 - 1960 HOUSTON, TEXAS

James A. Wheeler 1514 Esperson Edg. Houston 2, Texas

## Houston Geological Society



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### NINTH REGULAR MEETING - MAY 9

The regular dinner meeting of the Houston Geological Society will be held Monday evening, May 9, 1960, on the tenth floor of the Houston Club. The social hour will begin at 5:15 p.m., dinner at 6:00 p.m.

MR. ALLEN REAGAN, JR., of the Brazos Oil and Gas Company, a division of Dow Chemical, will present his paper on the 'History and Development of the Person Field, Karnes County, Texas." The Person Field, discovered in August, 1959, by Brazos Oil and Gas Company, is one of the more important discoveries of recent years in South Texas. It points up the deeper Edwards trend as a source of oil production where previously it had been considered primarily as a source of gas production. To date thirteen wells have been completed in this, the most downdip Edwards lime oil field in South Texas.

Mr. Reagan is a graduate of the University of Texas and has been employed by the Brazos Oil and Gas Company for the past eight years. He is the Texas District Geologist for Brazos.

The annual Student Awards presentations will be made to outstanding geological students of the Houston area's universities.

Help support your Society by attending, and save an open date for June 13th when the final meeting for this year will be held. The occasion will be Ladies Night; all members are urged to bring their wives. Mr. Tom Barber has some erudite thoughts on Dimwitt County to pass along to the petroleum geologists.

## FIELD TRIP NOTICE

E. H. Rainwater, field trip chairman, announces a one-day trip on Saturday, May 14, 1960, to study exposures of Jackson, Catahoula and Oakville in northern Grimes County.

Applications are attached.

Make your plans to attend now!

#### EDITORIAL

The responsibility of man to boy for passing on to each succeeding generation the priceless knowledge from all of the past is frightening in its implications of failure should the link between past and future be broken. That the future of our country rests in the hands of today's youth is axiomatic, but it adds a sense of urgency to the mission that the boy be apprised of all that man's experience has taught him.

In this issue of the Bulletin, which is in large part devoted to the story of men who have made their mark in the professional pursuit of geology, it is fitting to pause in reflection of a program just completed which has had as its purpose the introduction of Houston youth to the fascinating new world of geology.

Under the indefatigable chairmanship of George Dickinson, the Houston Geological Society's Boy Scout Committee wound up an eminently successful series of talks on geology with a field trip to the Central Mineral Region, conducted April 1 and 2, in which some 250 "post-graduate" merit-badgers eagerly participated. Enough credit cannot be given to those geologists who gave of their time in organizing and presenting the evening geological talks and who accompanied the boys on their first rock adventure to the field. Those who helped were cited in the Bulletin for January; and, certainly, the able assistance of Boy Scout headquarter's staffers must not be overlooked.

It goes without saying that the occasion of offering a helping hand to a boy who is alive with curiosity for the subject has its compensation in the satisfaction of regenerating ones own enthusiasm in it, but from all of us thanks go once again to those men who helped make the Boy Scout program a success.

## ITEMS FROM THE EDITOR'S DESK

## HE'LL BE IN TO SEE YOU

Neil Hanson, M.P.S. Production Co., was appointed managing editor for the Bulletin for next year. In this capacity, Neil will be soliciting signature advertisers and professional cards to run in the Bulletin for 1960-61; first issue in September.

It is from our advertisers that the money comes to support the official publication of your Society. To be sure that your ad will be given space next year, call Neil today: CA 4-7871.

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### MISSISSIPPI GROUP TRIPS

"The Cenozoic of Southeastern Mississippi and Southwestern Alabama" is the theme for the fifteenth annual field trip of the Mississippi Geological Society to be held May 12, 13 & 14, 1960. Reservation forms are available from the Houston Geological Society office.

#### NEWS OF MEMBERS

PAUL HINYARD is newly in Houston as area geologist for Shell, coming here from Corpus Christi where he served as division exploration manager.

LEO GRAVIS, Trunkline Gas, has been promoted to manager of exploration for the company. He previously was chief geologist.

To administrative assistant to the president of Continental Oil Company goes C. E. GREENWOOD; Chuck was formerly offshore division geologist for Continental.

JOHN W. COOKE, JR., chief geologist for the Texas National Petroleum Co., has been appointed vice president of the Houston firm. The same company has announced the addition of PAUL M. HARD-WICK, JR. as geologist for the company; he was formerly geologist with Union Texas Natural Gas in Lake Charles, Louisiana.

BEN MORGAN has elected early retirement from Pan Am and announces the opening of offices as consulting geologist at 1623 Bank of the Southwest Building. His phone: CA 2-1445.

#### COMMITTEE REPORTS

### NOMINATING COMMITTEE

Tom Hedley, Ralph Taylor, and Aubrey Rabensburg, members of the nominating committee for the HGS, have selected candidates to be voted upon for the 1960-61 offices. A list of the nominees is carried on following pages of the Bulletin.

Ballots will shortly be mailed to all members of the Society; results will be announced at the final meeting, June 13.

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### ENGINEERS' COUNCIL

The Greater Houston Science Fair, sponsored by the Engineers' Council of Houston and the Houston Post, was held in the Sam Houston Coliseum April 1, 2 and 3. The Fair, the largest ever held in this part of the country, drew exhibits in biology, mathematics, physics, chemistry and the earth sciences from schools in the seventeen counties of the Houston area.

HGS members who served as judges were: Floyd J. Adcock, R. P. Akkerman, R. P. Alger, James W. Alewine, Olin G. Bell, John W. Brickner, J. A. Brock, A. S. Dickinson, George Edwards, R. E. Fairchild, D. J. Fritz, H. M. Glasgow, G. R. Gray, L. B. Lipson, W. W. McMahon, Jr., Mrs. Jean Moore, J. A. Mouton, B. O. Pixler, H. G. Schoenicke, N. E. Smith, R. K. Thies, R. T. Turley, D. C. Van Siclen, John M. Vetter, A. H. Wadsworth, Jr., Terry Walker.

## BOY SCOUT COMMITTEE

The committee wishes to acknowledge the cash contributions of the following individuals and companies to defraying expenses of the field trip:

0	S. A. Berthiaume
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0	Thomas D. Barber
0	George C. Hardin, Jr.
0	Wm. C. Hawk
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The Houston Geological Society gave \$1,000.00.

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### FIELD TRIP COMMITTEE

NOTICE OF SPRING FIELD TRIP

E. H. Rainwater, Field Trip Chairman, announces a one-day field trip on Saturday, May 14, to study exposures of Jackson, Catahoula and Oakville in northern Grimes County, Texas, southeast of College Station, in the vicinity of Navasota, about 80 miles northwest of Houston.

Leader of the field trip will be Professor William L. Russell, of Texas A&M College, who has spent much time studying this area and has published the following papers on the geology of the area:

- Stratigraphy of the Wellborn and Manning Formations in East-Central Texas: Transactions of the Gulf Coast Association of Geological Societies, Vol. V, pp. 165-172, 1955.
- 2. Faulting and Superficial Structures in East-Central Texas: Transactions of the Gulf Coast Association of Geological Societies, Vol. VII, pp. 65-72, 1957.

The trip will start at the East Gate of the Texas A&M College Campus at 8:00 A.M. and will end about 5:00 P.M. near Navasota.

Registration fee for the field trip will be \$5.00, which includes a copy of the field trip guidebook. Box lunch is available for \$1.00 to those who send payment in advance.

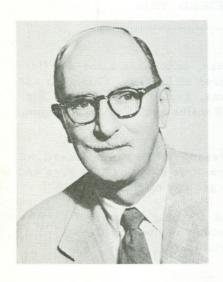
The guidebook will be available after the trip at the Society's office or by mail for \$3.50, postpaid.

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1940-42 - Pan Am Production Co., Division Geologist

1942-52 - Royal Oil & Gas Corp.,
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Member Houston Geological Society since 1938

Member American Association of Petroleum Geologists 1938

Member Sigma Gamma Epsilon

Member Sigma Xi

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1952	Representative to G.C.A.G.S.
1954	Student Loan Chairman H.G.S.
1954-56	Medal Awards Committee, AAPG
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1931-35 - Yount-Lee Oil Company Chief Geologist

1935-37 - Glenn McCarthy, Inc. V.P. & Gen'l Manager

1937-42 - Consulting Geologist

1942-45 - U.S. Army, Chief of
Petroleum Production
Section, Army-Navy
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1945- - Consulting Geologist and
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ber AAPG & HGS

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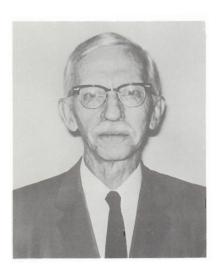
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## MEMORIAL

## EMMETT PERRY TATUM (1904 - 1960)

On March 5, 1960, Emmett Perry Tatum died in Houston, Texas, as a result of a second coronary occlusion, the first having occurred approximately five years ago. His sudden and unexpected demise was a great shock to his many friends and associates.

He was an only son born September 25, 1904, in Macon, Miss. He moved to Shreveport, Louisiana, and was graduated from Byrd High School in that city. He attended Louisiana State University from 1923 through 1928 from which he received a B.S. and M.S. degree in Geology, specializing in Micropaleontology. Emmett proved to be an astute geological student with a very retentive mind which later made him an exceptional paleontologist. His memory of Gulf Coast wells and stratigraphy was a wonder to many who worked with him. Emmett's love of fun, his infectious laughter and academic standing made him a very popular student. He belonged to Kappa Sigma social fraternity and many of his exploits are still legend at L.S.U.

Emmett began his career in Micropaleontology with Humble Oil & Refining Company on June 15, 1928. He was persuaded by the late Karl 'Happy" Young, Chief Geologist for Union Sulphur Company, to lend him a helping hand and from June 1, 1929, to October 15, he worked for that company. On October 16, 1929, he returned to Humble. Since then his entire career has been spent with Humble. He was Texas Gulf Coast Area Paleontologist when he passed away.

He started in Humble's Paleo Laboratory working for Mr. F. W. Rolshausen, Chief Paleontologist, and had frequent contact with Mr. L. P. Teas, then Texas Gulf Coast Division Geologist. Most of the wells drilled in those days penetrated only the Miocene. Emmett had great confidence in the Middle Oligocene and older formations as potential oil reservoirs and constantly urged Mr. Teas to take wells deeper to acquire points for the construction of a regional Oligocene structure map. His enthusiasm caused Mr. Teas to request the scouts for Humble to dig in old abandoned slush pits of wells which might supply another Oligocene point, and thus some points were acquired. Many wells were taken deeper than originally planned at Emmett's insistence.

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Fields like Amelia, Thompsons, Anahuac and many other of Middle Oligocene and Frio age were found as a result of penetrations deeper than the then popular Miocene.

Mr. L. P. Teas says 'He was one of the most cooperative fellows I ever knew. He gave generously of his knowledge and used it exclusively for the furtherance of the Humble Oil & Refining Company without any thought of making a name for himself."

Emmett met Mary White in Houston and on March 31, 1934, they were married. He is survived by his widow, a son, Emmett Perry Tatum, Jr., a daughter, Mary Ann Tatum, and his mother, Mrs. Rita Allen Tatum.

His professional affiliations were the AAPG, the Houston Geological Society and the SEPM, of which he was a charter member in the Gulf Coast Section.

It was Emmett Perry Tatum and several early contemporaries who furnished the principal means of correlating wells in the early days before the advent of Electrical Logging and its subsequent acceptance by the oil industry. Economic micropaleontology as an oil field tool was in its infancy and consulting paleontologists were few. Practically the only paleo laboratories were those operated by some of the major oil companies who, in order to acquire information for themselves, worked samples and correlated wells for other oil companies and a host of independent operators. To many of those then small operators, now names very prominent in the oil industry, Emmett's voice dispensing much needed information was a familiar sound. It was he and his early cohorts who set the pattern and established micropaleontology in the oil industry. Many young paleontologists who never met Emmett still know him well by reputation and the high esteem with which he was regarded by his contemporaries.

Working with Emmett was a great pleasure, for his wholehearted love of life and people made him a person who enjoyed helping others. Under his counseling and tutelage many younger men have moved on and become well-known paleontologists in their own areas.

People who worked for him have only praise for his good humor, his consideration of others, and his benevolent attitude to younger people.

The Profession has lost a landmark.

-- Marion S. Roberts

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### GEOSCIENCE NOTES

### Review:

Stratigraphic Principles and Practice; J. Marvin Weller (1960), 725 pp., Harper & Brothers, N.Y. (\$10.00).

Dr. Weller's book is the latest of the Harper's Geoscience Series which is being edited by Dr. Carey Croneis of Rice University. Although the book was apparently designed for use as a textbook in stratigraphy for advanced students of geology, the practicing geologist will find in it much information of use and interest. The book is written with emphasis on stratigraphy; sedimentation, tectonics, paleontology and other branches of geology are examined in their relation to stratigraphy. This is not a book describing the stratigraphy of any one area or region but is an analysis of stratigraphic principles derived from many areas of the world. The geologist will find, assembled under one cover, stratigraphic principles published through the years in thousands of separate papers.

The book is divided into four parts: Part I, Introduction; Part II, Materials of Stratigraphy; Part III, Stratigraphic Bodies and Relations; and Part IV, Appendix.

In Part II, Dr. Weller's discussion of Paleoecology consists of a 43 page resume' of the present state of knowledge on this important subject. In view of the petroleum geologist's concern with this branch of geology this synthesis will be most welcome.

Of greatest interest to petroleum geologists is Part III. Dr. Weller was one of the first to recognize Pennsylvanian cyclothems; and his treatment of this subject, along with other examples of cyclic sedimentation, is both interesting and enlightening. In discussing unconformities and stratigraphic classification Dr. Weller paints with a new brush. He points out many of the fallacies of old geological beliefs concerning worldwide diastrophism at the close of each geological period, and discusses in detail the modern concepts of stratigraphic classification and nomenclature. When radioactive dating has become more widespread geologists will probably find that the Permian of Russia (the type lo-

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cality) is not necessarily exactly the same age as the Permian of West Texas, and that all worldwide stratigraphic correlations are only relative. The fact that there is apparently no Upper Oligocene present in the Gulf Coast does not necessarily mean that there was no sediment deposition during this three or four million year period, or that these sediments were deposited and later removed by erosion; it may merely mean that the animals whose fossil remains distinguish the Upper Oligocene in Europe did not live in the Gulf Coast--or lived and were not preserved.

Under Lateral Variations and Facies Dr. Weller gives up-to-date treatment to a subject that is of more than intellectual interest to Gulf Coast geologists. This is the most comprehensive treatment of the subject seen by this writer since the publication in 1949 of G.S.A. Memoir 39, Sedimentary Facies in Geologic History.

Much of the book may be considered elementary by practicing petroleum geologists, but most will find that by far the largest part is well worth studying in detail. Study of Dr. Weller's book will do much to organize ones ideas regarding stratigraphic principles.

-- Reviewed by George C. Hardin, Jr.

## Review, and Notes on the Cretaceous-Tertiary Boundary in the Gulf Coast

On Tylocidaris species (Echinoidea) and the Stratigraphy of the Danian of Sweden, with a Bibliography of the Danian and the Paleocene, Fritz Brotzen, Sveriges Geologiska Undersökning, Ser. C., No. 571, 1959, Stockholm, Sweden. Price 7 Kronor (about \$1.35). In English.

This report, of 81 pages, 3 plates, 19 text figures, describes the bio- and litho-stratigraphy of an 80-meter section of Danian limestone and Maastrichtian chalk exposed in a large quary located in the southern tip of Sweden, just across the narrow Orsund from Copenhagen, in the type Danian region. It is a timely report which will help acquaint dele-

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gates to the XXI International Geological Congress at Copenhagen with the geology of that region. The author is one of the foremost authorities on the type Danian, and his analysis of the fossils and opinion regarding the geologic age of the section must be considered important contributions to stratigraphy.

A special session on the "Danian problem" was held at the XX International Geological Congress, Mexico City, in 1956. There it was agreed that discussion of this problem would be continued at the Copenhagen Congress. It is understood that geologists from many parts of the world will present papers bearing on the age and correlation of the Danian. The reviewer will present the "Paleocene of the Gulf Coastal Plain of the United States of America" and discuss his views on the age of the Danian and on the most logical place for the Cretaceous-Tertiary boundary.

Brotzen reviews the history of nomenclature and the ideas regarding age and correlation of the Danian. He is critical of geologists who have made world-wide correlations of the Danian without knowing the type section. In the cement quarry which he describes in this paper he has no difficulty in identifying the Danian-Maastrichtian (Stevnsian) boundary, on the basis of lithology and fossils. He subdivides the 60 meters of Danian exposed on the basis of foraminifera, spines of the echinoid Tylocidaris and other fossils into lower (zone of Tylocidaris odumi), middle (zone of Tylocidaris rosenkrantzi), and upper (zone of Tylocidaris herupensis). The lithology and fossils of each zone are described in detail and the small reefs and irregularly bedded bioherms are clearly shown on photographs.

Brotzen assigns the Danian to the youngest stage of the Cretaceous, as did Desor in 1846, and he concludes that the Seelandian (next stage younger than the Danian according to Brotzen) is lowermost Paleocene. 27 pages are needed for the bibliography of the Danian and Paleocene.

Paleontologists are generally agreed that the Navarro of Texas and its equivalent in the eastern Gulf region is Maastrichtian in age. American geologists have accepted a lower Tertiary (Paleocene) age for the Midway. The type Danian, according to Brotzen, occurs be-

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tween the Maastrichtian and the oldest Paleocene (Seelandian). Should these views be correct there could be no Danian in the Gulf Coast, and Paleocene lies everywhere on Maastrichtian or older strata. There is a pronounced faunal change at the accepted Cretaceous-Tertiary boundary in the Gulf Coast, even where there is no apparent lithologic change. In Texas gray marine Midway clay immediately overlies similar marine Navarro clay. Glauconite and phosphatic nodules may or may not be present in the lowermost Midway. In a core sample from southeastern Alabama lowermost Midway light gray argillaceous chalk overlies identical "Selma" chalk, with abundant upper Cretaceous microfossils, and with no physical evidence of an unconformity.

Top of Cretaceous has been established paleontologically in numerous Gulf Coast outcrop and well sections. Microfossils, especially foraminifera, are most useful in determining the Tertiary-Cretaceous boundary in well samples. In outcrops many groups of large fossils can also be used to identify the boundary. It appears that many species of both vertebrates (mososaurs, turtles, etc.) and invertebrates (foraminifera, mollusks, corals, etc.) do not span the accepted boundary. But paleontologists have no explanation of how so many basal Tertiary species suddenly appeared to replace the extinct Cretaceous species. Could it be that an unconformity, representing the Danian stage, everywhere separates the Gulf Coast Cretaceous and Tertiary?

The reviewer believes that the Gulf Coast Midway is Paleocene and that lower Midway belongs to the Danian stage. He does not believe that the faunal change between Navarro and basal Midway is as great as some paleontologists attempt to show on fossil distribution charts, except where there was a sudden change in environment. The Cretaceous-Tertiary unconformity may not represent a very great time break in most parts of the Gulf Coast. However, some wells have penetrated Taylor, or even Austin, directly below Midway, proving that some areas were uplifted after Cretaceous time and before Tertiary deposition began.

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### Review:

'Geology and Ground Water Resources of Winkler County, Texas' - Texas Board of Water Engineers Bulletin 5916; New State Office Bldg., Austin, Texas.

There are several reasons why this bulletin should be read by petroleum geologists and engineers:

It describes a typical deposit of "unconfined" ground water (also called free, phreatic, or non-artesian), that is, an aquifer open to infiltration of rainwater from the surface above the outcrop. In Winkler County the aquifers of this class are Cenozoic sands and, to a lesser extent, the Santa Rosa (Triassic). As Todd has said, far more water producing areas are from unconsolidated sands than from all other formations (Ground Water Hydrology, 1950, p. 26).

Just as rainwater can enter the aquifer in Winkler County so also can organic wastes and, in that county, in greater volume oil field effluent water from unlined ditches and reservoirs. The principal production of oil field water is from the Hendrick Field (Ackers, De Chicchis, and Smith, A.A.P.G. Vol. 14, No. 8, pp. 923-944). The special composition of Hendrick effluent has been the subject of unpublished files of the U.S. Bureau of Mines and by Howard Vance, now of Houston.

Garza and Wesselman show how the composition of this water can be evidenced during its admixture with the water original to the Cenozoic sands. Gulf Coast geologists will recollect the claims of admixture with ground water by formation water from oil sands upheld by the courts in the "Little Kentucky" case, so-called, from Jackson County.

--Paul Weaver

## Logging Notes from Paul Weaver

At the 29th S.E.G. meeting in Los Angeles, November 9-13, 1959, a special series of papers was given on what might be loosely called: basic well logging (abstracts in Geophysics, vol. XXIV, No. 5, December 1959, p. 1129-31 and 1145-46).

Two citations from them appear deserving of mention as not being yet generally known.

Preparation of iso-salinity maps using calculations from electrical logs. A. T. Hingle, Jr. presented an iso-salinity map of the Dexter (Woodbine) entirely from electrical logs for the entire East Texas basin. Old shorelines and structural trends can be inferred from this map, and the salinity is obviously not merely a function of present depth (fig. 9 of his paper).

Another interesting discussion pertains to the Humble flowing neutron and flowing fluid density log by Harvey L. Bryant.

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1954	Cross sections Upper Gulf Coast of Texas (4 strike and 2 dip sections). Vertical scale 1" equals 800". Horizontal scale 1" equals 16,000".  Price per set - \$10.00 plus postage
1954	HGS Study Group Report. Stratigraphy of the Upper Gulf Coast of Texas, and Strike and Dip Cross Sections of Upper Gulf Coast. Approximately 50 pages. General discussion of Tertiary Formations. Four fold-out Dip Cross Sections. Two fold-out Strike Cross Sections. Price - \$5.00 plus 25¢ postage
1952	Geologic strip maps. Highway 77 from Texas-Oklahoma State Line to Dallas and Highway 75 from Dallas to Galveston. Includes culture, geologic formations' outcrop at surface, subsurface contouring, and Fields with pertinent data. Price - \$1.50 per copy, postpaid
1959	Geologic strip maps. U.S. Highway 90 from Texas-Louisiana State Line to Van Horn and U.S. Highway 80 from Van Horn to Texas-New Mexico State Line. Price - \$2.75 per copy, postpaid
1953	AAPG - SEPM - SEG Guidebook General discussion, Cross Sections, and Structure Maps of 23 Gulf Coast Fields. Articles of six aspects of Gulf Coast Geology. Itinerary of five field trips. Price - \$5.00 plus 25¢ postage
1958	Guidebook of the Annual Field Trip, HGS & SEPM, Upper and Middle Tertiary, Brazos River Valley, Texas Price - \$3.25, postpaid
1959	Guidebook of Field Trip, HGS, Boling Dome, Wharton County, Texas. Includes cross sections of flank of dome.  Price - \$1.00 per copy, postpaid
1959	HGS Frio Study Group Report. The Frio Formation of the Upper Gulf Coast of Texas. Includes 3 lithofacies maps of Upper & Lower Frio Formation, Diagrammatic Stratigraphic Section of Frio Formation, text explaining method of mapping, tabulation providing datum and detail data for all reference wells.  Price - \$3.00 per copy plus 25¢ postage

1959	Guidebook, Annual Field Trip, HGS & SEPM. Lower Tertitiary & Upper Cretaceous, Brazos River Valley, Texas Price - \$3.25 per copy postpaid
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## ON THE DISTAFF SIDE

The 1959-60 season for the Houston Geological Auxiliary ends with the Annual Business Meeting and Brunch, May 11th, 10:00 A.M., Lakeside Country Club. Mrs. W. T. Mendell, Chairman, and her committee have plans for a lovely Brunch. You have received your notice and I do hope you will fill out the attached card and return it promptly. Properly filled in, these cards are a great help to the incoming President in filling committees of members who desire to serve in the Auxiliary. We hope to see many of you at the Annual Business meeting, so make your reservations early by returning the stamped postal card.

Serving as your 10th President for this 1959-60 season has been a privilege and honor, and I would like to thank the entire membership for this honor. All of your elected Officers and Committees for this season have done their best to advance the interest of the membership and I have certainly enjoyed working with them toward this goal. The Officers, Board of Directors, Committee Chairmen and Committees have strived to plan a year of activities with different and unusual parties. I must say that I am very proud of each and every one of you. To this wonderful group of women I wish to express my sincere thanks. It has been a pleasure and privilege to work with each of you.

We will introduce the new slate of Officers at the Annual Business Meeting and I know you will all join me in wishing them a very successful year under the leadership of your incoming President, Mrs. Ed J. Smith, Jr. (Edna Pearle).

May each and every one of you have a wonderful summer.

-- Nan Vittrup

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