

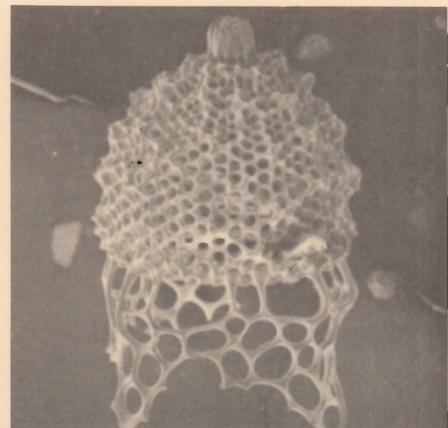
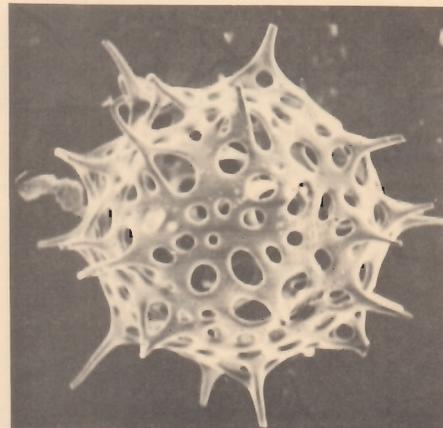
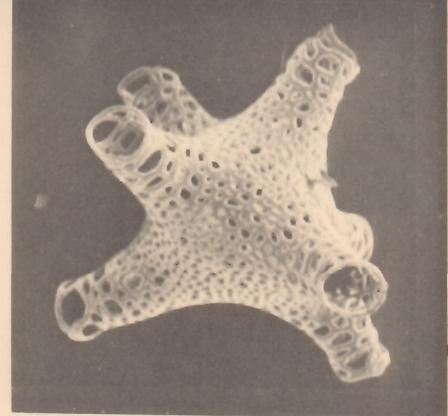
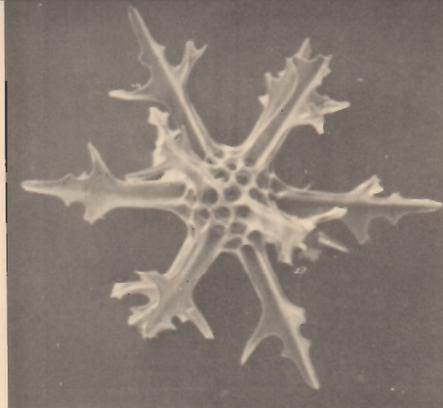
June 1977

BULLETIN

HOUSTON GEOLOGICAL SOCIETY

Volume 19

Number 10



SCANNING ELECTRON MICROGRAPHS OF NEOGENE RADIOLARIA (250x-400x) *Courtesy B. L. Shaffer*

HGS JUNE CALENDAR

June 6, 1977 (Guest Night)

Houston Oaks Hotel, Galleria Post Oak

Social hour: Consort I Dinner: Consort II

Michel T. Halbouty

Consulting Geologist and
Petroleum Engineer

Independent Producer and Operator

"Application of LANDSAT Imagery to Petroleum and Mineral
Exploration"

Social hour—5:00 PM, Dinner—7:00 PM Meeting—7:30 PM

**Tickets must be purchased in advance;
no tickets will be sold at the door.**

HOUSTON GEOLOGICAL SOCIETY
Suite B-1, 806 Main Street
Houston, Texas 77002
223-9309

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Professional Card	\$ 50.00
1/8 Page	\$120.00
1/4 Page	\$200.00
1/2 Page	\$360.00
Full Page	\$700.00

PRESIDENT'S COLUMN

It is most difficult to believe that this is my tenth and last President's Column for my term as your Houston Geological Society President. The time has gone so fast, the accomplishments seem so few in light of what I had hoped to get done, and yet there are still many things to finish before June 30, 1977. It has been a privilege and an honor for me to serve as your President and I thank each of you for allowing me the opportunity.

Service to the membership and our profession is the primary objective of the Houston Geological Society. I would like to commend three committees for what I consider outstanding service during this past year. The Program Committee headed by our Second Vice President, Dean Grafton, has supplied outstanding speakers as well as good food and facilities. The Continuing Education Committee headed by Stewart Chuber has had an excellent series of lectures that have been well attended and very beneficial to a large number of our membership. The Entertainment Committee headed by Denny Bartell has also served a large number of our members with two excellent functions, the Shrimp Peel and the Tennis-Golf-Barbecue Events. They also will support our final meeting of the year, Guest Night.

One single individual has served every member of the society ten times this past year. That person is Don Lane, our Bulletin Editor. He deserves the thanks of each of us for his hard work and excellent product. The only way the bulletin could have been better would have been if the membership had sent in geological papers to have been published. I hope my successor has better luck than I inspiring the membership to write for publication.

Space and time do not allow me to elaborate on the remaining twenty committees, all of which have worked to serve our membership. The Society can only function through good, hard work of committees, and each of us are indebted to the many persons that have given their time and effort to the many projects. It is regrettable we have not been able to effectively use all of the talent that has offered their services.

I would like to personally invite each of you to come out to our last meeting of the year, Guest Night, June 6th, and bring your spouse or guest. Mike Halbouty, our speaker, always has something worthwhile to say to us. I am sure you will enjoy the evening.

Have a good and profitable Summer.

HAL H. BYBEE, President
Houston Geological Society

RECENT DEATH

Horace C. Steele, retired geologist and reserve coordinator for Exxon Company U.S.A., died April 23, 1977 at the age of 47.

IMPORTANT NOTICE JUNE 6, 1977 EVENING MEETING

The June evening meeting is traditionally the annual Guest Night (or Spouse's Night) and we are continuing the custom this year. One of the world's outstanding earth scientists, Michel T. Halbouty, will be the speaker and we are sure that you and your guests will enjoy his talk and slides on the LANDSAT (ERTS) project.

Admission will be by advance ticket sale only; *there will be no tickets sold at the door*. Tickets are priced at \$10 each which includes dinner and cocktails. They may be purchased at the HGS office, Suite B-1, 806 Main Street, from 9 to 4 Monday through Friday; or you may order by mail if you enclose a self-addressed stamped envelope with your order. Make check payable to Houston Geological Society and mail your order to Houston Geological Society, Suite B-1, 806 Main Street, Houston, Texas 77002. For your convenience, tickets will also be available at the noon meeting, Wednesday, May 25. There can be no refunds after 4 PM, Friday, June 3, 1977.

NOTICE

Newly elected H.G.S. officers and executive committee members for the 1977-1978 fiscal year are:

President	Dean Grafton	Cities Service Co.
First Vice President	Jeffery V. Morris	Transcontinental Production Co.
Second Vice President	William A. Fowler, Jr.	Phillips Petroleum Co.
Secretary	W. L. Tidwell	Houston Oil & Minerals Corp.
Treasurer	Eleanor M. Hoover	Exxon Co., U.S.A.
Executive Committeemen for two-year term 7-1-77 - 7-1-79	Howard W. Kiatta	Indp't Petroleum Geologist
	M.M. (Ozzie) Osborne	Trunkline Gas Co.

(The amendment to the By-Laws passed 1562-22)

ALBERT W. ERXLEBEN, Chairman
Ballot Committee

AAPG DELEGATE ELECTION RESULTS

AAPG has informed us of the results of our election for Delegates and Alternates for the term July 1, 1977 through 30, 1980. They are as follows:

Delegates

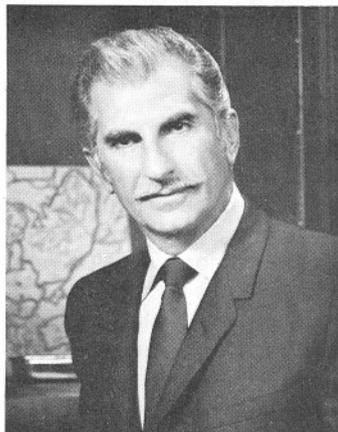
Marilyn J. Crane
Martin M. Sheets
Earl R. Swett
James E. Werner
William W. Woolfolk

Alternates

C. Richard Burnette
Elena Clark
Samuel B. Frazier
Robert Pavlovic

The Houston Geological Society will continue to be well represented in AAPG affairs as these new delegates and alternates take their place with our hold-over delegates. The Society would like to take this opportunity to thank each of them for offering to serve in this position.

MICHEL T. HALBOUTY—Biographical Sketch



Michel T. Halbouty is recognized in the oil industry as one of the outstanding geologists and petroleum engineers in the United States, and is internationally known for his scientific ability in petroleum exploration. He is considered an outstanding authority on the geological and engineering problems of the Gulf Coastal Province of North America, and he is rated as one of the top experts on the geology of

Gulf Coast Salt Domes. He is also most active as an operator and producer, producing and operating in many oil and gas fields in the United States and Alaska.

He is a graduate of Texas A&M University, having received his Bachelor of Science Degree in 1930 and his Master of Science Degree in Geology and Petroleum Engineering in 1931. In May, 1956, he received the Professional Degree in Geological Engineering from Texas A&M University (the first to be conferred by the University). In June, 1966, the Degree of Doctor of Engineering, *Honoris Causa*, was conferred upon him by the Montana College of Mineral Science and Technology.

Many honors have been bestowed upon Mr. Halbouty during his professional career. In October, 1965, Halbouty received the Texas Mid-Continent Oil and Gas Association's Distinguished Service Award for 1965, presented to an independent for outstanding services and contributions to his industry and profession. In February, 1968, he was named Engineer of the Year by the Texas Society of Professional Engineers and the Engineer's Council of Houston; and he was also awarded the Texas A&M University's Distinguished Alumni Award in May, 1968. In April, 1969, Halbouty was awarded Honorary Membership in the American Association of Petroleum Geologists. In May, 1969, the Wisdom Society for the Advancement of Knowledge, Learning and Research in Education presented Halbouty with the Wisdom Award of Honor and elected him to the Wisdom Hall of Fame. In June, 1970, he was conferred an Honorary Life Membership in the Houston Geological Society. In February, 1971, he received the DeGolyer Distinguished Service Medal of the Society of Petroleum Engineers of AIME. In October, 1972, he received Honorary Membership from the Spindletop Section of the Society of Petroleum Engineers of AIME. In February, 1973, the American Institute of Mining, Metallurgical and Petroleum Engineers (AIME) awarded Halbouty its highest honor, an Honorary Membership, and in February, 1975, AIME awarded Halbouty the Anthony F. Lucas Gold Medal. In April, 1975, Halbouty received the Human Needs Award from the American Association of Petroleum Geologists. AAPG's highest award, the Sidney Powers Medal, will be awarded to Halbouty at the June 1977 annual meeting.

In the Fall of 1964 and the Spring of 1965, he was a Distinguished Lecturer for the Society of Petroleum Engineers of AIME, and in the Fall of 1965 and Spring of 1966 he was a Distinguished Lecturer for the American Association of Petroleum Geologists.

Halbouty is a member of many worldwide scientific and engineering societies, and he has contributed over 200 papers and several books to the literature of geology and petroleum engineering. His latest book, "Salt Domes, Gulf Region, United States and Mexico" is the only such single volume on this subject in the world's scientific literature.

He has served in many official capacities in earth science and engineering organizations. He served on the Board of AIME from 1964 to 1967, and as Vice President in 1966-67. He also served as President of the world's largest organization of earth scientists, the American Association of Petroleum Geologists for the 1966-67 term.

APPLICATION OF LANDSAT
IMAGERY TO PETROLEUM
AND MINERAL EXPLORATION (Abstract)

by: Michel T. Halbouty

The LANDSAT (ERTS) project is the most significant mission ever flown by NASA. The use of LANDSAT imagery by the mineral and energy industries in the United States can improve the nation's domestic resource base in a shorter time and at a more reasonable cost than would have been possible otherwise.

Properly interpreted information from LANDSAT images can save corporations millions of dollars in unnecessary exploration and development efforts and at the same time provide geologic clues to the discovery of tremendous reserves. The more the LANDSAT data are used, the more innovations for their use will be established.

LANDSAT data have broad use in the minerals/fuel field, including the following general applications:

1. Detection of large-scale geologic structures that previously were unknown and which may be significant with respect to the localization of hydrocarbons. Such features commonly are not recognizable on aerial photographs.
2. The possible detection of very subtle tonal anomalies that may represent alteration of the soils resulting from miniseeps of gas from hydrocarbon reservoirs.
3. The potential for detecting natural marine oil seeps with consequent improvement in efficiency of offshore exploration.
4. Detection on outcrops of important minerals and metals, especially in hostile environments.
5. The monitoring in Arctic areas of ice distribution and movement that may affect transport of materials, the cost of seismic exploration in sea-ice areas, and the safety of exploration and production operations.
6. The monitoring of oil-field development and transport facilities, such as the Alaska pipeline, and an assessment of this development on the environment.
7. The potential for improved communication and decision making within petroleum companies.

LANDSAT imagery provides the explorationist a most rapid and inexpensive tool which could add immeasurably to his geologic knowledge.

**HONORARY MEMBERSHIP
R. C. "CLIFF" BOWLES**



R. C. "Cliff" Bowles, the youngest of five children of Mr. and Mrs. A. R. Bowles, was born July 10, 1900 on a farm near the small town of Hunter, in Grant County, Oklahoma Indian Territory. His family later moved to another farm in Garfield County. When "Cliff" was nine his family relocated on a farm near Norman, Oklahoma. After finishing elementary and high school in Norman he attended the University of Oklahoma

and was awarded a degree in petroleum geology with a minor in education in 1924.

During his years in high school, "Cliff" was very active in sports and became a stalwart in four of them. There were no athletic scholarships offered when he attended the University of Oklahoma. It was necessary for him to earn his expenses and tuition, therefore "Cliff" was forced to give up all sports except football which he loved dearly and was most proficient. After graduation he coached football and baseball and taught physical education in the Oklahoma City School System for one year. He was able to save enough money from his teaching, plus that earned officiating in basketball tournaments, to retire all the debts incurred while attending college. He returned to the University of Oklahoma in 1925 for graduate work in petroleum geology and served as assistant freshman football coach while there.

"Cliff" began his career as a geologist with the Dixie Oil Company in San Antonio, Texas in 1926. He had advanced to a surface Party Chief when an economy move was instigated and he and a number of others had their employment terminated. He was immediately employed by Producers Oil, a Tulsa based company and returned to San Antonio. At this point in his career "Cliff" was married to Mignon Bauman on September 18, 1928. They were blessed with one daughter, Ann. He pursued his duties with Producers Oil and had advanced to District Geologist in 1930 when the company was forced to sell its assets and dissolve. "Cliff" weathered the depression days by using his ingenuity to trade oil leases as well as continuing his work in subsurface geology. In 1932 he was employed by the Standard Oil Company of Kansas and moved from San Antonio to Houston. His success, as an exploration geologist and petroleum engineer with this company, was rewarded by his promotion to Vice-President in 1936. He served in this capacity until 1948 when the stockholders voted to liquidate the company and distribute the assets in kind. Although "Cliff" was unemployed, the liquidation proved financially beneficial to him. After a few months he was employed by the Commercial Petroleum and Transport Company to organize and be in charge of its geological and petroleum engineering departments. He held this position for three years and then entered the consulting field. He continued as an oil and gas consultant until his retirement in 1975.

"Cliff" was a charter member of the San Antonio (South Texas) Geological Society and has been a member and strong supporter of the Houston Geological Society since 1932. He has been a member of A.A.P.G. since 1927 and has served as Chairman of the Membership Committee. "Cliff" presented a paper on his Pettus Sand Studies to a geological meeting in Corpus Christi in 1931. He has also prepared a paper on the Benevides Field which was given before both the San Antonio (in 1939) and Houston (in 1940) Geological Societies. "Cliff" developed theories of deposition, during the early days of subsurface studies, that later have proven to be fact. His insight into the depositional characteristics of the Gulf Coast producing sands enabled him to make a record to be envied by every petroleum geologist.

**ROSWELL GEOLOGICAL SOCIETY
OIL FIELD SYMPOSIUM SALE**

The Roswell Geological Society announces a special sale of the 1977 Symposium, a supplement of Oil and Gas Fields of Southeastern New Mexico. The 1977 Symposium is a loose leaf publication of 236 pages covering the eighty most important oil and gas fields discovered in Southeastern New Mexico, primarily in the last ten years. Papers on each field have contour maps with location of discovery well and typical log sections and data sheets with geological and engineering information pertaining to drilling, completion and production. The pages of this loose leaf publication are designed to be easily inserted into the loose leaf binder of our 1967 Symposium. The Supplement contains the following information:

1. Data and maps of over twenty-five (25) of the total fields are in the "hot" Eddy County Morrow gas play.
2. Several special papers including reports on seismic activity and new fields of major significance.
3. A single comprehensive index of all the oil and gas fields covered in our four Symposiums published to date.

1977 SUPPLEMENT TO SYMPOSIUM OF OIL AND GAS FIELDS OF SOUTHEASTERN NEW MEXICO - loose leaf (with insert in 1967 Supplement binder)	Price
80 Fields, 236 Pages	\$26.50
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PRICES INCLUDE HANDLING AND POSTAGE.

Please make checks payable to: ROSWELL GEOLOGICAL SOCIETY (P.O. Box 1171, Roswell, N.M. 88201)

RESULTS OF 1977 HGS GOLF AND TENNIS TOURNAMENTS

The Houston Geological Society 1977 Golf Tournament was held at Forest Cove Country Club with 120 players participating. Under perfect weather conditions the course was attacked with enthusiasm and when the dust settled the following surfaced as winners.

Low Gross of Tournament — Dave Eggleston

White Flight Winners

- Low Net - Bob Berryman
- 2nd Low Net - Ben Sorrell
- 3rd Low Net - Jeff Morris

Green Flight Winners

- Low Gross - Tom Wardell
- Low Net - Robert Fuller
- 2nd Low Net - Wayne Thornton
- 3rd Low Net - Ken Aitken

Blue Flight Winners

- Low Gross - Gary McCreary
- Low Net - Hershel Riddle
- 2nd Low Net - Homer Wilson
- 3rd Low Net - Bill Kessler

Red Flight Winners

- Low Gross - Bud Holyman
- Low Net - Kemper Scott
- 2nd Low Net - O. D. Stevens
- 3rd Low Net - Ben Buongiorno

Special Event Winners

- Longest Drive - Jim Harma
- Longest Putt - Bill Monroe
- Closest to Hole - John Olney
- Highest Gross - Bart Groves

A special thanks must be given to Ernie Nix of Baroid who supplied the caps & beer, Jack Kingston of 3K Enterprises for contributing the Television set and liquid refreshments on the closest to the hole event, to Bill Latson of Dresser Atlas for golf balls, and to Al Boatman and Ed Hardcastle and their crew from the Analysts who supplied golf balls and the program as well as the computer for calculating the handicaps and the posting of the scores after the tournament. Without these friends the tournament would have floundered. Again, thanks from the Society.

CRAIG WEISINGER, Tournament Chairman

The following H.G.S. members were the winners in the annual Tennis Tournament.

"A" Flight

- Winners - Lamar Roemer
Ed Burton
- Runners up - Earl Williams
Jack Weyand
- Consolation winners - Ross Dawson
Larry Gordon
- Runners up - David Poe
John White

"B" Flight

- Winners - Howard Kiatta
Elwin Peacock
- Runners up - John Burger
Louis Romero
- Consolation winners - Dave Threinen
Allen Huckaby
- Runners up - Ross Reinwald
Gil Hamill

Ross Dawson assisted by Bill Powell scheduled and directed this years tournament. The many players and the Society thank them for the efforts.

CONTRIBUTORS HOUSTON GEOLOGICAL SOCIETY ENTERTAINMENT FUND

- | | |
|------------------------|-------------------------------|
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PROFESSIONAL AND ORGANIZATIONAL NEWS

G. CARLYLE HINSHAW has joined Mitchell Energy Corporation as senior district geologist. Hinshaw was associated with Texaco, Inc., for 17 years prior to joining MEC.

HUNTER YARBOROUGH has for sale: Bound G.S.A Bulletins 1926-1970, Excellent Condition, \$400.00; Bound AAPG Bulletins 1926-1963, Excellent Condition, \$370.00. Contact him at 4550 Post Oak Place, Suite 141, Houston, Texas 77027, 713-965-9674.

ERAL M. SUTTON is the new Chief Geologist of Damson Oil Corporation. Mr. Sutton was formerly employed by Aminoil/Signal and Chevron Oil Company.

PRICE SCHEDULE—HGS MEETING

June 6, 1977 at Houston Oaks Hotel \$10
(includes Dinner and cocktails)

Tickets must be purchased in advance; no tickets will be sold at the door. Tickets may be purchased at HGS office, Suite B-1, 806 Main Street, Houston, Texas 77002. Telephone 223-9309.

NEW MEMBERS

April 1977

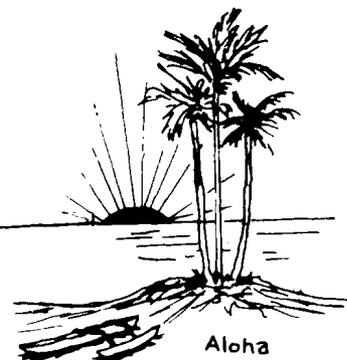
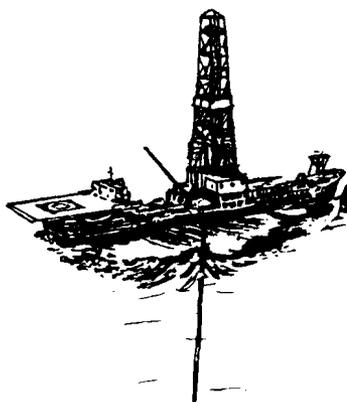
<p>ARCHIE, ANDREA MERYL Geologist Amoco Production Company P. O. Box 3092 Houston, Texas 77001 652-5577 5801 Lumberdale#134 Houston, Texas 77092 688-5723 Duke University 1972 B.S. Geol., Chem. University of S. Carolina 1974 M.S. Geol.</p>	<p>DENT, GARRY O. Geologist Texas Oil & Gas Corp. One Allen Center, Suite 1140 Houston, Texas 77002 658-0111 25206 Spring Ridge Drive Spring, Texas 77373 367-3011 JUDY Monmouth College 1970 B.A. Geol.</p>	<p>KHAN, MOHAMMED ALI Geologist Pennzoil Producing Co. P. O. Box 2967 Houston, Texas 77001 236-7240 3165 Las Palmas Houston, Texas 77027 627-9367 SHAHNAZ Middle East Technical 1969 B.S. Geol. University Ankara Turkey 1972 M.S. Eng.</p>
<p>BAILEY, THOMAS C. III Area Geologist Amoco Production Company P. O. Box 3092 652-4609 2801 Rolido, Apt. 22 Houston, Texas 77063 BGSU 1966 B.S. Geochem. BGSU 1968 M.A. Geol.</p>	<p>FIORE, RICHARD NILES Petroleum Geologist Amoco Production Company P. O. Box 3092 Houston, Texas 77001 652-4455 7510 Brompton #629 Houston, Texas 77025 668-2526 Carleton College 1973 B.A. Geol. University of Texas 1976 M.A. Geol.</p>	<p>KIRKLAND, GREGORY L. Geologist (Reserves) Tennessee Gas Pipeline P. O. Box 2511 Houston, Texas 77001 757-2642 12303 Davenport Lane Houston, Texas 77039 442-6475 JOYCE Lamar University 1974 B.S. Geol.</p>
<p>BASH, BERNARD F. Geologist Mesa Petroleum Company 1700 Dresser Tower Houston, Texas 77002 659-8585 504 Del Norte Houston, Texas 77018 695-4719 College of Wooster (Ohio) 1967 B.A. Geol. University Of Houston 1974 Geol.</p>	<p>HASKELL, EARL HUDSON Self Employed 2708 Southwest Freeway 529-0470 3411 Linkwood Houston, Texas 77025 664-0978 SARAH University of Texas 1950 B.S. Geol.</p>	<p>LIPINSKI, MARGARET M. Geologist General Crude Oil P. O. Box 2252 Houston, Texas 77001 651-9261 7131 Walkway Houston, Texas 77036 774-2073 PAUL Hafstra University 1973 B.A. Geol. Adelphi University 1973 Earth Sc.</p>
<p>BEARD, JOHN H. Sr. Research Specialist Exxon Production Research Co. 3120 Buffalo Speedway Houston, Texas 77001 965-4782 14769 Memorial Drive Houston, Texas 77079 493-5621 University of Utah 1957 B.S. Geol. University of Utah 1959 M.S. Geol.</p>	<p>HOADLEY, FLOYD C. Manager-Production Geology Gulf Energy & Minerals Co. P. O. Box 2100 Houston, Texas 77001 226-3492 622 N. Wilcrest Drive Houston, Texas 77079 467-2807 SHEILA U.C.L.A. 1950 B.A. Geol.</p>	<p>MUELLER, JOSEPH C. Senior Geologist Continental Oil Company P. O. Box 215 Woodlands, Texas 77380 367-3305 2321 Chestnut Oak Place Woodlands, Texas 77380 367-3636 MURIEL University of Illinois 1954 B.S. Geol. University of Illinois 1955 M.S. Geol.</p>
<p>CUNNINGHAM, S. BLAZE Geologist Gulf Research & Development Co. P. O. Box 36506 Houston, Texas 77036 778-5107 11407 Atwell Drive Houston, Texas 77035 729-2726 SUE Texas Tech Univ. 1969 B.S. Geol.</p>	<p>IRVINE, BEN M. Senior Geophysicist Conoco Box 215 The Woodlands, Texas 77380 367-3305 4118 Cypress Hill Drive Spring, Texas 77373 353-3892 MICKIE University of Colorado 1958 B.A. Geol. University of Colorado 1961 M.S. Geol. Tulsa University 1975</p>	<p>PETERSON, DALE W. Vice President Geo Data Corp. P. O. Box 3476 Tulsa, Oklahoma 74101 (918) 584-3366 4111 E. 48 Pl. Tulsa, Oklahoma 74135 (918) 742-8293 MELINDA Colorado School of Mines 1965 G.P. Engr. Geophysics</p>
<p>DAVIDSON, J. L., JR. President TEX-O Petroleum Co. 9900 Northwest Freeway #107 Houston, Texas 681-3305 914 Wycliffe Drive Houston, Texas 77097 464-4518 JANICE University of Texas 1956 Geol. University of Houston 1958 Geol.</p>	<p>JESCHOFNIG, PETER Geologist Enserch Exploration 5100 Westheimer, Suite 400 Houston, Texas 77056 626-5700 8700 Woodway Drive, Apt. 150 Houston, Texas 77063 780-0173 West Texas State Univ. 1970 B.Sc. Geol. Southern Methodist Univ. 1973 M.A. Archeol.-Geol. Southern Methodist Univ. 1977 Ph.D. Archeol.</p>	<p>PINKERTON, THURMAN Sr. Geologist Tenn. Gas P.L. Co. P. O. Box 2511 Houston, Texas 77001 757-3381 P. O. Box 43 Tomball, Texas 77375 356-8073 ZELMA Texas Tech Univ. 1947 B.S. Petrol. Eng.</p>
<p>DAWSON, HENRY F. Exploration Scout Exxon Company, U.S.A. P. O. Box 2180 Houston, Texas 77001 656-1856 3931 Cypress Hill Drive Spring, Texas 77373 353-1688 AUDREY Univ. of Southwestern LA 1943 Acctg. & Bus. Adm. Bakersfield Jr. College 1966 Geol. MoorPark Jr. College 1970 Real Estate</p>	<p>JOHNSON, L. CHRIS Geologist Houston Oil & Minerals Suite 300, Main Building Houston, Texas 77002 651-3800 (384) 4002 Amherst Houston, Texas 77005 668-2819 ANNE Univ. of Texas 1974 B.A. Geol. Univ. of Texas M.A. Geol.</p>	<p>RAY, THOMAS E. Division Geologist Lard Oil & Gas Co. 301 S. Market Wichita, Kansas 67202 (316) 265-5611 8501 Brentmoor Wichita, Kansas 67206 ERLENE Northern Oklahoma J. C. 1950 Arts & Sc. University of Oklahoma 1953 Geology Oklahoma State University 1956 B.S. Geol.</p>

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<p>THOMASSON, M. RAY V.P. Exploration—New Areas McCormick Oil & Gas 1204 Tenneco Building Houston, Texas 77002 658-8031 1213 Berthea Houston, Texas 529-8443/529-9768 JUDY Missouri University 1952 B.S. Geol. Missouri University 1953 M.S. Geol. Wisconsin University 1959 Ph.D. Geol.</p>	<p>AUSTIN, ANDREW L. Chief Geologist Pengo Petroleum Inc. 2195 Two Shell Plaza Houston, Texas 77002 228-6331 4721 McKinney Street Houston, Texas 77023 923-4886 JACQUELYN Univ. of Virginia 1956 B.A. Geol.</p>	<p>GEDEON, JAMES E. Geologist Westland Oil Dev. Corp. 6060 Hillcroft Houston, Texas 77036 774-7601 8210 Devonwood Houston, Texas 77070 469-1131 SHARON Case Western Res. Univ. 1966 B.A. Geol. Case Western Res. Univ. 1969 M.S. Geol.</p>
<p>WATERMAN, ARTHUR S. Paleontologist Paleo-Data Inc. 6619 Fleur de lis Drive New Orleans, Louisiana 70124 (504) 488-3711 7005 Walmsley Avenue New Orleans, Louisiana 70125 866-7192 MARCIA St. Lawrence Univ. 1973 B.S. Geol. Indiana University 1975 M.A. Geol.</p>	<p>BABCOCK, P. E., JR. Geologist Superior Oil Co. P.O. Box 71 Conroe, Texas 539-1771 6500 W. 43 Street #1313 Houston, Texas 77092 688-0685 JOAN State Univ. of New York 1974 B.S. Geol.</p>	<p>HAMILTON, ROBERT M. JR. Division Sales Engineer Welx 3801 Kirby, #411 Houston, Texas 77006 529-5995 6300 Dumfries #132 Houston, Texas 77096 776-3282 GWEN Lamar Univ. 1974 B.S. Geol.</p>
<p>WEBB, KENNETH D. Explorionist Geophysical Service Inc. P. O. Box 2803 Houston, Texas 77001 494-5115/494-3183 P. O. Box 42076 Houston, Texas 77042 772-4827 Pensacola Jr. College 1971 A.A. Gen. Sc. University of South Florida 1974 B.A. Geol.</p>	<p>BIRDSALL, BARTON C. Geologist Gulf Oil Co. P.O. Box 1635 Houston, Texas 77001 227-0214 7635 Winkle Wood Houston, Texas 77086 CYNTHIA Univ. Southern Florida 1974 B.S. Geol.</p>	<p>HOUGH, STEPHEN F. Vice President Tex-World Geophysical Co. 4140 SW Freeway #409 Houston, Texas 77027 626-2350 7523 Brushwood Houston, Texas 77088 HELEN South Texas 1963 B.S. Geol. Univ. of Houston 1965 M.S. Geol.</p>
<p>WHITE, JOHN M. JR. Senior Geologist Continental Oil Company P. O. Box 215 Woodlands, Texas 77380 367-3305 10812 Colonywood Pl. Woodlands, Texas 77380 292-3123 CONNIE University of Oklahoma 1954 B.S. Geology University of Oklahoma 1956 M.S. Geology</p>	<p>CARR, JERRY EDWIN Hydrologist U.S. Geol. Survey Rm. 1112, 2320 LaBranch St. Houston, Texas 77004 226-5830 5330 Ridgestone Houston, Texas 77053 437-7717 LINDA New Mex. State Univ 1970 B.S. Geol. Univ. of Arizona 1976 M.S. Geol.</p>	<p>HOYT, DANIEL H. Geophysicist Exxon Company, USA P.O. Box 2180 Houston, Texas 77001 656-1875 #10 Fries Court Houston, Texas 77055 464-6583 Univ. of California 1974 B.S. Geol. San Diego State Univ. 1976 M.S. Geol.</p>
<p>YOUNG, MICHAEL S. Geologist J. M. Huber Corp. 2000 W. Loop South, #2023 Houston, Texas 77027 621-8750 5700 F.M. 1960 W. Apt. #220 Houston, Texas 77069 CAROLYN Iowa State University 1970 B.S. Geol. Iowa State University 1972 M.S. Geol.</p>	<p>CASEY, JOE Geologist Gulf Energy & Minerals Co. US P.O. Box 1635 Houston, Texas 77001 226-2134 7000 Fonvilla #705 Houston, Texas 77074 772-9851 MARY Univ. of Texas 1976 B.S. Geol.</p>	<p>LAMBERT, ERNEST H. Registered Rep. and Oil Analyst Lehman Brothers 3440 One Allen Center Houston, Texas 77002 651-1818 282 Litchfield Houston, Texas 77024 932-0128 KAY LSU 1951 B.S. Geol. LSU 1956 M.S. Geol.</p>

<p>MOHEREK, ANTHONY J. Geologist Tenneco Oil Co. P.O. Box 2888 Houston, Texas 77001 623-8180 745 International Blvd., #E-130 Houston, Texas 77024 683-0719 Rutgers Univ. 1974 B.S. Geol. Texas A&M 1977 M.S. Geol.</p>	<p>QUARLES, BILLY C. President Tex-World Geophysical Co. Inc. 4140 SW Freeway #409 Houston, Texas 77027 626-2350 6313 Gammage Houston, Texas 77087 645-3411 DORA Univ. of Houston 1949 B.S. Geol.</p>	<p>WELCH, HOUSTON Geophysicist American Petrofina 1100 First City East Bldg. Houston, Texas 77002 652-5926 P.O. Box 411 Spring, Texas 77573 288-4961 JE' Baylor Univ. 1957 B.S. Geol.</p>
<p>NEWHART, JOSEPH ALAN Geophysicist Exxon Company, USA P.O. Box 2180 Houston, Texas 77001 656-2551 12935 Westella Drive Houston, Texas 77077 497-4478 MARCIA Ohio State 1969 B.S. Geol. Bowling Green State Univ. 1975 M.S. Geol.</p>	<p>REEVES, MAX W. Geologist Total Petroleum 2950 One Allen Center Houston, Texas 77002 658-0972 3231 Norfolk Houston, Texas 77098 526-7143 Univ. of Utah 1970 B.S. Geol.</p>	<p>WELLBAUM, EDGAR W. President Buttes Resources Co. P.O. Box 2967 Houston, Texas 77001 651-1414 217 Gessner Houston, Texas 77024 932-9113 MARY Univ. of California 1949 B.A. Geol.</p>
<p>NORTHCUTT, ROBERT A. District Exploration Manager Michigan Wisconsin Pipeline Co. 623-0300 10226 Olympia Houston, Texas 77042 977-0070 ANNETTE Univ. of Okla. 1956 B.S. Geol. Engr.</p>	<p>STEVENS, E. M. (ED) Sup. Geologist Conoco P.O. Box 2197 Houston, Texas 77001 965-2212 3617 Wake Forest Houston, Texas 528-4411 DOT Univ. of Houston 1951 B.A. Geol.</p>	<p>WILLIAMS, CHARLES E. Owner Williams Consulting Services 6515 Hillcroft #241 Houston, Texas 77081 771-3392 6515 Hillcroft #241 Houston, Texas 77081 771-3392 MARTHA SMU 1934 B.A. Eng.</p>
<p>PALMER, DENNIS E. Regional Geologist Continental Oil Co. P.O. Box 2197 Houston, Texas 77001 965-2309 18111 Mahogany Forest Houston, Texas BARBARA BYU 1967 B.S. Geol. BYU 1969 M.S. Geol.</p>	<p>STOLLE, JAMES M. Geologist Superior Oil Co. P.O. Box 1521 Houston, Texas 77001 751-4286 4831 Lost Oak Spring, Texas 77373 288-4941 LINDA BYU 1972 B.S. Geol. BYU 1977 M.S. Geol.</p>	<p>WOLFE, TERI Geologist Gulf P.O. Box 1635 Houston, Texas 77001 226-2508 7311 Brompton #B257 Houston, Texas 77025 666-6825 KENT Rice Univ. 1976 B.A. Geol.</p>
<p>PANKONIEN, GLEN A. Geologist Superior Oil Co. P.O. Box 71 Conroe, Texas 539-1771 407 Gladsteli #80 Conroe, Texas 77301 539-2516 MELODY Texas A&M 1976 B.S. Geol.</p>	<p>WALSTON, GARY H. Dip Log Analyst Welex 3801 Kirby Bldg., #411 Houston, Texas 77098 529-5995 12234 Palmfree Houston, Texas 77034 946-7483 VICKI Lamar Univ. 1973 B.S. Geol.</p>	<p>WURTH, ROBERT H. Chief Geologist Natural Gas Pipeline Co. P.O. Box 283 Houston, Texas 77001 621-9030 10402 Meadowlake Houston, Texas 77042 781-2660 Univ. of Tulsa 1950 B.Sc. Geol.</p>
<p>PETTA, TIMOTHY J. Geologist Shell Oil Co. P.O. Box 991 Houston, Texas 77001 220-2015 2100 Tanglewilde #165 Houston, Texas 77063 781-1496 SHEILA Univ. of Southern Colorado 1971 B.S. Geol. Wichita State Univ. 1973 M.S. Geol. LSU 1976 Ph.D. Geol.</p>	<p>WARDEN, TRACY SUE Jr. Geologist Superior Oil Co. P.O. Box 71 Conroe, Texas 77301 539-1771 Caesar's Palace, #6 Conroe, Texas 77301 756-9724 Texas A&M 1976 B.S. Geol.</p>	
<p>PILATI, KARL H. Chief Geologist Southern Natural Gas P.O. Box 1513 Houston, Texas 77001 622-7270 11930 Arbordale Houston, Texas 77024 461-2168 JIMMIE Univ. of Alabama 1951 B.S. Geol.</p>	<p>WATKINS, ROBERT MELTON Geologist Welex 3801 Kirby Bldg. Houston, Texas 77098 529-5995 5720 Glenmont #103 Houston, Texas 77081 661-7909 SUSIE Univ. of Texas 1976 B.S. Geol.</p>	

Second Circum-Pacific Energy and Mineral Resources Conference



NEWSLETTER

Aloha

HONOLULU, HAWAII
July 30– Aug. 4, 1978

Spring Edition, 1977

The Circum-Pacific Council for Energy and Mineral Resources feels a real responsibility for transferring science and technology between nations and particularly to the developing nations. The Conference program, educational exhibits, and workshops every four years provide an excellent means of accomplishing this.

GENERAL PROGRAM

The Circum-Pacific Council for Energy and Mineral Resources Conference will be held July 30-August 4, 1978 in the Mid-Pacific Conference Center at the Hilton Hawaiian Village, Honolulu. This international conference is sponsored by the American Association of Petroleum Geologists, the Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas, the Pacific Science Association, the American Mining Congress, and the University of Hawaii, and is supported by about fifty geoscience societies around the world. Approximately 125 invited papers on petroleum, oil shale, tar sands, coal, geothermal energy, nuclear energy, minerals, ores, groundwater, and related general themes will be offered by outstanding international scientists, economists, and statesmen.

INTERNATIONAL EDUCATIONAL EXHIBITS

The premier addition to our Conference in 1978 will be educational exhibits. These will be displayed in an exhibits pavilion adjacent to the meeting rooms. Free coffee bars, tables, and chairs in a Polynesian decor will fill the center of the pavilion. Flags of Pacific nations will be hung on wires stretched across the pavilion, and travel posters from different countries will hang as mobiles. About 50 educational booths will be around the periphery.

The educational exhibit pavilion will provide a relaxed atmosphere where an expert, his colleagues, and some students can gather to discuss more thoroughly the papers presented. An effort will be made to have "Meet the Speaker" hours each day in this pavilion. Poster shows, particularly on environmental geology, are contemplated in the Sea Pearl Room off the beautiful Tapestry Lounge. The new Circum-Pacific geographic maps will be displayed. A grant to subsidize the professional assembling of displays of minor or developing nations is being sought.

EARTHQUAKES AND THE RING OF FIRE

A special educational feature for the public as well as for the delegates and their families will be an evening public lecture by Dr. Barry C. Raleigh of the U.S. Geological Survey. Dr. Raleigh has appeared in numerous TV programs and documentary films on earthquakes. His topic "Earthquakes and the Ring of Fire" will cover the principal earthquake disasters in the Pacific since the 1906 San Francisco quake and relate them to the volcanism that rings the Pacific basin. The present status of earthquake prediction and continuing international research along these lines will be discussed. The lecture will be illustrated by films and slides.

ENVIRONMENTAL GEOLOGY SYMPOSIUM AND WORKSHOP

Plans are being developed by Tom Wright and Earl Brabb for a symposium on environmental geology and a workshop on landslides. At present the plans call for a session on "Environmental care in the development of mineral and energy resources," which will summarize the methods now available to predict and prevent environmental damage in resource development. Another session will concern the "Impact of the physical environment on land use and development in the Circum-Pacific Region." This will present recent advances in our understanding of the principal geologic and hydrologic constraints on development of land for any purpose, but will emphasize the aspects affecting energy and mineral production especially.

A workshop on the "Recognition and reduction of landslide hazards" is proposed to provide instruction on (1) recognition of landslides on aerial photographs and topographic maps, (2) the preparation of regional landslide inventories and landslide susceptibility maps, (3) economic factors and (4) planning tools.

Details of the environmental geology symposium and workshop will be announced in a later newsletter. *Please indicate your interest on the attached coupon even if you have previously returned a coupon for the Conference.*

PRE-CONFERENCE WORKSHOP ON BASIN ANALYSIS, JULY 24-28, 1978

This pre-Conference workshop will relate modern subsurface methods to basin analysis and resource appraisal, as detailed in Winter 1976-77 Newsletter. Fundamental concepts of basin analysis will be discussed but emphasis will be placed on the use and interpretation of different logging methods in boreholes to obtain data for analysis of stratigraphic assemblages and resource potential of basins. The workshop will be designed primarily for those international scientists who desire an introduction to these subsurface tools and methods; however, others desiring a refresher course in basic principles and modern techniques will be welcome. Registration probably will be limited to 100 persons. Pre-registration will be required and a special fee of \$50.00 (U.S.) each will be necessary to cover printing and mailing costs. Details of program and necessary registration forms will be sent to interested persons returning the coupon.

Pre- and post-Conference geological field trips similar to those in 1974 will be conducted on the islands of Kauai, Oahu, Maui, and Hawaii by experts from the University of Hawaii and the U.S. Geological Survey. A trip through the Halawa Water Tunnel will be available by courtesy of the Honolulu Board of Water Supply.

(Take one or all)

- (A) Island of Kauai, July 29-30
- (B) Island of Oahu, Aug. 6
- (C) Island of Maui, Aug. 6-7

- (D) Island of Hawaii, Puna District, Aug. 7-8
- (E) Island of Hawaii, Kona Coast, Aug. 9-10

1974 CPEMRC PAPERS PUBLISHED

One hundred twenty-six papers presented by authors from 16 countries at the 1974 CPEMR Conference are published in whole or in part in a hard-back well-illustrated volume, AAPG Memoir 25. The Memoir consists of 17 general papers, 7 papers on coal, 15 papers on geothermal energy, 28 papers on hydrocarbons, 13 papers on hydrogeology, and 46 papers on minerals. This should be an indispensable reference for scientific, technical, and economic development among Pacific nations and those interested in their resources. The 608-page volume is priced at \$40.00 but can be obtained by members of AAPG, SEPM, PSA, and CCOP-SEA for \$32.00. Orders should be addressed to AAPG, Box 979, Tulsa, Oklahoma, 74101.

(Detach Here)

This information is for planning only—please help—it is not a commitment or reservation.
Reservation forms will be sent later. Please print or type full name and address below.

Mail To: 1978 Circum-Pacific Conference, c/o AAPG, P.O. Box 979, Tulsa, Oklahoma, U.S.A. 74101

I plan to attend the Basin Analysis Workshop, July 24-28, 1978 _____ with spouse _____

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I/We plan to attend the Conference July 30-Aug. 4, 1978 _____

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I/We plan to attend field trips circled A B C D E _____

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Please send additional information and pre-registration forms for the Basin Analysis Workshop _____

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Geologist EXPLORATION Engineer
Review of Subsurface Data
3425 Bradford Place 668-4327
Houston, Texas 77025

WAYNE Z. BURKHEAD

Consulting Geologist

713 Rocky River
Houston, Texas 77027
Ph. 713/621-3077

HARRIS H. ALLEN

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933 San Jacinto Bldg. 228-9329
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1228 First National Bank of Commerce Bldg.
(504) 522-0432

New Orleans, Louisiana

STEWART CHUBER

Consulting Geologist

Res. 713-465-3360
Office - 713-658-8395

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GEORGE H. CLARK
Petroleum Geologist

201 Gordon Dr.

Crockett, Texas 75835

Ph 544-8257

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Petroleum and Geological
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Houston, Texas 77042

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Consulting Geologists & Paleontologists
708 C&I Building — Houston, Texas 77002
(713) 227-6266

Jack Colle (622-9555)

J. G. Ward (497-7298)

EVARD P. ELLISON

Geologist

1214 Americana Building
225-6285

Houston, Texas 77002



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Houston, Texas 77027

JACK W. CRAIG

Consulting Geologist

1520 C & I Building
Houston, Texas 77002
713/652-4960

PAUL FARREN

Geophysical Consultant

Geodata Building

667-3317

5603 S. Rice Ave. (77081)

WALT M. CURTIS

GEOPHYSICAL CONSULTANT

8822 Westview Dr., Houston, Texas, 77055

(713) 464-0801

STEWART H. FOLK

Certified Professional Geologist
Coal, Petroleum, & Geothermal Resources

700 Post Oak Bank Building
Houston, Texas 77056

Office 713/622-9700
Home 713/781-2336

JOSEPH N. GRAGNON
Consulting Geophysicist

1410 Americana Building
Houston, Texas 77002 713/652-3837

DONALD W. LANE
Consulting Geologist
*Gulf Coast, Rocky Mountains
Midcontinent, Eastern Interior*

12214 Mossycup Drive Houston, Texas 77024
(713) 461-1637

STEVEN R. GUSTISON

Consulting Petroleum Geologist

Res. (713) 469-4456 7510 Fernbrook
Office (713) 658-0601 Houston, Texas 77070

OFFICE 889 HOUSTON CLUB BUILDING
HOUSTON TEXAS 77002
227 2552

O. G. LUNDSTROM
GEOLOGIST

RES 3614 ABERDEEN WAY
HOUSTON, TEXAS 77025
664-4397

MICHEL T. HALBOUTY

Consulting Geologist
and
Petroleum Engineer
Independent Producer and Operator

TELEPHONE (713) 622-1130
The HALBOUTY CENTER
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HOUSTON, TEXAS 77056



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Consulting Geologists and Paleontologists
P. O. Box 51858 Oil Center Station
Lafayette, Louisiana 70505
234-3379

WILLIAM E. HUMPHREY
Petroleum Exploration Consultant

Suite 700 Office 713/622-9700
2200 South Post Oak Road Home 713/444-8180
Houston, Texas 77056

W. B. McCARTER
C. E. McCARTER
Independents

2522 Hazard 529-1881
Houston, Texas 77019
523-5733

R. B. MITCHELL

Geologist

652-2192

2301 First City National Bank Bldg.
Houston, Texas 77002

JOSEPH G. PUTMAN III

*Consulting Geophysicist
& Geologist*

1514 Pine Gap

444-3546

Houston, Texas 77090

658-0601

I. K. NICHOLS

**Gulf Coast Exploration Geologist
C.P.G. No. 932**

Phone: 782-4970

41 Still Forest Dr.

Houston, Texas 77024

RAYMOND D. REYNOLDS

Geologist

708 Main Street - Suite 436
Houston, Texas 77002
227-7633

HENRY H. PHILLIPS

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Houston, Texas 77012

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JOHN A. RUGGLES

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AAPG
AAPG
GSA

Town & Country
Professional Building
10405 Town & Country Way
Houston, Texas 77024

RICHARD L. PORTER

Petroleum Geologist & Exploration Consultant

2101 Fountain View No. 29
Ph. 713-781-5357
Houston, Texas 77057

MARTIN M. SHEETS

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1973 W. Gray, Suite 4 Houston, Texas 77019
713 523-1975

LEO PUGH

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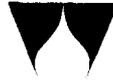
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Paleontologist**

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Res. 468-7300

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Houston, Texas 77002
Off: (713) 652-5026 Res: (713) 862-8502

Merlin J. Verret

President

Delta Energy Resources, Inc.
3002 Country Club Road
Lake Charles, Louisiana 70601 (318) 477-1477

WILLIAM C. WAGNER

Consulting Geophysicist

1428 Capital Towers
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Certified Petroleum Geologist
Exploration Consultant
Domestic - Foreign

Phone: (318) 235-2987

517 Beverly Drive
Lafayette, Louisiana 70501

HAROLD VANCE

Petroleum Investment Counselor
Petroleum Evaluation Engineer

652-5842
1429 Bank of the Southwest Bldg.
Houston, Texas 77002

J. C. WALTER, JR.

Geologist and Petroleum Engineer

242 Main Bldg.

Houston, Texas 77002
Home Phone: 785-2030

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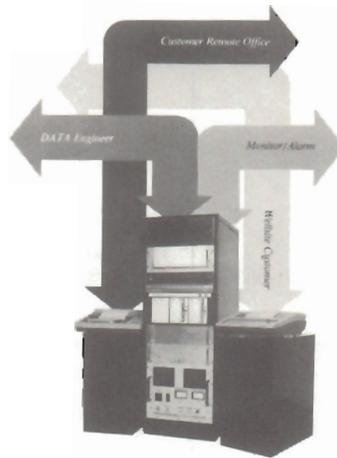
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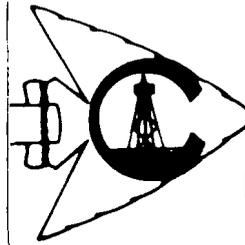
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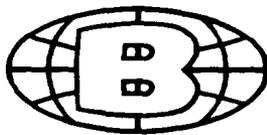
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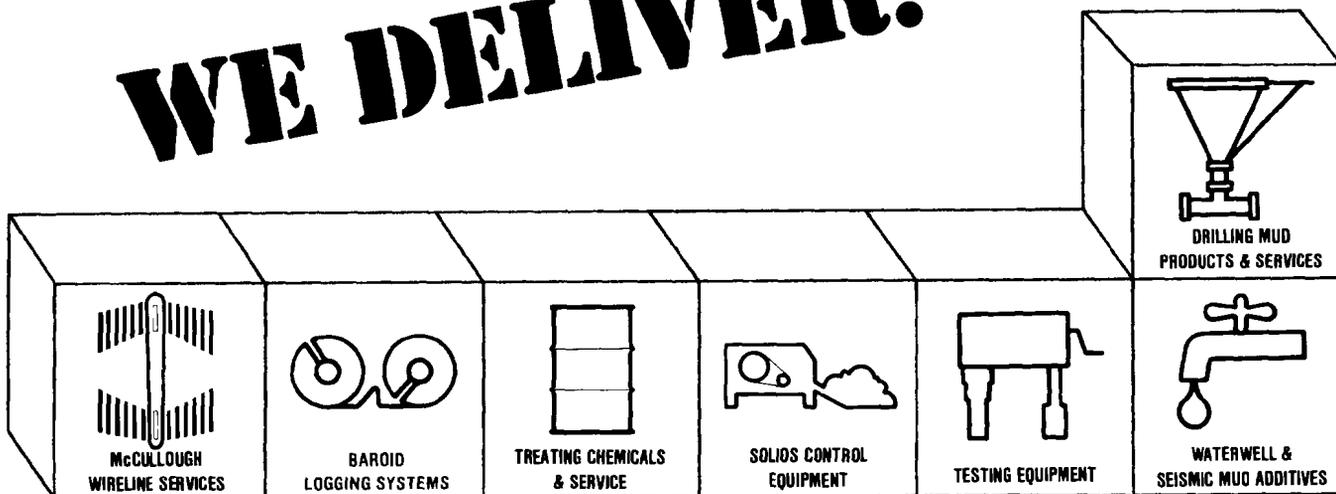
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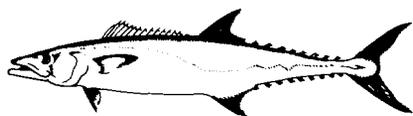
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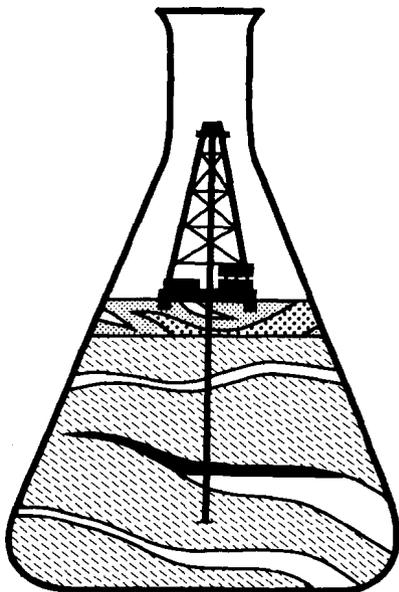
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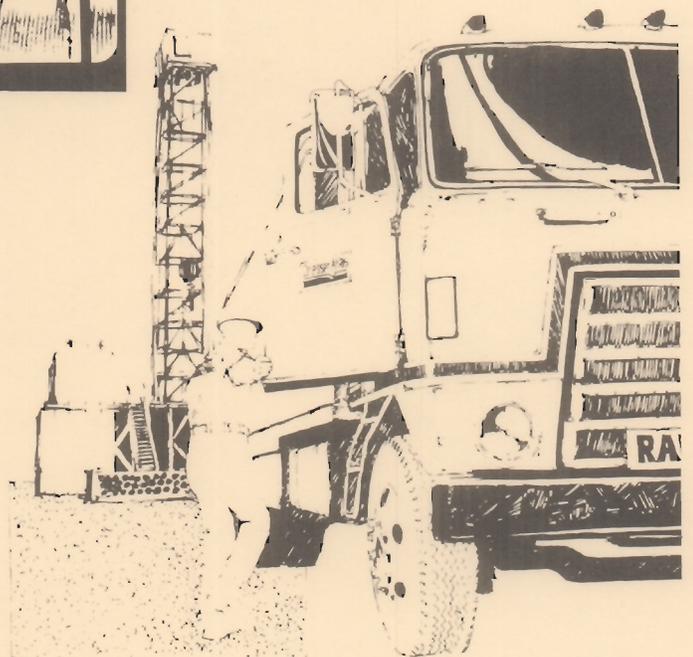
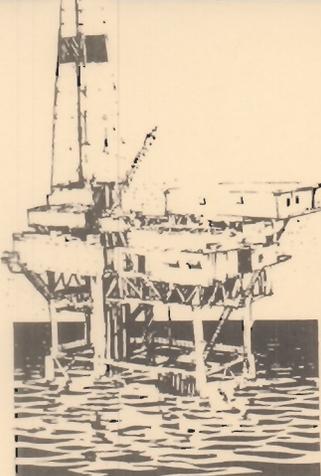
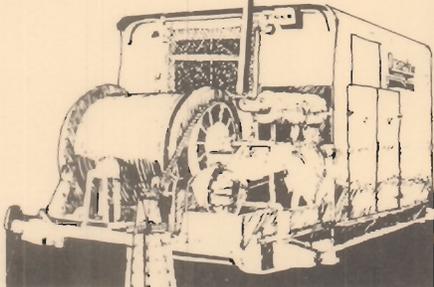
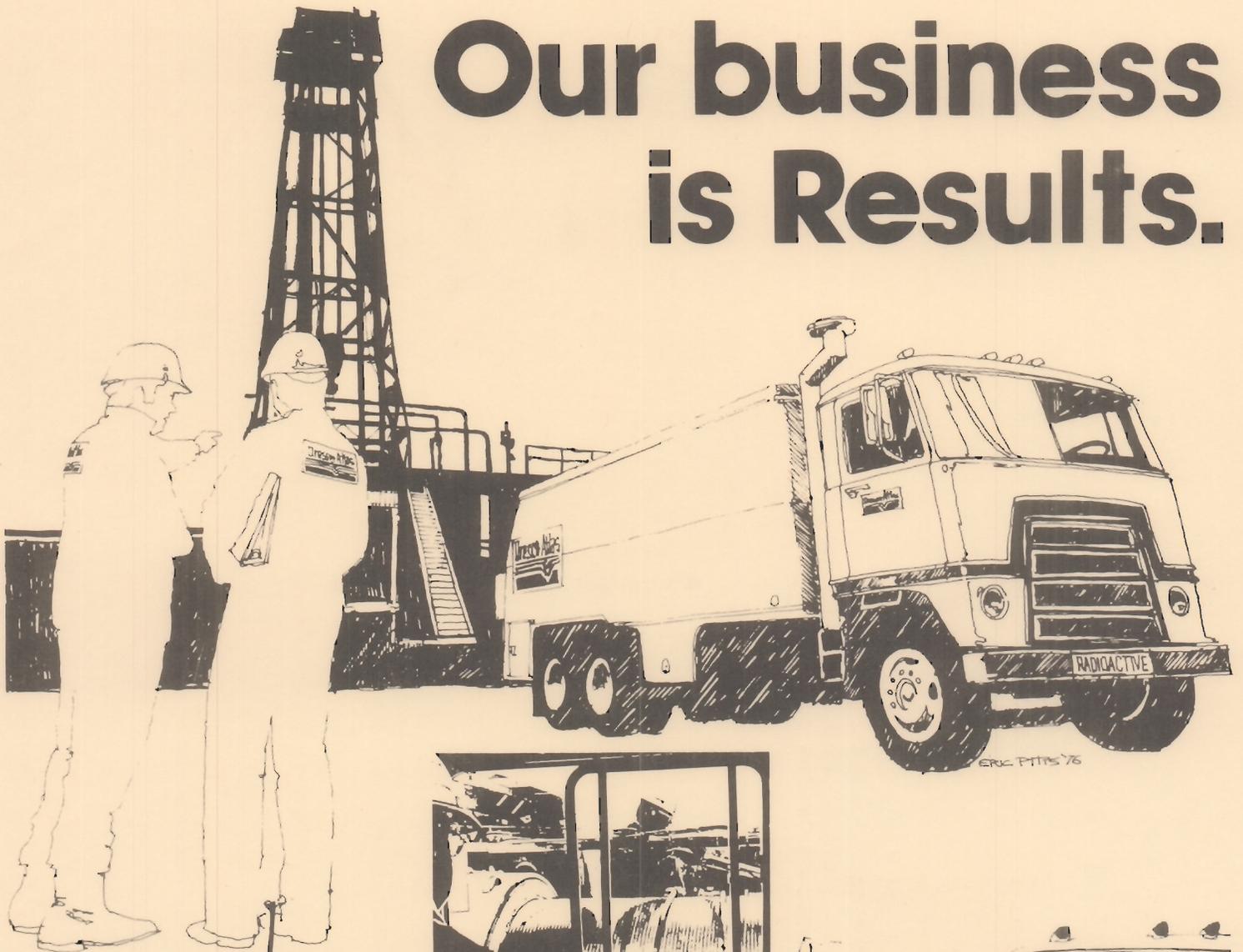
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