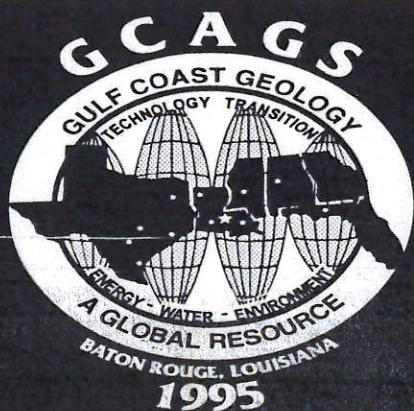
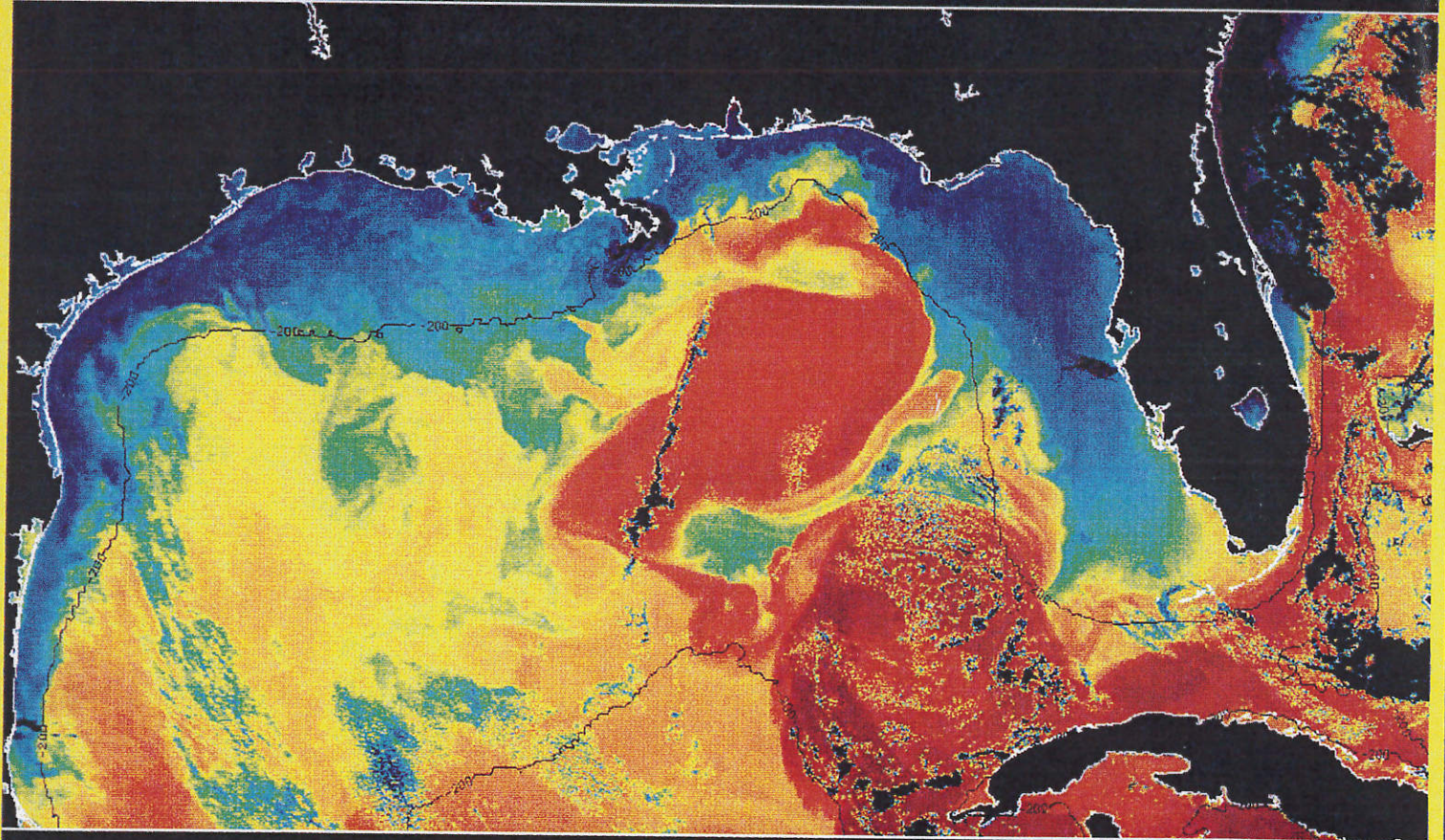
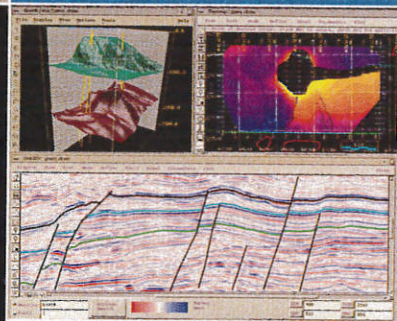
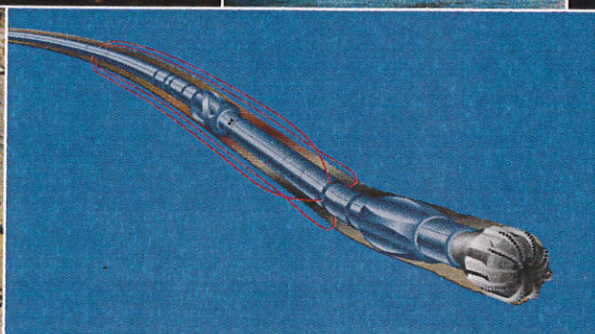


Gulf Coast Association of Geological Societies



Transactions
of the
45th Annual Convention
Baton Rouge, Louisiana
October 25-27, 1995



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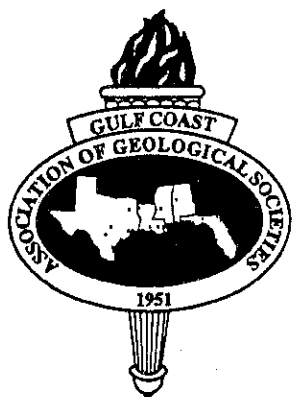
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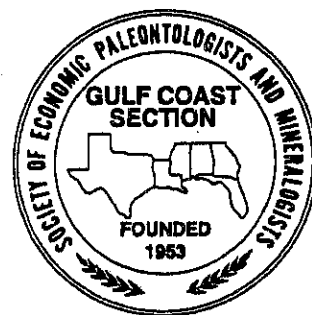
Transactions

Gulf Coast Association of Geological Societies

A Section of the American Association of Petroleum Geologists



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Front Cover Photograph

Satellite image of sea surface temperatures in the Gulf of Mexico shows the warm (red) waters from the Caribbean as they form the Loop Current (circular area touching Cuba. The red area with the two tails is an eddy, spun off the Loop Current) and then flow past Florida to form the Gulf Stream.

Image form Earth Scan Laboratory LSU Coastal Studies Institute

DEDICATION OF 1995 Transactions to HAROLD N. FISK, 1908-1964

Harold Norman Fisk was born near Medford, Oregon in 1908 and received his B.S. and M.S. degrees in geology at the University of Oregon in 1930 and 1931. He then enrolled at the University of Cincinnati to study the Columbia River Basalt of his native state for his Ph.D. degree. In 1933 he accepted an assistantship at Northwestern University where he met and married Emma Ayrs from Birmingham, Alabama.

When Fisk received his Ph.D. in 1935, H. V. Howe of Louisiana State University (LSU) gave him a job with the Louisiana Geological Survey (LGS) at a salary of seventy-five dollars a month. He began to map the geology of Grant and La Salle Parishes and in 1938 his report was published as LGS Bulletin 10. Part of this bulletin is concerned with the physiography of parts of the Mississippi, Red, and Little River alluvial valleys. Also described is a part of the Mississippi entrenched valley and the alluvium filling the valley. Upon completion of his research on Grant and La Salle Parishes he began to map the geology of Rapides and Avoyelles Parishes and his results were published as LGS Bulletin 18 in 1940. A significant part of this bulletin is concerned with several prehistoric Mississippi River courses.

While Fisk was busy in east central Louisiana, General M. C. Tyler, President of the Mississippi River Commission (MRC) had three major problems: Flood prevention, maintaining river navigation and reduction of land loss by channel migration. Tyler's office was in Vicksburg, Mississippi, only 100 miles from the prehistoric river courses mapped by Fisk. After Tyler and his staff became aware of Fisk's findings, they invited him to present a lecture in Vicksburg in late 1940. This meeting resulted in Fisk becoming a consultant for the MRC in June 1941 to supervise a geological study of the valley from Cairo, Illinois, to the Gulf. Most of the money in the \$125,000 budget was for hundreds of borings, aerial photo mosaics, and maps of the entire valley. Only a very small part of the budget was for salaries and field expenses for Fisk and four assistant geologists. The project office was in the LSU Geology Building, less than a mile for the mighty Mississippi River at Baton Rouge.

In early 1944 each geologist was instructed to write certain parts of the report. We all worked 10 to 12 hour days, six days a week. The final report, entitled "Geological Investigation of the Alluvial Valley of the Lower Mississippi River", was printed December 1, 1944. It was a very impressive document. Volume one, which was

2" x 9" x 12" in size, includes 78 pages of text, 80 figures, 11 tables, and an eight page index. Volume two was a 4" x 9" x 12" library-type box (pocket) which included five huge folded colored maps. Plate 22, which showed ancient courses of the river, consisted of 15 30" x 37" sheets.

Before the 1944 report was published, the MRC asked Fisk to study the fine-grained sediments of the present meander belt

, because he had clearly demonstrated that the distribution of these sediments controlled river activities. After the fine-grained sediments report was published in 1947, the New Orleans Corps of Engineers District authorized Fisk to study the Chenier Plain of southwest Louisiana. This event was very significant in Fisk's career with the Corps of Engineers. It was the first time that he was asked to study an area outside the Mississippi Valley and Delta. This authorization was definite proof that the Corps of Engineers was convinced that geological studies of their areas of responsibility should become routine activities.

During the summer of 1948 Morgan Davis, Chief Geologist for the Humble Oil Company, hired Fisk as Chief of Humble's Geologic Research Section in Houston. Fisk resigned as Professor at LSU and as consultant to the MRC and moved to Houston in July 1948. However, by 1950 arrangements were made for Fisk to resume his position with the MRC without monetary compensation. Fisk was asked to tackle the problem of the ongoing

Mississippi River diversion into the Atchafalaya. This problem was not new to Fisk because one decade earlier he described the Atchafalaya River in Bulletin 18. Fisk's final report on the Atchafalaya was published in 1952, and in 1954 the U. S. Congress authorized the Corps to construct the "Old River Control Structure" to prevent continued diversion of Mississippi River water and sediment.

Between 1941 and 1948 Fisk submitted many progress reports to the MRC. Although many concentrated on the valley, his research and resulting reports were certainly not confined to the valley. Many of the key illustrations in the 1944 and 1947 reports were concerned with the extensive Mississippi River deltaic plain of southeastern Louisiana. After Fisk joined Humble he continued to study the modern delta and also the abandoned Teche, St. Bernard, and Lafourche deltas. Results of his research were published in several papers in the period 1954 to 1961.



By the time I received my B.S. degree at LSU in 1939 I had accepted an invitation to earn my MS degree under Fisk's supervision. One week after I completed my MS thesis in June 1941 Fisk employed me to be his personal assistant on the MRC project, a wonderful relationship which continued until mid 1948. When he joined Humble in Houston, I joined Shell's new Exploration and Production Research Lab in Houston. Thus, my former professor and boss for 12 years became my fierce competitor. We introduced the study of Recent sediments into the Petroleum Industry.

I am well qualified to summarize Fisk's career as an LSU Geology Professor, MRC consultant, and Humble employee. However, my great admiration, respect, indebtedness, and very close personal and professional relationship with this great scientist precludes the possibility of trying to evaluate his many accomplishments and contributions to sedimentary geology. Fortunately, the MRC held a special conference in Vicksburg in December 1944 to celebrate the 50th anniversary of the classic 1944 Fisk report. Two of my old friends, H. H. Roberts and E. L. Krinitzsky, presented papers on Fisk's contributions at this conference. The following excerpts are from their manuscripts. I am most grateful to these two friends for permission to include their evaluations of Fisk's work, as follows:

"The mammoth scale of data collection associated with Fisk's alluvial valley and delta plain studies gave his work instant visibility and credibility among most scientific peers. The impressive numbers of borings provided a systematic data base for developing a new perspective on the Late Pleistocene and Holocene sedimentary evolution of the Mississippi River's alluvial valley and deltaic plain. From the body of work directed by Fisk, the subfield of geology dealing with sedimentology and sedimentary processes took on new energy and direction. His studies of the Mississippi River depositional system gave sedimentary geology three very important new thrusts. First, he convincingly added the third dimension to the geomorphic elements of a fluvial-deltaic complex previously described only in two dimensions. This approach led to an understanding of sediment body geometries and spatial facies relation-

ships. The vast data base used in this endeavor provided the linkage between process and form. Large-scale process-form studies by Fisk and his colleagues eventually cascaded in scale to the study of sedimentary structures. Second, extending our knowledge of surficial environments and their characteristics into the sediments of the shallow subsurface provided initial momentum for studying sediments in terms of their "depositional environments." Finally, he provided timing for major depositional and erosional events within a world class fluvial-deltaic complex. All three of these major contributions apply to the Holocene deltaic plain as well as other parts of the Mississippi River system. (From "Holocene evolution of the deltaic plain: A perspective from Fisk to Present" by H. H. Roberts, LSU Coastal Studies Institute, Baton Rouge, LA., 1994).

"Fisk's work provided a three-dimensional pattern of occurrence and composition of sediments in the alluvial valley and deltaic plain of the lower Mississippi River. He also interpreted the processes by which the sediments were deposited and the relevance of tectonism in their history. These data provide site characterizations that are basic for all major categories of engineering activities. His work has found applications in better methods for river control, stabilization of riverbanks, locating sources of aggregate for concrete, management of groundwater, maintenance of wetlands, and generally for more reliable, timely and economical evaluations in selecting optimum site locations and determining foundation conditions. Though Fisk's work was for the lower Mississippi Valley, the principles that he developed are applicable to comparable environments throughout the world." (From "The Fisk contributions to Engineering Geology in alluvial valleys and deltaic plains" by E. L. Krinitzsky, U. S. Waterways Expt. Sta., Vicksburg, MS, 1994.)

GCAGS members have profited in many ways from the knowledge which they acquired as a result of Fisk's research on clastic sediments. Since he spent about one half of his career in the LSU Geology Building, located about two miles from this convention center, it is highly appropriate that GCAGS officials elected to dedicate these *Transactions* to his memory in this place.

Rufus J. LeBlanc, Sr.

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Report of the President

Gulf Coast Association of Geological Societies

William E. Marsalis

When we last met in Baton Rouge nine years ago, the oil industry appeared to be heading for a downturn from which some saw no hope of recovery. Companies were downsizing, restructuring, or streamlining. Anyway that you sliced it, companies were cutting personnel, selling their interests, or simply closing their doors forever.

In 1995, companies are leaner, the majors are looking for the "elephants" on foreign soils, and the independents are picking up slack throughout the U.S. The "oil patch" is still an active, viable, and strong industry, not just because of new technologies such as 3-D seismic and horizontal wells, but because of forward-thinking individuals and people willing to take risks. When you have people of that calibre, you can't help but have a strong society such as the Gulf Coast Association of Geological Societies. It's a privilege to represent the 45th Annual GCAGS Convention and to welcome all of you to Baton Rouge.

Our society continues to be financially sound, thanks to the strong leadership of the finance committee. As during previous years, the society has continued to provide student assistance, and this year \$15,000.00 was provided to 18 students.

A proposed bylaw allowing GCAGS funds to be invested in money market accounts was approved during the midyear meeting. Finance Committee Chairman Howard Kiatta stated that our net worth is \$450,000, and that he will research the various investment possibilities and present them to the executive meeting at this convention. The executive board unanimously elected Peter G. Gray to succeed Kiatta as the GCAGS representative to AAPG. Peter has been quite active in various societies and his past experiences will mean that our society will be well represented.

During the 1993-1994 GCAGS year, it was brought to the executive board's attention that the IRS did not consider the society as a tax exempt organization. Since then we have applied to the IRS for a tax-exempt status under 501(C)3, which was unsuccessful. We have



reapplied under 501(C)6 and hope that the problem can be put to rest.

The society is fortunate to have a wealth of talented members and associates, and each year selects an individual who has made an impact upon the petroleum industry in the Gulf Coast area. This year the *Transactions* is dedicated to the late Dr. Harold N. Fisk, the innovator of modern Gulf Coast sedimentology. His early study of the Lower Mississippi River Valley was instrumental in developing new perspectives in sedimentary processes that greatly contributed to our modern day ideas in sedimentary geology and depositional environments.

Some six years ago the Executive Committee had the foresight of electing Birdena Schroeder to the newly established position of GCAGS executive secretary. Those of you who have not had the opportunity of hosting an annual meeting and working with Birdena can't begin to know how much of an asset she is to the association. I once suggested to her that we should elect her to be the permanent president of the society, but she only laughed and in spite of that has continued to provide her assistance on a day-to-day basis.

Those who have served as president of the association can never begin to thank enough all who have planned and organized a convention. This year my job has been made easy thanks to the many hours expended by the General Chairman David E. Pope and numerous members of the Baton Rouge Geological Society. Although the society is one of the smallest within the association, we have a wealth of talented members who have the tremendous enthusiasm required to be able to put together a convention such as GCAGS.

Again, we welcome you to Baton Rouge. If during your stay you see some zombie-like individuals walking around, approach them in a gentle manner and thank them for another successful meeting. Those dazed individuals are the committee members who have enabled you to enjoy attending another GCAGS meeting.



E. Gerald Rolf
Vice President



Steven N. Breakfield
Secretary



Rodney W. Jackson
Treasurer

Report of the President Gulf Coast Section SEPM

Charles C. Smith

On behalf of the Gulf Coast Section SEPM, I want to welcome you to Baton Rouge and the Forty-Fifth Annual Gulf Coast Association of Geological Societies and Forty-Second Annual GCSSEPM Convention hosted by the Baton Rouge Geological Society. This year's theme "Gulf Coast Geology - A Global Resource," has been supported by an innovative and devoted group of GCSSEPM members under the guidance of Harry H. Roberts, who has ably served in the dual capacity as our Vice-Chairman as well as our Program Chairman; Mark R. Byrnes, Editor; and Michael J. Nault, Awards and Judging Chairman. These committee chairmen and their dedicated staff deserve much praise for their organization of such an excellent technical program and resulting published *Transactions* volume.

As reorganizations and concurrent downsizing continue seemingly unabated, organizations such as the GCAGS and GCSSEPM must continue to evolve to meet the changes in the energy industry and the changing needs of our members. Our technical program for this year's meeting reflects this evolution with separate technical sessions devoted to hydrogeology and our environment. Water is no less a fluid resource than are hydrocarbons. It's just that in one industry it's more highly valued than in the other. As with oil and gas, it occurs in sediments, and understanding the geology, architecture, and physical and chemical parameters of the sediment remains critical in meeting our ever increasing demand for new supplies of water. The microscope, electric log, and subsurface map remain essential tools in hydrogeology--many of the same basic tools used in hydrocarbon exploration apply. Because of our changing energy industry, it's especially timely and important that together both GCAGS and GCSSEPM continue to embrace both energy and nonenergy resource development while protecting our nation's valuable environment. To do less would be a disservice to our members.

It is a custom, or tradition, of GCSSEPM to annually recognize outstanding professional achievement and dedicated service among our membership. It is a distinct pleasure for me, on behalf of



GCSSEPM, to recognize one of our most dedicated members, a previous Vice-President and President of our Section, and a Trustee of our Foundation. We are pleased to recognize Arthur S. "Art" Waterman as the recipient of our Distinguished Service Award. And to Arnold H. Bouma, whose dedicated service to our section and to the science of Gulf Coast stratigraphy is unexcelled, we proudly bestow this year's Honorary Membership Award. It is my hope that their dedication and willingness to serve through the sharing of their personal and professional lives may be a stimulus and guide for us all.

Our next opportunity to gather under the GCSSEPM banner will be December 3-6, 1995, at the Annual GCSSEPM Foundation Research Conference in Houston. This will be our sixteenth year to sponsor a research conference, this year the program focusing on "Salt, Sediment and Hydrocarbons." Program Advisory

Cochairpersons are Christopher Travis, Holly Harrison, Michael Hudec, Bruno Vandeville, and Frank Peel. Session topics will include the geometry and evolution of salt bodies and surrounding sediments, the relationships between salt and hydrocarbons and salt and sedimentation, and Gulf of Mexico and worldwide systems of salt tectonics. Over 50 technical papers and poster presentations are scheduled, with the published proceedings volume being available at the meeting. I hope to see you there!

As GCSSEPM President, it has been my distinct pleasure and honor to have served you. My job was made much easier by the assistance of the following officers: Rashel N. Rosen, President-Elect; William C. Ward, Vice President; Michael J. Styzen, Secretary; Richard J. White, Treasurer; and Nancy L. Engelhardt-Moore, Past President. The Foundation Trustees are Denise M. Butler, Sheila C. Barnette, and Arthur S. Waterman. Foundation Executive Director is Bob F. Perkins. As leadership is transferred to Rashel, I am confident that our Section will continue to flourish. Our GCSSEPM tradition of excellence is in future good hands.



Rashel N. Rosen
President-Elect



William C. Ward
Vice President



Michael J. Styzen
Secretary



Richard J. White
Treasurer

Report of the General Chairman Forty-Fifth Annual Convention —1995

David E. Pope

The Baton Rouge Geological Society and the BRGS Auxiliary are most happy to welcome you to the 45th Annual Convention of the Gulf Coast Association of Geological Societies and the 42nd Annual Meeting of the Gulf Coast Section of SEPM!

We have an excellent technical program covering virtually all subjects of current interest, including two half-day sessions on environmental geology. We will select the two best papers from these sessions to receive awards at the 1996 GCAGS Convention. Also for the first time, for GCAGS, we will hold our opening ceremonies on Wednesday, just before the ice breaker, instead of the usual Thursday morning presentation. This is largely dictated by the somewhat limited space available for the technical sessions. In this regard, although the Radisson Hotel's convention facilities will be a snug fit for our activities, we feel that this is preferable to the alternative of busing across town for more lecture halls and exhibits space. And, we are also forced to hold our convention luncheons and the Hospitality Center next door at the Crown Sterling Suites. We hope that everyone will agree with this decision and that no one will be inconvenienced.

It should also be noted that this year the *Transactions* constitutes a refereed journal, in that each paper was reviewed by at least two



peers, and the necessary revisions made by the authors. We hope that this policy will be continued in future editions of the *Transactions*.

The Baton Rouge convention committees this year chose to go it alone, for economic reasons, rather than press into service the AAPG convention staff. This, of course, requires a greater effort locally, the task having been met with admirable success. So, many thanks are due to our convention committees, and for the help and support of the BRGS Auxiliary, the Baton Rouge Desk and Derrick Club, and the Baton Rouge Convention and Visitors Bureau. A special vote of thanks also goes to three Louisiana State University groups: the Basin Research Institute and the departments of Geology and Geophysics and Geography and Anthropology. The help and support of the Louisiana Geological Survey and its parent organization, the Department of Natural Resources, was indispensable, as was the assistance from our

Executive Secretary, Birdena Schroeder, and finally, we most heartily thank our financial sponsors, our exhibitors, and our advertisers. They have added immensely to the convention and helped to keep our prices affordable, for which we are most grateful.

We hope that all present will have an enjoyable and rewarding visit. Thanks for coming!

Report of the Program Chairmen Forty-Fifth Annual Convention —1995

Arnold H. Bouma (GCAGS) and Harry H. Roberts (SEPM)

(See page xxv and page xxvii for photographs)

A large number of abstracts were submitted from which an initial selection was made based on content and presentation. Most were returned for minor revisions, largely format changes, in order to guarantee a professional presentation in the AAPG Bulletin. A large number of persons were persuaded to spend some time reviewing the abstracts. The procedure was initiated because it was agreed upon between the editors and us to make this a peer-reviewed volume. Consequently, a number of manuscripts had to be rejected. We want to thank the many volunteers who helped with the reviews, and especially the editors, for their cooperation and hard work.

The submitted abstracts, checked by the contents of the manuscripts, dictated in most cases the type of sessions that finally resulted in the program of this convention. Only in a few cases was it necessary to move papers in order to make a session. The overall program highlights a GCAGS-SEPM convention with sessions on case studies, sequence stratigraphy, Quaternary geology, biostratigraphy, continental slope, diagenesis, and others. We are very pleased with the influx of environmentally-related contributions, making it possible to have two Friday sessions dealing with this

new and upcoming aspect of the earth sciences.

We feel that the present program reflects the professional field of geology both in transition and evolving toward the future. Consistent with this theme, we were able to attract three excellent speakers dealing with the development of the oil industry, the move offshore and finally to subsalt. Because of the importance of these speakers and their perspectives on our profession, a special session was created. Rather than have them introduce the technical agenda we optioned to have them speak at the end of the first morning.

We have a small poster session this year, but the quality should be high. A note of importance is the "student session", where developing professionals will have an opportunity to demonstrate the results of their scientific research.

The quality of the convention's technical agenda is the result of participants who took the time to submit material for the program. All of us assisted by giving them a hand, when necessary, to help improve the quality of presentation and a more uniform printed end product. We want to thank everyone who made it possible to reach this goal. We hope you will find the contents of the meeting highly informative and your visit to Baton Rouge a pleasant one.

Report of the Editors

Gulf Coast Association of Geological Societies Transactions, Vol. 45, 1995

Chacko J. John and Mark R. Byrnes



Chacko J. John
GCAGS



Mark R. Byrnes
GCSSEPM

Geological models and concepts developed and refined for the Gulf of Mexico are a resource used by geologists, geophysicists, and environmental professionals around the world. Hence the *Transactions* of the Gulf Coast Association of Geological Societies are an indispensable reference. For the forty-fifth anniversary of the *Transactions*, there are papers representing a wide range of topics relevant to current advances in basic and applied geological research, including sequence stratigraphy, 3D seismic modeling, case histories, chronostratigraphic and production based plays, quaternary and coastal geology, siliciclastic and carbonate stratigraphy and depositional environments, continental slope geology, biostratigraphy and paleoenvironments, Gulf Coast hydrogeology, and environmental issues.

The annual GCAGS Convention is a highlight for geological societies in the Gulf of Mexico region. The primary component of the meeting is the Technical Program and associated *Transactions*. As in previous years, many authors have spent significant time and effort preparing manuscripts and presentations, that will be cited in future publications. Consequently, we decided to implement a peer review process, similar to that imposed by professional journals, to insure quality contributions for the *Transactions*. To our knowledge, this is the first time these procedures have been followed.

All papers in this volume have been reviewed by at least two peers and the editors. This process has greatly improved the scientific value, content, and quality of all the manuscripts which were originally submitted. In addition, publication format changes were made to increase quality and reduce the high-costs of producing the *Transactions*. Manuscripts were printed using smaller, but still very clearly readable font sizes, thereby reducing the total number of pages. An additional feature in this volume is the index of authors which will be useful for those who refer to the *Transactions* for a particular author's paper. We encourage future *Transactions* editors to maintain or enhance these procedures to assure publication quality that rivals scientific journals.

As editors of this volume, we would like to thank all the authors for taking the time and effort to submit manuscripts, and for their

understanding and co-operation with regards to our requests for changes in their final manuscripts. In preparation of the *Transactions*, a somewhat rigid schedule has to be followed due to the limited time available between abstract submission and final production and printing. We would like to extend our thanks to all the reviewers listed below who volunteered their expertise and time from their busy schedules to provide critical reviews of all manuscripts published in this volume.

Louisiana State University, Baton Rouge, Louisiana.

Department of Agronomy
Mark Walthall

Basin Research Institute

John Echols, Donald Goddard, Brian Harder, Ezat Heydari, and Ronald Zimmerman.

Coastal Studies Institute

Jim Coleman, Oscar Huh, Randy McBride, and Harry Roberts.

Institute for Environmental Studies

Whitney Autin

Department of Geography and Anthropology

A.J. (Tony) Lewis and Greg Stone.

Department of Geology & Geophysics

Paul Aharon, Laurie Anderson, Arnold Bouma, Barbara Dutrow, Ray Ferrell, Jeffrey Hanor, Joseph Hazel, John Krugar, Juan Lorenzo, Clyde Moore, Dag Nummedal, Jeffrey Nunn, Alok Sarkar, Barun Sen Gupta, William Wade, Christopher Wheeler, Richard Winston, and John Wrenn.

Museum of Natural Science

Judith Schiebout

Department of Petroleum Engineering

Phillip Schenewerk

Wetland Biogeochemistry Institute

James Catallo and William Patrick.

**Louisiana Department of Natural Resources, Louisiana
Geological Survey, Baton Rouge**

Michael Brister, Bradford Hanson, Paul Heinrich, William Marsalis,
Rick McCulloh, and David Pope.

Dow Environmental Inc., Plaquemine, LA

Eric Meyer

Geological Consultants

Bobby Jones and Donald Kupfer.

Geraghty and Miller, Inc., Baton Rouge

George Cramer

NPC Services, Baton Rouge, LA

Sonny Maciaz and Pete Lee.

Oyo Geospace Corporation, Houston, TX

Finn Michelson

**Simon Fraser University, Department of Geography, British
Columbia**

Harry Jol

**University of Texas at Austin, Bureau of Economic Geology,
Austin, TX**

Robert Morton and Steven Seni.

Our sincere thanks and appreciation to George Cardwell who volunteered to put together the front and back sections of the *Transactions* and Eric Meyer (Dow Environmental, Inc.) who prepared the advertisements. Tammy David was responsible for word processing, layout, and paste up, Gina Maciaz (Basin Research Institute, LSU) checked the format of manuscript references, Kerry Lyle (Coastal Studies Institute, LSU) worked on reducing the photographs in the front section of the *Transactions*, and Cherri Webre (Basin Research Institute, LSU) provided valuable word processing assistance. The front and back cover and the advertisement section of this volume were designed by Mary Lee Eggart (Department of Geography and Anthropology, LSU). We hope you will like the new look of this *Transactions* volume and find the contributions contained herein a valuable reference.

Distinguished Service Award

Gulf Coast Association of Geological Societies

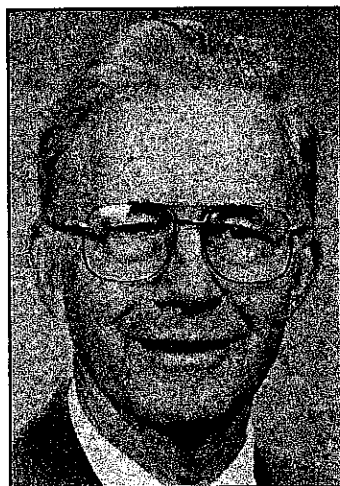
Duncan Goldthwaite

Duncan Goldthwaite, a recipient of the Distinguished Service Award, is a native of New York. Following service in the U.S. Navy, he attended Oberlin College, receiving his B.A. in Geology in 1950. Graduate studies at Harvard led to an M.A. in Geology in 1952.

Duncan's petroleum career with Chevron, formerly The California Company, commenced in the Williston Basin in 1952. Assignments as a geologist, seismic interpreter and geological supervisor over the next 33 years saw him develop geological expertise in numerous areas and basins, which included the Mississippi and North Louisiana Salt Basins, South Arkansas, the Black Warrior Basin, the Michigan Basin, the Appalachian Basin, South Louisiana and the Texas Coast.

He also has considerable experience in non-petroleum fields, especially phosphate exploration and evaluation, having headed up two Chevron assignments on fertilizer projects. Prior to joining Chevron, he worked on a coal mapping project for the USGS and did glacial geology mapping for the South Dakota Geological Survey.

Duncan elected early retirement from Chevron in 1985 and has continued as a geological consultant for oil companies, as a geological prospector in the Michigan Basin for Anderson Oil Company, and as a teacher of Subsurface Mapping for Atwater Consultants. The teaching assignment has led to presentations to several major and large independent companies throughout the U.S. and twice to Saudi Aramco in Dhahran.



He is an Honorary Life Member of The New Orleans Geological Society and also holds memberships in AAPG, GSA and the Michigan Basin Geological Society. His services to these organizations are too numerous to list in full but include Printing Chairman for the 1988 GCAGS convention in New Orleans, President of the New Orleans Geological Society for 1982-83, a three-year term as a NOGS Director, Field Trip Chairman for two national AAPG conventions, Newsletter Editor for NOGS for two years, editor of seven NOGS field trip guidebooks, chairman of numerous NOGS committees, Housing Chairman for a GSA national convention and Field Trip Co-Chair for this year's GSA annual meeting in New Orleans. He was also both editor and contributor to the excellent NOGS publication "Introduction to Central Gulf Coast Geology".

Duncan was married to Margaret Temple of Hattiesburg in 1956 and they are the parents of four grown daughters and grandparents to five grandchildren.

He was elected a City Councilman for the City of Gulf Breeze, Florida, in the 1960's where he also donated time and energy as Captain of the Volunteer Fire Department. He has been active in parent-teacher organizations in his present hometown of Metairie, Louisiana.

It is fitting that Duncan should receive the Distinguished Service Award to honor his service to GCAGS, his numerous contributions to professional organizations, his continued commitment to the science of geology, and for his support and involvement in civic affairs.

Robert B. Branson

Distinguished Service Award

Gulf Coast Association of Geological Societies

Howard W. Kiatta

This year the GCAGS honors Howard W. Kiatta with its Distinguished Service Award for his many years of outstanding service and leadership. Howard, born and reared in Houston, Texas, attended The University of Texas at Austin and graduated with his B.S. degree in geology in 1958. He chose to continue graduate school at Texas Tech University in Lubbock where he received his M.S. degree in geology in 1960.

After graduation from Texas Tech, Howard accepted employment with Texaco and immediately was assigned to their most active area—South Louisiana. He worked both as a development and an exploration geologist with Texaco, living in Houma, Lafayette and New Orleans. This diversity of experience, in an exceedingly active petroleum province at that time, played a major role in Howard's development as a truly fine explorationist.



In 1967, Mitchell Energy Corporation offered Howard an opportunity to move back to his hometown of Houston and he quickly accepted. His diverse Texaco experience, combined with a real zeal and adroitness in prospect generation, quickly moved Howard to the top at Mitchell. He became Vice President and Manager of Exploration for Mitchell's exploration efforts in both the Texas and Louisiana Gulf Coasts, including the offshore Gulf of Mexico, and in West Texas as well. The ten years Howard spent with Mitchell was a period of rapid expansion for our industry and especially for Mitchell Energy. Howard Kiatta provided visionary leadership during this period and he contributed strongly to Mitchell's exploratory success which fueled their remarkable growth and expansion.

In December of 1976, Howard left Mitchell to satisfy an insatiable urge to "make it on his own" as an independent geologist. The finest tribute to Howard's professional ability, business expertise, and his high moral character is that George Mitchell, founder and Chairman of the Board of Mitchell Energy, personally participated in several joint ventures that Howard formed. Additionally, when Mitchell's son, Todd, had completed his undergraduate and graduate degrees Mitchell asked Howard if Todd could work with him to learn the oil business. What a high compliment!

Howard's success at Mitchell and as an independent geologist originating, leasing and selling oil and gas prospects in the Texas Gulf Coast area has been exceptional. He has originated and/or developed successful plays throughout Southeast Texas and in the Texas State waters of the Gulf of Mexico. His discovery at Taylor Lake in Harris County is especially notable.

Howard has always been generous with the time and energy he devotes to his profession. He was named an Honorary Life Member

of the Houston Geological Society (HGS) in 1988 for his long service to that organization. He has chaired several committees and served on the HGS Executive Committee 1978-80. Howard was Chairman and Editor of the Stratigraphic Cross Sections prepared in 1979 and was Field Selection Chairman for the *Typical Oil and Gas Fields, Volume II*, published in 1987. He personally contributed the work on five fields to this publication and selected and recruited authors for most of the 90 fields that are included.

Howard has been a member of AAPG since 1959 and has represented the Houston Society in the House of Delegates. He is Certified Petroleum Geologist #1276. Howard was a member of AAPG's Advisory Council from 1992-95 as the GCAGS representative. He served as Secretary of GCAGS and Acting President in 1990-91 when GCAGS President Clyde Harrison became ill and was unable to serve. From 1991-95 he served the

GCAGS on both the Long Range Planning Committee and the Honors and Awards Committee. Since 1994 he has served on GCAGS's Convention Committee and as Chairman of the Finance Committee, which is responsible for managing and investing the funds of our Association. In addition, he has served on numerous GCAGS Convention Committees beginning as far back as 1962. His paper on the Lower Miocene of offshore Texas was published in the 1971 GCAGS *Transactions*.

Howard has served as an officer and Director of the Petroleum Club of Houston, and is a member of the Texas Independent Producers and Royalty Owners Association (TIPRO) and the Society of Independent Professional Earth Scientists (SIPES). He has served as a speaker at numerous SIPES seminars on becoming an Independent Geologist.

Howard has served as a counselor to many young geologists who seek his advice in matters regarding everything from tough career decisions to professional and even ethical problems.

Howard and his lovely wife, Ada, have four children and nine grandchildren.

The professional career of Howard Kiatta can best be summarized in two highly descriptive words—successful and exemplary. It is with great pleasure that Howard's devoted service to his fellow geologists and to the GCAGS in particular is formally recognized by this Distinguished Service Award.

Don R. Boyd

Distinguished Service Award

Gulf Coast Section of SEPM

Arthur S. Waterman

Arthur S. Waterman, recipient of the 1995 Distinguished Award from the Gulf Coast Section of SEPM, was born in Boston, Massachusetts in 1951. He was raised in Massachusetts and New York State.

Art received his B.S., with Honors in Geology, from St. Lawrence University, Canton, New York, in 1973. Set in a mining district on the fringe of the Adirondack Mountains, St. Lawrence geology graduates usually choose careers in hard rock or mining fields. Art marched to a different drummer. He received his Master's degree from Indiana University in 1975 with a thesis written on the conodonts of the Trenton and Lexington Formations of southeast Indiana.

Texaco hired Art as an intern in their New Orleans office for the summer of 1974. Upon graduation he was offered a permanent position. During a tumultuous two-week period in the spring of 1975, Art received his advanced degree, got married, went on a honeymoon, moved and started work in New Orleans.

Art's first assignment was working as a development geologist doing field mapping in St. Mary Parish. In 1976 he was transferred to the Texaco paleo lab in New Orleans.

In 1977 T. Wayne Campbell offered Art a position as a paleontologist with Paleo Data, Inc. Despite admonitions from his supervisor about "lack of security" and "stability", Art took the offer. Today Texaco's paleo lab in New Orleans is all but eliminated with the loss or early retirement of most of its paleontologists. Art, after 18 years with Paleo Data, Inc., is now a partner and Executive Vice President.

Until 1985 Art worked with Cenozoic foraminifera. After in-house training supervised by Dr. W. H. Akers and Dr. Murlene Clark, Art concentrated in the field of calcareous nannofossils. He established the zonation and chronology currently used by Paleo



Data, Inc. Art's principal goal has been to work toward better integration in stratigraphic research utilizing biostratigraphy, geophysics, and geochemistry.

Art joined the GCSSEPM in 1975. He was elected to the office of Treasurer in 1978, Vice-President in 1985, and President in 1987. He has been a trustee of the GCSSEPM Foundation since 1990, currently in his second three-year term. One of the actions Art took as President of the GCSSEPM was establishing the Distinguished Service Award to recognize those who have demonstrated a continued commitment to, and long time service with, the GCSSEPM. He has served on Research Conference Committees, Nomination Committees and various ad hoc committees.

Despite the long hours required of anyone in the consulting business, Art has always found time to help students, researchers, and local schools. Art

is currently assisting students and researchers at the University of Colorado with application of biostratigraphic data from the deep water Gulf of Mexico as part of the Gulf of Mexico consortium led by Dr. Paul Weimer. Whenever asked he has been ready to serve the GCSSEPM in any capacity, large or small. He is a member of the GCSSEPM, AAPG, SEPM, the New Orleans and Houston Geological Societies, and the Paleontological Research Institution.

Making their home in Metairie, only a mile or so from the office, Art and his wife Martie have two daughters, Anna and Sara, ages 15 and 13. Art's hobbies include running, back-packing, and fishing.

Little did Art suspect in 1987 that in 1995 he would receive the award that he established. Arthur S. Waterman, however, by his years of dedication and service to the GCSSEPM, exemplifies the reason the Distinguished Service Award was created.

John B. Dunlap, Jr

Past Recipients

Distinguished Service Awards

Gulf Coast Association of Geological Societies

R.E. Boyer (1982)	R.W. Sabaté (1990)
P.B. Souders (1982)	C.C. Baker (1991)
B.C. Tucker (1982)	G.A. Cooley (1991)
none awarded (1983)	S. Chuber (1991)
A.T. Green, Jr. (1984)	C.R. Noll (1992)
D.C. Van Siclen (1984)	J.H. Hefner (1992)
C.E. Harrison (1985)	J.G. Sanuels (1992)
R.W. Stephens, Jr. (1985)	T.E. Ewing (1993)
none awarded (1986)	W.R. Payne (1993)
none awarded (1987)	E.G. Wermund (1993)
none awarded (1988)	D.L. Smith (1993)
H.G. Collier, Jr. (1989)	D.E. Pope (1994)
R.B. Seigert (1989)	D. Goldthwaite (1995)
C.J. Corona (1990)	H. W. Kiatta (1995)

Past Recipients

Distinguished Service Awards

Gulf Coast Section of SEPM

Michael J. Nault (1988)	Sheila B. Barnette (1992)
Richard P. Zingula (1988)	C. Clarence Albers (1993)
Thomas H. Fett (1989)	David T. Dockery, III (1993)
Dennis Joseph Greig (1989)	Nolan G. Shaw (1994)
Bob F. Perkins (1991)	Arthur S. Waterman (1995)

Honorary Membership

Gulf Coast Association of Geological Societies

Edward B. Picou, Jr.

Edward B. Picou, Jr. was born in Baton Rouge, Louisiana in 1932. When he entered Louisiana State University in 1949, Ed planned to be a chemical engineer. During his freshman year he took Physical Geology from Dr. H. V. Howe, a dynamic and inspiring teacher, and Ed was hooked on geology. He soon came under the tutelage of Dr. H. V. Andersen, an equally dynamic and inspiring teacher of paleontology. The camaraderie that developed between teacher and student remains to this day. Ed received his BS in January 1955 and entered grad school before reporting for duty in the Army in June.

Upon his discharge from the Army after an eighteen-month tour in Korea, Ed planned to re-enter grad school. As fate would have it, however, he ran into Jack Larsen and Frank West, two Shell managers, and was offered employment as a paleontologist in the South Louisiana Exploration Division in Baton Rouge. For the next 34 years Ed had various assignments with increasing responsibilities and promotions, retiring in 1991 as a Exploration Consultant. Not only was Ed looking down a microscope, he was also supervising a large staff. He was Shell's "Mr. Bug Man", following in the steps of Stanley Say and Frank West. He has been a consulting paleontologist since 1991.

The Geological professional societies have always benefited from Ed's efforts wherever he was assigned. Joining GCS-SEPM in 1958, he has served that association in many capacities from President (1972-73) to being a member of numerous committees, serving as chairman of some. He was a founding member of the GCS-SEPM Research Conference, a program that enjoys wide support to this day. GCS-SEPM awarded him Honorary membership in 1984.

AAPG and SEPM at the national level have also been the recipients of Ed's energies. Joining AAPG in 1955, Ed has served two three-year terms in the House of Delegates and was Chairman of the Rules and Procedures Committee in 1994. Twice he has served on the Coordinating Committee for the annual conventions held in



New Orleans. He is a Foundation Trustee and a Certified Petroleum Geologist. For SEPM Ed was Vice-President (1979-80) and he served on many committees as a member and/or as chairman including President of the North American Micropaleontology Section (1982-84).

A chronicle of Ed's activities for the New Orleans Geological Society mirrors those of the above organizations. He joined NOGS in 1960 and has been a member and/or chairman of at least a half-dozen committees. He was elected President (1992-93) and was awarded Honorary membership in 1994. He is currently the Editor of the *NOGS Log* and a Trustee of the Memorial Foundation.

Despite all of his professional activities, Ed still found time to publish on paleontology, biostratigraphy, and depositional environments. *Gulf Coast Cenozoic: A Model for the Application of Stratigraphic Concepts to Exploration on Passive Margins*, co-authored with Doris M. Curtis, was presented at SEPM's 50th Anniversary program in 1976 and was selected as "best of AAPG" for presentation at the Society of Exploration Geophysicists convention in 1977. At the Second Annual GCS-SEPM Research Conference, Ed presented *McAllen Ranch Field: Depositional Environments of Reservoir Sandstones and Associated Shales*, which summarized Shell's interpretation of this large south Texas field.

He has also been active in matters related to his alma mater. He has been President of both the LSU Geology Alumni Association and the LSU Geology Alumni Advisory Council. He is a Trustee of the LSU College of Basic Sciences Development Council and the Paleontological Research Institution, Ithaca, N.Y.

Ed is a gentleman, a truly humble individual, and an asset to the geological profession. I had the pleasure of working with him at Shell and on many professional society projects. One would be hard pressed to find a more deserving person to receive Honorary membership in GCAGS.

James A. Hartman

Past Recipients

Honorary Membership

Gulf Coast Association of Geological Societies

D.R. Boyd (1982)
J. Braunstein (1982)
M.T. Halbouty (1982)
F.W. Harrison, Jr. (1982)
H.N. Hickey (1982)
L.H. Meltzer (1982)
S.J. Lysinger (1983)
J.O. Lewis. (1983)
E.C. Roy, Jr. (1983)
F.L. Smith (1983)
P.M. Strunk (1983)
R.J. LeBlanc, Sr. (1984)
W.R. Paine (1984)
M.O. Turner (1984)
W.L. Fisher (1986)
C.L. Sartor (1986)

J.J. Amoruso (1987)
W.L. Stapp (1988)
J.A. Gilreath (1989)
R.E. Boyer (1990)
J.A. Hartman (1990)
T.H. Philpott (1990)
none awarded (1991)
none awarded (1992)
G.A. Cooley (1993)
M.G. Frey (1993)
P.G. Gray (1993)
J.T. Palmer (1993)
T.D. Barber (1994)
D.F. Tobin (1994)
E.B. Picou, Jr. (1995)

Honorary Membership

Gulf Coast Section of SEPM

Arnold H. Bouma

Arnold Bouma was born on September 5, 1932 in Groningen, the Netherlands. He obtained his bachelor's degree in geology at the State University of Groningen in 1956, after which he continued his graduate education at the University of Utrecht, where he earned a masters degree in sedimentary geology in 1959. His research on ancient turbidites in the French Alps and other locations in Europe led to his Ph.D. in 1961 under the direction of D.J. Doeglas and Ph. H. Kuenen, also at Utrecht, the Netherlands. Having received a Fulbright post-doctoral fellowship, he traveled to the U.S. and spent a year (1962-1963) at the Scripps Institute of Oceanography in La Jolla, California, carrying out marine geological research under Francis P. Shepard.

After completing his fellowship at Scripps, Arnold returned to the Netherlands and became Lecturer in Sedimentology at the University of Utrecht from 1963 to 1966. In 1966 the Bouma family immigrated to the United States, where Arnold became Associate Professor and later Professor of Oceanography at Texas A&M University, where he taught until 1975. While at Texas A&M he served as chairman or member on 51 Masters and Ph.D. committees.

One of his many invitations to teach and lecture included a trip to Caracas, Venezuela in 1973, where he spent a semester at the Universidad Central de Venezuela as a visiting professor. While in that country, he carried out a geologic study of the seafloor between the mainland and the island of Margarita. Recommendations from that study led to the laying of the much needed electric cable to the island.

In December 1975, Arnold joined the U.S. Geological Survey's Pacific-Arctic Branch of Marine Geology in Menlo Park, California, as a Research Marine Geologist. He was the co-principal investigator of environmental studies in the Lower Cook Inlet and Western Gulf of Alaska. In July 1979, he was transferred to the Survey's Atlantic-Gulf of Mexico Branch located in Corpus Christi, Texas, where he became geologist-in-charge of the Office of Marine Geology. His scientific responsibilities included studies of the continental slope of the Gulf of Mexico.

In July 1981, Arnold became Sr. Scientist at Gulf Research and Development Company's Exploration and Production Division in



Harmarville, PA. During his association with Gulf Research, he held several high-level managerial positions. After the Chevron take-over, he continued on as a Senior Research Associate in charge of Lithostratigraphy in Chevron Oil Field Research Company's labs, first in Houston and then in La Habra, California, until March 1988.

He has been co-chief and chief scientist on several different research vessels. His participation on Legs 31 and 96 of the Deep Sea Drilling Project, as Sedimentologist and Co-Chief Scientist, respectively, led to numerous important publications on modern deep-sea fans. His desire to return to the academic world of teaching and research led Arnold to accept, in April 1988, the position of McCord Professor at the Louisiana State University, Department of Geology and Geophysics. At LSU he has also held positions as Director of the Basin Research Institute and of the School of Geosciences.

Apart from his teaching and research responsibilities, he is on the editorial board of several journals. Since 1980 he has been Editor-in-Chief of the journal *Geo-Marine Letters* and, in 1984, became the Series Editor for Springer-Verlag's book series *Frontiers in Sedimentary Geology*.

Arnold was the recipient of the F.P. Shepard Award for Excellence in Marine Geology in 1982 and of the GCAGS Outstanding Educator Award in 1992. He is a member of numerous professional associations (AAPG, SEPM, GCAGS, IAS, HGS, BRGS, etc.), active in many committees, and conducts lectures to industry and professional societies. He is the 1995 GCAGS Program Chairman. Present activities with his graduate students involve ancient deltaic and submarine fan deposits in Arkansas and South Africa. Also, his leading role in the research of Wilcox deltaic reservoirs with LSU's Basin Research Institute has led to a better understanding of the processes involved in the deposition of thin-stacked deltas. He is author or co-author and editor or co-editor of more than 200 books, papers, abstracts, and reports.

Arnold's devoted wife, Lieneke, has always been a major source of encouragement and supporter, without which he would not have been able to carry out so many diverse activities.

Donald A. Goddard

Past Recipients

Distinguished Honorary Membership

Gulf Coast Section SEPM

Charles G. Ventress (1989)

Past Recipients

Honorary Membership

Gulf Coast Section SEPM

Ester Applin (1964)
 Alva C. Ellisor (1964)
 Marcus A. Hanna (1964)
 Henry V. Howe (1964)
 Hedwig T. Kniker (1964)
 Winnie McGamery (1964)
 John R. Sandidge (1964)
 J.B. Garrett, Jr. (1965)
 E.H. Rainwater (1966)
 Henry Bronislaw Stenzel (1971)
 Jules Braunstein (1973)
 Grover E. Murray (1973)
 Harold V. Anderson (1975)
 Lyman D. Toulmin (1975)
 Doris M. Curtis (1977)
 Stuart A. Levinson (1978)
 Fred L. Smith, Jr. (1978)
 Charles W. Stuckey (1978)

William R. Paine (1980)
 Frank E. Lozo, Jr. (1981)
 Gene B. Martin (1984)
 Bob F. Perkins (1984)
 Edward B. Picou, Jr. (1984)
 Claude M. Quigley, Jr., (1986)
 William P.S. Ventress (1969)
 Don G. Bebout (1987)
 David E. Pope (1987)
 Emmett Ray Adams (1989)
 Jack O. Cole (1989)
 John B. Dunlap (1989)
 C. Clarence Albers (1990)
 Ben J. Petruske (1990)
 Earnest A. Mancini (1991)
 James M. Coleman (1992)
 Edward McFarlan, Jr. (1994)
 Arnold H. Bouma (1995)

Outstanding Educator Award

Gulf Coast Association of Geological Societies

Harry H. Roberts

Harry Roberts, director of Louisiana State University's Coastal Studies Institute, is that rare breed of researcher who enjoys teaching and excels at explaining research processes and extrapolating research findings. He inspires good students to become better students and average researchers to develop into outstanding researchers. He helps corporate scientists interpret research results and apply the findings to their own areas of concentration.

Harry has the true gift of speaking in a language that the unscientific listener can comprehend. He knows his subject, and he knows how to impart his knowledge to the student grasping at the edges of understanding of geology and geological processes. He continually strives to increase his store of information, to develop new understanding of the way things work in the worlds of geology and oceanography. His students range from undergraduates to professionals in the oil and gas industry. He is, in the best and broadest sense of the word, a teacher. His legacy will be not just what he has uncovered in his studies, but educators and scientists who will continue to contribute to our knowledge of sedimentary architecture, diagenesis, deltaic sedimentation and transport processes, reefs, carbonate depositional systems, and shelf margins and platforms.

Richard Russell, founder of the Coastal Studies Institute, was still an active part of the CSI when Harry came to LSU as a graduate student in the early 1960s. Harry had earned his B.S. degree from Marshall University in 1963, and he came to LSU to continue his studies, attracted in part by the likes of Dick Russell, Harold Fisk, Henry Howe, and Jim Morgan. He obtained his Master's degree in 1966 and his Ph.D. degree in 1969. He wrote his dissertation on Recent carbonate sediments of North Sound, Grand Cayman Island, a region in whose tropical waters he has continued to work through the years. The Caribbean and the Bahamas have been sites for his research on reefs and algae.

After graduation Harry stayed on at Coastal Studies, where he was kept busy conducting projects for the Office of Naval Research, CSI's primary funding agency at that time. Research on the Louisiana shelf and slope was, of course, a given for an institute based in Louisiana; and the emerging Atchafalaya delta provided an unparalleled opportunity for study of a geological phenomenon in its formative stages. His work also took him into the waters of Oman, Egypt, Israel, and Indonesia. He readily accepted the challenge of foreign field projects, working out complicated logistics and obtaining cooperation from foreign agencies, and spending lengthy periods away from home and office.



With the decline of defense research, funding by ONR began to diminish, and efforts expanded to include work for such contractors as the USGS, NOAA-NURP, NASA, DOE, MMS, NSF, and private industry. Harry's research encompassed studies of sediment transport and land loss, sediment instability, algal and hydrocarbon contributions to seafloor topography, hydrocarbon seeps, and gas hydrates. He developed proficiency in analyzing side-scan sonar and high-resolution seismic profiles. He joined the relatively small band of researchers who utilize submersibles for first-hand looks at ocean bottoms. His list of specialties includes marine geology of carbonate and terrigenous clastic margins-slopes, physical process interactions in carbonate depositional environments, and physical and sedimentological processes in mixed carbonate-siliciclastics depositional systems.

Rising through the ranks at CSI, in 1989 he became director of the institute. He has guided the organization through years of change and has held the group together as a cohesive unit, despite shifting emphases in national research and organizational changes at LSU. His enthusiasm for teaching and research inspires colleagues and students alike, and his calm demeanor and sense of humor have served as a model for co-workers.

His exceptional ability to communicate has been recognized outside of LSU and Louisiana. He has reviewed manuscripts and proposals for a number of scientific journals and national funding agencies. He has published more than 80 papers in refereed journals, and many more in conference proceedings. He has conducted numerous continuing education seminars, both in the field and in the classroom, and is frequently invited to present papers and lead field trips. He was named to the Board of Advisory Editors of *Sedimentary Geology* and *Coral Reefs*, and he has won "best paper" and "best poster" awards, as well as a prestigious I. A. Levorsen Award. In 1993 he received LSU's H. M. "Hub" Cotton Award for Faculty Excellence, and in 1994 he was named an AAPG Distinguished Lecturer.

He has found time to serve on a number of departmental, university, and state committees. Nationally, he serves on the Coral Reef Committee of the International Association of Biological Oceanographers, and he has provided leadership for the steering committees of NASA's Earth Sciences Geostationary Platform and the Global Sedimentary Geology Program Workshop on Neogene Global Change.

As a person who has devoted his entire adult life to higher education and research, and as embodiment of the true educator, Harry Roberts is richly deserving of the Gulf Coast Association of Geological Societies Outstanding Educator Award.

James M. Coleman

Past Recipients

Outstanding Educator Award

Gulf Coast Association of Geological Societies

Bob Berg (1991)

James M. Coleman (1991)

Brian E. Lock (1991)

Edward E. Roy, Jr. (1991)

Arnold H. Bouma (1992)

Clyde H. Moore (1992)

Carl E. Norman (1992)

Alfred E. Weidie, Jr. (1992)

W.E. Galloway (1993)

William W. Craig (1994)

Harry H. Roberts (1995)

1994 A.I. Levorsen Memorial Award and First Place, 1994 Best Paper Award

Gulf Coast Association of Geological Societies
John A. Rhodes

**For: Reservoir property changes caused by Thermo-chemical
Sulfate Reduction in the Smackover Formation**

John Rhodes was a geophysicist at Mobil for the fifteen years from 1980 to 1995, most recently in Dallas, Texas, conducting exploration for the Europe/Russia/Africa group. He recently left Mobil to form Stratigraphic Producing and Consulting, a company specializing in complex reservoirs. He received a B.S. degree in geology in 1978 from Allegheny College (Meadville, Pennsylvania), and an M.S. degree in geophysics in 1980 from The Pennsylvania State University (State College, Pennsylvania).

Rhodes worked in several domestic and overseas locations with Mobil. From 1981 to 1991 his main focus was onshore exploration in the



Mesozoic of the Gulf Coast. During this time he was also involved in exploration projects in the Gulf of Mexico offshore, and the North Sea-Central Graben. In 1991 he transferred to Vienna, Austria where he conducted exploration and reservoir development work in the Molasse Basin. Since returning to Dallas, he has done exploration work in Egypt, Algeria, Ukraine, and southwest Africa, and reservoir development work in Nigeria and Equatorial Guinea.

Projects have included: structure and stratigraphy of the Gulf Coast Jurassic; study of the regional stratigraphy and structural controls at deep-marine, compressive margins; AVO analysis for hydrocarbon detection; and characterization of stratigraphically trapped, turbidite reservoirs. Interests are varied, but his specialty has evolved into facies recognition and reservoir characterization from seismic-attribute analysis.

1994 Best Paper Awards

Gulf Coast Association of Geological Societies
Second Place awarded to:

Barry E. Bradshaw and Joel S. Watkins

For: Growth-Fault Evolution in Offshore Texas

Dr. Barry E. Bradshaw is an Australian marine geologist. The research for this paper was undertaken between 1992 and 1994 while a post-doctoral research associate and coordinator for the Gulf of Mexico structural and Stratigraphic Synthesis Project at the Department of Geology and Geophysics, Texas A&M University. He received a B.S. Honors degree in Physical Geography at the Coastal Studies Unit, University of Sydney (Australia) in 1987, and a Ph.D. degree in Earth Sciences at the University of Waikato (New Zealand) in 1991.



Prior to joining the Gulf of Mexico Structural and Stratigraphic Synthesis Project, Dr. Bradshaw spent 4 years studying the late Quaternary evolution of the southeast Australian and northeast New Zealand continental shelves. Research was focused on mapping and modeling Pleistocene and Holocene lithostratigraphic units from shelfal and incised valley systems in the search for economic placer mineral and aggregate sand deposits. Since 1992, his research interests have focused on the structural and stratigraphic evolution of the northern Gulf of Mexico basin in the context of hydrocarbon exploration. Of particular interest have been mapping and modeling regional syndepositional structural trends and studying deep basement structures using post-rift growth fault systems as indirect indicators.

Dr. Bradshaw is currently employed by the Marine and Petroleum Sedimentary Resources Division of the Australian Geological Survey Organization to research the structural and sequence stratigraphic framework of the Paleoproterozoic basins of northern Australia.

Dr. Joel Watkins is the E.F. Cook Professor of Geosciences, and a professor in both the Department of Oceanography and the Department of Geology and Geophysics at Texas A&A University. For the past 20 years Dr. Watkins research has been focused on the evolution of offshore basins, especially the Gulf of Mexico. At the present time he and his students are investigating structure, stratigraphy and reservoirs in the Gulf of Mexico, Gulf Coast and South China Sea.



After receiving a Ph.D. in Geology at the University of Texas at Austin in 1961, he joined the U.S. Geological Survey where he became involved in development of a lunar seismic exploration system used in Apollo missions 14, 15, and 17. For his work in this program, Watkins received the NASA Medal for Exceptional Scientific Achievement, a U.S.G.S. Outstanding Performance Award, and a Letter of Commendation from the Geological Society of America, the latter for his contributions to the training of Apollo astronauts.

Watkins shifted his focus from outer space to inner space in 1973 when he joined the University of Texas Marine Sciences

Institute in Galveston. There he organized and supervised the first academic marine multichannel seismic reflection program. This program focused on the investigation of the structure, stratigraphy, and tectonics of the Gulf of Mexico, Caribbean Sea, west-central Atlantic and east-central Pacific Ocean. During this time, he began his relationship with the Ocean Drilling Program (then the Deep Sea Drilling Project), serving on a number of panels and committees and currently serves on the Pollution Prevention and Safety Panel. He was Co-Chief Scientist of Leg, 66 which drilled offshore southwestern Mexico.

He joined Gulf (Oil) Research and Development Co. in 1977 as Director, Frontier Basin Studies and served as Manager of Interpretation and Geology 1979-81. He was transferred to Gulf Exploration and Production Co. where he served as Exploration Manager, U.S. Eastern Frontier in 1982-83. He was named Vice President for Exploration Research in 1983 and served in this capacity until 1985, when he took early retirement. He joined the Oceanography Department at Texas A&M University (TAMU) and became head of the Geophysics Department from 1987-93. He is currently a professor in the Department of Geology and Geophysics. He was named E. F. Cook Professor in 1986 and received the TAMU Geosciences and Earth Resources Award in 1992.

He has authored or co-authored over 130 scientific papers, co-edited 3 AAPG memoirs on continental margins, co-edited the DSDP Leg 66 Initial Reports volume, and co-authored an introductory textbook.

Third Place awarded to: Roger J. Barnaby, Raghu Ramamoorthy and Mark H. Holtz

For: Resource Optimization Through Characterization of Dwindip Frio Shoreface/Shelf Sandstone Reservoirs: Redfish Bay Field, South Texas

Dr. Roger J. Barnaby attended East Carolina University from 1978 to 1982 and graduated with a B. S. degree *cum laude* in geology. He subsequently worked at the Institute for Coastal and Marine Resources in Greenville, North Carolina, where he interpreted aerial photographs for the *Environmental Atlas of North Carolina*. In 1984 he entered the Virginia Polytechnic Institute and State University of Virginia in Blacksburg, Virginia, to pursue a doctoral degree in geological sciences. His graduate research at V.P.I. and S.U. dealt with unraveling the sedimentology and diagenesis of the Cambrian shallow-water carbonate platform in the subsurface of Virginia. He was awarded the Ph.D. degree in 1989.



Immediately after completing his graduate studies, Dr. Barnaby began work as an exploration geologist with British Petroleum Exploration, Incorporated, in Houston. While with B.P., he focused on developing exploration analogs for the exploration plays in the Gulf of Mexico Basin and Alaska.

Dr. Barnaby joined the Bureau of Economic Geology at The University of Texas at Austin in 1992, where he is currently a

Research Associate. He has been involved in a variety of research problems at the Bureau. His study of the Red Fish Bay field in South Texas, for which he received this best paper award, has resulted in a new appreciation of underdeveloped Frio shoreface/shelf sandstone reservoirs in this field. He conducted a similar study of Eocene fluvial-deltaic sandstone reservoirs in Venezuela.

He is currently involved in an analysis of the cyclostratigraphy of reservoir-equivalent outcrops of the middle Permian Grayburg Formation in the Guadalupe Mountains of West Texas and New Mexico. This work is designed to establish detailed geological and petrophysical models that can be applied in improving the recovery from these important carbonate reservoirs in the Permian Basin. Dr. Barnaby is also involved in a study of the application of strontium isotope geochemistry to the recognition of reservoir compartmentalization in Permian Basin carbonate reservoirs. Current work is focused on the Pennsylvanian Dagger Draw and Indian Basin fields in New Mexico.

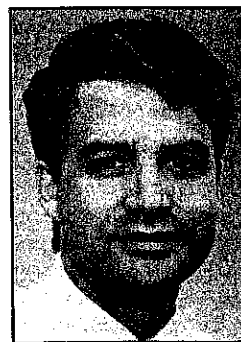
Dr. Barnaby's ongoing research interests include (1) application of high-frequency cycle stratigraphy to the analysis of heterogeneity in carbonate reservoirs, (2) evaluation of geological and geochemical controls of the composition of subsurface formation brines, and (3) analysis of sedimentary diagenesis. Barnaby has published several papers on his work in carbonate sedimentology, diagenesis, and geochemistry.

Raghu Ramamoorthy received his Bachelor of Technology degree in mechanical engineering at the Indian Institute of Technology, Madras, India in 1982. He joined Schlumberger Wireline Services the same year and worked as a logging engineer and later as engineer-in-charge in various field locations in Egypt, Iran, and India. In 1991 he accepted a position as log analyst at Muscat, Oman.

In the fall of 1992, Ramamoorthy took a sabbatical to pursue graduate studies in petroleum engineering at the University of Texas at Austin. He received the Master of Science degree in engineering in May 1994. Since February 1994 he has worked in the Reservoir Characterization Group of the Interpretation Sciences Department at Schlumberger-Doll Research, Ridgefield, Connecticut. He has published papers in field study petrophysics, borehole acoustics and enhanced resolution analysis. His current research includes petrophysical analysis and geostatistics in reservoir characterization and interpretation methodology in carbonates.



Mark H. Holtz received a B.S. degree in geology and geophysics from the University of Wisconsin in 1983. While at the University of Wisconsin he worked as a laboratory analyst and field assistant on various hydraulic and geomorphic projects, and he participated in a mapping program designed to identify gold-bearing quartz veins. Upon graduation he joined the Wisconsin Geological Survey and applied his experience in precious metals exploration to produce a metallogenic map of Wisconsin.



In 1985 Holtz came to The University of Texas at Austin to study petroleum engineering and to join The University of Texas Bureau of Economic Geology as a student research assistant. As a student assistant he participated in numerous reservoir characterization projects, and his principal contributions were well log analysis and statistical analysis of the relationships among rock fabric, core analysis data, and wireline log response. He also analyzed well test and production data.

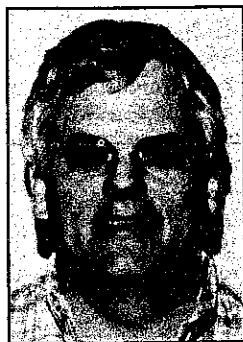
Holtz received a B.S. degree in petroleum engineering in 1987 and began his professional career as a Research Scientist Associate at the Bureau of Economic Geology. He continued to apply his background and experience in both geology and petroleum engineering to reservoir characterization projects in carbonate and siliclastic reservoirs. Since 1990 Holtz has also been a lead researcher in play analysis and resource assessment projects that form the framework within which many Bureau reservoir characterization projects are conducted. He is widely published in both the geological and engineering literature, and he serves as a reservoir engineering technical editor for the Society of Petroleum Engineers. He is a registered professional engineer and presently holds the position of Research Associate at the Bureau of Economic Geology.

1994 Best Poster Awards

Gulf Coast Association of Geological Societies
First Place awarded to:

Timothy S. Brown, Lawrence Bruno and Mike Green
For: Jurassic Beach: A Depositional Facies Model for Smackover
Stratigraphic Traps in the Ark-La-Tex

Timothy S. Brown, a native of Houston, Texas, is the President and owner of CAEX Services, Inc., a consulting firm which provides Landmark Graphics based, computer-aided oil and gas exploration services to the industry. Brown did his B.S. (1966) and M.S. (1968) work at Duke University and University of South Carolina, respectively. He worked as a geophysicist for AMOCO Production Company (Pan American Petroleum Corporation) and as a consultant for R. Brewer and Co.



Inc. before founding his own exploration companies, T.S. Brown Exploration Company (1983) and TSB EXCO, Inc. (1989).

Brown is an active member of Society of Exploration Geophysicists, American Association of Petroleum Geologists, Houston Geological Society, and Geophysical Society of Houston.

Lawrence Bruno is Manager of General Projects-Geology for Reservoirs, Inc., in Houston, Texas. He received his B.S. in geology from Queens College in New York in 1982, and his M.S. in geology from the University of Houston in 1987. Lawrence has been with Reservoirs since 1985. His areas of interest include carbonate and siliciclastic depositional systems, diagenesis, and relating lithologic characteristics to petrophysical properties. He has worked on a wide range of domestic and international projects, primarily using rock data to solve exploration and production problems. He is a member of the Houston Geological Society, SEPM, and AAPG. He has published a variety of papers dealing with modern and ancient carbonate and siliciclastic deposits.



Mike Green earned a B.S. degree in geology from the University of Missouri at Columbia. After graduate studies at the University of Texas, Austin, he worked for Phillips Petroleum, Anadarko Production and Cummins & Walker Oil Co. An independent prospect generator and consultant since 1984, most of his work is exploration in the Smackover limestone.



Second Place awarded to: Abu N. Chowdhury, David L. Risch and Andrew E. Hannan, Sr.

For: Use of Sequence stratigraphy in Hydrocarbon Prospecting: An Example from the Green Canyon Area, Offshore Louisiana

Abu N. Chowdhury is a project geophysicist with Schlumberger Geco-Prakla in Houston, Texas. He received B.S. (with honors) and M.S. degrees in geology from the University of Dhaka, Bangladesh, in 1971 and 1973; a post-graduate diploma in applied geology from the Indian Institute of Technology (I.I.T.), Kharagpur, India, in 1974; and an M.S. in geophysics from the University of Houston, 1993.



He worked as a post-graduate research fellow on Indian Ocean samples of "Deep Sea Drilling Project" of Scripps Institution of Oceanography at I.I.T., India, (1974-1976); well site geologist with Analysts, Inc., Houston, (1977-1978); project geophysicist with Fairfield Industries (1978-1981) interpreting

shallow high resolution seismic, magnetometer and side-scan sonar data and supervising projects; and senior geophysicist with SOHIO/BP and TGS doing sequence stratigraphic basin analysis and velocity projects in offshore Gulf of Mexico and offshore Nigeria. In 1991, he joined Geco-Prakla to continue sequence stratigraphic work, including quality control of structural projects in deep-water Gulf of Mexico.

Presently he is involved in constructing a chronostratigraphic framework of the subsalt trend on the shelf of the Gulf of Mexico, from High Island to the Ship Shoal area, through integration of 3D seismic and biostratigraphic wells on a workstation. He also consults with Schlumberger companies on integrated interpretation projects.

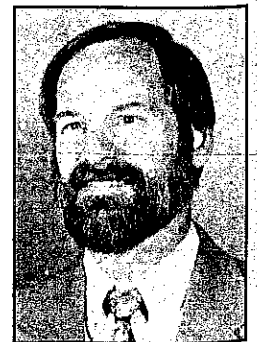
Chowdhury is an active member of the American Association of Petroleum Geologists, the Society of Exploration Geophysicists, the Houston Geological Society, and the Geophysical Society of Houston.

David L. Risch is a Project Geophysicist with Schlumberger Geco-Prakla in Houston, Texas. He received his B.S. degree in geology and physics from the University of Wisconsin - Eau Claire in 1978 and an M.S. degree in geophysical oceanography from Texas A&M University in 1982. His master's thesis involved interpreting magnetic anomalies and plate tectonics in the Northwest Pacific.

Risch worked for Phillips Petroleum Company in Bartlesville, Oklahoma, from 1982-1988 as a geophysicist processing and interpreting seismic data from the Gulf of Mexico, Gulf Coast, and North Sea. He did basin analysis, seismic modeling, and seismic stratigraphy of the Norwegian Sea, South China Sea, and Gulf of Mexico as a member of the Integrated Basin Analysis Group.

Since joining Geco-Prakla in 1988, Risch has interpreted the regional structure and sequence stratigraphy of offshore Chile and Gulf of Mexico shelf and slope. His duties include project leader, report-writing, technical presentations, and technology transfer. His current interests are 3D seismic sequence stratigraphy and salt tectonics.

Risch is a member of the American Association of Petroleum Geologists, Society of Exploration Geophysicists, Houston Geological Society, and Geophysical Society of Houston.



Andrew E. "Andy" Hannan, Sr., received his B.S. in 1972 and his M.S. in 1975 from the University of Cincinnati in geology. He began his career in 1974 with Cities Service Co. in Tulsa, Oklahoma. He was assigned to Houston, Texas, in 1975, and worked as a geophysicist for five years prospecting and developing economic reserves of hydrocarbons in the Offshore Texas Gulf of Mexico. Since then, he has worked for Strata Energy, Inc., Kerr-McGee, and Mark Producing as a senior geophysicist in the Texas Gulf Coast and Gulf of Mexico. He has used modeling, 3-D work-



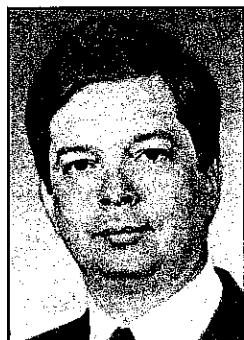
station interpretation, and AVO and analysis to aid in the quest for hydrocarbons. He joined Schlumberger Geco-Prakla in 1989 as a project geophysicist in the Exploration Services Department in the North and South America Region. From 1989 to present, he interpreted regional seismic data for structure and sequence stratigraphy projects on the shelf and in deep water of the Gulf of Mexico. He consulted with various Schlumberger departments on integrated seismic and well log interpretation projects, 3-D seismic workstation interpretation, interpretation of seismic data for depth migration projects, borehole geophysics, AVO analysis, and pore pressure predictions. He represented Geco-Prakla on the salt model working group of the SEG/EAEG Modeling Committee.

Hannan is an active member of American Association of Petroleum Geologists, Society of Exploration Geophysicists, Houston Geological Society, and Geophysical Society of Houston.

Third Place awarded to: Jeffery D. Lauman

For: The Carrizo Aquifer of Smith County, East Texas

Jeffrey D. Lauman is a petroleum geologist for Petroleum Information Corporation in Tyler, Texas. He received his B.S. in geology, with honors, from Ball State University at Muncie, Indiana, in 1981. He was then recruited by Dresser Atlas Wireline to work in Tyler, Texas. From 1981-1986 he worked as a prospect geologist for several independent oil operators. During the oil-price crash of 1986-1987, he taught eighth grade Earth Science at Dogan Middle School, Tyler.



In June of 1987 he joined Petroleum Information as the district manager for the company's East Texas district. Lauman established the East Texas Geological Society's Earth Science Teaching Grant Program, which has awarded over \$ 4,200 to Tyler's middle school science program over the last seven years. He was elected by the East Texas Geological Society as president for the 1994/1995 year. In the August, 1991, he entered the Graduate School of Stephen F. Austin State University, and received his M.S. in geology in December of 1994. The subject of his poster session also served as his thesis.

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Past Recipients Best Paper Awards and A. I. Levorsen Memorial Awards

Gulf Coast Association of Geological Societies

	First Award	Second Award	Third Award	A. I. Levorsen Award*
1959	J. E. Walters	R. L. Oakes	H. A. Bernard C. F. Major, Jr. B. S. Parrott	
1960	D. J. Hughes [†]	D. I. Andrews [†]	E. H. Rainwater [†]	
1961	R. D. Ocamb	D. I. Andrews J. C. Stipe	R. P. Fietz K. R. Scott W. E. Hayes	
1962	D. R. Tucker	R. J. Granberry R. C. Wilshusen	G. C. Glaser (tie) [‡] W. R. Walton (tie) [‡]	
1963	E. H. Rainwater	V. Peppard	S. L. Blanton, Jr.	
1964	E. H. Rainwater	D. R. Boyd B. F. Dyer	J. L. Arps	
1965	C. R. Kolb J. R. van Lopik	G. R. Kellough	Not awarded	
1966	B. J. Sloan, Jr.	W. R. Paine	R. E. Gernant R. V. Kesling	B. J. Sloan, Jr.
1967	H. Yarborough, Jr.	W. A. Price	J. Ewing (tie) J. C. Meyers (tie)	H. Yarborough, Jr.
1968	J. D. Myers	E. H. Rainwater	D. J. Hughes	J. D. Myers
1969	P. O. Roehl	J. K. Rogers	D. F. McNamee (tie) L. F. Brown (tie)	J. K. Rogers
1970	J. J. Amoruso	R. R. Berg	J. F. Harris	J. J. Amoruso
1971	H. Yarborough, Jr.	D. A. Reel (tie) G. M. Griffin B. J. Sloan (tie) J. A. Hartman (tie)	Not awarded	H. Yarborough, Jr.
1972	R. R. Berg	M. T. Halbouty	J. J. Amoruso	R. R. Berg
1973	R. D. Woods J. W. Addington	R. D. Ottman P. L. Keyes M. A. Ziegler	R. R. Berg F. L. Findley	J. M. Coleman L. D. Wright
1974	D. H. Kupfer	J. M. Coleman L. D. Wright J. N. Schyda T. Whelan	C. A. Parker	D. H. Kupfer
1975	W. L. Seal J. A. Gilreath	J. D. Myers	B. P. Baganz J. C. Horne J. C. Ferm	J. D. Myers
1976	J. D. Robinson A. R. Troell	J. W. Becher C. H. Moore A. R. Troell	N. Neel	J. D. Robinson
1977	D. K. Davies W. R. Almon	J. O. Lewis	J. O. Snowden W. B. Simmons E. B. Troughber R. W. Stephens	D. K. Davies W. R. Almon

	First Award	Second Award	Third Award	A. I. Levorsen Award*
1978	C. T. Siemers	J. W. Lund J. S. King R. E. Berlitz J. A. Gilreath	E. F. McBride	C. T. Siemers
1979	C. D. Winker	R. R. Berg	C. C. Christina K. G. Martin	R. R. Berg
1980	E. A. Mancini D. J. Benson	F. W. Harrison, Jr.	G. N. Gatenby	E. A. Mancini D. J. Benson
1981	E. C. Roy, Jr. M. Eidelbach N. Trumbly	J. L. Coleman, Jr. C. J. Coleman	G. J. Grabowski, Jr.	E. C. Roy, Jr. M. Eidelbach N. Trumbly
1982	T. E. Ewing S. C. Caran	D. J. Benson E. A. Mancini	R. R. Berg M. F. Habeck	T. E. Ewing S. C. Caran
1983	J. W. Cagle M. A. Khan	W. M. Ahr H. B. Hull, Jr.	T. E. Ewing (tie) C. H. Moore (tie)	J. W. Cagle M. A. Khan
1984	G. Kinsland	S. K. Stewart	C. L. Sartor S. R. Howard	G. Kinsland
1985	C. C. Walters M. R. Cassa	E. A. Mancini R. M. Mink B. L. Bearden	A. L. Workman J. S. Hanor	W. E. Galloway
1986	S. P. Dutton	A. H. Saller B. R. Moore	J. M. Coleman D. P. Prior H. H. Roberts	S. P. Dutton
1987	S. P. Dutton R. Finley K. Herrington	R. Evans	C. Black R. Berg	S. P. Dutton R. Finley K. Herrington
1988	M. P. Prescott	J. J. O'Brien I. Lerche	D. F. Williams I. Lerche	J. J. O'Brien I. Lerche
1989	Peter Hutchinson	N. M. Kuich	William Wade Jeffery Hanor Roger Sassen	Peter Hutchinson
1990	Michael P. Prescott	Philip L. Cook, Jr. John D. Bush John C. Marble Robert D. Schneeflock	Daniel Tearpock Harvey Pousson	Michael P. Prescott
1991	Andrew J. Davidoff	H. S. Sumner	Tom Ewing Grant Ferguson	Andrew J. Davidoff
1992	K. T. Barrow George B. Asquith Gary L. Causey	Raymond A. Levey Mark A. Sippel Robert J. Finley Richard R. Langford	J. Ulises Ricoy Joseph S. Yeh R. P. Major	Harry H. Roberts Douglas J. Cook Mark K. Sheedlo
1993	Wayne Carew Paul F. Ostendorf Glenn L. Krum	William A. Ambrose Raymond A. Levey Jose M. Vidal Mark A. Sippel James R. Ballard David M. Coover, Jr. Walter E. Bloxsom	William D. DeMis Jeffrey V. Milliken	Wayne Carew Paul F. Ostendorf Glenn L. Krum
1994	John A. Rhodes	Barry E. Bradshaw Joel S. Watkins	Roger J. Barnaby R. Ramamoorthy Mark H. Holtz	John A. Rhodes

This award is given by the AAPG to the paper that best exemplifies creative ideas in oil and gas exploration (first award, 1966). 1985 through 1990 *Transactions* erroneously shown as not awarded. Glaser and Walton received First Place in the Paleontology Division for their 1962 paper.

1994 Best Published Paper Awards

Gulf Coast Section SEPM

First Place awarded to:

Michael D. Blum and David M. Price

For: Glacio-Eustatic and Climatic Controls on Quaternary Alluvial Deposition, Texas Coastal Plain

Michael D. Blum received his Ph.D. in 1991 from The University of Texas at Austin, where he was trained in geomorphology, Quaternary stratigraphy, and sedimentary geology. After graduation he held a position as Assistant Professor in the Department of Geology at Southern Illinois University from August of 1991 through May of 1995, then assumed his present position as Assistant Professor in the Department of Geology at the University of Nebraska - Lincoln in August of 1995. He is a member of the Geological Society of America, Society for Sedimentary Geology, International Association of Sedimentologists, American Quaternary Association, and the

Association of American Geographers. His research interests revolve around the responses of continental depositional systems to changes in climate, base level, and tectonism. Working with students and colleagues, he has a number of research projects along the Texas Gulf Coast, as well as in the central Mississippi valley, the Burgundy region of France, and the northern Sahara of Tunisia.



David M. Price Born and educated in the south of England, where he studied applied physics. David initially gained employment in a small laboratory engaged in research and development of small instruments. Following this he worked in the scientific public service for a five-year period with a small unit making physical measurements of heat, light, and pressure as applied to small armourments and pyrotechnic devices. Unable to resist the desire to travel, David migrated to Australia in 1964 and took up similar employment with Weapons Research in Adelaide, South Australia. Two years later a move was made to the capital city of Canberra, where David took up employment with the Australian National



University in the Department of Physics, researching in the area of solid state diffusion, using radioactive tracer techniques. During 1972 the direction of the group changed and the first thermoluminescence (TL) dating laboratory to operate in Australia, and probably the southern hemisphere, was established. At this time the method was restricted to heated samples such as pottery volcanic materials, aboriginal firehearths, and cooking stones. In the early 1980's the method was extended to the dating of mainly aeolian sediments. In 1986 David took the laboratory to the University of Woolongong, where a new home was found in the Department of Geography. Since that time the technique has been successfully developed to include the dating of fluvial, coastal, marine, and inland lake sedimentary deposits. At the present time the laboratory annually analyzes about 200 samples, contributing to an active Department research programme and also undertaking collaborative research projects as well as strictly commercial enterprises.

Second Place awarded to: Rachel A. Eustice and Lynton S. Land

For: Controls on the Deposition of Bedded Halite Within the Hynesville Formation, Champion-Klepac No.1 Core, Southwestern Alabama

Rachel A. Eustice is a Ph.D. candidate at the University of Texas at Austin. She expects to complete her dissertation on the Diagenesis of Limestones and Cherts from the Lower Ordovician of Texas and Oklahoma in 1995. She received a B.S. in geology from the Ohio State University and a M.A. in geological sciences from the University of Texas at Austin. Her primary interests are in low-temperature geochemistry, and include carbonate and evaporite genesis and diagenesis, geochemical cycles, and various aspects of stable isotope geochemistry.



Lynton S. Land was born in Baltimore, Maryland. After receiving B.A. and M.S. degrees from the John Hopkins University, he received a Ph.D. from Lehigh University in 1966 for a study of the "Diagenesis of Skeletal Carbonates", under the supervision of K.A. Chave. Following a post-doctoral appointment at the California Institute of Technology with H.A. Lowenstam, he joined the faculty of the University of Texas at Austin, where he is now a Professor of Geological Sciences, and holder of the Edwin



Allday Centennial Chair in Subsurface Geology. Lynton's major research interest is using isotopic and elemental geochemistry to quantify carbonate and clastic diagenesis and water/rock interaction.

Third Place awarded to: Harry H. Roberts, Alan M. Bailey and Gerald J. Kuecher

For: Subsidence in the Mississippi River Delta: Important Influences of Valley Filling by Cyclic Deposition, Primary Consolidation Phenomena, and Early Diagenesis

Dr. Harry H. Roberts is currently director of Coastal Studies Institute at Louisiana State University where he began his career in 1969 as an assistant professor. His research work in marine geology and sedimentology has been both local, northern Gulf of Mexico, and international in scope. Although initial research interests were focused on carbonate depositional systems and their process-form relationships, he has recently concentrated research efforts on deltaic and related continental shelf and slope terrigenous clastic environments. Recent research in deltaic settings include studies of subsidence in the Mississippi River delta plain, continued work on the Mississippi River's new delta lobe, the Atchafalaya-Wax Lake delta complex, and extension of on-going studies of the actively prograding eastern chenier plain downdrift of the bayhead deltas in Atchafalaya Bay. Continental shelf work has included participation in the Gulf of Mexico Shelf-Slope Consortium that concentrated the talents of many industry and academic researchers on developing a new understanding of shelf edge deltas and the role of sea level change. Most recently a 3-year study of the Mahakam River delta of East Kalimantan (Indonesia) and its Holocene and Late Pleistocene sedimentary-stratigraphic architecture has occu-

ried much of Dr. Roberts' research time. On-going continental slope research in the Gulf of Mexico continues with new studies of the geologic impacts of natural hydrocarbon seeps.

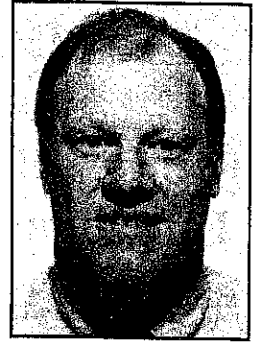
Dr. Roberts has served as an advisory editor for two international scientific journals and has been an active publisher of scientific products since joining Coastal Studies Institute in 1969. During his tenure at Louisiana State University he has conducted foreign field research in Africa, Australia, Indonesia, South America, Central America, and many sites throughout the Caribbean region. He frequently presents lectures, conducts seminars, and runs field trips for industry and academic institutions, both domestically and in foreign countries. Dr. Roberts is a professor in the Department of Oceanography and Coastal Sciences where he regularly teaches and advises graduate students.

(See page xxvii for photograph)

Dr. A.M. Bailey received his B.A. in geology from the University of Iowa and M.S. and Ph. D. degrees from Michigan State University. Previous employers include: Vanderbilt University, Marshall University, and the University of Kentucky. He has been employed at the University of Southwestern Louisiana since 1981. Dr. Bailey is a member of the Geochemical Society, International Association of Geochemistry and Cosmochemistry, Geological Society of America, Mineralogical Society, SEPM, and Lafayette Geological Society.



Gerald J. Kuecher is a geoscientist with Argonne National Laboratory, Chicago, and an Adjunct Professor at Northwestern University. He received a Ph.D. at LSU in 1994 under the direction of Harry Roberts. His dissertation study, largely funded by LSU's Basin Research Institute, focused on the consolidation settlement potential of deltaic wetlands in south Louisiana. He completed his M.S. in 1983 at Northeastern Illinois University and submitted a thesis which focused on lunar forcing mechanisms in Carboniferous tidal rhythmites. He has numerous publications on these subjects.



Kuecher is an experienced subsurface geologist. He spent 10.5 years as an international petroleum geologist with Marathon Petroleum and Amoco International, and has expertise in such places as Indonesia, Egypt, and Trinidad. His present capacity as a geoscientist at Argonne National Laboratory has complemented his subsurface career by introducing him to shallow, high-resolution geophysical investigations. He is an active member of AAPG, GSA, and AEG. Gerry has four children and lives in Naperville, Illinois.

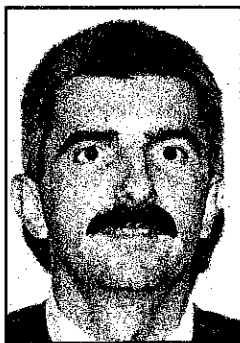
1994 Best Paper Awards

Energy Minerals Division AAPG

Keith A. Wheeler, Scott L. Mills and Jim V. Rouse

For: Effects on Groundwater of an Ash-Disposal Operation at an East Texas Lignite Mine

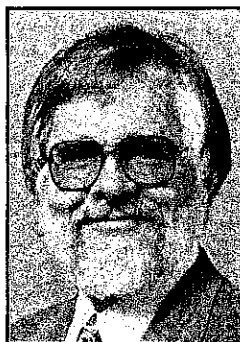
Keith A. Wheeler is a Senior Project Manager and Hydrogeologist with Groundwater Technology, Inc. (GTI) in the Austin, Texas office. He graduated with a B.S. in geology from Texas A&M University in 1979, and a B.S. in hydrology from Tarleton State University in 1987. From 1989 to 1994, he worked for Hall Southwest Corporation in Austin, Texas. His work has included large-scale groundwater investigations related to lignite mining in East Texas, focusing on groundwater modeling, aquifer characterization, and the hydrogeologic impacts from mining activities. He is an active member of the Austin Geological Society and the Texas Mining and Reclamation Association.



Scott L. Mills is a Senior Environmental Specialist for TU Services in Dallas, Texas. He graduated from Stephen F. Austin University in 1983 with a B.S. degree in geology. He has worked for the past 11 years with Texas Utilities, specializing in permitting activities related to lignite mining operations in East Texas.

(photograph not available)

Jim V. Rouse is Principal Geohydrologist with Groundwater Technology, Inc. He is located in Colorado, and specializes in the subsurface behavior of heavy metals and radionuclides. Mr. Rouse is responsible for the development and commercialization of *in-situ* remedial techniques for metals in soil and groundwater. He has more than 30 years of relevant experience with the Federal pollution-control agencies and consultants throughout the United States, Canada, and Australia. He has authored more than 50 publications dealing with heavy-metal contamination, and has appeared as an expert witness on numerous occasions.



Environmental Geology Awards

In keeping with the ever changing focus of the study of geology, the GCAGS this year will acknowledge the importance of contributions to the study of environmental geology. The 1995 program has two half-day technical sessions devoted to papers on relevant subjects: one on hydrogeology in the Gulf Coast and one on environmental issues. First and second place awards will be recognized with plaques at the 1996 GCAGS/GCSSEPM Convention, based on innovativeness in investigation and application of geologic principles, significance to the environmental field, and the quality of professional presentation.

Past Recipients Best Paper Awards Gulf Coast Section SEPM

	First Place	Second Place	Third Place
1994	M. D. Blum D. M. Price	R. A. Eustice L. S. Land	H. H. Roberts A. Bailey G. J. Kuecher
1993	R. L. Adams	S. Q. Breard A. D. Callender M. J. Nault	E. C. McDade R. Sassen L. M. Wenger G. A. Cole
1992*	E. G. Otvos W. E. Howat	D. W. Harrelson J. A. Saunders	W. T. Tanner
1980	A. W. Cleaves	I. L. Van Heerden H. H. Roberts	T. A. Hansen
1979	L. C. Price J. L. Clayton L. L. Rumen	C. W. Poag R. C. Tresslar	R. E. Casey L. W. Gust R. A. Reynolds D. H. Williams A. Levesley T. Duis J. M. Spaw
1978	A. Thomson	C. W. Poag	J. A. Schiebout
1977	C. D. Winker J. D. Howard	W. C. Isphording V. R. Baker	R. M. Looney
1976	C. J. Stuart C. A. Caughney	R. R. Berg R. R. Powell	C. W. Poag P. C. Valentine
1975	J. L. Wilson M. E. York	K. F. Wantland	W. C. Isphording
1974	G. M. Friedman	W. F. Tanner C. R. Berquist	R. J. Moiola D. Weiser A. B. Spencer
1973	W. F. Tanner	R. J. Moiola A. B. Spencer	P. A. Thayer (tie) W. J. Cleary E. O'Donnell (tie) A. P. Wright
1972	W. F. Tanner	A. E. Weidie J. L. Wolleben E. F. McBride	P. A. Thayer D. A. Textoris
1971	R. W. Maxwell, Jr.	C. W. Poag	E. A. Shinn
1970	W. W. Hay S. W. Wise, Jr. R. D. Stieglitz	J. B. Dunlap, Jr.	W. L. Fisher C. V. Proctor, Jr. W. E. Galloway J. S. Nagle

Past Recipients Best Paper Awards Gulf Coast Section SEPM

	Best Published Paper	Excellence of Presentation
1991	Brian E. Lock Catherine E. Bishop	Andrew J. Pulham
1990	George C. Flowers Wayne C. Isphording	Jory A. Pacht
1989	Ron Boyd John Suter Shea Penland	Harry H. Roberts
1988	Ron Boyd Shea Penland	Edward McFarlan, Jr.
1987	Wayne Isphording Dewayne Imsand George Flowers	Rowdy Lemoine (tie) Earle McBride (tie)
1986	Douglas F. Williams Dwight M. Trainor	Robert R. Berg
1985	Paul A. Thayer Harry H. Roberts	Gordon W. Fielder
1984	M. J. Ulrich J. R. Kyle P. E. Price	M. Kontrovitz
1983	E. C. Kusters A. Bailey	D. B. Prior
1982	J. Mazzullo	C. D. Winker
1981 [†]	T. A. Daws A. V. Applegate J. C. Palacas	C. R. Handford

*Before 1981 and in 1992, awards were given for first, second, and third place.

[†]and Best Poster award to E. A. Mancini.

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(See Editor's Report

for others)

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1995 Financial Aid to Students

Gulf Coast Association of Geological Societies

During 1995 the GCAGS received thirty three applications for financial assistance from students enrolled in graduate and undergraduate geology programs in thirteen Gulf Coast colleges and universities. Grants totaling \$15,000 were awarded to seventeen successful applicants.

The Financial Aid Committee, Ralph G. Richardson (chairman), Brian E. Lock and Lee McRae made awards to the following students:

Debnath Basu	Louisiana State University
Timothy J. Doré	University of Southwestern Louisiana
Edwin Emmer	University of Southern Mississippi
Baoshun Fu	Louisiana State University
Tanwi Gangopadhyay	Louisiana State University
Jonas Paul Gornay	The University of Texas at Austin
Daniel Hamilton	University of Southwestern Louisiana
Martine Hardy	Louisiana State University
Steven Krause	The University of Texas at Austin
Ann Molineux	The University of Texas at Austin
Joseph Panthier	Louisiana State University
Leigh Poulton	
and Mary B. Hall-Brown	University of South Alabama
Michael W. Smith	Auburn University
W. Scott Snyder	University of Houston
Geoffrey Upitis	The University of Texas at Austin
Norman Van Broekhoven	The University of Texas at Austin
Jeffery Warren	Auburn University

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Gulf Coast Association of Geological Societies

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1951	New Orleans	L. Bowling	T. H. Philpott		E. M. Baysinger	
1952	Corpus Christi	W. M. Chaddick, Jr.	W. A. Gorman		T. D. Barber	
1953	Shreveport	R. T. Wade	D. D. Utterback	J. S. Spencer	K. Carter	W. J. Nugent
1954	Houston	W. R. Canada	W. H. Knight	W. A. Peterson	E. W. Kimball	
1955	Biloxi	A. E. Blanton	L. D. Traupe	F. H. Webster	C. C. Barber	R. D. Sprague
1956	San Antonio	R. L. Layden	M. W. Beckman	C. W. Holcomb	A. F. Scott	G. J. Joyce
1957	New Orleans	H. N. Hickey	P. Montgomery	R. A. Davis	K. C. Anderson	T. H. Philpott
1958	Corpus Christi	E. A. Lohse	R. W. Grayson	E. T. Musselman	W. H. Wallace, Jr.	R. C. Wilshusen
1959	Houston	G. C. Hardin, Jr.	L. Harvey	J. F. Moss	J. A. Wheeler	O. G. Bell
1960	Biloxi	M. F. Kirby	D. N. Osburn	W. W. Woolfolk	E. G. Jeffreys	A. E. Blanton
1961	San Antonio	D. Dasso	E. P. Roth	A. W. Wood	E. L. Ames	L. L. Palmer
1962	New Orleans	T. H. Philpott	J. C. Byrd	H. O. Woodbury	K. Soule	L. H. Meltzer
1963	Shreveport	J. C. Byrd	E. Knott	W. E. Bancroft	R. E. Rogers	H. J. Tyler
1964	Corpus Christi	K. Knott	R. E. Fairchild	R. W. Luker	D. A. Pedrotti	B. F. Dyer
1965	Houston	R. E. Fairchild	A. M. Borland	K. C. Harkins, Jr.	J. L. George, Jr.	E. A. Lohse
1966	Lafayette	A. M. Borland	J. H. Hensley	W. A. Robbins, Jr.	J. S. Schoelen	R. R. Copeland
1967	San Antonio	W. L. Stapp	M. D. Horton	M. L. Frazier, Sr.	L. C. Bryant	M. O. Turner
1968	Jackson	M. D. Horton	R. O. Vernon	L. G. Hughes	E. D. Minihan	L. E. Warren
1969	Miami	R. O. Vernon	H. J. Tyler	J. W. Yon, Jr.	C. W. Hendry, Jr.	H. S. Puri
1970	Shreveport	H. J. Tyler	L. H. Meltzer	C. E. Brown	B. C. Tucker	J. O. Goffe
1971	New Orleans	L. H. Meltzer	D. R. Boyd	M. L. Dwight	P. G. Gray	R. G. Williamson
1972	Corpus Christi	D. R. Boyd	F. M. Schall, Jr.	M. H. Oakes	J. E. Melton	J. M. Sides
1973	Houston	F. M. Schall, Jr.	S. J. Lysinger	M. E. Hole, Jr.	P. W. Cauthon, Jr.	C. E. Harrison
1974	Lafayette	S. J. Lysinger	W. H. Moore	T. J. Eby, Jr.	J. L. Bellamy	F. W. Harrison, Jr.
1975	Jackson	W. H. Moore	C. L. Sartor	W. E. Taylor	H. L. Ladner	C. H. Williams, Jr.
1976	Shreveport	C. L. Sartor	R. E. Boyer	J. T. Palmer	C. E. Brown	L. E. Jordan
1977	Austin	R. E. Boyer	P. G. Gray	A. E. Bell	F. L. Osborne, Jr.	E. G. Wermund, Jr.
1978	New Orleans	R. W. Stephens	E. C. Roy, Jr.	R. M. Swords	C. J. Corona	J. Braunstein
1979	San Antonio	E. C. Roy, Jr.	F. W. Harrison, Jr.	S. L. Perkins	L. C. Bryant	G. His
1980	Lafayette	F. W. Harrison, Jr.	P. M. Strunk	J. W. Shirley	R. A. Anderson	M. A. Munchrath
1981	Corpus Christi	P. M. Strunk	J. J. Amoruso	T. J. Wintermute	W. R. Payne	Wilson Humphrey
1982	Houston	J. J. Amoruso	S. C. Childress	C. G. Beckwith	C. A. Baird	J. O. Lewis
1983	Jackson	S. C. Childress	J. P. Palmer	S. A. Horton	P. D. Cate	J. C. Marble
1984	Shreveport	J. T. Palmer	E. G. Wermund	C. S. Cook	E. W. Saye	J. M. Forgotson, Jr.
1985	Austin	E. G. Wermund	D. E. Pope	R. Everett	D. C. Ratcliff	L. E. Garner
1986	Baton Rouge	D. E. Pope	R. H. Sams	B. D. David	F. E. Lindfors-Kearns	H. L. Roland
1987	San Antonio	R. H. Sams	J. A. Hartman	M. T. Tobin	T. Cooper	D. F. Tobin
1988	New Orleans	J. A. Hartman	W. R. Payne	R. W. Sabaté	J. E. Bailey	C. C. Baker
1989	Corpus Christi	W. R. Payne	P. G. Gray	B. E. Gaither	T. B. Henderson	G. M. Heinzelmann
1990	Lafayette	P. G. Gray	C. E. Harrison	H. Fielding	B. Smart	B. E. Lock
1991	Houston	C. E. Harrison	J. C. Marble	H. W. Kiatta	L. D. Bartell	D. L. Smith
						C. Noll
1992	Jackson	J. C. Marble	R. L. Williamson	W. Lester Aultman	Stanley King	S. C. Knox
1993	Shreveport	R. L. Williamson	W. L. Fisher	Mark Schroeder	B. R. White	O. R. Berg
						J. P. Wanger
1994	Austin	W. L. Fisher	W. E. Marsalis	S. P. Dutton	C. Condon	P. R. Rose
1995	Baton Rouge	W. E. Marsalis	E. G. Rolf	S. N. Breakfield	R. W. Jackson	D. E. Pope

Past Officers

Gulf Coast Section SEPM

	President	Vice-President	Secretary	Treasurer
1953-1954	Stuart A. Levinson	Grover E. Murray	William H. Akers	Frank V. Stevenson
1954-1955	Charles W. Stuckey, Jr.	E. H. Rainwater	William H. Akers	Fred L. Smith, Jr.
1955-1956	E. H. Rainwater	Frank S. Westmoreland	Hugh A. Bernard	Eleanor T. Caldwell
1956-1957	Lloyd M. Pyeatt	J. O. Colle	H. Dillingman, Jr.	Eleanor T. Caldwell
1957-1958	J. O. Colle	Fred L. Smith, Jr.	Harold V. Anderson	William G. Parker
1958-1959	Marcus A. Hanna	Claude M. Quigley	Fred E. Smith	Bernard L. Hill, Jr.
1959-1960	David E. Pope	A. D. Ellis, Jr.	Gordon C. Munsey	H. A. Chun
1960-1961	Claude M. Quigley	Harold V. Anderson	E. Ann Butler	Edward Marks
1961-1962	Harold V. Anderson	Theodore D. Cook	Benjamin J. Petrusek	Albert D. Warren
1962-1963	Albert D. Warren	Ernest H. Horton	Blair S. Parrott	Henry H. Phillips
1963-1964	Lyman D. Toulmin	E. Ann Butler	Charles C. Albers	John E. Kilgore
1964-1965	Howard L. Tipsworth	Benjamin J. Petrusek	D. Jeter Smith	Emmett R. Adams
1965-1966	John B. Dunlap, Jr.	John J. W. Rogers	M. Ray Bane	Charles B. Morris
1966-1967	Hubert C. Skinner	Richard P. Zingula	Gene Ross Kellough	Gene B. Martin
1967-1968	Benjamin J. Petrusek	Dan McGregor	Garrett Briggs	Herbert A. Elliot, Jr.
1968-1969	William A. Atlee	Edgar B. O'Quinn	James W. Fowler	William E. Steinkraus
1969-1970	Fred L. Smith, Jr.	Kenneth L. Loep	Robert K. Sylvester	C. Wylie Poag, Jr.
1970-1971	Jules Braunstein	Douglas E. Jones	Walter H. Trenchard	Robert N. Davids
1971-1972	William W. Hay	William E. Steinkraus	Karl J. Koenig	Gerald R. Stude
1972-1973	C. Wylie Poag, Jr.	Emmett R. Adams	Gerald R. Stude	Joan B. Strough
1973-1974	Edward B. Picou, Jr.	Walter H. Trenchard	Lawrence C. Menconi	J. Lloyd Tuttle, Jr.
1974-1975	Emmett R. Adams	Clifton A. Couture	Herbert A. Elliott, Jr.	Doris M. Curtis
1975-1976	James L. Lamb	Lawrence C. Menconi	William S. Grubb	John L. Carney
1976-1977	Clifton A. Couture	Eleanor T. Caldwell	Sherwood W. Wise, Jr.	Joseph E. Boudreaux
1977-1978	Gerald R. Stude	William P. S. Ventress	Gary R. Roberson	George C. Esker, III
1978-1979	Willard P. Leutze	Bob F. Perkins	Walter P. Kessinger	Kenneth A. Hodgkinson
1979-1980	Gene B. Martin	John L. Carney	Mary Ann Rafle	Arthur S. Waterman
1980-1981	Bob F. Perkins	Don G. Bebout	Sheila C. Barnette	Ted Karmen
1981-1982	William P. S. Ventress	Kenneth A. Hodgkinson	Brian J. O'Neill	Kurt Geitzenauer
1982-1983	John L. Carney	Ernest A. Mancini	Susan J. Conger Morris	Kevin C. Kilmartin
1983-1984	Don G. Bebout	Michael J. Nault	Susan J. Conger Morris	Nelson B. Yoder
1984-1985	Ernest A. Mancini	J. M. Crosbie	John G. McPherson	John B. Anderson
1985-1986	Susan J. Conger Morris	Arthur S. Waterman	John G. McPherson	Richard E. Constans
1986-1987	Charles L. McNulty	Denise M. Butler	Kurt G. Geitzenauer	Sylvester Q. Breard, Jr.
1987-1988	Arthur S. Waterman	Brian J. O'Neill	Ramil C. Wright	Charles G. Rosato
1988-1989	Samuel P. Miano	Charles C. Smith	Richard H. Fillon	Bethanne Breisacher
1989-1990	Sheila C. Barnette	Michael J. Nault	Nancy Engelhardt-Moore	Michael W. Center
1990-1991	Denise M. Butler	Charles C. Smith	Nancy Engelhardt-Moore	Kurt Geitzenauer
1992	Michael J. Nault	Brian E. Lock	Mary (Missy) Jackson	Elaine H. Collison
1993	John M. Armentrout	David W. Ford	Mary (Missy) Jackson	Elaine H. Collison
1994	Nancy Engelhardt-Moore	Mary (Missy) Jackson	Michael J. Styzen	Elaine H. Collison
1995	Charles C. Smith	William C. Ward	Michael J. Styzen	Richard J. White

Bylaws

Gulf Coast Association of Geological Societies, Inc.

Part A: Organization

ARTICLE I—Name

This is a non-profit organization and shall be known as the "Gulf Coast Association of Geological Societies, Inc." It is hereinafter referred to as "This Association."

ARTICLE II—Object

The object of This Association is 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.

ARTICLE III—Organization

This Association is an organization of AAPG-affiliated Geological Societies in the Gulf Coast area.

Section 1.

The business of This Association shall be transacted by a Board of Directors composed of one representative from each member society and the President, Vice-President, Secretary, Treasurer, and Past President. The Vice-President, Secretary, and Treasurer shall be elected by the Board of Directors at the annual meeting. At the request of the Vice-President's society, however, the Secretary and Treasurer may be elected at a prior Board meeting but they will not take office until after the annual meeting. The Secretary and Treasurer shall be non-voting members of the Board of Directors. The Secretary and Treasurer shall be nominated by the Executive Committee of the local Geological Society next in line to host the annual meeting. The Vice-President shall be nominated by the Executive Committee of the host society for the annual meeting two years hence and shall accede to the Presidency. Thus each year the President, Secretary and Treasurer will be from the host society with the Vice-President providing continuity with the Board of Directors as he assumes the Presidency in the ensuing year. The duties of these officers shall be those customary to their respective offices.

The GCAGS representative to the Advisory Council of American Association of Petroleum Geologists shall be selected by the Board of Directors of GCAGS and shall be an ex-officio, non-voting member of the GCAGS Board of Directors.

Each member society shall designate a representative to the Board of Directors and in the event the chosen representative cannot attend any given Board of Directors meeting, an alternate representative shall be appointed by the member society to attend and vote in the absence of the representative. The representative, when practicable, shall be an officer or past officer of the society he represents.

Each society shall have one vote on actions taken by the Board of Directors with the exception that the host society, the next annual host society and the immediate past host society will be entitled to two votes by virtue of their members holding the offices of President, Vice-President and Past President.

The officers of the Board of Directors shall be elected for a term of one year. They shall be elected and assume their duties as soon after the annual meeting of This Association as is practicable, except as noted in Paragraph 1 with regard to the Secretary and Treasurer. Any vacancies shall be filled by the Board of Directors as provided above in Paragraph 1.

Section 2.

The business of This Association shall be conducted by the Board of Directors. A simple majority vote of the members present at meetings is required to effect decisions, except in those matters which require a greater majority, as set forth in these Bylaws.

A quorum shall consist of more than one-half of the voting members of the Board of Directors.

The Executive Committee composed of the President, Vice-President, Secretary, Treasurer, Past President, and Finance Committee Chairman shall have the authority to transact business of an emergency nature between meetings. Any business so transacted shall be subject to ratification by the Board of Directors at its next regularly scheduled meeting. A quorum of the Executive Committee shall be three members.

ARTICLE IV—Meetings

There shall be an annual meeting of This Association, the time and place of which shall be determined by the Board of Directors. Additional meetings may be called at the discretion of the Board of Directors.

ARTICLE V—Publications

There shall be an annual *Transactions* published by This Association, which shall contain papers presented at the annual meeting, and such other material as selected by the Board of Directors. The Board of Directors is authorized to have published additional bulletins, and other material which they feel will further the object of This Association.

ARTICLE VI—Funds

The funds of This Association shall be deposited in any national bank or Federally insured Savings and Loan Association selected by the Finance Committee, to the credit of This Association, or invested in U.S. Government Bonds at the discretion of the Finance Committee.

ARTICLE VII—Amendments

Amendments to this Part A and to the Articles of Incorporation may be proposed by the Board of Directors, or by any two member societies. Proposed amendments shall be submitted to each of the member societies in writing. It shall require an affirmative vote of three-fourths of the member societies to ratify such an amendment.

ARTICLE VIII—Later Affiliation

Non-member Geological Societies in the Gulf Coast Area which are affiliated with AAPG may petition the Board of Directors for membership and shall be accepted by an affirmative vote of three-fourths of the Board of Directors.

ARTICLE IX—Resignation

Any member society may resign from This Association at any time by written notice to the Board of Directors. There shall be no obligation to transfer to such resigning society any portion of This Association's funds.

ARTICLE X—Dissolution

This Association shall terminate at such time as a majority of the member societies shall so vote. Upon dissolution all funds and other property shall be divided as mandated by the Articles of Incorporation.

Part B: Committees, Finances**ARTICLE I—Permanent Committees**

The President, with the approval of the Board of Directors, shall appoint the Annual Meeting Chairman, and the Publications Committee Chairman, appointments being for one year.

Section 1. Annual Meeting Chairman

The Annual Meeting Chairman shall direct the staging of the annual meeting, and shall have the authority to appoint such additional committees as he deems necessary.

Section 2. Publications

This committee shall be responsible for publishing all publications of This Association except the *Transactions* which fall under the purview of the Annual Meeting Chairman. Sales and storage of all GCAGS publications, including the *Transactions*, are the responsibility of this committee. The chairman shall provide annually to the Finance Committee an inventory of the GCAGS publications.

Section 3.

The President, with the approval of the Board of Directors, may appoint such additional committees as are necessary to conduct the business of This Association.

ARTICLE II—Treasurer

The Treasurer shall have the authority to issue checks against the Annual Meeting bank account of This Association on his sole signature, but in the event of his absence or incapacity to act, withdrawals or payments by checks may be made on the signature of the President during the continuance of the absence, or incapacity, of the Treasurer. In this event, the identity and authority of the President, and the circumstances relating to the absence or incapacity of the Treasurer shall be certified by the Board of Directors, if so required by the depository. The Treasurer shall submit a financial report on the Annual Meeting at each meeting of the Board of Directors and shall keep a set of books in accordance with good accounting practices. He shall submit the books of the

Annual Meeting to the Finance Committee by March 1st following the Annual Meeting. The office of Treasurer shall be bonded as directed by the Board of Directors.

ARTICLE III—Finance Committee

The Finance Committee shall be responsible for investing and managing the funds of This Association. They shall be responsible for advancing to the Treasurer the necessary funds for operating the Annual Meeting and shall disburse funds for expenses and projects not related to the Annual Meeting as directed by the President upon approval by the Board of Directors. The Committee shall have authority to invest the funds as outlined in Article VI of Part A hereof. They shall prepare a financial report on the Association's funds and submit it at each meeting of the Board of Directors. They shall also keep an inventory of publications and equipment owned by the Association. They will keep a set of books in accordance with good accounting practices and will submit the books for auditing as requested by the Board of Directors. The Committee will oversee the preparation and submittal of the Association's Annual Income Tax Return. The Committee will also keep a file of these financial reports, as well as the report of the Treasurer for each Annual Meeting, for access by officers and representatives of the annual meetings for future years. The Committee shall consist of five members serving staggered three-year terms, such that each year one to three members will complete their terms and one to three new members will be appointed. The President of the Association, with the approval of the Board of Directors, shall appoint the members of the Finance Committee and select its chairman. Members of the Finance Committee shall be bonded as directed by the Board of Directors. All checks of greater than \$1,000 shall be signed by two of the Finance Committee members.

ARTICLE IV—Amendments

This Part B may be amended by an affirmative vote of three-fourths of the Board of Directors.

ARTICLE V—Dues

There shall be no dues.

Bylaws

Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists

ARTICLE 1—Object

1.01 - The object of the Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists is to promote the science of stratigraphy in the Gulf Coast states through research in paleontology and sedimentary petrology, especially as it relates to petroleum geology. The Corporation, herein referred to as the "Section," will be closely associated with the Gulf Coast Association of Geological Societies and will cooperate with it and with the local geological societies of which it is composed for the furtherance of mutual objectives.

ARTICLE 2—Members

2.01 - The Section shall have members, associate members, charter members, and honorary members.

2.02 - Members shall be persons engaged in paleontologic, petrographic or stratigraphic studies that have application to the geology of petroleum, who are members or associate members of the Society of Economic Paleontologists and Mineralogists and who work or reside in the Gulf Coast province of the states of Texas, Louisiana, Mississippi, Alabama, Georgia, or Florida, or whose interest or work is principally within these states. Membership, once obtained, shall not be dependent upon continued residence in the aforementioned states.

2.03 - Associate members shall be persons engaged in paleontologic, petrographic or stratigraphic studies that have application to the geology of petroleum, who work or reside in the Gulf Coast province of the above mentioned states, and who are not members or associate members of the Society of Economic Paleontologists and Mineralogists. Associates shall enjoy all the privileges of membership, save that they shall not hold office. Election to membership in the Society of Economic Paleontologists and Mineralogists will automatically advance associates to members.

2.04 - Charter members are those whose applications for membership were received before the first nomination of officers. They shall enjoy all the privileges of members, and, hereinafter, are included in all references to "members."

2.05 - The Council may elect as honorary members persons who have contributed distinguished service to the science of stratigraphy, paleontology or sedimentary petrology, especially as they relate to petroleum geology in the Gulf Coast. Honorary members shall not be required to pay dues.

2.06 - Each candidate for membership shall submit to the Secretary an application on a form authorized by the Council for this purpose.

2.07 - New members and associates enrolled after September 15 shall be considered as having paid their dues for the next calendar year.

ARTICLE 3—Council and Officers

3.01 - Executive authority of the Section is vested in a board of directors known as the "Council" consisting of six members who are duly elected by the members, as follows: President, President-Elect, Vice President, Secretary, Treasurer, and the most recently retired Past President.

3.02 - The President shall discharge the usual duties of a president, as well as act as presiding officer at all meetings of the Section and Council. He shall appoint an Editor, Program Chairman, Committee Chairmen and Business Representatives.

3.03 - The Vice President shall assume the duties of the President in the case of the absence or disability of the latter. He shall also be Chairman of the Membership Committee and Chairman of the Employment Counseling Committee.

3.04 - The Secretary shall keep the records of the proceedings of the Section and a complete list of the membership. He shall attend to the preparation and mailing of notices, membership application blanks and other materials necessary to the business of the Section.

3.05 - The Treasurer shall have custody of all funds of the Section. He shall keep account of the receipts and disbursements, and submit his account to the membership at the end of each year.

3.06 - The Council shall consider all candidates for membership and pass on the qualifications of the applicants; shall have control and management of the affairs and funds of the Section; shall designate the time and place of the Annual Meeting.

3.07 - The President and Vice President shall not serve for more than one (1) year, except that if the Vice President succeeds to the position of Acting President, he may be elected to a full term as President.

3.08 - In the event that neither the President nor Vice President is available to serve as presiding officer of the Section, the immediate Past President shall assume the President's duties.

3.09 - The President-Elect shall serve for one (1) year as such, and in the following year he shall assume the office of President. He shall not have administrative authority except as a member of the Council. He shall acquaint himself with all the details of the office of President and generally prepare himself to serve as President. He shall be responsible for the preparation of the annual meeting for the ensuing year.

3.10 - A vacancy occurring in the offices of Vice President, Secretary or Treasurer shall be filled by Council appointment.

3.11 - A vacancy occurring in the office of President-Elect shall be filled by mail ballot by the membership through a special election called by the Council.

3.12 - The Secretary and Treasurer shall serve for a term of two (2) years. These offices shall be renewable through election.

ARTICLE 4—Meetings of Members

4.01 - The Section shall hold at least one stated meeting each year, which shall be known as the Annual Meeting. This meeting will usually be held in conjunction with the Annual Meeting of the Gulf Coast Association of Geological Societies.

4.02 - The program for the Annual Meeting shall be arranged by the Program Chairman in conjunction with the Chairman designated by the Gulf Coast Association of Geological Societies to arrange for its own program. In general, it will be desirable that the contributions from members of the Section be included in the main program rather than being allotted to a separate session.

4.03 - At the time of the Annual Meeting, a Business Meeting shall be held for the transaction of Section business.

ARTICLE 5—Amendment of Bylaws

5.01 - These Bylaws may be amended by two-thirds vote of returned mail ballots received by the Secretary sixty (60) days after proposal of amendments with provision for vote is mailed to the members. Any proposed amendments must have the approval of a majority of the Council before being submitted to the members.

5.02 - A petition containing the signatures of twenty (20) active members is considered sufficient to bring before the Council a proposed change in the Bylaws. A majority vote of Council is also considered sufficient to initiate a proposed change.

ARTICLE 6—Dues

6.01 - This fiscal year of the Section shall commence on October 1 and expire on September 30 of the following year.

6.02 - The annual dues of the members and associates of the Section shall be eight dollars (\$8.00). Penalty of fifty cents (\$0.50) shall be assessed for late payments. The fifty cents (\$0.50) late penalty shall be waived upon payment of dues for two more years.

6.03 - A bill for dues shall be mailed to each member and associate before January 1 of each year. Members and associates who have not paid their annual dues by April 1 shall be dropped from the membership rolls.

6.04 - Members and associates dropped for non-payment of dues may apply to the Council for reinstatement and be reinstated by majority vote of the Council.

6.05 - Members and associates may, at their discretion, pay their annual dues in advance for periods of up to five (5) years.

ARTICLE 7—Financial Procedure

7.01 - No officer or member shall enter into contract or disburse any of the Section's funds, without the co-signature of a member of the Council. Disbursal of a sum in excess of Five Hundred Dollars (\$500.00) must be approved by a majority of the Council.

ARTICLE 8—Elections

8.01 - The President shall appoint two (2) nominating committees, instructing each committee to submit nominations for President-Elect, Vice President, Secretary, and Treasurer. These nominations shall be in the Secretary's hands before July 15. If desired, the same person may be nominated by the two committees for the offices of Secretary and Treasurer, but the nominations for President-Elect and Vice President shall not include the name of the same person on the two slates. The nominations of the first committee to file its report will have precedence in case of overlapping nominations, and the other committee shall then be requested to change its nominations. A candidate of office must be an active member and reside in the Gulf Coast at the time of his nomination.

8.02 - Ballots containing the nominations for officers, arranged alphabetically under each office, shall be prepared by the Secretary and mailed to each member of the Section on or before July 15. The ballots received by the Secretary before September 15 shall be counted by him. Receipt of a plurality of the votes cast for any office shall constitute election. In case of a tie vote, members of the Council shall cast one additional deciding vote.

8.03 - Results of balloting shall be announced at the Annual Meeting each October and the new officers shall enter upon duty on January 1 of the next calendar year.

ARTICLE 9—Publications

9.01 - The Section Editor, appointed by the President, shall actively solicit papers from the Section membership for presentation at the Annual Meeting. He shall cooperate with the editor of the Gulf Coast Association of Geological Societies' Transactions volume in preparing papers delivered at the meeting for publication in the volume. He shall cooperate with the editors of the Society of Paleontologists and Mineralogists' journals by helping to arrange for publications in these periodicals of suitable papers which come to his attention.

9.02 - Members of the Section may purchase one copy of each Section publication at a discount rate of 20 percent off the advertised price.

ARTICLE 10—Business Representatives

10.1 - The President shall appoint one representative from each group of members in each local geological society affiliated with the Gulf Coast Association of Geological Societies and in other localities as needed. Each representative shall have an up-to-date list of the members residing in his vicinity. He will notify these members concerning any matter of Section policy which may be relayed to him by the

President and shall have the authority to convene a meeting of those members to determine their views concerning Section affairs. He will report the results of such meetings to the President of the Section. He will cooperate with the Section Editor in the soliciting of papers to be presented at the Annual Meeting and with the Chairman of the Membership Committee in recruiting new members for the Section.

ARTICLE 11—Audit

11.01 - The President shall appoint an Auditing Committee which shall review the accounts presented by the Treasurer. The approval of the Treasurer's books by the committee shall

be required before his final report will be accepted. The Treasurer shall submit a provisional report at the Annual Meeting, and his final audit shall be accomplished no later than 30 days thereafter.

The Constitution of the GCS/SEPM was originally adopted in 1954 and was amended in 1960, 1962, 1966, 1969, 1971, 1972, 1974, and 1981. The Section was incorporated under the laws of the State of Texas in 1981, and these Bylaws were adopted at that time in place of the original Constitution and its amendments. They were amended in 1984, 1990, and 1991. These Bylaws embody all of the provisions of the original Constitution and its amendments.

