

March 1997

SPEE Newsletter

PRESIDENT'S LETTER

First, I sincerely want to thank the membership, the Board of Directors and the Executive Committee for the privilege of serving as the President of the SPEE. Representing the distinguished membership and following in footsteps of some of our industry's giants is an honor I shall always cherish.

On behalf of the Society as a whole, I want to express our total gratitude for the countless hours and the dedicated efforts of our outgoing President, D. Russell Long. He has left a tremendous impact on the Society, not only in the directions he instigated in his committees, but in the business methods he helped implement in the functioning of our Society.

We now have a "Drilling Report" which monitors the membership applications effectively and a Council of Past Presidents which assists the Executive Committee and the Board of Directors in guiding the Society. Arlen L. Edgar was elected to serve as the first chairman of this Council, and at last count, 18 past presidents had agreed to participate. Russ Long has agreed to chair the Fair Market Value committee, which guarantees his continued activity in the Society.

The Society now has 477 members (4.8% more than last year) and is growing steadily. The SPE Hydrocarbon Economics and Evaluation Symposium (HEES), scheduled for March 16-18 in Dallas, offers our Society another opportunity to add to our membership. The SPEE will host a breakfast, and we will have membership applications available for all interested parties. (See notice on the last page of this newsletter.)

The Board voted to approve the establishment of a California chapter. The membership there is developing a plan whereby one chapter could serve the total state through a rota-

tion of meeting sites. Any potential members in California should be contacted and encouraged to help make this effort viable.

The three new Board of Directors members elected at the end of 1996 are: William D. Anderson, Netherland, Sewell & Associates; Richard J. Miller, Richard J. Miller & Associates; and John Thibeaux, J. P. Morgan Investment Management. The Officers elected at the Board meeting February 3, 1997 are: Forrest A. Garb, President; Gene B. (Skip) Wiggins, Vice President; and Andy Merryman, Secretary/Treasurer.

Russ Long, of course, as immediate Past President, becomes the fourth member of the Executive Committee.

The coming year promises to be an active one. Both established and brand new committees have enthusiastically promised to aggressively address issues related to reserve definitions, a fair-market-value monograph, gas imbalance considerations and evaluation parameters. I am sure that we are on the brink of real progress in these matters. The annual meeting in Aspen was a real success, and even though this was an expensive location, the reports from those attending have all been very positive. I am sure that the 1997 convention in Williamsburg will be even better. The advance notice from "Skip" Wiggins is, "The program and area will blow you away." The annual conventions continue to be an important contribution to our membership by providing a forum for distribution of experi-

ence and ideas. Please make every effort to attend as you will certainly enjoy the fellowship and prosper from the technology afforded by these meetings.

The February 3rd Board of Directors meeting was held in conjunction with the Houston chapter's regular meeting. Dr. Claude L. McMichael, Jr. presented a timely discussion on "The Pursuit of a Worldwide Set of Reserve Definitions." Claude is knowledgeable about the history and current status of industry efforts to develop an international lexicon for reserve definitions. He was kind enough to bring us up to date on definition efforts in the SPE/WPC committee.

At the Board of Directors' meeting, Chapman Cronquist was

elected an Honorary Member in the SPEE. This honor recognizes outstanding achievement in the profession of petroleum property evaluation and/or significant and exceptional service to the Society. Chap's industry accomplishments, his past service to the SPEE, and his continuing position as one of our representatives in the SPE Reserves Definition committee has earned him this well-deserved recognition. The award will be formally presented at the annual meeting this summer in Williamsburg.

In closing, please plan to attend the HEES in Dallas and the annual SPEE convention in Williamsburg.

Sincerely,
Forrest



Forrest Garb, Russ Long, Skip Wiggins, Andy Merryman

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1997**

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 Production Tax Summary Charles G. Massey
 Professional and Public Affairs James F. Eisterhold
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 Liaison Representative on SPE
 Oil & Gas Reserves Committee Chapman Cronquist
 AD HOC - Foreign Meeting Paul Clevenger
 Investigation Committee Dave Tutt

Others

Newsletter Editor Diane W. Pollard
 Information B.K. Buongiorno
 713-651-1639
 Fax 713-951-9659

**Chapter Officers
1997**

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 Robert Odd, Vice Chairman
 Mike Brusset, Secretary-Treasurer
 Meets: Quarterly on 3rd Tuesday of months
 of February, May, September and November

Central Texas

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 Danny Wilson Co-Membership
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 Paul Clevenger Co-Membership
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 Richard A. Johnston Secretary-Treasurer
 Meets: Austin Country Club, Quarterly

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 Robert Blair Secretary-Treasurer
 Mark Doering Membership
 Meets bimonthly

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 Steve Gilbert, Secretary/Treasurer
 Nanette Schulz - Membership Chairman
 Meets: Colorado Nat'l Bank, 2nd Wednesday
 of first month each quarter - 11:45 a.m.

Houston

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 Marilyn Wilson, Vice Chairman
 Fred Goldsberry, Secretary-Treasurer
 Dan Olds, Program Chairman
 Meets: Petroleum Club, 1st Wed. - 11:30 a.m.

Midland

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 Cathy Norwood, Vice Chairman
 Mike Black, Secretary-Treasurer
 Dean Eiland, Membership Chairman
 Meets: Bimonthly

New Orleans

Denton L. Copeland, Chairman
 Tim Brookover, Secretary/Treasurer
 Meets: 1st Wednesday of each month

Oklahoma City

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 Max Holloway Vice Chair/Program
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 Meets: Every other odd numbered month

Tulsa

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 Bob Burlingame Vice Chair/Programs
 Sharon Voskuhl Vice Chair/Membership
 G. W. Cottrell Secretary-Treasurer
 Meets: Petroleum Club, 1st Tuesday - 11:30 a.m.

Chapter News

CALGARY

The Calgary Chapter was formed in 1994, has 16 members, and meets four times a year with an average attendance of 10 members and guests. During 1996 several of the topics discussed at meetings included Code and Guidelines for Preparation of Evaluations, Treatment of Probable Reserves, and Standardization of Constant Price Evaluations. At the November 19 meeting new officers were elected to serve a two-year term.

CENTRAL TEXAS

The Central Texas chapter held its quarterly meeting at the Austin Country Club. Rex White, well-known oil and gas attorney and current President of the Texas Independent Producers and Royalty Owners (TIPRO), spoke to the section. Mr. White discussed his meeting with President Clinton as well as his interpretation of Texas Governor Bush's new tax plan and its effect on the oil and gas industry. The Central Texas chapter serves Austin, San Antonio, and the surrounding area. For information, call S. Tim Smith, Program Chairman, in Austin at (512) 476-1245.

DALLAS

The Dallas-Fort Worth chapters are holding joint meetings. The total membership now stands at 38 members in Dallas and 10 in Fort Worth. During the last quarter of 1996, the chapter had presentations by Frank Douglas, an attorney with Scott Douglas Luton & McConnico, "The Role of the Petroleum Professional in Oil and Gas Litigation;" John Glass, VP of Exploration with Brigham Oil & Gas, "Pros and Cons of 3-D Seismic Interpretation;" and Mark Low, an energy advisor with Arthur Anderson reviewed the expected E & P Trends in 1997.

Mark your calendar to attend other meetings throughout the year. Bimonthly meeting dates are scheduled for Thursday, March 20, and Thursday, May 15. Speakers will present current and interesting topics. Please come and bring a friend.

DENVER

The Denver chapter membership currently stands at 42 members and meets the second Wednesday of January, April, July and October. The meeting site is the Board of Directors Room at Colorado National Bank.

In October, Brian Ausburn, President of J. R. Butler & Company and SPEE member, spoke to the chapter regarding the evolution of the different types of reserve definitions, both domestic and worldwide. He also discussed various changes that have been proposed.

On January 8th, Ronald D. Smith, Jr., Sr. Vice President of Anderman International Corp., spoke about the difficulties, trials and tribulations of doing business in the Russian energy sector. In particular, he cited specific examples from the operation of Anderman International's Chernogorskoye Joint Venture. This joint venture has been referred to as a "model" by many Russian officials.

HOUSTON

The Houston chapter continues its monthly meetings with the exception of the summer months. Attendance usually averages 50 members and guests, with the largest attendance at the joint meeting held with the local chapter of SIPES. Topics during the past year included presentations about gas producer cooperatives, fault seal analysis, environmental considerations, production research topics and corporate success stories such as Newfield Exploration and Shell Oil in the offshore exploration plays.

The chapter is now using an overnight fax message to members for meeting announcements, mailing to those remaining members without access to a fax. This is making it possible to send more information with each announcement, and help keep mailing costs to a minimum.



Jim Eisterhold (left) 1997 Chapter Chairman and Allen Barron, 1996 Chairman

MIDLAND

The Midland Chapter held three meetings from August 6th through December 3rd. Presentations were: Geoff Roberts, Madison Energy Advisors, Inc., "Acquisitions in a Difficult Market;" Hoxie Smith and Jim Reeves, GeoSpectrum, Inc., "An Integrated Study of the Grayburg Foster Field;" and Craig Campbell, Assistant Vice President, Merrill Lynch, "Price Outlook and Risk Management in the Oil and Gas Industry."

NEW ORLEANS

The New Orleans chapter resumed monthly luncheon meetings on September 18. Attendance averages 14 persons, representing more than half of the local members. There were some excellent talks for the last quarter of 1996 including Steve Maley, Badger Oil, "Prospective of Small Company Doing Acquisitions," several roundtable discussions and Carl Granzier, Schlumberger, discussing the "Application of Nodal Analysis to Oil and Gas Property Evaluation."

On March 19th, Allen Green with Texaco will discuss "The Use of 3-D Seismic in the Lafayette Field - What works, what may work, and what does not work." This meeting will be a joint meeting with the SIPES chapter membership.

OKLAHOMA CITY

Membership grew from 16 to 19 members during 1996. Interesting talks at chapter meetings during the year included Claude McMichael, Chairman of the SPE Reserves Committee on September 12th, discussing proposed changes to the SPE Reserves Definitions and the reasons behind the recommendation that was a result of the joint efforts of SPE and the World Petroleum Congress.

(continued on page 9)

Welcome New Members

CARY D. BROCK
Consultant
910 Travis, Suite 1820
Houston, Texas 77002
(713) 658-8096

VAN EDWARD BUTLER
First National Bank Building
Graham, Texas 76450
(817) 549-1993

CHERYL R. COLLARINI
Collarini Engineering Inc.
203 Carondelet St., Suite 400
New Orleans, Louisiana 70130
(504) 522-9077

MIRTA B. GALACHO
MG&A Consultants
51 Esmeralda - 10th Floor
Buenos Aires, Argentina 1035
54-1 325-8985

L. B. HEATH
L B Heath Petroleum Services
4107 Northhampton Drive
Norman, Oklahoma 73072
(405) 364-2890

DONALD W. HECKER
Main Energy, Inc.
1111 Fannin, Suite 1340
Houston, Texas 77002
(713) 759-1144

THOMAS F. LIEBSCH
Quintana Petroleum Corp.
P. O. Box 3331
Houston, Texas 77253-3331
(713) 651-8992

MARK K. MOSLEY, JR.
Ventana Resources, Inc.
P. O. Box 161804
Austin, Texas 78716
(512) 347-1055

KENT N. MYERS
Kent Engineering Inc.
5 Burlington Place
Norman, Oklahoma 73069
(405) 360-3434

P. DEE PATTERSON
ARCO Expl. & Production Technology
2300 W. Plano Parkway, Rm. D-1316
Plano, Texas 75075-8499
(972) 509-6920

C. RONALD PLATT
Platt, Sparks & Associates, Inc.
925A Capital of Texas Highway
Austin, Texas 78746
(512) 327-6930

KENNETH E. RICHISON
K. E. Richison & Associates
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Houston, Texas 77010
(713) 456-9000

WILLIAM V. SCHNEIDER
Bank One - Texas
910 Travis, Suite 600
Houston, Texas 77002
(713) 751-6143

DENNIS G. STRAUCH
Leoparus Resources Limited
307 Herff Road
Boerne, Texas 78006
(210) 491-9447

RONALD D. WADE
DDD Energy, Inc.
50 Briar Hollow Lane, 7th Floor West
Houston, Texas 77027
(713) 627-1990

LEW O. WARD
Ward Petroleum Corporation
P. O. Box 1187
Enid, Oklahoma 73702
(405) 234-3229

WILLIAM D. WEEGE
Northern Trust Bank
P. O. Box 226270
Dallas, Texas 75222-6270
(214) 965-7510

John C. Gargani and Max Holloway have recently been approved to change from Junior Member status to Regular Member. Congratulations, John and Max!!

Membership Applicants

The following member applicants have been approved by the Qualifications Committee. The bylaws require that their names be presented to the membership for at least 30 days as a pre-membership requirement. Any member with an objection should address the objection to the Executive Committee (see bylaws regarding other important details) since the applications have already passed through the Qualifications Committee.

Applicant	Sponsor	Applicant	Sponsor
GARY R. CHRISTOPHER Kaiser-Francis Oil Company P. O. Box 21468 Tulsa, Oklahoma 74121	Bill Southmayd Robert Burlingame Eddie Hudson	JAMES JERRY JAMES James Engineering, Inc. 231 Third Street Marietta, Ohio 45750	William Huck James Murtha John Redic
PHILIP C. CROUSE Philip C. Crouse & Associates 400 N. St. Paul, Suite 440 Dallas, Texas 75201	Bob Cochran Forrest Garb William Cobb	WILLIAM A. JENTSCH, JR. Western Atlas E&P Services P. O. Box 1147 Houston, Texas 77251-1147	Strode Pennebaker Anna Hardesty Bernie Brauer
MILTON R. FRY Memorial Exploration Company 17 S. Briar Hollow Lane, Suite 200 Houston, Texas 77027	George Donaldson Felix Scanlon Blane Balch	WAYNE L. LITTLEFIELD 504 Fair Foundation Building Tyler, Texas 75702	Daniel L. Wilson Keith Selinger Paul Drew
STEPHEN E. HEITZMAN Consultant 3106 Holly Court Missouri City, Texas 77459	Fred L. Goldsberry Stephen Holditch John Warner	LARRY A. THARP Compass Bank 24 Greenway Plaza, Suite 1401 Houston, Texas 77046	James Wilde Vaughn Scanland Marilyn Wilson
ERIC J. HYMAN 4429 North Central Expressway Dallas, Texas 75205	Gary Swindell Mike Flanigan Robert Blair	DOUGLAS W. YORK St. Mary Land & Exploration Company 1776 Lincoln Street Denver, Colorado 80203	Jack England Steve Gilbert Barth Whitham

1997 SPEE ANNUAL MEETING at WILLIAMSBURG, VIRGINIA

"Energy Outlook: What's Next?"

In the words of Patrick Henry, "I know of no way of judging the future but by the past." Come join us and step into the past, as well as the future! The Annual Meeting registration material will be mailed out in the next few months. For those members who like to make advanced plans, we have provided the following information.

WHERE Williamsburg, Virginia

WHEN June 7-10, 1997 (Saturday-Tuesday)

HOTEL The Williamsburg Hospitality House (757) 229-4020
Reservation Line (U.S. & Canada) (800) 932-9192 M-F 9-9; S-S 9-5
\$99.00/single; \$110.00/double for SPEE members. **Mention Group #6085**

AIRPORTS Newport News/Williamsburg International (20 minutes) - small planes only
Norfolk International (45 minutes)
Richmond International (45 minutes)

AIRFARE DISCOUNTS Delta Air Lines is the official air carrier. We will receive a 5% discount off the lowest published domestic fares (which usually require a Saturday night stayover) and a 10% discount off Y06 and YR06 domestic fares (full coach ticket).
You will need to:

1. Call (800) 241-6760 Monday - Sunday, 8-11 Eastern Time
2. Refer to File Number: XE174

FYI: Inquire about an "instant fare" ticket which is available in *some* markets. They have great fares and are eligible for the discount. One drawback - it is an instant purchase; they will not hold a reservation.

GROUND TRANSPORTATION Limosines, taxis, and rental cars are available at the various airports.

TENTATIVE SPEAKERS	Roy Willis, Senior V.P.	I.P.A.A.
	Patricia Godley, Asst. Sec., Fossil Energy	Department of Energy
	Art Carlson, Managing Director	Trust Co. of the West
	Charles P. McPherson, Sr. Energy Advisor	World Bank
	Alan Baker, Former CEO	Halliburton
	D. Nathan Meehan, Senior Scientist	Union Pacific Energy Resources
	Dan Tearpock, President	Subsurface Consultants & Associates, Inc.

SHORT COURSE James A. Murtha - Topic: "Probabilistic Software Tools and Their Application in the Evaluation of Petroleum Properties"

TENTATIVE ACTIVITIES Sat. all day Tour of Jamestown Settlement and Yorktown

Mon. afternoon	Walking Tour of Colonial Williamsburg
Mon. afternoon	Williamsburg Winery Tour
Mon. afternoon	Sailing in the Historic Chesapeake Bay
Mon. afternoon	Historical Air Tour of Colonial Virginia & Hampton Roads
Mon. afternoon	Golf on the National Golf Course in Williamsburg
Mon. afternoon	Tennis on the Campus of William and Mary College
Mon. afternoon	Children's activity
Mon. night	Evening at Evelynton Plantation
Mon. night	Children's activity

OTHER THINGS TO SEE & DO Busch Gardens
Water World

WEATHER 84°F. High; 62°F. Low

CHILDCARE Babysitters are available through the hotel with advance notice.

FOR FURTHER INFORMATION Call Skip Wiggins, Annual Meeting Chairman, or Ms. Terry Sulli at (504) 581-6527

William Hurst (1905-1996)

By J. Donald Clark

Author's Note:

William Hurst and I first met in 1949 in Houston, Texas while forming a reservoir engineering study group. This group would meet for two or three hours in the evening, once a month, to hear and discuss technical papers on applied reservoir engineering. Friendship developed and later two papers were coauthored and published as a result. Copies of Hurst's original technical manuscripts that were written after 1950 are maintained in a file as a result of this friendship.

While at Oklahoma University in Graduate School in 1947, I reviewed Hurst's 1943 paper on "Water Influx Into a Reservoir, etc." for presentation at a graduate seminar. This required a review of all of Hurst's prior technical papers and inspired an interest in unsteady state flow of fluids. This was the beginning of my interest in the water drive oil and gas reservoirs and my request to work on the natural water drives in the Gulf Coast area. A book would need to be written to add all the published and unpublished works of William Hurst during the past 30 years that we were reservoir engineering friends.

Editor's Note:

All of us had at least indirect inspiration from the work of William Hurst and can identify with Don Clark's note. Thanks to Don for this contribution. His complete article on William Hurst's remarkable career follows.

William Hurst was born in Boston, Massachusetts, on June 1, 1905, and died with cancer complications on December 5, 1996, at the age of 91 1/2 years. Mr. Hurst was one of the Organizing Directors of the Society of Petroleum Evaluation Engineers and a 1962 charter member. He was voted a Lifetime Membership Award by the Board of Directors at their annual meeting in 1980.

Hurst attended the Massachusetts Institute of Technology, receiving a B.S. degree in Chemical Engineering in 1928 and M.S. degree in Chemical Engineering Practices in 1929. He received the Anthony F. Lucas Gold Medal Award from the Society of Petroleum Engineers of AIME at the New York Ninety Third Annual Meeting in February 1964.

Following graduation from M.I.T., Hurst joined the Humble Oil and Refining Company as one of their first reservoir engineers. He was with Humble during the discovery of the large East Texas Oil Field and assigned to study the Woodbine Oil Reservoir as well as the Woodbine Basin Aquifer. He left Humble in late 1941 after 13 years of work in production research.

Wm. Horner, president of Core Laboratories, Inc. hired Hurst from Humble as a consulting reservoir engineer. In late 1943, Hurst was hired by A.F. Van Everdingen, Chief Reservoir Engineer of the Shell Oil Company, as a Senior Reservoir Engineer. He remained with Shell Oil for 5 years. He then joined as a partner of Petroleum Consultants International. Comprising partners were James O. Lewis, Edwin O. Bennett (Lucas Medalist) and David Hawthore.

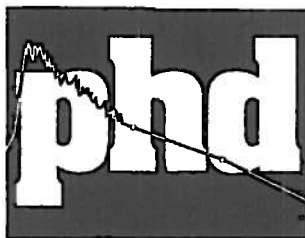
Hurst formed his own consulting firm in 1950 after 21 years of reservoir engineering services with others. For the next 46 years Hurst worked as an independent petroleum consultant at a downtown office and as his health failed he continued to work in his son's home.

One of the true pioneers in the field of reservoir engineering, Mr. Hurst was instrumental in contributing to the development of many of the basic concepts used in today's petroleum tech-

nology. Foremost was the mathematics of the analysis of the unsteady flow of a compressible fluid flowing radially to a well in a sand formation and the phenomenon of unsteady flow occurring as a result of fluid expansion. Utilizing the continuity equation, which is primarily a fluid balance over a infinitesimal element of sand, he developed the "hydraulic diffusivity" equation. This equation was similar to the "thermal diffusivity" in the heat equation developed by Carslaw in 1921.

Many papers were published in early 1930s based upon this mathematical concept of unsteady state flow. The API paper by Hurst, T.V. Moore and R.J. Schilthuis entitled "The Determination of Permeability from Field Data" was presented on May 18, 1933 at Tulsa, Oklahoma. This is one of the finest written papers on flow in the unsteady state. This paper discusses in detail the mathematical

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analysis of the performance of an ideal well in a uniform sand as well as the limitations as to the size of the reservoir. The economics of well spacing and drainage of wells was one of the top conclusions.

Hurst and Schilthuis published an additional paper in October 1943, entitled “Variation in Reservoir Pressure in the East Texas Field.” The saturation pressure of the oil in the East Texas field was 740 psi, with the original reservoir of 1625 psi. (Production started in January 1931) It was most important that operators of wells in this field predict the effect of the natural water drive from the Woodbine aquifer. This was the first published paper using a value of expansibility of fluids, from the Geological Woodbine Basis, to the predicted producing rates of oil from the East Texas Field. The expansibility of the fluids in the Woodbine basin was used as 2.75 cu. ft. per cu. ft. per pound per square foot. The effect of the East Texas Oil Field on the petroleum industry in the United States was quite substantial. The technical writings of Hurst and his coauthors were instrumental in contributing to the development of many of the basic concepts used in today’s petroleum technology.

Hurst continued to add to the unsteady state fluid flow concept with a 1943 paper entitled “Water Influx into a Reservoir and its Application to the Equation of Volumetric Balance” (Transactions AIME, 1943). In this concept, the aquifer was expanding across the original oil-water interface. Instead of flow into a well bore, the flow, or expanding influx, was through a much larger cross-sectional area. The thickness and the radius of the oil reservoir became the contributing constants. The hydrocarbon zone became the steady state condition when the first pressure loss occurred at the oil-water boundary. The water zone would then be the unsteady state flow until a pressure drop occurred at the aquifer limits. Steady state expansion of both the oil and the aquifer fluids would occur when these limits were reached.

Adding the concept of water (aquifer) expanding into oil and gas reservoirs to give additional energy for hydrocarbon production explains why Hurst did not attempt to use rock compressibility. He did set up conditions for limited (finite) and infinite reservoir fluid systems. The relative volume of the aquifer to the oil or gas associated volume controls the effect of energy available for hydrocarbon production. A normal pressured or a geopressured gas reservoir associated with an aquifer performs according to size of the expanding aquifer. The plot of P/Z versus cumulative gas produced does not account for aquifer expansion for determining the original gas in place. Hurst explained to Park Jones that rock expansibility was not effective or had minor influence on transient flow time. The effect of temperature and pressure under geological time on sedimentary rocks causes sufficient compression to cause loss of pore space and fluid creating the metamorphic rocks. The geopressured volumetric gas balance works if the steady state expansion of the associated aquifer is also used. The presently most-referenced paper, “The Application of the La Place Transformation to Flow Problems in Reservoir,” A.F. Van Everdigen and Wm. Hurst,

(continued on page 8)

William Hurst (continued from page 7)

Trans. AIME, 1949, was submitted to SPE of AIME by the Shell Oil Company after Hurst had left their employment. This is actually a supplement to the earlier publications on unsteady state fluid flow. This paper is referenced by hundreds of authors, especially those writing master theses and doctoral dissertations on transient fluid flow during the past 30 years.

The Houston Reservoir Study Group was listening to a talk in 1952 when the speaker could not explain a large pressure drop immediately after putting a well on production. This pressure loss was much larger than the expected hyperbolic decline of pressure loss normally observed. Mr. Hurst was present at the meeting and explained this was "skin effect" and that he had written a paper for Shell Oil explaining this phenomenon. Since we needed a speaker at our next Reservoir Study Group meeting, we asked Hurst if he would be the speaker and present his comments on "skin effect." Hurst consented and at the next meeting presented the talk. Those present at that meeting suggested he publish the paper and add an actual example of skin effect calculations. He prepared the paper and sent it to SPE for publication. This was turned down by SPE and then presented to the *Petroleum Engineer*. The paper entitled "Establishment of the Skin Effect and Its Impediment to Fluid Flow Into a Well Bore" was published in the October 1953 issue of the *Petroleum Engineer*. A similar paper was published in Transactions AIME (1953) 198 entitled, "The Skin Effect and Its Influence on the Productive Capacity of a Well" by A.F. Van Everdingen.

Hurst contributed many additional articles in the field of reservoir engineering. Most of his publications used the basic concepts of these prior described subjects. Besides the basic unsteady state flow, and the water drive principle, he published works on the use of electrolytic models in cycling studies, five-spot water flood problems, pressure draw down and buildup characteristics, deliverability concepts, particularly in tight reservoirs, interference between oil fields, conformal mapping, solution of non-linear equations and two books on various petroleum problems.

Many Hurst papers were published following critical review by other engineers. He was very stubborn when reviewers wanted to change his writings or suggested he add to his prepared comments. His regular comment on some of his reviews was "I understand my comments and I can't help it if they lack the intelligence to understand what I am presenting."

Hurst was also very critical when he reviewed other engineer's submissions for publication. He regularly tested his friendships over his critical reviewing comments. A paper that I coauthored with Hurst was published in SPE Transactions without Hurst approval. The reviewers wanted to add an equation and comments before publication would be confirmed. I allowed the additions to get the paper published. Hurst decided to overlook the additions.

William Hurst spent nearly 68 years of his life working in some manner of petroleum reservoir engineering. The

final 20 years he was not physically able to get around, but his son installed a computer in his bedroom to allow him to continue his work. He loved to have visitors and the subjects usually revolved around reservoir engineering or other phases of the oil industry. At 91 years of age, Hurst's mind remained clear and he loved working at reservoir problems. No man spent more time and was more content working on problems in reservoir fluid flow. The title of "Reservoir Engineer" may gradually disappear but the Hurst concept of unsteady flow of fluid expanding into a well bore will remain forever.

The Houston Reservoir Engineering Study Group was started in 1949 with help from engineers of the caliber of Hurst and Park Jones. This group met once every month without mailing notices, dinner meetings, dues or fees. The group was not associated in the beginning with any society. Later, after two successful symposiums, "Permanent Type Well Completions and Formation Evaluation," that were held at the University of Houston, we were asked to join the local SPE Chapter. The University cosponsored these symposia and local service companies were given exhibiting space for financial support if we failed to sell enough bound volumes to defray the costs.

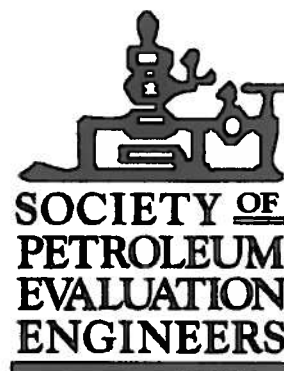
The membership in SPE grew because of the regular contributions by these operating reservoir engineers who were disseminating up-to-date information.

Visit SPEE's Home Page on the Internet:

www.gnofn.org/spee

Questions or comments concerning the Home Page should be addressed to the following SPEE Internet Committee members:

Richard Banks
Russell Bertholf
Gordon Biescar
Walter Dowdle
Ken Hays
John Lohrenz
Gary Swindell, Chairman
Gene Wiggins



In Memoriam

Louis Alexander
Tulsa, Oklahoma
October 19, 1996

William Hurst
Houston, Texas
December 5, 1996

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Chapter News (continued from page 3)

OKLAHOMA CITY

A roundtable discussion of gas balancing issues was the topic of the November 9th meeting. There were nine members in attendance.

The "roundtable discussion" meeting was a "trial balloon" and it was generally agreed that the roundtable format alone was unsatisfactory and that future meetings would continue with the previous "speaker" format.

TULSA

The Tulsa chapter had a report of the SPEE annual meeting in Aspen at the September meeting. In October, "Retirement Planning for Self-Employed Consultants" was discussed by Daniel Mars with Smith-Barney.

In November, Sidney Moran, Consultant, presented a talk on "Evaluation of Settled Oil and Gas Properties." For the December function, a Sunday brunch with spouses was held at the Summit Tower BOK Building.

Then in January, "SPE/WPC Proposed Reserves Definitions" was presented by Claude McMichael at a joint meeting with the Mid-Continent SPE section.

W A N T E D

**BREAKFAST SPONSORS
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Any individual or firm interested in sponsoring Member breakfasts at the Annual Meeting in Williamsburg on Monday, June 9th and/or Tuesday, June 10th should contact Skip Wiggins (504) 581-6527.

Sponsoring firms and/or individuals will be recognized at the Annual Meeting for their contribution.

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Hydrocarbon Economics and Evaluation Symposium

We are pleased to announce that the SPEE will be an active participant in the SPE Hydrocarbon Economics and Evaluation Symposium to be held March 16-18, 1997 at the Grand Kempinski Hotel, Dallas, Texas. Because many members of our Society attend this function, we plan to have a hospitality suite at the Grand Kempinski to serve as a meeting and social gathering spot. Those of you attending this symposium should watch the hotel directory for the location of our suite. B.K. Starbuck- Buongiorno will attend the function and will assist in hosting the suite. You are welcome to come by and bring guests to share in light refreshments on Monday evening following the SPE function.

We are also pleased that the SPE has again authorized us to host the Tuesday morning breakfast during the symposium. SPEE host buttons will be made available in the hospitality suite for our members to wear during this breakfast. Hopefully we can stir some interest in joining our Society. To assist in signing up new members, we have arranged with the SPE to have a table with SPEE application forms visible throughout the symposium. If any of you have time to help man this table, please volunteer to B.K. Any help you can give will be appreciated.

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