



Geophysical Society of Houston

VOL. 34, NO. 3

NEWSLETTER

NOVEMBER 1999

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Luncheon Co-sponsored by GSH, HAPL, SPE, SPWLA, SIPES

Hosted by HGS

Date: Wednesday, November 17, 1999
Time: Registration and Social Period - 11:15am
 Lunch and talk - 11:45am
Location: Hyatt Regency Downtown, 1200 Louisiana
Cost: \$20 advance registration; \$25 at the door if space available

Topic:

The present and future significance of energy industry mergers, particularly that of BP and Amoco, and on his general outlook for the energy industry as it enters the next century.

Speaker:

David F. Work, BP Amoco Corporation

Biography:



David F. Work is Regional President for BP Amoco Corporation. In this position, Work is the senior BP Amoco representative in the Gulf Coast, Southwest and Rocky Mountain states and concentrates on maintaining and building relationships with external audiences.

Work coordinates his responsibilities with the vice presidents of BP Amoco's seven exploration and

production business units that are located in Houston, as well as the leaders of the oil and chemical businesses located in the geographical area. He reports to Rodney Chase, Deputy Group Chief Executive for BP Amoco.

Work transferred to Houston from London, where he was a Group Vice President in BP Amoco's Exploration and Production stream and a member of its Executive Committee. Prior to the merger between BP and Amoco, he had been Amoco Corporation's Senior Vice President of Shared Services and a member of the company's Strategic Planning Committee. He was responsible for those groups that provided support services to the corporations worldwide business operations.

Work's previous experiences included serving as Group Vice President of worldwide exploration for Amoco's exploration and production sector. Named to that post in February 1992, Work had been responsible for the company's oil and gas exploration activities in some 30 countries including many in Latin America, Africa, eastern Europe, Asia, and the Middle East.

From 1990 to 1992, Work was President of Amoco Egypt. Prior to that, he had been Vice President of Amoco's Houston region and Vice President of Exploration for the Africa and Middle East region.

Work joined Amoco as a geologist in Denver in 1970 and has spent his career largely in exploration and

REMINDER

If you have a blue address label on your newsletter, you are delinquent in paying your dues and will be dropped from membership. Call the GSH office at 713/785-6403 to pay via credit card.

Luncheon continued on page 4

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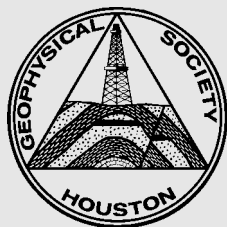
Editor's Note

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 wendyj@diamondg.com or faxed to 713/783-9780.

1999 GSH Newsletter Deadlines

Issue December, 1999
Deadline Nov. 12, 1999

Issue January, 2000
Deadline Dec. 13, 1999



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

Date: Wednesday,
November 10
Time: 7:00 AM - 7:30AM
refreshments and
networking
Speaker introduction
7:30 - 7:45 AM as
attendance dictates.
Speaker until 8:20 -
8:30 AM, a short
Q&A session, closing
remarks/next month's
announcement and
adjourn by 8:30 -
8:45 AM.
Location: Chevron Auditorium -
1301 McKinney
Take escalators to the
mezzanine level. Go
past the guard station,
through the elevator
core, and turn right to
the Auditorium.
Parking: 2 Houston Center
Speaker: Wulf Massell

Title:

Closing the Seismic Signal Loop to Link the Geologic Model with Field Acquisition, Data Processing, and Interpretation

Abstract:

Seismic imaging and interpretation technology has evolved to its present state through a series of serendipitous innovations that continue to push the envelope of acquisition and data processing parameters. As we reflect on the past and look toward the future it is prudent to re-examine the fundamentals that govern the seismic method and the limitations of the techniques that shape our opinions. For example, data processing has traditionally focused on ways to get rid of noise. This paper suggests that we pay attention to the total acoustic response, and in particular to the survival of those events we choose to identify as signal. We can then address the question of how we might collectively deal with our many opinions about acquisition and processing parameters to assure that

we are doing enough to recover as much useful information as possible.

Dr. Massell will discuss the tradeoffs between incrementally increased acquisition effort and the additional information thus obtained by analyzing a closed signal loop. He enters the loop with a geologic model described by geophysical parameters, such as two way reflection time, signal bandwidth, velocity profiles, and earth attenuation. He then imposes subsurface resolution requirements to make a viable exploration play and suggests several quantitative limits on acquisition geometries for a successful seismic exploration program. The next step in the signal loop, following seismic acquisition, is the data processing flow. This should honor the signal limitations imposed by acquisition and maximize the reflection signal used to describe the subsurface. Depending on the bandwidth, the signal-to-noise ratio, and the amplitude accuracy of the processed data, the interpreter may be working with either a structural or a stratigraphic product. Assuming the acoustic response of the earth allows sufficient signal, the data may ultimately lend itself to AVO inversion. A parameter tradeoff between these interpretive goals is presented. The signal loop closes on itself when the seismic interpretation is used to update the original geologic model.

Speaker Bio



Wulf Massell is President and CEO of EPIC Geophysical, a Houston based seismic data processing company. His industry experience includes employment at Amoco Production Co., Geosource, Inc., and as an independent consultant providing seismic survey design, processing, and data interpretation services. He has also held academic appointments at The University of Texas at Austin, at the Federal University of Bahia in

Technical Breakfast continued on page 4

From the Previous Editors Desk: Viewpoint

Apparently, my last column generated some controversy. As of this date, I have heard from five people who thought that my portrayals of geoscientists were too gender-stereotypical. My first response is that I am just glad someone is reading! I am also glad that the newsletter is successfully fulfilling one of its primary purposes, which is to promote debate and dialogue. Honestly, folks, I was only trying to infuse a potentially dull discourse with some creative writing that might appeal to some of our younger members. However, I must point out that of those five complaints, four have been men who felt that the guy in the story came off as a real geek, so at least I'm being sexist in a very evenhanded manner. Therefore, before I begin this column, let me provide the following standard disclaimer:

"The following is a personal viewpoint and does not reflect the policies of the GSH. Opposing opinions are welcomed and should be addressed to Wendy Jones, editor."

Also, the persons and events about to be depicted here are fictional and any resemblance to oil companies living or dead is purely coincidental. Now, let's see who we can stir up this month!

I have just witnessed what I would conservatively estimate to be my eighth round of layoffs in nineteen years in the oil and gas business. I have left three companies in that time, and only one voluntarily, so a little math shows that I have been a survivor more often than not. Based on that experience, I would like to offer the following tips for:

How to run a downsizing so your company will be the talk of the oil patch!

- 1) Make sure that rumors about the date and extent of the cuts circulate for weeks beforehand. This insures a total lack of productivity.
- 2) Hold a meeting of all employees. Tell them that ten percent of them will be laid off. Instruct them to return to their offices and wait for a call.

- 3) Escort all terminated employees immediately to the front door and post a police guard at the entrance.
- 4) Have the CEO of the company take an exotic Caribbean cruise so a new hire from human resources gets to deliver the news.
- 5) Time the workforce reduction to coincide with the company's purchase of a new Lear jet.
- 6) Point out that the layoff is the result of pressure from stockholders, conveniently ignoring the fact that with today's profit-sharing, stock options, and 401K plans, all the employees being laid off are also stockholders.
- 7) Place a recruiting ad in the local newspaper's employment section on the same day as the terminations.
- 8) If you have recently bought another company, empower the managers from the acquired organization, who haven't had a chance to meet your staff, by letting them make the decisions about which employees to keep.
- 9) Tailor your severance packages, vacation policies, and continuation of benefits to be wildly out of synch with other company's recent offerings.
- 10) Six months later, when oil prices rebound, rehire some of the same "dead wood" you just cut, but in more important positions and at higher salaries.

And lastly, make sure you lay off the people you can really do without in a scaled-back business environment. You know, the young employees who know how to run the computers, the experienced hands who still remember the lessons of working in the field, and the techs who keep your data loaded and inventoried. Then blame it on the remaining employees when your computing infrastructure falls apart, you drill dry holes, and you can't find your surveys.

Luncheon continued from page 1

production operations.

He received a Bachelor of Arts degree in Geology from Wesleyan University, Middletown, Conn., in 1968 and a Masters of Science degree in Geology from the University of California, Santa Cruz in 1970. He also completed the Executive Summary Program at Stanford University in 1981.

Work is a board member of the Institute of International Education. He is also actively involved in many professional organizations, including the American Petroleum Institute and Society of Petroleum Engineers; and is a board of trustees member of the American Geological Institute, Wesleyan University, Stanford Earth Science Advisory Board and the Energy and Geoscience Institute Advisory Board.

Technical Breakfast continued from page 3

Brazil, the University of Houston, and the Houston Advanced Research Center.

Dr. Massell holds the BS, MA, and Ph.D. degrees in Geology and Geophysics. He is an active user and developer of 2-D and 3-D seismic reflection technology. In 1992 he founded EPIC Geophysical, a division of E&P Imaging Corporation. EPIC's processing philosophy focuses on optimizing parameter choices that will assure undistorted reflection signal flow from the seismic source to the subsurface target, the receiver, the acquisition instruments, through data processing, and finally to the final interpretation display.

Wulf is an active member of the Geophysical Society of Houston and of the Society of Exploration Geophysicists. He has served both societies in numerous capacities including President of the GSH and First Vice President of the SEG.

Data Processing SIG

Date: Wednesday, November 17, 1999
Time: Social 4:30 Presentations 5:00 to 6:30
Location: Rice University Duncan Hall
Directions: Enter the north side of Rice University at entrance one, the corner of Main Street and Sunset Blvd. At the T Junction turn right and find the visitor parking. Duncan Hall is North West of the parking lot.
Cost: NO COST

Topic:

A hands-on primer for using clusters in Seismic DP

Organizers:

Allen Foley (GeoCenter Inc),
Frank Dumanoir (Geophysical Development Corp.)

Host:

Professor Ken Kennedy, Math Science Department, Rice University

Speakers:

Bee Bednar (Advanced Data Solutions)
Ed Steele (Exploration Design Software)

Meeting Outline:

- Why clusters?
- Hardware issues - Processor, network and timing issues
- Software issues - Protocols, algorithm suitability & OS issues
- Reliability and fault tolerance
- Memory usage (type/function)
- Throughput relative to single box solution
- Cost considerations
- Lessons learned
- Question and Answer Session

An organizing meeting of Data Processing SIG was held on September 22 to plan the programs for 1999/2000. The topics scheduled for the year are:

Oct 20

Modeling
Kurt Marfurt

Nov 17

Cluster Computing
Allen Foley & Frank Dumanoir

Dec 15

Depth Imaging
Karl Schleicher

Jan 19

AVO
Fred Hilterman

Feb 23

Multiples
Kamel Siddiqui & Bee Bednar

Mar 22

4 Component
Walter Kissinger & Lloyd Weathers

Apr 19

Pore Pressure Prediction
Jerry Kapoor

May 17

Depth Imaging
Side Jin

Sep 20

Research Directions and DP needs or case histories
Karl Schleicher

We also discussed a workshop on a selected exploration problem, for example processing techniques successful in the deep water. Allen Foley volunteered to look into the workshop idea.

We usually have two organizers each month. If you can help organize, offer a meeting place, or present a paper, please call Karl Schleicher at 713/782-1234 or send an email to karl@geodev.com.

GSH Near-Surface SIG Meeting

Date: Tuesday, November 16, 1999
Time: 5:30 PM
Location: Exxon Production Research Complex 3120 Buffalo Speedway, South Tower Building (On Richmond Avenue)

Speaker:

Ms. Diana Dana, Masters Candidate in Geophysics at Rice University

Topic:

High-Resolution Seismic Survey Over a Near-Surface Contamination Site

A high-resolution, 2-D seismic survey was conducted at the OU-2 site, Hill Air Force Base, Utah. Three seismic reflection lines, each 36 to 42 meters in length, were acquired across a buried channel region defined by drill holes, which acts as a collection trough for DNAPL's. The seismic target for the survey was a clay layer at the base of the channel that serves to prevent the DNAPL's from entering the local groundwater system. Brute stacks of two of the lines are presented showing locations of the adjacent monitoring wells for correlation to the logged depths to the confining clay layer.

Short Biography of Ms. Diana

Dana - Ms. Dana holds the BS degree in Geological Sciences from the University of Redlands and the MS Degree from California State University at Los Angeles. From 1984 to 1995, she was a Staff Geologist / Geophysicist for TRW Ballistic Missiles Division. She is currently a Masters candidate in Geophysics at Rice University where her studies are directed by Dr. Alan Levander, Chair and Cary Croneis Professor of Geology and Geophysics.

POTENTIAL FIELDS SIG

A THREE-DIMENSIONAL GEOLOGICALLY CONSTRAINED DENSITY INVERSION OF GRAVITY POTENTIAL

BY
KEVIN CRAIN

Where: HESS building, 5430
Westheimer, Houston

WHEN: November 18, 1999
5:30 Social Hour;
6:30 Dinner;
7:30 Presentation

Cost: \$22.00

Contact: Mike Kowalski, Chair - GSH Potential Fields Group, at 713-432-6828 (kowalma@texaco.com) by Tuesday, NOVEMBER 16, for reservations. E-mail is best because I can confirm your reservation. Please HONOR your reservation! We must bill no-shows!

Abstract:

I am developing a gravity potential interpretation using 3-D geologic models in areas of complex geology and topography. To illustrate this interpretation I will show results for both regional and detailed geologic interpretations using gravity potential data in and around Jackass Flats at the Nevada Test Site. The gravity contribution at unit density of each 3-D geologic body is computed from the surface integral computed on a

regularly gridded representation of the surface. I then test the geologic model's consistency using a least squares inversion algorithm on density, constrained by the body's expected densities and gravity contributions. Consistency is deemed an adequate fit, and inconsistency requires modification of the geologic structure or a re-evaluation of the expected rock densities. The initial regional geologic model around NTS had a residual field of about 40 mgals and application of the inversion left a zero-mean residual of about 15 mgals in the area of interest. This residual field clearly reflects geology not modeled at the regional scale. This regional modeling is a clear improvement over the complete Bouguer anomaly in this area.



The Geophysical Society of Houston (GSH) recently elected new officers to its executive board for the 1999-2000 term. They are (left to right) Wendy Jones - Editor, Lloyd R. Weathers - First Vice-president, Philip L. Inderwiesen Treasurer, Patrick J. Starich - President, John R. Sumner - President-elect, Scott Sechrist - Second Vice-president and Kathryn Hardy -Secretary. GSH was formed in 1947 to promote the science and profession of geophysics and currently has over 1800 members. GSH holds a technical luncheon at 11:30 a.m. on the third Tuesday of the month at the Houston Engineering and Scientific Society and conducts an extensive program of technical symposia and seminars open to the public. Visit the GSH website at www.seg.org/sections/gsh/gshhome.html or call the office at 713-785-6403 for information on meetings and membership.

In Memorium

Bird Glenn Swan

BIRD GLENN SWAN, age 92, died September 20, 1999 in Houston, Texas. He was born in Cleveland, Indian Territory (Oklahoma) on March 3, 1907, one of 13 children of Kelly and Dollie Swan. Bird was a gentle man, loved by his family and friends. His wife, Isabel preceded him in 1988. He is survived by three children, Maria Larson of San Antonio, Stephen K. Swan, and William B. Swan, both of Houston. Bird was the only one of the 13 children in his family to obtain a college education, having graduated from the University of Oklahoma in 1928 with degrees in geology and geophysics. He went to work immediately for Continental Oil Co., now Conoco, Inc., on a seismograph crew, and was a founding Conoco "doodlebugger". Bird served in various geophysical positions for Conoco in Ponca City and Oklahoma City, OK. before becoming manager of geophysics in the Houston headquarters in 1956. He served Conoco in that position until his retirement in 1972. He was active in the Geophysical Society of Houston for many years, serving as its president in 1971/72. Bird was an avid golfer all his life and was a charter member of the Champions Golf Club. Bird also loved to sing. He sang with the Kiwanis Glee Club in Ponca City for many years, and various church choirs the last being the choir of St. Dunstan's Episcopal Church. After retirement, Bird and Isabel moved to Lakeway, Austin, Texas and lived there until their return to Houston in 1988. Besides his children, Bird leaves two sisters and a brother, eight grandchildren and 5 great grandchildren. A memorial service was held in Cleveland, Oklahoma. Remembrances may be made in his name to St. Dunstan's Episcopal Church, 14301 Stuebner-Airline Rd., Houston, TX 77069.

IAGC to sponsor conference focusing on non-exclusive, (spec) geophysical data

It's a given that 3-D seismic revolutionized the oil and gas industry. Yet, were it not for the widespread availability of relatively inexpensive non-exclusive (spec) data, the vastly improved drilling success rates of the past several years would be enjoyed only by those companies who could have afforded pricey proprietary data.

With the recent industry-wide spate of cost-cutting, downsizing, mergers, etc., many of the old rules are being rewritten or severely tested, and spec data, which provide the foundation for the bulk of U.S. exploration activity, are being impacted along with all other areas of the industry.

Even in the best of times, however, the myriad business issues associated with spec data - legal, financial, ethical and others - are often misunderstood/unappreciated by those industry participants who need and use these data.

These issues will be addressed at the upcoming conference, "Current Issues In Non-Exclusive Geophysical Data....The Exploration Tool of Choice". Sponsored by the IAGC, the event will be held November 16-17 in Houston at the Doubletree Hotel at Post Oak. For registration information, contact Louise Durham, conference co-chairman, at 713/840-1510.

Buying and Selling Production

Thursday, December 2, 1999

8:30 a.m. - 4:00 p.m.

Shell Auditorium, One Shell Plaza

Buying and selling production requires different focus and skills than exploration and development activities. Both novice and experienced production traders will learn from this course, featuring the following presentations:

Merger, Acquisition, and Divestment Transactions Overview

David L. Bole, VP Corporate Research & Development, Randall & Dewey, Inc.

Exploring Vs. Buying Reserves

Dan Olds, Petroleum Engineering Consultant, Coopers & Lybrand

Structuring the Deal: Who Does What, When

Geoff Roberts, Madison Energy Aide; Georgia Conger, handles slides & presentations

Financing the Deal

Paul Riddle VP Finance, First Union

Auctions vs. Negotiated Sales

Ken Olive, President, The Oil & Gas Asset Clearinghouse

Luncheon Keynote speaker:

John Walker, President & CEO of Enervest Management Company

This course is intended for any upstream energy professional geoscientist, petroleum engineer, petrophysicist, or landman.

Cost: \$75

Course is limited to first 50 registrants. Lunch is included.

To reserve a seat, send a check payable to HGS to:

**HGS, 7457 Harwin, Suite 301,
Houston, Texas 77036,
Attn: Networking Course**

SEG DISTINGUISHED INSTRUCTOR SHORT COURSE

December 7, 1999 • 8:00am - 4:30pm • Houston Marriott Westside



SHEAR WAVES FROM ACQUISITION TO INTERPRETATION

By Robert Garotta

COURSE DESCRIPTION

Multicomponent studies are perhaps today at the same stage that 3-D studies were fifteen years ago. The renewed interest in shear waves is obvious, especially in the subsea environment where millions of dollars are being spent on acquiring the elastic response of the earth. Because shear wave-related techniques are raising the interest of the E&P industry, this course addresses, through case histories, the practical aspects of multicomponent data acquisition, processing and interpretation.

Although the industry resorts to shear wave propagation when the usual compressional response is poor, the main promise of the shear wave response is in its combination with the compressional one. However, this is possible only when the quality and resolution of the two responses are similar.

The first part of the course is devoted to overcoming the difficulties associated with shear wave acquisition. Converted mode operation is covered in detail using real-life examples. The particularities of sea bottom receivers are also examined.

The second part of the course reviews the processing and the main challenges of the shear converted modes: static corrections, gathering, velocity

analysis and compensation for shear wave splitting in axial anisotropy. The course gives a detailed description of processing sequences. 2-D and 3-D results, yielding natural axis orientation of layers, are compared in shear and PS converted modes.

The third part of the course is devoted to case histories where new attributes, such as V_p/V_s ratio, crack density, or fracture orientation, are illustrated in a reservoir characterization context. These case histories can guide the geophysicist to decide if a particular geological situation can be best handled using shear waves.

WHO SHOULD ATTEND?

For those who are interested in the potential of the methodology involving shear waves, it is a good opportunity to learn from one of the leaders in this field and to maximize the chances of getting the most out of the data when big investments are at stake.

AUTHOR'S BIOGRAPHY

Robert J. Garotta graduated from the Faculté des Sciences in Paris and began his career in the geophysical department of the French National Center for Scientific Research (CNRS), where he conducted work in the magnetotelluric method. He spent 37 years at CGG, first in the gravity method, then as a seismologist in field operations. Later he joined the General Geophysics Division as an area geophysicist in charge of quality control

and technical assistance to operations. His solid technical background, combined with his permanent involvement in field operations, gave him the experience to successfully address the most complex geophysical problems. He concluded his career at CGG as senior vice president of geophysical methods. He is now advising the CGG group in the area of multicomponent seismic data from acquisition to interpretation. He has made significant contributions in various fields of research and development such as vibroseis, velocity analysis, static corrections and 3-D survey design, and is the author of numerous technical papers. He was one of the key promoters of shear wave acquisition, processing and interpretation in our industry. His pioneering work on the use of converted shear waves led him from the first experiments in France to active participation in the Colorado School of Mines projects. A longstanding member of the SEG and of the European Association of Geoscientists & Engineers (EAGE), he was the co-recipient of the Conrad Schlumberger award in 1965. Mr. Garotta has two children and five grandchildren, and he spends a lot of time in his vineyard in the South of France.

**Registration form for
SEG Distinguished Instructor Short Course**

Shear Waves from Acquisition to Interpretation

December 7, 1999

Houston Marriott Westside

NW Corner of Katy Freeway IH-10 and Eldridge Parkway

13210 Katy Freeway • Houston, TX

Presentation: 8:30 a.m. - 4:30 p.m. • Registration opens at 8:00 a.m.

Advance registration is required - Registration is limited to 200.

Important: Please complete a separate form for each registrant

Name: _____

Company Name: _____

Street Address: _____

City: _____ Country: _____ Postal Code: _____

Phone: _____ Fax: _____

Email: _____

SEG Member? Yes No

Geophysical Society of Houston Member? Yes No

Cost: (Check ONE)

- Member of SEG and GSH - includes lunch - \$50
- Member of SEG but not GSH - \$70 (\$20 will be applied toward GSH membership)
- Member of GSH but not SEG - \$120 (\$70 will apply toward SEG Associate Membership)
- Member of neither GSH nor SEG - \$140 Please complete both applications

* If you wish to join either GSH or SEG and would like to apply this registration fee to your membership dues, please submit the appropriate membership application form(s) with this registration form.

AMOUNT ENCLOSED: \$ _____

Make checks payable to Geophysical Society of Houston

Send to: GSH, 7457 Harwin Drive, Suite 301, Houston TX, 77036-2160

Payment by credit card: CARD: _____ Mastercard _____ Visa _____ American Express

PRINTED NAME AS IT APPEARS ON CARD: _____

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**If coming from out of town, for your convenience, the contact information for the hotel:
Phone: 281-558-8338 • Fax: 281-558-4028 • [http: www.fairfieldinn.com/marriott/HOUWS/](http://www.fairfieldinn.com/marriott/HOUWS/)**

SEG Active Membership Benefits You and GSH

Most GSH members have practiced geophysics for many years and became active members of the SEG long ago. But many of you are associate SEG members, eligible to be active, who for one reason or another have not upgraded the status of your SEG membership. If you have practiced geophysics for eight years, including some or all of the time you spent in college, you are likely eligible to be an SEG active.

Now is a good time to consider upgrading your SEG membership. Active SEG membership is good for you and GSH. It secures your right to vote in the annual election of the Executive Committee to the SEG Council. You also automatically become an active GSH member and can vote in our elections and hold GSH office. Furthermore, GSH representation at SEG Council Meetings is determined by the number of active SEG members in our section.

I wish to kindly request all GSH members who are currently SEG associate members to review their status and consider upgrading to active SEG membership. Upgrading your SEG membership is simple. It will only cost you a few minutes of time and a postage stamp. Near the back of the

May 1999 "Yearbook" issue of The Leading Edge, you'll find an SEG Application for Active Membership. If you don't save back issues of TLE, call Marge Gerhart at the SEG office in Tulsa at (918) 497-5530 and ask her to fax you the application. Read the eligibility requirements carefully, check the box labeled "transfer" at the top of the application, and fill in the form. You'll need to find three active SEG members as references. Just call a few of your professional friends who are SEG actives and ask for their endorsement. You don't need their signatures. If you don't know which of your friends are SEG actives, you can also find the SEG membership status of every member in the May yearbook TLE. If you know any GSH Board Members, listed on page two of this newsletter, call one of us. Better yet, you can come to the November 17 GSH Joint Technical Lunch Meeting where many SEG actives will surely be found. Then drop your completed application in the mail and you're on your way to receiving the benefits of SEG active membership in the next millennium.

While on the topic of membership, let me remind you of GSH's goal to reach 2,000 members by the year

2000. Our membership chairman Hugh Hardy has diligently pursued this goal through the past year and recently reported GSH membership stands at 1,856, only 144 from our goal. Sadly, many of our long-time members have not yet renewed. This lag in returning members seems to occur each year and creates a big job for Hugh and his committee who must try to personally contact non-renewing members. But, it has never been easier to renew your GSH membership. In addition to sending a check, you can also mail, phone or fax your credit card information to Joan Henshaw at tel.: (713) 785-6403, fax: (713) 785-0553. If you're not sure you've renewed, just call Joan. It costs only \$20.00 to renew and because GSH is a 501(c)(3) organization, your membership contribution is tax deductible. As a member you'll continue to receive the monthly GSH Newsletter, special notices of upcoming events, and discounted admission to luncheon meetings and most technical seminars. My thanks to those who have already renewed. I pledge to all our members GSH's commitment to a continuously improving program.

P. J. Starich

WELCOME TO THE 30 NEW MEMBERS OF OUR SOCIETY

It's always great to see us make progress toward our 31 December 1999 membership goal of 2000. These 30 members bring our current membership up to 1856 - BUT there is an ominous black cloud on the horizon. As of this date we have 448 members who have not paid their 1999-2000 dues for renewal. These members have to be classified as delinquents and the 1st of November is the DROP DEAD date, at which time information of those members will be dropped from the database. We've made it as easy as possible for members to renew by allowing Joan Henshaw to accept credit card information for payment of dues over the phone. I would urge all of our members to support our membership drive. DON'T BE A GSH DELINQUENT and FORMER MEMBER.

Membership Report as of October 7, 1999

Active

Don R. Bailey • Robert (Brent) Boyd • Michael T. Challis
Sharon L. Cornelius • Mark A. Fortuna • Doyle F. Fouquet
John A. Hefti • Patrick J. Hooyman • Robert W. Horner
Craig M. Jarchow • Robert R. Lauck • Kurt J. Marfurt
Matthes R. Martin • Ilkka T. Noponen • John J. O'Brien
Joe I. Sanders • Timothy F. Wright

Associate

Preston S. Broesche • David J. Brookes
Kenneth S. Dropek • Steven L. Gillie • Lewis T. Goss
Steven D. Kalavity • Steven T. Knapp • Robert B. Lathon
Edward S. Meanley • Geerchen M. Schmeling
Ron D. Smaniotto • Elizabeth P. Turner
Earl P. Underwood

GSH Statement of Ownership, Management and Circulation

United States Postal Service

Statement of Ownership, Management, and Circulation

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Full Name		Complete Mailing Address			
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<i>Joan Henshaw</i>		9/22/99	
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PS Form 3526, September 1998 (Reverse)



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Happy
Thanksgiving

NOVEMBER 1999

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	4	5	6
7 1999 SEG Distinguished Instructor Short Course	8	9	10 GSH Technical Breakfast	11 GSH Board Meeting	12 NEWSLETTER DEADLINE	13
14	15	16 Near-Surface Geophysics SIG IAGC Conference	17 Data Processing SIG HGS/GSH Lunch Meeting IAGC Conference	18 Potential Fields SIG	19	20
21	22	23	24	25	26	27
28	29	30				

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