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Have you checked your name in the 1999 Membership Directory yet? Have you had a company change, name change, address? Be sure to update any changes by calling the GSH/HGS office at 713-785-6402. Thanks, Kathy Hardy, Directory Editor GSH

Technical Luncheon

Seismic Chimney Detection and Interpretation

Paul F.M. de Groot

Location: HESS building, 5430 Westheimer, near the Galleria
 When: Tuesday, Feb. 15th, 2000
 Time: 11:30 am to 1:00 pm

Introduction. Ever since "Colonel" Drake drilled the first successful oil well back in 1859 in Pennsylvania it has been known that natural hydrocarbon seepages are linked to subsurface accumulations. In fact all major oil provinces found in the 19th century were discovered because wells were drilled near seepages. So-called 'sniffing' methods developed in the last decade are exploiting this phenomenon by measuring concentrations of natural gas in the air or from soil samples. Also on seismic data we often see direct and indirect evidence of seepage. Examples of indirect evidence are associated features such as pockmarks and mud-volcanoes. Hydrocarbon seepage-related features have been recognized in many basins around the world at the sea-bottom and deeper reflections, and are well described in Hovland, M. and Judd, A.G., 1988, Seabed Pockmarks and Seepages, Impact on Geology, Biology and the Marine Environment, Graham and Trotman, London, 293 pp.

Direct evidence of seepage is a so-called chimney, a vertical disturbance of the seismic response. Recent studies

in the North Sea have revealed a high correlation between chimneys and known oil and gas accumulations. These studies make use of a chimney cube: a neural network based multi-attribute transformation of the 3D seismic volume into a volume that highlights vertical disturbances (Fig. 1 and Meldahl et.al, SEG conference, Nov. '99). This transformation allows us to study chimneys as the spatial link between source rock, reservoir trap, spill-point and shallow-gas anomalies. The interpretation helps to unravel a basin's hydrocarbon history, distinguish between charged and non-charged prospects and to detect geo-hazards (Heggland et.al., SEG conference, Nov. '99).

This presentation consists of two parts. In part I the world-wide, patent-pending object detection method is described and in Part II application from the North Sea and the Gulf of Mexico are shown.

Methodology. Seismic interpreters routinely use attributes to obtain different views of their data. In attribute space geological features may be highlighted that are not visible in the original data. To some extent the same geological feature can often be recognized on different attributes. This implies that each of these attributes carries information about the geological feature (the object) of interest. At the same time the attribute is not sensitive to one particular object. Instead it will highlight any object with similar characteristics and it remains the interpreter's task to identify and tie the objects of interest.

In the method described in this

Tech. Lunch continued on page 4

GEOPHYSICAL SOCIETY OF HOUSTON

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email: reservations@hgs.org • website - <http://www.seg.org/sections/gsh/gshhome.html>

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Editor's Note

To insure your information reaches the GSH society members in a timely manner it must appear in the in the appropriate newsletter issue. Please note the following deadlines and plan your function's publicity strategy accordingly. Items must be received on or before the corresponding deadline date. Materials may be sent to patty@diamondg.com or faxed to 713/783-9780. If you have any questions please call Patty Cardwell at 713/783-7837.

2000 GSH Newsletter Deadlines

Issue March 2000
Deadline February 14, 2000

Issue April 2000
Deadline March 14, 2000

Issue May 2000
Deadline April 14, 2000

GeoEvents Calendar

Make reservations by e-mail at reservations@hgs.org and include your member number (found on Bulletin mailing label), or use the phone reservation system at 713/917-0218.

Reservation Codes

Use these codes to make voice mail meeting reservations:

Technical Luncheon	601
Data Processing SIG	602
Interpretation SIG	603
Reservoir SIG	604
Potential Fields SIG	605
Environmental Applications SIG	606
Breakfast	607

Technical Breakfast

When: Wednesday,
February 9, 2000 -
Westside
Where: BPAmoco, courtesy
Don Herron.
Time: 7:30-8:15 (speaker),
8:15-9:00 (Q&A)

Phase Correcting Seismic Data for Meaningful Well Ties

by Steve Henry, GeoLearn, L.L.C.

There are well known advantages associated with interpreting seismic data that has been processed to contain a zero phase wavelet. These include improved data quality (higher resolution, wavelet consistency, meaningful well ties) and reflectors that meet the zero phase assumption required for modeling and extracting rock properties. The vast majority of seismic data, however, are not zero phase but contain a more complex, mixed phase wavelet. The phase of seismic data can be determined by extracting the seismic wavelet. The most common extraction procedures involve the use of a synthetic (well log or VSP) which is correlated with the seismic data at or near the well. "State-of-the-art" applications of this wavelet, is as a filter which is convolved with the well log reflection coefficient series to generate a matched synthetic. Although this synthetic and the seismic now "look alike", geologic picks from the wells are still difficult to associate with reflectors, because the seismic data is not zero phase. The "Future-of-the-art"

is to use the extracted wavelet to phase correct the seismic data. Although it is desirable to initially process the seismic data to contain a zero phase wavelet, it is often possible to correct the phase using a post-stack mixed-phase rotation. Results will be shown from the GOM, Australia and the North Sea, illustrating significant improvements in the seismic data quality. In particular, meaningful well ties allow a more accurate geologic interpretation to be derived from the seismic data.

Steve Henry received his Ph.D. from the University of Michigan in 1981, and joined Conoco working in their Seismic Processing Group for the next 6 years. He became the Principal Instructor for Conoco's Seismic Processing School with research interests in developing zero phase processing sequences.

Steve then went into International Interpretation specializing in rift tectonics and working the pre-salt of West Africa. Steve left Conoco in 1993 and started GeoLearn, a company providing training and consulting services. His training courses range from geologic field trips, through seismic interpretation techniques to teaching Landmark's SynTool and Advanced SynTool courses. Steve's current research interests are in the rift tectonics of West Africa's ultra deepwater continental to oceanic boundary and he has remained active as an explorationist currently interpreting the continental rifts in Chad.

"Static Corrections for the 21st Century" SEG 2000 Spring Distinguished Lecture

Mr. Mike Cox, Bedford, England

Technical Luncheon speaker on April 18, 2000

paper, bodies are visualized by an iterative semi-automated procedure using the following philosophy:

1. only one type of geological object is targeted in each run
2. an intelligent selection of directive attributes is made
3. attributes are extracted at example locations
4. a neural network is trained on the examples
5. the trained network is applied to the entire seismic cube yielding a new cube with the desired output
6. optionally iterate the procedure to increase resolution or characterize internal patterns.

Objects that can be highlighted in this way are a/o seismic chimneys, faults, reflectors, stratigraphic units, direct hydrocarbon indicators and time-lapse differences. Only attributes are selected that have potential to increase the contrast between object and background. The size, shape and direction of the attribute extraction windows as well as the attributes themselves are chosen in relation to the objects we wish to detect. The windows may have a fixed shape and direction, or they have data adaptive forms. In the latter case they follow the local dip and azimuth of the seismic events. Multiple windows can be used to extract single and multi-trace attributes at every sample position.

Interpretation. In this part we show examples of chimneys and associated features such as pockmarks, mud-volcanoes and shallow gas anomalies from the North Sea and the Niger Delta. Next we discuss the interpretation of a chimney cube from the North Sea. It will be shown that in this area chimneys originate from deep-seated faults. Oil and gas migrates upwards to feed Eocene reservoir sands. The shallower parts of the chimneys seen in this area may represent hydrocarbons bypassing, or spilling from, the reservoir up to the seabed. Shallow high amplitudes on top of the chimneys may be shallow gas accumulations caused by the hydrocarbon migration from deeper sediments, or alternatively, ancient

carbonate formations above hydrocarbon seeps. Two wells located within the chimney cloud encountered oil and gas columns in the Eocene, as well as in an Oligocene reservoir. Another well located in the same survey, in an area where no chimneys are present, was dry. Similar observations have been made in other parts of the North Sea.

Finally we show the results of the first chimney cube from a Gulf of Mexico data set. The mapping of chimneys has in this case increased the probability of the presence of a deep and a shallow hydrocarbon charged reservoir in the area. A manual mapping of chimneys would have been difficult, less precise and time consuming. The chimney cube has thus helped to visualize and efficiently evaluate the possible hydrocarbon migration in the area.

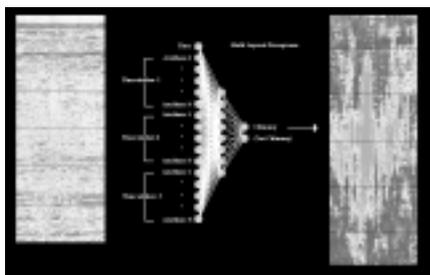


Fig. 1 Seismic line and 'chimney probability' as predicted by the supervised neural network.

Biography

Paul F.M. de Groot is the managing director of dGB (de Groot-Bril Earth Sciences) in The Netherlands. The company specializes in services and software for quantitative seismic interpretation work. His main interests are seismic pattern recognition and stochastic simulation of pseudo-wells. Before co-founding dGB in 1995 Paul worked 4 years for the Dutch R&D organization TNO. Prior to that he worked 10 years for Shell with postings in The Netherlands, Oman, Nigeria and again The Netherlands. Paul is a member of SEG, EAGE, KNGMG, PGK and VANN. He holds a MSc and a Ph.D. from Delft University of Technology. Paul is a co-inventor of the seismic object detection method presented in this paper (patent application GB No. 9819910.2) and is listed in Marquis' who's who in the world, 1999.



GEOPHYSICAL AUXILIARY OF HOUSTON UPCOMING AUXILIARY EVENTS

March 12, 2000 - Spring Brunch at Lakeside Country Club at 100 Wilcrest Drive. The School for the Performing Arts of Houston will entertain us while we enjoy a wonderful buffet. Spouses and friends are invited to this special event.

April 11, 2000 - A day trip to Round Top Herb Gardens is planned. Enjoy a tour of the herb gardens and lunch.

May 18, 2000 - Annual Business Meeting and Luncheon at the Houston Racquet Club.

ACTIVITIES

FEBRUARY 21, 2000 - 10:00 a.m. - 3:00 p.m. - Lunch and Bridge at the HESS Building at 5430 Westheimer. Members and guests are welcome. Call Claire Dauphin at (281) 491- 8249 for information.

Duplicate Bridge is the second Friday of each month at Bridge Studio- 9000 SW Freeway at 7:00 p.m. Contact Margaret Webb at (713) 7223-0645 or Claire Dauphin at (281) 491-8249 for information.

If you are interested in attending any or all of the auxiliary events as a guest or would like to join the auxiliary, contact Carol Gafford, GSH Liaison, at (281) 370-3264.

SIG Meetings

DATA PROCESSING SIG

Date: Wednesday,
February 16, 2000
Time: Social 4:30
Presentations 5:00 to
6:30
Location: CGG, Park 10
Organizers: Kamel Siddiqui, CGG
Bee Bednar, ADS
Directions: Take the first exit west
of Highway 6 on I10.
Turn right on Park
Ten blvd and left on
Park Ten Place. The
CGG sign on the
building can be seen
from the interstate.
Sign in on the ground
floor.

Topic

Multiple Suppression

Speakers

Simon Spitz, CGG
Luc Ikelle, Texas A&M University

Paper titles and abstracts were not available in time for the newsletter deadline. Email Karl Schleicher for additional information (karl@geodev.com).

Near-Surface SIG Meeting

Date: Tuesday,
February 1, 2000
Time: 5:30 PM
Where: Exxon Production
Research Complex
Buffalo Speedway at
Richmond Avenue
South Tower Building
(On Richmond)

**Mr. Sharma Dronamraju, C.P.G.
Project Geologist
Fugro GeoServices, Inc.**

**“New Developments in Offshore
Hazard Surveys”**

POTENTIAL FIELDS SIG

Date: MARCH 16, 2000
Time: 5:30 Social Hour;
6:30 Dinner; 7:30
Presentation
Location: HESS building, 5430
Westheimer, Houston
Cost: \$22.00

Exploration Usage of Computed Gravity Component Maps in the Gulf of Mexico

By RON L.PHAIR

Contact: Mike Kowalski, Chair - GSH
Potential Fields Group, at 713-432-
6828 (kowalma@texaco.com) by
Tuesday, MARCH 14, for reservations.
E-mail is best because I can confirm
your reservation. Please HONOR your
reservation! We must bill no-shows!

REMEMBER FOLKS, CONSIDER
INVITING ONE OF YOUR
COLLEAGUES OR CLIENTS WHO
DOES NOT REGULARLY
FREQUENT OUR PRESENTATIONS;
TAKE ADVANTAGE OF THE
INFORMATION!

Thinking of taking a new direction?

Career Decision Workshop

Wednesday, February 16 • 6:00 - 10:00 p.m.
British Borneo Exploration, 1201 Louisiana #3500
(Between Dallas & Polk)

Cost: \$25

Course is limited to first 25 registrants.

Are you considering new career possibilities? In order to solve a problem, you need to describe it. And this workshop is designed to help you describe your needs and desires, thereby enabling you to decide what will fit your goals and what would not. In this course, you will

- Outline the various factors to consider, including financial issues, family concerns, and personal goals
- Assess your skills, interests and personality for best career fit.
- Walk out with an action plan for the next day, the next week, and the next month.

Drake Beam Morin and the HGS are underwriting this course.

John W. Dyck, Jr, Ph.D., instructor, serves as the staff psychologist and managing consultant in Houston for Drake Beam Morin, Inc. In addition to performing psychological assessments for executive and senior clients, he provides career counseling, management consulting and executive coaching to numerous businesses and executives at all organizational levels.

Drake Beam Morin is a worldwide leader providing strategic solutions that align organizational and individual goals, values, and competencies to achieve business results and career success. With more than 180 offices in over 35 counties, Drake Beam Morin is a subsidiary of Harcourt General, a \$4 billion publishing, education, and specialty retailing company.

To reserve a seat, send a check payable to HGS to:
HGS, 7457 Harwin, Suite 301, Houston, Texas 77036,
Attn: Career Decision Workshop

Houston Geological Society presents

Making An Impact with 3D Volume Interpretation

**Wednesday, March 1, 2000
Auditorium, Shell Plaza
7:30 a.m - 5:30 p.m.**

Do you know how best to utilize 3D volume interpretation software? If you are still interpreting lines and then autotracking in these programs, then you are not using your software or your time most efficiently and effectively. Attend this one-day symposium to gain a better understanding of

- Fundamentals of 3D seismic volume visualization, Gerald Kidd (Paradigm Geophysical)
- Basic techniques of 3D volume interpretation, John Mason (Schlumberger GeoQuest)
- Use of color in 3D volumes, Mike Sheffield (Texaco Visualization Geophysical Team)
- Use of seismic attribute volumes in interpretation, Dr. Kurt Marfurt (University of Houston)
- Integrating the whole package, Steve Tobias (The Energy Outpost Company)
- "What's the future for 3D Volume Interpretation", 8-member panel discussion

The symposium will be followed by a series of courses on four 3D volume interpretation softwares, one-day course per software (see accompanying ad for workshop information).

Symposium fee

\$ 85 Members*
\$ 95 Non-members
Walk-ins \$160

Workshop fees

Members

\$ 60
\$110
\$125
\$200

Non-members

\$ 70 any 1 workshop
\$130 any 2 workshops
\$190 any 3 workshops
\$240 any 4 workshops

(*Members in HGS, GSH, HAPL, SIPES Houston, SPE Gulf Coast, SPEE Houston, and SPWLA Gulf Coast)

To reserve a seat, send a check payable to HGS and the registration below to:
HGS, 7457 Harwin, Suite 301, Houston, Texas 77036, Attn: 3D Volume Interp

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____ Phone number: _____

Membership in: ___ HGS ___ GSH HGS/GSH Member No.: _____

 ___ HAPL ___ SIPES Houston ___ SPE Gulf Coast

 ___ SPEE Houston ___ SPWLA Gulf Coast

Amount sent (US \$) _____ for the following courses:

___ 3D Volume Interpretation Symposium Wednesday, March 1

___ PrimeView workshop Friday, March 3

___ VoxelGeo workshop Friday, March 10 [overflow class March 14]

___ VuPak workshop Wednesday, March 15 [overflow class March 24]

___ GeoViz workshop Friday, April 7 [overflow class April 11]

HGS 3D Volume Interpretation

Software Workshop Series

8 a.m. - 5 p.m.

North Harris College, Geoscience Technology Training Center
250 N. Sam Houston Parkway East

(just west of Greenspoint Drive on southside of Beltway 8)

PrimeView	(Magnolia Group)	March 3
VoxelGeo	(Paradigm Geophysical)	March 10
VuPak	(Seismic MicroTechnologies)	March 15
GeoViz.....	(Schlumberger GeoQuest)	April 7

Need a quick overview on one or more of the various 3D Volume Interpretation software on the market? Here is your chance to get hands-on training on four of them. These workshops are more than demonstrations but are not meant to replace the full-training courses. Each workshop will provide with a quick overview of one software, with opportunity to individually drive the software. Come to one, or come to several. Attendees are strongly encouraged to attend the overview symposium "Making An Impact on 3D Volume Interpretation" on March 1. Overflow classes will be scheduled as required. (see accompanying ad for symposium information).

Symposium fee

\$ 85 Members*
\$ 95 Non-members
\$125 Walk-ins

Workshop fees

Members

\$ 60
\$110
\$160
\$200

Non-members

\$ 70 any 1 workshop
\$130 any 2 workshops
\$190 any 3 workshops
\$240 any 4 workshops

(*Members in HGS, GSH, HAPL, SIPES Houston, SPE Gulf Coast, SPEE Houston, and SPWLA Gulf Coast)

To reserve a seat, send a check payable to HGS and the registration below to:

HGS, 7457 Harwin, Suite 301, Houston, Texas 77036, Attn: 3D Volume Interp

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____ Phone number: _____

Membership in: HGS GSH HGS/GSH Member No.: _____

HAPL SIPES Houston SPE Gulf Coast

SPEE Houston SPWLA Gulf Coast

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GeoViz workshop Friday, April 7 [overflow class April 11]

ALBERT W. BALLY SPRING 2000 SYMPOSIUM AND FEST

A symposium in honor of Bert Bally, Professor Emeritus at Rice University and Past President of Geological Society of America, will be held in Houston on Thursday and Friday, April 13 and 14, 2000. The Albert W. Bally Symposium will bring together an international group of world-renowned geoscientists to honor Bert's great insight in combining geology and reflection seismology - a hallmark of all his research and teaching. Bruno d'Argenio (Italy), Daniel Bernoulli (Switzerland), Sierd Cloetingh (The Netherlands), Carlos Cramez (France), John Dewey (Great Britain), Carlo Doglioni (Italy), Robert Ginsburg (Miami, Florida) Chris Harrison (Alberta, Canada), Martin Jackson (Austin, Texas), Art Sylvester (Santa Barbara, California), Bruce Trodgill (Boulder, Colorado), Paul Weimer (Boulder, Colorado), and Martha Withjack (Dallas, Texas) will give technical presentations that focus on regions of the world such as the Apennines, the Canadian Cordilleras, and Gulf of Mexico, where Bert has conducted research for almost five decades. Jorge Carnevali (PDVSA), Marlan W. Downey (President Elect of AAPG), Jean Michel Fonck (TOTALFINA), and Alfredo Guzman (PEMEX) will offer unique insights on the future of oil and gas exploration at the beginning of the third millennium.

Simultaneously, "Bert Fest" presents the opportunity for participants to celebrate Bert's life-long achievements and dedication to the advancement of Geology and Geophysics. "Bert Fest" will consist of three events: a late afternoon reception and an evening banquet on Thursday, April 13, and an evening festival to conclude the symposium on Friday, April 14.

Those interested in attending should contact the Department of Geology and Geophysics at Rice University (geol@rice.edu).

Houston Geological Society presents International Exploration Symposium 2000 "INTERNATIONAL BUSINESS OF EXPLORATION"

**Tuesday, February 22, 2000
Westchase Hilton, 9999 Westheimer**

Whether you need an introduction or refresher course in how to do oil & gas business internationally, this is the seminar to attend. Twelve contributing authors of the upcoming AAPG memoir "*International Oil and Gas Ventures: A Business Perspective*" will present overviews on the international exploration business:

Dr. Michelle Foss, University of Houston

Major Influences in the International E&P Business

Peter Kennel, Consultant

International Petroleum Negotiations: Successful Dealmaking in Exploration

Ann McNaughton, Arthur Andersen Business Consulting

Conflict Management and Cross- Cultural Awareness

Jeff Barndt, Randell and Dewey

Oil and Gas Acquisition as a Country Entry Vehicle

Rick Bott, Ocean Energy - Yemen

Operational Interdependence: The Local Office and Initial Exploration Program

Daniel Johnston, Consultant

International Petroleum Contract Analysis: The Commercial Terms

Terri Griffiths/Tim Tyler, Mayer, Brown and Platt

Arbitration of International Oil and Gas Dispute Practical Considerations for the Businessperson

Jerry Hutchital, Schlumberger

Alliances and Partnerships: Experiences and Lessons Learned - A Service Company Perspective

Jorge Carnevali, PDVSA - CVP

Private Capital Participation in Venezuela's Oil Sector - An Engine of Growth

Thomas O'Connor, World Bank

The International Development Banking View of Petroleum Exploration and Production in Developing Countries

Frank Alexander, Consultant

Central Asia Petroleum - Seven Years of Experience Since the Breakup of the Soviet Union, 1986-1998

Roberto Blocki, Perez-Company

Building an International E&P Company: A South American Company Perspective

\$ 85 HGS, SIPES Houston, GSH, SPE Gulf Coast, SPEE Houston, HAPL, and SPWLA Gulf Coast members

\$ 95 Non-members

\$125 Walk-ins

Lunch and networking reception after symposium is included.

To reserve a seat, send a check payable to HGS to:
HGS, 7457 Harwin, Suite 301, Houston, Texas 77036,
Attn: Intl Symposium 2000

Joint AAPG-SEG Distinguished Lecture 1999-2000

Date: Tuesday March 21, 2000
Time: 11:30am - Registration and Cash Bar
12:00pm - Luncheon and Talk
Location: HESS Building
5430 Westheimer in the Galleria Area near Duke Energy
Cost: \$20 for either GSH or HGS members; \$25 for walk-ins and guests
Reservations: Call 713.917.0218 or email to reservations@hougeo.org no later than Noon on Friday March 17



Title:
Let the Data Speak to You: How to Improve Your 3-D Seismic Interpretation

Speaker:
Alistair R. Brown

Abstract

There is no question about the success of 3-D seismic technology, but we can still do better. Much 3-D data remains underutilized, and some is strained beyond its limit by interpreters with unreasonable expectations. Three-D interpretation, has become too popular for its own good - geoscientists and engineers are working on the data without adequate understanding of geophysical principles. In 2-D interpretation the seismic data added information to an existing geological model. In 3-D interpretation, we must let the data speak to us and try to believe it, modifying geological concepts if necessary.

It takes time to interpret 3-D seismic data, but we must use this time to maximum advantage. We must use all of the data without necessarily looking at it all. We must appreciate the precision of machine autotrackers, and investigate what part of that

precision is geology and what part is noise. We must become familiar with unconventional displays. Faults don't have to be recognized on a vertical section to be valid! How long will it take for everyone to embrace color and discard those old wiggles?

There is a great need for the appreciation of geophysical principles. Seismic resolution is fundamental; we must know the magnitude of the seismic wavelength in order to appreciate the resolving power of our data. This determines the minimum thickness of flow units about which our engineers can discern information. We must correlate seismic to geology on character, not simply time, and be alert to phase distortion as we do so. Seismic attributes are wonderful, but they lack independence and should not be subject to too much statistics.

Let the data speak!

Education

Oxford University, United Kingdom, Physics
Australian National University, Canberra, Australia; Geology

Experience

1966-1972

Bureau of Mineral Resources, Canberra, Australia

1972-1978

Geophysical Service Int., Croydon and Bedford, United Kingdom

1978-1987

Geophysical Service, Inc., Dallas, Texas

1987-present

Consulting Reservoir Geophysicist, Dallas, Texas

Honors and Awards

1975

SEG Best Presentation Award

1986-88

SEG's Chairman of The Leading Edge Editorial Board

1988-89

AAPG Distinguished Lecturer

1991

SEG Distinguished Lecturer

1994

Petroleum Exploration Society of Australia Distinguished Lecturer
1998 SEG's Special Commendation Award for his work in developing and teaching 3-D methods.

Publications

Four Editions of his book Interpretation of Three-Dimensional Seismic Data (AAPG Memoir 42); published in March 1997 (previous editions: 1992, 1989 and 1986)

Professional interests and experiences Interpretation of three-dimensional seismic data, stratigraphic interpretation, optimum use of interactive workstations, and seismic reservoir identification and evaluation. He spends much of his time teaching interpretation methods and advising on interpretation problems worldwide.

Memberships

American Association of Petroleum Geologists
Society of Exploration Geophysicists
European Association of Exploration Geophysicists
Dallas Geophysical Society

SGS Post Lease Sale Social and Golf Tournament

New Orleans
March 15th & 16th

BBQ and Happy Hour
Wednesday, March 15th
4:00 - 8:00 pm
Parkway Tavern
5135 Canal Blvd

Golf Tournament
Thursday March 16th
8:30 am Shotgun Start -
Eastover Country Club
5690 Eastover Dr.

Direct Questions to
Sharon Courtney
504-592-5391
courtney@houston.geco-
prakla.slb.com

GeoQuest Forum2000

Connected Decisions
Austin, Texas
Renaissance Hotel

March 22, 2000
Welcome Reception

March 23-24, 2000
Forum 2000

Today, oil and gas companies must combine data and information delivery; risk-based asset management; and domain expertise at key decision points to stay ahead of the competition. For information on how to better connect these critical components of your decision process throughout all levels of your organization, make plans to attend Forum2000.

Forum2000 is a two-day program for decision-makers, influencers and asset-team members of the exploration and production industry. At Forum2000 you will learn more about how GeoQuest can help you refine your ability to quantify risk and manage assets throughout your reservoir life cycle; provide innovative services to foster collaboration among your asset teams; or devise a data management strategy that meets corporate objectives. Importantly, GeoQuest offers solutions supported by a team of knowledgeable experts, leading-edge technology and flexible global service targeted toward your financial and technical objectives.

Regardless of your position or expertise, we invite you to participate fully in our executive presentations, various product demonstrations and workshops, insightful client technical presentations and interactive exhibits designed to offer you tools necessary to make confident decisions and implement solutions for desired results.

Mark your calendars to join us at Forum2000 and tap into a reserve of answers to chart your course for success in the new millennium.

For registration information contact Philip C. Crouse & Associates, Inc. (214)-841-0044. For abstract submission details, please contact, Karen S. Glaser, Ph.D, GeoQuest (713) 513-2744.

Highlights of the SEG-sponsored Sessions at the 2000 Offshore Technology Conference

May 1 - 4, 2000 in Houston, Texas

Technical Luncheon (May 3, 12:00) "The Importance of New Frontiers to Meet the Global Energy Demand in the 21st Century."

Steve Cassiani of ExxonMobil addresses the projected increase in oil and gas consumption as an increasing part of the world's total energy demand, and the ensuing potential demand/supply gap. Companies must not only focus on where, but also on how to explore for and produce hydrocarbons. A company's success will depend on how they obtain maximum value from technology and, most importantly, from their people, their knowledge, and ability to understand and apply fundamental scientific principles.

Reservoir Characterization (May 1, 9:30 - 4:00) - co-sponsored by AAPG and SPE

Neal Goins for ExxonMobil will emphasize integration of multi-disciplinary technologies as key to effective reservoir description. William Bashore of RC2 will then build on this integration theme and underscore emerging technologies. Papers include fluid and lithology using marine 4-C seismic, over-pressure detection with Vp/Vs estimates, inversion of 4-D seismic and Production data, application of neural networks to 3-D seismic for fluid and lithology volumetrics, refining reservoir definition using depth modeling, angle dependent seismic inversion, and geostatistical seismic modeling.

Multiple Attenuation (May 2, 9:30 - 4:00)

Dodd DeCamp of Arco will describe the challenge of discovery, delineation, and development of new, high quality resources while it is becoming increasingly difficult to achieve economic success in the face of complex, costly and challenging technology requirements. Removing multiples from seismic data to make the data suitable for wave theoretic imaging can improve imaging in complex settings and meet the challenge. Papers will cover specific technical responses and general strategic approaches to the challenges and authors will exemplify the issues with synthetic and field data examples.

Geophysical Technology (May 2, 9:30 - 12:00)

From gathering premium quality seismic data and transmitting it back to the processing center as quickly and inexpensively as possible to the sophisticated imaging techniques that are required to accurately delineate a reservoir, this session spotlights the application of diverse geophysical technologies to maximize exploration and production efficiency.

4D Seismic: Evaluating Reservoir Dynamics (May 3, 9:30 - 4:00) - co-sponsored by AAPG and SPE

Karl Berteussen of PGS will relate progress in 4-D acquisition technology and the impact on field development risks and economics. Roger Anderson of Columbia will illustrate the economics of 4-D reservoir management with case histories. Papers, which will emphasize business relevance, will cover acquisition, processing, determination of resolution by stochastic simulation, calibration of seismic, well, and field performance data, AVO effects linked to fluid movement and pressure changes, and using 4-D seismic to optimize field simulation and development.



7th ANNUAL GSH/HGS/HAPL BASS TOURNAMENT

April 1 & 2, 2000

This year the 7th Annual GSH/HGS/HAPL Bass Tournament will once again be held at Harbor Marina on Toledo Bend Reservoir. We are looking forward to an even bigger and better weekend of fishing fun and friendly competition along with the traditional Saturday Night Fish Fry with door prize drawing that evening.

Prizes will be awarded for overall first, second, and third place team total weight of black bass as well as individual GSH, HGS, HAPL, and Guest prizes for biggest bass caught from each group. A Big Bass Pool for each day will be available as well. Each participant will be provided with a copy of the specific tournament itinerary, rules sheet, and prize breakdown with their tournament registration. For more information please contact:

Greg Doll (HGS & GSH) (713) 658-8096ext11..Office (713) 951-0343..Fax E-Mail to: gqdoll@msn.com
Bill Zwiener (HAPL) (713) 650-0903..Office (713) 650-3547..Fax

Once again, Harbor Marina has reserved a block of rooms for our tournament and several mobile homes are available as well. To make reservations, call (409) 625-4912 and be sure to mention that you are participating in this tournament. The rates are reasonable and there is a limited number of rooms available so reserve your accommodations as soon as possible! There are also other accommodations available in the area as well.

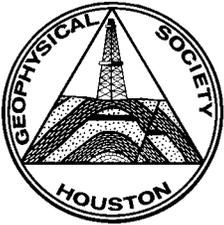
Corporate and individual contributions are appreciated and will be acknowledged on a sponsor board at the weigh in station and in the respective organization newsletters following the tournament. This is a great way to entertain friends, business associates, and clients, so spread the word!

GSH/HGS/HAPL BASS TOURNAMENT REGISTRATION FORM

NAME: _____ AFFILIATION: _____
ADDRESS: _____ PHONE: _____
PARTNER: _____ AFFILIATION: _____
PHONE-OFFICE: _____ PHONE-HOME: _____
E-MAIL: _____

Please clip this form and return it with your payment, make your check for \$50.00 per contestant payable to:
GSH/HGS/HAPL BASS TOURNAMENT and Mail to: Mr. Bill Zwiener, Jones & Zwiener, Inc., 1010 Lamar, Suite 650, Houston, Texas 77002

Registration Fee: \$ _____ + Sponsor Contribution: \$ _____ = TOTAL \$ _____



Golf Tournament and Dinner Geophysical Society of Houston



DATE: Monday, May 24, 2000
PLACE: Kingwood Country Club
TIME: 9:30 AM Registration
11:30 AM Tee off (Shotgun)

FORMAT: Four Man Florida Scramble
COST: \$115.00 Members and Guests
DEADLINE: April 15, 2000

MAIL ENTRIES TO: Fairfield Industries • 14100 Southwest Freeway, Suite 600 • Sugar Land, TX 77478 • Attn: George Lauhoff

MAKE CHECKS PAYABLE TO: Geophysical Society of Houston

GOLFERS READ CAREFULLY: The three courses at Kingwood are available to the first 432 entrants. No entry will be accepted until the entry form and fees are received in full. **NO EXCEPTIONS!!!**

MULLIGANS \$5.00 EACH (MAX. 2/PERSON) AVAILABLE AT CHECK-IN

If you are not playing golf but want to join your friends attending the dinner following the tournament, please send in \$15.00 per person to cover the cost of the dinner. Make a note at the bottom of the check "Dinner Only". These checks should also be payable to the Geophysical Society of Houston.

GOLF TOURNAMENT FORM

You may select your own foursome, if not you will be assigned to a group. The first name listed will be considered the TEAM SPOKESPERSON.

Name: _____ Name: _____
Circle: Member Guest Circle: Member Guest
Company: _____ Company: _____
Phone: _____ HDCP: _____ Phone: _____ HDCP: _____
Name: _____ Name: _____
Circle: Member Guest Circle: Member Guest
Company: _____ Company: _____
Phone: _____ HDCP: _____ Phone: _____ HDCP: _____
Course Preference: (Circle One) ISLAND LAKE MARSH DEERWOOD

FEBRUARY 2000

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 Milton Dorbin Memorial Lecture Near-Surface SIG Meeting RC SIG	2	3	4	5
6	7	8	9 GSH Technical Breakfast	10	11	12
13	14 NEWSLETTER DEADLINE	15 GSH Technical Luncheon	16 Career Decision Workshop Data Processing SIG	17	18	19
20	21 SPE Applied Technology Workshop HGS International Explorationists Group Social	22 SPE Applied Technology Workshop HGS International Exploration Symposium 2000	23	24	25	26
27	28	29				

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