



***2000 Annual Report***

**Society of Exploration Geophysicists**

# 2000 Annual Report of the Society of Exploration Geophysicists

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(Executive Committee liaison officer listed in parentheses)

# Executive Committee Reports

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## William (Bill) N. Barkhouse, President

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I thank you, the SEG membership, for the opportunity to serve as your President during a millennium year. It is a privilege to be a representative of geophysics in a rapidly changing world where our science contributes significantly to the betterment of humankind. I believe the value of geophysics is keenly recognized by our members; observe that the SEG has grown in membership for two years in a row. This reflects a trend reversal because historically we have lost membership in periods of extreme economic volatility and price collapses associated with petroleum and mineral commodities. The opportunity to be part of a global community committed to the advancement and promotion of geophysics is the primary driver. SEG members seek a personal and professional network of colleagues to share the same aspirations for and curiosity about the world we live in. This passion is at the heart of the reason professionals donate their time and ideas to SEG for the benefit of their fellow members.

Our members are asking for the opportunity to access expert geophysical knowledge in order to learn more about geophysics. SEG responds to this demand through services and products in the form of meetings, programs, and its Internet site [www.seg.org](http://www.seg.org). SEG's Distinguished Instructor Short Course, in its third year, is a flagship example of key technology presented by a world-class geophysicist to one out of every 10 SEG members around the world.

SEG's membership is global with 17 000 plus geoscientists in 106 countries. Nearly half of our membership is outside the United States. I have represented SEG to a variety of world leaders, ranging from the president of a country to the president of OPEC to energy ministers and other government officials of several countries. The list includes Australia, Bahrain, Brazil, Canada, England, Egypt, Finland, India, Mexico, Romania, Scotland, South Africa, Venezuela, and the United States. I have delivered to at least three dozen gatherings of geoscientists and students the presentation "*Let's Do the Numbers*" which offers an engaging and fun way to learn more about SEG.

An outstanding and dedicated Executive Committee and SEG Tulsa Business Office, have focused on four key areas of SEG activity in the past year. The first has been intersociety cooperation and collaboration—65% of SEG's meetings were held jointly with the EAGE and AAPG, an all-time high. My deepest appreciation and acknowledgment are extended to presidents—Markku

Peltoniemi of EAGE and Ray Thomasson of AAPG, both of whom are also SEG members.

The second has been identification of new revenues to sustain SEG's programs. For the first time, SEG members have been allowed with their membership renewal, to make voluntary contributions to SEG's Foundation. Nearly a third of our members responded with donations of more than \$60 000 to the Foundation in year 2000. The SEG Foundation endowment is very close to \$8 million, up from \$7.1 million a year ago, in its continued growth to a target of \$10 million.

The third has been to increase and accelerate the use of the Internet in serving SEG members. Please see [www.seg.org](http://www.seg.org) and experience firsthand the success of this strategy in its first 5 years. SEG receives high recognition for its many accomplishments in this area, one that permits greater access to SEG's products, services, and knowledge. A pioneering initiative by SEG, in partnership with Halliburton's Landmark Graphics, will allow members to post professional profiles identifying critical skills and experience on the Internet. This service responds to a rapidly evolving environment in which geophysicists are highly sought for their technical knowledge.

Fourth, the Executive Committee has undertaken an update of SEG's policies and procedures. This is necessary to enable SEG to respond to opportunities in a more timely manner. An example, now before the SEG Council, is to add a new membership category—Global Member. The role is to reduce the "cost" barrier to new SEG members from designated countries so they may have access to SEG's knowledge, products, and services through the Internet. This strategy responds to requests from many around the world for greater access to SEG in a more affordable manner. This approach sets the stage to provide additional choices for all members to access SEG's valued products and services through the Internet on a "pay-for-fee" basis.

In closing, I thank my current Executive Committee—Sally Zinke, Mike Bahorich, Zee Wang, Steve Roche, Jack Kruppenbach, and Chris Liner—as well as John Butler of the SEG Foundation, Lee Lawyer of the SEG Foundation Trustee Associates, Paul Hummel and his team at the SEG Tulsa Business Office, and all of the various chairmen of SEG committees. It is with great personal pride that I turn the President's gavel to Sally Zinke, who will be the first woman to serve as President of SEG. The new millennium begins with outstanding leadership and exciting geophysical technology and innovation as well. Thanks to you, the SEG membership.

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## Sally G. Zinke, President-Elect

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For 1999-2000, I have had the pleasure of serving as Executive Committee liaison, contact, or representative to a number of SEG committees, other organizations, and intersociety groups. Many of these provide specific annual reports to SEG. I encourage you to read them. The following is an overview:

The **Annual Meeting Advisory Committee**, chaired by last year's General Chairman, Richard W. Verm, provided long-range strategic planning for future annual meetings, and suggestions for continued improvement of our annual meeting process. They met with the Calgary Annual Meeting Steering Committee to facilitate overlap operations.

The **Annual Meeting Steering Committee** with General Chairman Neil E. Rutherford, his Vice-Chairman W. R. (Bill) Bradley, and Technical Program Chairman Peter W. Cary worked diligently with the SEG staff to produce a tremendous Annual Meeting in Calgary in August 2000. As the first Annual Meeting in Canada since 1977, they can be particularly proud of their efforts in spite of facility and fiscal constraints. The results of their efforts speak for themselves.

The **2001 Annual Meeting Steering Committee** was formed with John W. Bissell as General Chairman and Bob A. Hardage as Technical Program Chairman. They have already had several meetings with the SEG staff and the Calgary committee to begin the process of developing the programs for the meeting in San Antonio in September 2001.

The **External Activities Committee**, under Chairman Kenneth M. Tubman, has provided information to our membership on regulatory, governmental, and other types of activities outside SEG that impact our organizational planning and our profession. If you are interested in these kinds of issues, an e-mail update list has been developed to rapidly provide information. One of the key topics for the External Activities Committee this year has been informational concerning studies of sound impact on marine mammals.

Chairman Gary M. Hoover and the **Geoscience Center Committee** have made great strides to develop outreach programs, K-12 programs, historical articles, and Web pages. This group is gearing up for fund raising, new designs, and interactive software.

I have also had the pleasure to serve as Executive Committee liaison to **Affiliated Sections/Associated Societies** and two ad hoc committees created this year: **Enhancement of Intersociety Relations**, chaired by Jeffery D. Johnson, and **Certification for Petroleum Geophysicists** with Eric von Lunen as Chairman. I have also been the Executive Committee contact for Craig J. Beasley who has served SEG as a member of the Council of the **American Geological Institute** this past year. Louis I. Schneider Jr. has been the SEG representative to the **International Association of Geophysical**

**Contractors**. I have been his Executive Committee contact also.

In addition, I have served the SEG as a representative to the **AAPG Insurance Committee**. This is the first time that SEG has actively participated in meetings related to this program. SPE and its members have recently joined this program. SEG hopes that, by becoming more active, we can enhance services to our members and reduce costs.

A large amount of my energy has been focused on various intersociety cooperation programs. Each year SEG participates in the **Intersociety Presidential Summit**. This year SEG hosted this group at our Annual Meeting in Houston and participated in an AAPG-hosted meeting at its Annual Meeting in New Orleans. The summit consists of President, President-Elect, and Executive Director from AAPL, AGI, AIPG, EAGE, GSA, SEG, SEPM, SPE, and SPWLA. The primary goals are to establish communication, provide cross-feed on best practices, and provide a framework for cooperative ventures. This year the group made great progress in establishing areas of overlap and potential cooperation and then gathered information on each organization's approach and methodology for each of 18 mutually defined issues. The results will help forge future plans for consolidation of some efforts and cooperation in other areas. A smaller subgroup comprised of the three largest participants—SEG, AAPG, and SPE—met several additional times to try to advance some more limited cooperative ventures. This group has defined itself as the **Virtual Intersociety Cooperation Committee (VICC)**. Four areas of potential cooperation were defined: Meetings, Joint Distinguished Lecturer Programs, Web Sites, and revenue neutral Joint Membership. Four intersociety committees were appointed to begin moving forward on each issue. Representation from each organization will consist of a staff representative and committee chairman.

I have enjoyed the opportunity to work closely with the other Executive Committee members, the SEG Business Office Staff, and our Executive Director Paul Hummel. These people and all the rest of our fine committees have made tremendous strides this year!

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## Mike Bahorich, First Vice-President

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I thoroughly enjoyed my year as First Vice-President. SEG is a wonderful organization with highly dedicated staff and volunteers. The more I became immersed in the organization this year, the more impressed I became with the values of SEG.

The Web will increasingly provide value to SEG members. The most important functions of our Society are to publish and archive geophysical knowledge, and our Web site is playing an important role in this endeavor. SEG members around the globe have online access to a wealth of information, including articles from **GEOPHYSICS** and **THE LEADING EDGE**.

Another critical role our Society plays is facilitating the connection of geophysicists who wish to exchange ideas. Annual Meetings provides formal and informal opportunities through technical papers, workshops, and courses. The Web will increasingly play a role in connecting people from around the world.

Software is now available that enables SEG members to input information about their interests and experience. This information is then searchable by other members, connecting geophysicists who wish to be connected. Members can include information such as technical interests or basins where they have explored for hydrocarbons. Consultants can use this software to communicate their expertise to members, and employers can search for geophysicists with needed skills and experience.

The software, hardware, and maintenance were provided at no charge to the Society through a generous donation. Plans are to roll this software out at the 2000 Annual Meeting in Calgary. I thank the SEG staff, Online Governing Board, and the Executive Committee for helping me accomplish this during my term.

SEG members get great value for relatively modest dues. In fact, dues generate a minor portion of the gross revenue of the Society. The convention and other sources provide more to the financial bottom line. I feel that dues should be kept as low as possible to enable those with less disposable income to enjoy the benefits of membership. This is particularly important to those in less developed nations.

Rather than raise dues, our Executive Committee considered alternative revenue sources. There appears to be enough land at the SEG office to support an additional office building. With the desirability of the South Tulsa location, a real estate developer might gladly shoulder the financial risk of constructing an office building. After a period of years, ownership of the building could revert to the SEG providing significant financial benefits. Our Executive Committee initiated a feasibility study toward this endeavor. Additional revenue sources such as this could keep our dues low for years to come.

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## **Zhijing (Zee) Wang, Second Vice-President**

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Time goes by fast when you are having fun! It's been a great pleasure serving the SEG members for the past 10 months. I would like to thank our members for electing me and giving me this great opportunity to serve our Society. I would also like to thank Chevron's management for providing the time, support, and financial resources to carry out my SEG duties.

Because of the continued downsizing of our industry, all of us are very busy with our regular job responsibilities. Yet the 1999-2000 SEG Executive Committee has worked extremely hard to serve our members and be fiscally responsible. To minimize the disruption of our reg-

ular jobs, we had all our meetings on weekends. I feel extremely fortunate for having the opportunity to work with this EC.

Aided by the teamwork and dedicated support of the SEG office staff, the EC took many actions and made some key decisions in the past year that should benefit the majority of our members. A few examples:

- Authorized expenditure for digital review and publication of *GEOPHYSICS* and *THE LEADING EDGE*
- Proposed a new category of membership: Global Members. These members will have to be residents and citizens of countries designated by SEG. They will pay a reduced membership and receive services only electronically
- Secured, via a donation of Lattix Locator from Landmark, software that will allow SEG members to post their résumés
- Held several joint meetings with AAPG, EAGE, and SPE to investigate possible intersociety cooperation
- Proposed a policy on Conflict of Interest
- Renamed the SEG Foundation Museum to the SEG Geoscience Center and hired a full-time staff member, Susan Henley, to manage the center's activities

I was EC liaison to the Global Affairs Committee (formerly International Affairs Committee), the Student Sections/Academic Liaison Committee, and Gravity and Magnetics Committee. All have done a marvelous job this past year. Their activities are highlighted below:

The Global Affairs Committee (GAC) proposed and the EC approved that this committee's name be changed from the International Affairs Committee. Based on membership distributions, the GAC is divided into 11 regions: Latin America, Africa, Middle East, Asia, Pacific, CIS, Europe, U.S. Northwest, U.S. Northeast, U.S. Southwest, and U.S. Southeast. The EC has already appointed Regional Coordinators for all but the four U.S. regions. Many Regional Coordinators are already organizing local events, coordinating CE courses, and helping the EC appoint SEG representatives for regional meetings, etc. The EC and GAC are currently in the process of appointing SEG Country Representatives.

Following the recommendation and request by the GAC, SEG President Bill Barkhouse will appoint an ad hoc committee to study the feasibility of a proposed structural change of SEG operation.

At the upcoming SEG Annual Meeting in Calgary, the GAC will organize four regional luncheons: CIS/Europe, Africa/Middle East, Latin America/ULG, and Asia/Pacific.

The Student Sections/Academic Liaison (SS/AL) Committee, led by Kay Wyatt, continues to reach out to student members. The student newsletter is getting very popular. The first Joint SEG/AAPG Student Expo was held last year in Houston. This year's Expo should be even better.

The SEG SS/AL Committee is sponsoring development of a CD to be distributed to high school juniors and seniors. This CD will contain a wealth of information, including a basic introduction to geophysics with lots of

animation, movie clips of working geophysicists, hands-on exercises, experiments, and much more. I encourage everyone interested in geoscience education to call or e-mail Kay Wyatt to get a copy of this prototype CD and show it to high school students or science teachers.

The SEG Business Office has appointed Patricia Wacker as full-time Student Affairs Coordinator.

In the past year, the Gravity and Magnetism Committee adopted GXF-3 as the official grid data exchange format for gravity and magnetism data, and agreed that GDF-2 shall be the de facto point/line data exchange format. A subcommittee, formed by the Gravity and Magnetism Committee and the Technical Standards Committee, is working to establish GXF-3 as an official SEG data standard. GDF-2 will be considered as well after a sufficient period of use and final development. The Gravity and Magnetism Committee is also planning a workshop titled "The Crust and its Structure" to be held at the Annual Meeting.

In summary, I have had a great time serving our members. During my term, I have met many great people and made many friends. I have learned a lot from all with whom I have interacted, especially my fellow Executive Committee members who showed me the highest professional and ethical standards and what public services were all about. All of us on the Executive Committee had a common goal—to serve our members, protect our Society, and guide and position our Society for the future.

I enjoyed working with the SEG office staff, committee chairpersons, and many members. It has been an extremely fulfilling 10 months, and I would certainly do this again.

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## Steven L. Roche, Vice-President

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It has been an honor to serve as Vice-President on the 1999-2000 SEG Executive Committee. Much of the work done by the Executive Committee is approving the hard work and recommendations of others. Without their efforts, SEG could not function. Other "work" done by the Executive Committee consists of initiating directives leading to future benefits for SEG members. I am proud to have participated in the leadership of SEG.

The 1999-2000 SEG Executive Committee served a short term (only 10 months), due to the early date of the 2000 Annual Meeting in Calgary. Serving as Vice-President has brought enlightenment to me concerning how progress and changes occur within SEG. Largely, Executive Committees are stewards of SEG serving to continue the good practices instigated by previous committees, correcting past programs that need direction, discontinuing ineffective or poorly performing programs, and hopefully initiating new programs and directives for the good of SEG members. Rarely can a program be conceived, initiated, and implemented during a single Executive Committee term. I believe the real progress and change within SEG occurs through three entities, the

presidents, the committees, and dedicated individuals who possess a vision and work to turn their vision into reality. I applaud these individuals and encourage all desiring to improve our Society to follow their examples and leadership. If you sense a need for change, talk to our President or President-Elect. If you believe in the cause of a particular committee, contact the committee chairman about participating. If yours is a new cause, request that it be placed on the Executive Committee agenda for consideration. Executive Committee meetings are open to SEG members and issues can be presented in person for consideration and action.

As Vice-President, I served as liaison between various SEG committees and the Executive Committee. I consider the committees and the SEG staff the actual "work engines" of SEG. I recognize their efforts toward maintaining and improving our Society. I wish to comment on a few committee activities but in no way take credit for their hard work.

Ben Thigpen has stepped down as the SEG representative to the American Petroleum Institute Subcommittee on Telecommunications. His was important work, helping to safeguard the radio frequencies used by the geophysical industry. Ben was appointed in 1977 and served for 23 years. Cliff Ray has agreed to continue Ben's efforts.

The Continuing Education Committee, chaired by Don Herron, is an integral part of training SEG members. I consider this service to be one of the primary purposes of SEG, resulting in real, tangible benefits for practicing geophysicists. The CE Committee, instructors, and staff in the SEG Business Office have improved the organization, communication, course quality, and financial performance of the Continuing Education Program. They deserve congratulations.

The Distinguished Instructor Short Course (DISC) for 1999-2000 was "Shear Waves from Acquisition to Interpretation," presented by R. J. Garotta. Peter Duncan and Simon Spitz cochair this subcommittee. They have done an excellent job. Since its inception, DISC has been funded by the SEG operating budget with financial support from industry sponsors. This year the Executive Committee recommended that the SEG Foundation fund DISC. The SEG Foundation has accepted this recommendation. DISC is an example of a worthy service that cannot pay for itself but will be funded through endowed funds and industry sponsorship. This is continuing the efforts of previous Executive Committees (see John P. Castagna's, First Vice-President, SEG 1999 Annual Report).

The Executive Committee approved the Ancillary Data Standard (ADS) as recommended by the Technical Standards Committee, chaired by Mike Norris. This committee also improved and expanded its Web page for access by the geophysical community.

The Gulf Coast Spring Technical Symposium Committee, together with the Geophysical Society of Houston, successfully held a two-day symposium on

"Multicomponent Reflection Seismic." This symposium focused on applied methodologies and complemented related meetings giving attention to multicomponent seismic theory. Eric von Lunen, Ingrid Swendig, and the committee members did a good job in organizing this symposium.

Finally, I would like to recognize the excellent work done by one group and two individuals. President Bill Barkhouse and President-Elect Sally Zinke work tirelessly and endure significant travel to meet the demands of leadership. Additionally, the hard work done by the SEG staff members often goes unrecognized. They are an excellent group. Thank you for this opportunity to serve as Vice-President of SEG.

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## Jack Kruppenbach, Secretary-Treasurer

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I finish my tenure in office with a deep and abiding appreciation of the wisdom the founding members displayed in formulating the Constitution and Bylaws that set the policies for administering the direction of our organization. The Treasurer's election to one year on the Executive Committee, followed by two years as a member of the Finance Committee engenders the combination of new ideas and on-the-job experience, which allows the Society to be flexible, yet not aimless. The composition of our governing organization was established so that formulating policies takes into consideration diverging views.

The major role of the Treasurer is to chair the **Finance Committee**, which is responsible for overseeing the financial health of SEG and establishing the Society's financial policies. Fellow committee members Angie Stracner and Steve Rutherford provided patience and great guidance in moving me into the responsibilities of the office. It is a pleasure to work with them, and I am grateful for their commitment to providing a sound financial policy to support the allocation of resources to meet present and future Society objectives.

I extend my sincere thanks to Jack Ingram, Associate Director, Finance, for his professional accounting experience, professional concern for not-for-profit type of accounting, and steadfastness in adherence to prudent accounting principles. Publication of the detailed SEG financial report, prepared under Jack's supervision, will soon appear on the SEG Web site.

Jack, along with the rest of the very capable people who comprise the staff in our Tulsa office, are the motor that keeps our SEG vehicle running smoothly throughout the sometimes bumpy road of yearly administration changes.

As of the date this report is being submitted, our Society's fiscal year, which will end June 30, 2000, has not been closed, so year-end financial figures are not yet available. However, in round numbers, estimated revenues will approximate \$9 000 000, expected expenses

will total about \$8 950 000, and net income for the year should be about \$50 000. With long-term investments of approximately \$3 300 000 available for rainy days, the Society continues to be financially healthy and ready to invest in future programs that will benefit the entire membership for years to come. The final audited financial statements, which normally accompany this report, will be published for later distribution as soon as they are available.

The Treasurer has oversight of the **Membership Committee**, which is ably chaired by Howell Pardue. We currently have 17 263 members, including Corporate Members. The membership is the body and lifeblood of SEG. Preliminary talks were held with the American Association of Petroleum Geologists (AAPG) aimed at arranging joint undertakings that might enhance the cost effectiveness of both organizations. A single membership charge in instances where dual memberships occur is the first point under consideration. Reduced membership costs are something worth consideration because there has been a decrease in active and corporate memberships since last year even though total membership increased slightly. The number of members dropped for nonpayment of dues doubled since last year. I urge you to read the committee chairman's full report.

I serve as liaison to the **Constitution and Bylaws Committee**. Norman Domenico, who served as chairman of this committee for years, with excellence, thoughtfulness, and great resolve, has stepped down. The chairmanship was passed to Walter Johnson, who has served on this committee in the past. I feel confident that Walter will carry forth the high standards that Norman followed during his tenure. I refer you to the chairman's report concerning the activities of this increasingly important committee.

The Treasurer also serves as liaison to the **Foundation Scholarship Committee**. This function of SEG, dear to the heart of every member, is ably chaired by Mary Revoir Jones. The research grants, scholarships, and general educational support under the purview of this committee are SEG's investment in the future of this Society, the technology, the industry, and the world. A special memorial scholarship fund was established in honor of Marge Gerhart who faithfully served SEG for 27 years, mostly in handling the mountains of paperwork generated by the scholarship program.

Reflecting on the importance of the various aspects of SEG while preparing this report impelled me to take the liberty of mentioning a loss that has affected me greatly and one that is also a loss for SEG. Daniel S. Tudor passed away this past year. Dan held high standards of integrity for his personal and professional departments. If you did not have the good fortune of knowing him, you were deprived of an inspiration. He gave much to SEG. Geophysics and an ethical SEG were a great part of his life. Dan was responsible for my continuing interest in SEG, and encouraged me to become more active in serving it.



## SOCIETY OF EXPLORATION GEOPHYSICISTS

### BALANCE SHEETS

June 30,	2000	1999
<b>ASSETS</b>		
<b>Current Assets:</b>		
Cash	\$ 646,216	\$ 226,361
Short-term investments	134,206	74,903
Accounts receivable, less allowance for doubtful accounts of \$10,000 in 2000 and \$22,500 in 1999	584,558	663,540
Inventories	630,025	501,129
Prepaid expenses	348,971	222,006
Accrued interest receivable	31,775	33,172
	<b>2,375,751</b>	<b>1,721,111</b>
<b>Investments</b>	<b>3,296,823</b>	<b>3,326,444</b>
<b>Property, Furniture and Equipment:</b>		
Land	489,605	489,605
Building	8,117,192	8,080,661
Furniture, fixtures and equipment	892,205	812,515
	<b>9,499,002</b>	<b>9,382,781</b>
Less accumulated depreciation	3,313,259	2,908,184
	<b>6,185,743</b>	<b>6,474,597</b>
<b>Net Property, Furniture and Equipment</b>	<b>\$ 11,858,317</b>	<b>\$ 11,522,152</b>
<b>LIABILITIES AND NET ASSETS</b>		
<b>Current Liabilities:</b>		
Accounts payable and accrued liabilities	\$ 464,256	\$ 583,536
Deferred revenue	3,033,838	2,710,169
	<b>3,498,094</b>	<b>3,293,705</b>
<b>Total Current Liabilities</b>	<b>8,360,223</b>	<b>8,228,447</b>
<b>Unrestricted Net Assets</b>	<b>\$ 11,858,317</b>	<b>\$ 11,522,152</b>

The accompanying notes are an integral part of these financial statements.

### Independent Auditors' Report

To the Executive Committee and Members  
Society of Exploration Geophysicists  
Tulsa, Oklahoma

We have audited the accompanying balance sheets of the Society of Exploration Geophysicists (the "Society") as of June 30, 2000 and 1999, and the related statements of revenue, expenses and changes in net assets and cash flows for the years then ended. These financial statements are the responsibility of the Society's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Society of Exploration Geophysicists as of June 30, 2000 and 1999, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

*Sartain Fischbein & Co.*

January 17, 2001

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

**STATEMENTS OF REVENUE, EXPENSES AND CHANGES IN NET ASSETS**

Years Ended June 30, 2000 1999

<b>Revenue:</b>		
Membership dues	\$ 924,959	\$ 1,009,682
Conferences and meetings	4,365,656	4,349,028
Publication sales and advertising	2,192,680	2,452,555
Continuing education	252,209	218,174
Investment income	183,439	228,924
Building lease operations	915,547	884,337
Other	333,071	242,079
<b>Total Revenue</b>	<b>9,167,561</b>	<b>9,384,779</b>
<b>Expenses:</b>		
Membership record services	375,149	294,950
Conferences and meetings	2,589,385	2,865,415
Publications	2,921,785	2,839,861
Continuing education	416,987	402,104
<b>Total Program Expenses</b>	<b>6,303,306</b>	<b>6,402,330</b>
General and administrative	1,310,248	1,192,021
Building lease operations	811,456	893,005
<b>Total Expenses</b>	<b>8,425,010</b>	<b>8,487,356</b>
<b>Excess of Revenue Over Expenses Before Contributions to Foundation</b>	<b>742,551</b>	<b>897,423</b>
<b>Contributions to Foundation</b>	<b>(610,775)</b>	<b>(683,212)</b>
<b>Excess of Revenue Over Expenses</b>	<b>131,776</b>	<b>214,211</b>
<b>Unrestricted Net Assets, beginning of year</b>	<b>8,228,447</b>	<b>8,014,236</b>
<b>Unrestricted Net Assets, end of year</b>	<b>\$ 8,360,223</b>	<b>\$ 8,228,447</b>

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

**STATEMENTS OF CASH FLOWS**

Years Ended June 30, 2000 1999

<b>Cash Flows from Operating Activities:</b>		
Cash received from members and other	\$ 9,499,138	\$ 8,733,970
Cash paid to suppliers and employees	(8,947,118)	(8,292,777)
<b>Net Cash Provided by Operating Activities</b>	<b>552,020</b>	<b>441,193</b>
<b>Cash Flows from Investing Activities:</b>		
Purchases of property, furniture and equipment	(174,955)	(327,784)
Purchases and maturities of investments, net	42,790	(151,358)
<b>Net Cash Used in Investing Activities</b>	<b>(132,165)</b>	<b>(479,142)</b>
<b>Net Increase (Decrease) in Cash</b>	<b>419,855</b>	<b>(37,949)</b>
Cash, beginning of year	226,361	264,310
<b>Cash, end of year</b>	<b>\$ 646,216</b>	<b>\$ 226,361</b>
<b>Reconciliation of Excess of Revenue Over Expenses to Net Cash Provided by Operating Activities</b>		
Excess of revenue over expenses	\$ 131,776	\$ 214,211
Adjustments to reconcile excess of revenue over expenses to net cash provided by operating activities:		
Depreciation	468,396	493,120
Unrealized gain on investments	(72,472)	(102,845)
Gain on disposal of property, furniture and equipment	(4,587)	-
(Increase) decrease in assets:		
Accounts receivable	78,982	(405,882)
Inventories	(128,896)	(199,168)
Prepaid expenses	(126,965)	102,342
Accrued interest receivable	1,397	279
Increase (decrease) in liabilities:		
Accounts payable and accrued liabilities	(119,280)	227,497
Deferred revenue	323,669	111,639
<b>Net Cash Provided by Operating Activities</b>	<b>\$ 552,020</b>	<b>\$ 441,193</b>

The accompanying notes are an integral part of these financial statements.

**SOCIETY OF EXPLORATION GEOPHYSICISTS  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED JUNE 30, 2000 AND 1999**

**1. ORGANIZATION  
AND SUMMARY  
OF SIGNIFICANT  
ACCOUNTING  
POLICIES**

**Nature of Operations:** The Society of Exploration Geophysicists (the "Society") was organized in 1930 as a not-for-profit organization. The objectives of the Society are to promote the science of geophysics, especially as it relates to exploration and research, to foster the common scientific interests of geophysicists and to maintain a high professional standing among its members. The Society accomplishes these objectives by publishing scientific literature, conducting continuing education programs and technical meetings and providing other informational services.

The accompanying financial statements include the financial position, results of activities and cash flows of the Society. These financial statements do not include the SEG Foundation (the "Foundation"), a separate not-for-profit organization which receives contributions for public education and other scientific purposes.

**Cash Balances:** The Society maintains cash balances at several banks. Accounts at each institution are insured by the Federal Deposit Insurance Corporation up to \$100,000. At June 30, 2000 and 1999, the Society had deposits in excess of the federally insured limit.

**Inventories:** Inventories of publications for resale are valued at the lower of cost, determined by the moving-average method, or market.

**Investments:** Investments consist of marketable debt and equity securities which are valued at their fair values in the balance sheet. Fair values for investments are based on quoted market prices. Unrealized gains and losses are included in the statement of revenue and expenses.

**Property, Furniture and Equipment:** Property, furniture and equipment is carried at cost. Depreciation is computed using the straight-line method based on the estimated useful lives of the assets. When assets are retired or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts, and any resulting gain or loss is included in revenue or expenses. Expenditures for maintenance and repairs are charged to expense as incurred. Major improvements are capitalized.

**1. ORGANIZATION  
AND SUMMARY  
OF SIGNIFICANT  
ACCOUNTING  
POLICIES  
(CONTINUED)**

**Property, Furniture and Equipment (Continued):**

The lives used in computing depreciation are as follows:

Building	50 years
Furniture and equipment	3 to 10 years

**Income Taxes:** The Society is a not-for-profit organization under Section 501(c)(6) of the Internal Revenue Code and is subject to income taxes on unrelated business income. Based upon the allocation of costs as prescribed in the IRS regulations, no provision for income taxes was necessary for 2000 and 1999.

**Transactions with Foundation:** The Society leases building space as well as provides administrative services to the Foundation. The Society did not charge the Foundation for rent and administrative services in 2000 or 1999. Additionally, the Society donated \$610,775 in 2000 and \$429,212 in 1999 to the Foundation. Included in accounts receivable at June 30, 2000 and 1999 was \$0 and \$37,615, respectively, which was due from the Foundation. Included in accounts payable at June 30, 2000 and 1999 was \$152,085 and \$364,790, respectively, which was due to the Foundation.

**Revenue Recognition:** Membership dues and publication subscription revenues are recognized ratably over the applicable membership or subscription period. Revenues relating to meetings are recognized as revenue at the time of the meeting.

**Building Lease Operations:** The Society owns the land and building where its administrative offices are located in Tulsa, Oklahoma. Office space which is not used by the Society is leased to other companies.

**Use of Estimates:** The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**SOCIETY OF EXPLORATION GEOPHYSICISTS  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED JUNE 30, 2000 AND 1999**

**SOCIETY OF EXPLORATION GEOPHYSICISTS  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED JUNE 30, 2000 AND 1999**

**3. PENSION AND SALARY REDUCTION PLANS**

The Society sponsors a defined contribution pension plan which does not allow employee contributions. The Society makes contributions to the Plan based upon 4.5% of the employees' eligible wages.

The Society also sponsors a salary reduction plan. The Society's contributions to this plan are computed based on 2% of salaries and a two-for-one matching contribution of employees' contributions, up to a maximum of 4.33% of salaries.

The Society's expense under these plans was \$256,537 and \$261,035 in 2000 and 1999, respectively.

**4. FUTURE RENTAL REVENUE UNDER OPERATING LEASES**

The Society leases approximately 75% of the office space in its headquarters building to unaffiliated parties under noncancelable operating leases. The following is a schedule of minimum future rental revenues from those tenants as of June 30, 2000:

2001	723,100
2002	660,129
2003	410,504
2004	258,154
2005	57,230

At June 30, 2000 and 1999, investments were as follows:

	2000	
	Cost	Market
Cash management fund	\$ 134,206	\$ 134,206
Equity investments	1,326,638	1,756,333
Corporate bonds	1,583,454	1,540,490
	<u>\$3,044,298</u>	<u>3,431,029</u>
Less short-term investments		134,206
Long-term investments		<u>\$3,296,823</u>

	1999	
	Cost	Market
Cash management fund	\$ 74,903	\$ 74,903
Equity investments	1,326,638	1,635,162
Corporate bonds	1,687,058	1,691,282
	<u>\$3,088,599</u>	<u>3,401,347</u>
Less short-term investments		74,903
Long-term investments		<u>\$3,326,444</u>

The fair value of fixed income securities at June 30, 2000 by maturity, are shown below.

Due after one year through five years	\$ 935,225
Due after five years through ten years	<u>605,265</u>
	<u>\$1,540,490</u>

Investment income in the accompanying statements of revenue, expenses and changes in net assets consists of the following:

	2000	1999
Interest income	\$110,967	\$126,079
Unrealized gain on investments	<u>72,472</u>	<u>102,845</u>
	<u>\$183,439</u>	<u>\$228,924</u>

## SOCIETY OF EXPLORATION GEOPHYSICISTS

### BUDGETED REVENUE AND EXPENSES

<i>Years Ending June 30,</i>	2001	2000
<b>Revenue:</b>		
Membership dues	\$ 967,600	\$ 985,000
Conferences and meetings	3,338,300	4,142,000
Publication sales and advertising	2,396,000	2,396,000
Geoscience Education	598,660	230,000
Investment Income	635,000	635,000
Building lease operations	946,000	909,000
Other	179,000	155,000
<b>Total Revenue</b>	<b>9,060,560</b>	<b>9,452,000</b>
<b>Expenses:</b>		
Membership record services	315,353	331,000
Conferences and meetings	2,737,733	3,221,000
Publications	2,343,902	2,467,000
Geoscience Education	846,720	414,000
<b>Total Program Expenses</b>	<b>6,243,708</b>	<b>6,433,000</b>
General and administrative	1,361,452	1,490,000
Building lease operations	985,400	976,000
<b>Total Expenses</b>	<b>8,590,560</b>	<b>8,899,000</b>
<b>Excess of Revenue Over Expenses Before Contributions to Foundation</b>	470,000	553,000
<b>Contributions to Foundation</b>	334,000	334,000
<b>Excess of Revenue Over Expenses (Expenses Over Revenue)</b>	<b>\$ 136,000</b>	<b>\$ 219,000</b>

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## Christopher L. Liner, Editor

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This year, the SEG Executive Committee voted to fund establishment of an online peer review system. SEG is working in conjunction with other societies to develop an online module that will be integrated with the local system already in use by the SEG manuscript-tracking personnel. Implementation is expected by the end of the year. The online system promises to speed delivery of papers and reviews, reduce mail costs, and streamline the workflow of the tracking personnel.

The Editor wishes to acknowledge the superlative efforts of several SEG staff members who make the publication of *GEOPHYSICS* possible—Judy Wall, Sheral Danker, and Judy Hastings. They make the job of Editor manageable and enjoyable.

Over the years, there have been many initiatives and proposals to improve readability of *GEOPHYSICS* articles. It

is a good idea to do the very best we can as authors and editors to deliver well-written material to our members. This has been, and will remain, a priority for those of us who are the current stewards of *GEOPHYSICS*. It is important to understand that every member of this Society benefits from *GEOPHYSICS*, whether or not that member can understand it. It is a tide that raises all ships by providing the seeds of tomorrow's technology. A quote comes to mind from James Clerk Maxwell, creator of the electromagnetic theory. When a Victorian lady asked him of what use was his theory, he replied, "Madam, what is the use of a new born baby?"

Following are statistics reported for papers submitted June 1, 1999-May 31, 2000: A total of 259 papers and discussions were submitted, a decrease of 57 papers from the previous year. It is traditional to list submissions by country and type of employer. These summaries for the past year are given in Tables 1 and 2. Table 3 shows manuscript handling statistics.

**Table 1: Origin of papers submitted for publication in *GEOPHYSICS* by country  
June 1, 1999 - May 31, 2000**

USA	.117
Canada	.30
Australia	.15
United Kingdom	.14
Norway	.11
China	.9
Taiwan	.8
France	.6
Italy	.6
Brazil	.5
India	.5
Japan	.5
Netherlands	.5
Switzerland	.5
Korea	.4
Egypt	.3
Germany	.3
Argentina	.1
Greece	.1
Kuwait	.1
Peru	.1
Russia	.1
South Africa	.1
Sweden	.1
Turkey	.1
<b>Total</b>	<b>.259</b>

**Table 2: Origin of papers submitted for publication in *GEOPHYSICS* by employer  
June 1, 1999 - May 31, 2000**

Universities	.159
Oil Companies	.25
Service Companies & Manufacturers	.25
Research Institutes	.22
Governments	.19
Consultants	.6
Mining Companies	.2
Retired	.1
<b>Total</b>	<b>.259</b>

**Table 3: Manuscript handling statistics**

<i>Year</i>	<i>Avg. No. Days Required for First Review</i>	<i>Avg. No. Days Between Acceptance &amp; Publication</i>
1991-92	168	176
1992-93	155	181
1993-94	180	178
1994-95	155	210
1995-96	158	N/A
1996-97	133	N/A
1997-98	167	180
1998-99	161	177
1999-00	174	202

# Reports of the Standing Committee Chairmen

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## Advisory

### Rutt Bridges, Chairman

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The Advisory Committee consists of the five most recent SEG Past Presidents and exists to advise the current SEG Executive Committee and President on issues raised either by the Executive Committee or the Advisory Committee. During the 1999-2000 term, the Advisory Committee met twice, once during the SEG Annual Meeting in Houston and once in Dallas following a meeting of the Honors and Awards Committee and advised the President on various issues of concern to the membership. We also provided comments and observations upon request via e-mail throughout the year on other topics. Hopefully the model of occasional face-to-face meetings supplemented by ongoing e-mail access will ensure the timely, effective, and regular counsel of Past Presidents to the current President and Executive Committee.

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## Annual Meeting Advisory

### Richard Verm, Chairman

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The Annual Meeting Advisory Committee exists to transfer experience between successive Annual Meetings and help the SEG Executive Committee plot a strategic course of action regarding future Annual Meetings. This committee consists of the general chairmen of the two most recent past Annual Meetings, the current and next general chairmen, along with the four respective technical program chairmen, and the chairman of the Exhibitors Committee.

Several problems identified at the New Orleans Annual Meeting were addressed during the Houston Annual Meeting. Electronic submission of papers for the Technical Program was immensely improved thanks to the Online Governing Board and the SEG Web staff. The process was redefined and streamlined. The new procedure had almost 99% success in registering and transmitting papers to SEG. Another change in this year's Technical Program was the highly advertised absolute deadline for submitting a paper. Authors managed to prepare and submit a near record number of abstracts by the deadline. By adhering to a strict deadline, the Technical Program Committee can arrange its review process to meet printing deadlines. The Houston Annual Meeting, as

in New Orleans, gave a CD-ROM of the Technical Program to every delegate.

The Business of Geophysics, a program initiated in New Orleans, was continued and expanded in Houston. This program addresses current business issues facing the geophysical and exploration industries. In Houston, the program consisted of two forums. One forum focused on small entrepreneurs, the second addressed the larger issues of industry consolidation. Both received moderate attendance.

A new item at Houston was a nascent online scheduler. This Web-based application which allowed delegates to set up a personalized schedule for papers was well received.

Another new feature, although lightly attended, was a set of career-focused workshops directed by professional career counselors. These workshops were available to any delegate for a nominal charge. These were added late in the Annual Meeting planning cycle in response to the decline in the geophysical industry. Participation could have been much higher had the workshops been planned early enough to be included in the Annual Meeting Announcement.

Finally, the Research Committee put on an all-day workshop on the future of research. This workshop was advertised as a forum, open to all, at no charge. It ran simultaneously with the regular workshops, which charged a fee. By all accounts, the forum was a success with a large attendance.

On a more strategic issue, the committee discussed how to make the convention appealing to a larger audience. First and foremost was the need for social events to bring the delegates together. The opportunity to meet colleagues is an important draw to the Annual Meeting. Social events provide the means to bring large groups of delegates together. Another avenue would be to make the Technical Program more interpreter-friendly. One suggestion was to schedule case histories and interpretation-related papers to highlight a particular aspect of the Technical Program.

Fortunately, Annual Meetings continue to be a successful undertaking for the Society. Houston, while not reaching the record numbers set by New Orleans, reached near-record levels in attendance and exhibits. This year's Annual Meeting in Calgary is poised to duplicate the Houston results. The challenge is to keep the Annual Meeting relevant to the Society's membership and the exploration industry. As the industry changes, the Annual Meeting will have to evolve in response.

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## Seventieth Annual Meeting

### Neil Rutherford, General Chairman

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SEG is returning to Calgary, Alberta, Canada for SEG 2000. A record number of technical submissions presented the Technical Committee with a serious scheduling problem. More than 700 oral papers and poster papers were submitted. The result is a half-day increase in the Technical Program.

During the past year and a half, one question has crossed my mind continually: "What brings exhibitors and delegates to our Annual Meeting and trade show in such large number?" Is it the technical presentations, the trade show technology, the chance to comparison shop for new products and services, or the chance to meet customers, suppliers, and peers for face-to-face discussions? I'm sure the answer is "all of the above," but why is it so important?

Although I don't have the statistics, I'm sure there has been a significant demographic shift in SEG membership (at least in North American petroleum companies) from large companies to smaller independents and consultants during the last decade. At the same time, some large geophysical contractors are growing rapidly and trying to sell customers on a "cradle to grave" program for acquisition, processing, and interpretation needs. Our business is changing rapidly, but for one week a year we have a chance to meet old friends and catch up with new developments.

The 2000 Steering Committee has tried to present an array of opportunities to satisfy the broad range of attendees. We have tried to respond to an increase in technical submissions by increasing the length of the technical program. We have tried to accommodate as many exhibitors as possible although the space available was not quite enough. Lastly, we have tried to allow time for the social interaction that is an important part of our annual ritual.

If you like the result, let me know ([nrutherford@seg.org](mailto:nrutherford@seg.org)). If you think the meeting was seriously lacking in certain areas, I would like to hear from you. Lastly if you helped sponsor some of our convention events, I want to thank you. The Applied Science Program, International Showcase, Student Reception, Icebreaker, and Evening Entertainment would not happen if it were not for your generosity.

Committee Members: Neil Rutherford, General Chairman; Bill Bradley, Vice-Chairman; Peter Cary, Technical; Jamie Enachescu, Spouse Program; Trevor Boyce, Applied Science; Lisa Michetti, Arrangements; Hassan Hassan, International Showcase; Judi MacDonald, Exhibitors; and Gary James, Sponsorship.

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## Constitution and Bylaws

### Walter E. Johnson, Chairman

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This has been a transition year for the Constitution and Bylaws Committee. I had a unique opportunity to appreciate all that Norm Domenico has done for SEG. Constitution and Bylaws (C&BL) Committee members this past year were: Steve Danbom, George McCalpin, and Bill Valenta (Vice-Chairman). All matters were handled effectively by e-mail and, as before, no physical meetings were necessary.

Paul Hummel, SEG Executive Director, requested that the C&BL Committee review proposed amendments to the SEG Constitution and Bylaws approved by the Executive Committee at its June 4-6, 1999 meeting. These consisted of modest changes to Constitution Article III, Section 3, Honorary Membership, and Section 4, Life Membership, and also to Constitution Article II, Honors and Award, Section 3. A new Section 8 of Bylaws Article VII, Election of Officers, presents a procedure for rescheduling dates for submitting names of candidates and associated information, ballot mailings and counting, and announcement of election results when the Annual Meeting is scheduled for other than during the first half of September. All the foregoing were approved. Not approved was a proposed addition of a new Section 12 to Constitution Article III, Membership, which provides for joint SEG/AAPG membership. This was premature in that joint membership had not been fully discussed and agreed upon by the SEG and AAPG executive committees.

The C&BL Committee was requested to determine the acceptability of the constitution of the Korean Society of Exploration Geophysicists (KSEG) which petitioned for SEG affiliation. This differed excessively from the SEG Model Bylaws furnished as a guide to a society petitioning for SEG affiliation. The Committee recommended that the KSEG be requested to revise its constitution to more nearly conform to the SEG Model Bylaws, especially inclusion of a code of ethics and a dissolution procedure.

Brian Russell, SEG President, requested that the C&BL Committee consider alternatives for SEG affiliation of a society that does not qualify for affiliation as a Section/Associated Society. This request was prompted by the committee's review of the Korean Society of Exploration Geophysicists' bylaws. As noted above, these differed excessively from the SEG Model Bylaws. The committee recommended, when a society petitioning for SEG affiliation does not qualify for affiliation as a Section/Associated Society, it be offered affiliation as an Allied Society. Unlike affiliation as a Section/Associated Society, affiliation as an Allied Society does not permit voting delegates at the SEG Council meeting but, rather, participation at the Council meeting by accredited non-voting delegates.

Another constitution (termed "Statute"), that of the Brazilian Geophysical Society (SBGf), which petitioned for SEG affiliation, was submitted to the C&BL Committee for review. This suffers considerably from confusing Portuguese to English translation due largely to inappropriate and nonexistent English words. Nonetheless, principal elements of the SEG Model Bylaws appear to be present in some form in the lengthy SBGf constitution. It was recommended that the SBGf seek a more accurate translation of its constitution for review by the C&BL Committee.

The C&BL Committee was asked to look at a proposed change in the Bylaws to allow for a Global Membership classification that for a nominal membership fee would allow access to the SEG electronic media for developing countries. There were no problems with the proposed Bylaws; however, the Constitution may have to be modified as well.

I wish to express my appreciation to the C&BL Committee members for their excellent advice and support, and to all the staff of SEG for all the help during this transition. A special thanks to Norm Domenico for his help.

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## Continuing Education

### Don Herron, Chairman

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During the past year (July 1, 1999 to June 30, 2000), the Continuing Education program offered the third annual Distinguished Instructor Short Course (DISC). This year's DISC is "Shear Waves from Acquisition to Interpretation" and is being presented by Robert Garotta. To date, approximately 800 people have attended the course at nine sites in six countries. Future offerings are scheduled for 10 cities in seven different countries. The CE Committee and SEG express their deepest thanks to Phil Schultz, who presented "The Seismic Velocity Model as an Interpretation Asset" for DISC 1999, to Peter Duncan, DISC Subcommittee Chairman, and Ruth Ives, SEG Distinguished Programs Coordinator, for their tireless efforts in successfully organizing and promoting DISC.

For DISC 2001, Fred Hilterman will present "Seismic Amplitude Interpretation." Initial plans are to offer the course at approximately 20 sites around the world.

The CE Committee has continued to seek out new courses and refine procedures for evaluating new course proposals. Among the procedures recently implemented is definition of Category Review Groups (CRGs) for each of the six major course categories in the curriculum: Seismic Data Acquisition, Seismic Data Processing, Seismic Data Interpretation, Potential Fields/Non-Seismic, Near Surface Geophysics, and Exploration and Production Geophysics. Each CRG is led by a CE Committee member who is responsible for expeditious handling of course proposals in his group and review of

materials for proposed courses. Following the new procedures, four courses were approved, two provisionally and two for the curriculum in 2001: "Reservoir Seismic Attributes," to be presented by Quincy Chen, and "Seismic Fundamentals," to be presented by Don Macpherson.

The committee also has extended the renewal period for existing courses from two to three years (instructors were very glad to hear this), and has established a Distance Learning Subcommittee under the direction of Rod Cotton.

Following AAPG's Summit on Committees in February, CE committees of both SEG and AAPG established mutual links through which each society can benefit from the other's experience in developing and maintaining thriving CE programs. Both committees will ensure that at least one of its members attends the other's regularly scheduled meetings, and minutes of the meetings will be exchanged. Under the leadership of their CE committees, SEG, AAPG, and possibly SPE, plan to jointly sponsor a short course on pore pressure prediction, the first offering of which would be at the SEG's 2001 Annual Meeting in San Antonio. An advertisement soliciting instructors for this course appeared in the April issue of THE LEADING EDGE.

In mentioning THE LEADING EDGE, we thank Steve Roche, SEG Vice-President, for his discussion of Continuing Education in the President's Page in the April issue. We look forward to the upcoming September issue, which will feature "Education and Careers" as its Special Section theme, with Jennifer Swanson as guest editor. Several committee members have contributed articles for this issue that will highlight how Continuing Education goes about its business and provides educational services to the SEG membership.

In closing, I would like to thank Jennifer Swanson, SEG Manager of Geoscience Education, Jill Thompson, SEG Continuing Education Coordinator, the Continuing Education Committee members, and the Continuing Education faculty (if I may refer to our instructors as such) for their time and effort throughout the past year. The Continuing Education program owes its growth and success to their sincere interest, commitment, and good humor.

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## Development and Production

### John Eastwood, Chairman

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The Development and Production Committee (D&P) was established to encourage and support exchanges in geoscience and engineering technologies used in reservoir management of the oil and gas field. This is done through sharing research, development of new technologies, and real-world field experiences via case histories related to development and production geophysics. These goals are achieved through focused meetings,

workshops, special issues of SEG publications, and interaction with sister societies.

Several major activities highlighted our efforts in 1999-2000:

The D&P Committee continues to have an active role at the SEG Annual Meeting. Gene Sparkman arranged for the D&P luncheon speaker Jerry Wenzel, Manager, Deepwater, BP Amoco, at the 1999 SEG Annual Meeting. The luncheon was well attended. Phil Christie, Dan Ebrom, and John Eastwood chaired the 1999 D&P Workshop at the Annual Meeting. The workshop was well received and included both posters and oral presentations from last summer's (1999) forum, "Time-lapse Measurements in Reservoir Management."

Wayne Pennington organized the special Development and Production issue of *THE LEADING EDGE* in March 2000. This issue included some interesting papers taken from the summer forum. We also continued to support the Offshore Technology Conference by assisting Woody Nestvold and his committee to find Development and Production talks suitable for the OTC.

Ashley Francis chaired the Tenth Annual SEG Development and Production Forum, "Quantitative Prediction of Reservoir Properties Using Geophysical Data" in Snowmass, Colorado, May 14-19, 2000. This was the earliest 'summer' forum the D&P Committee has held. In spite of the early date, chosen so as not to interfere with this year's SEG Annual Meeting in Calgary, the forum was well attended (70 plus participants) and very successful. There were eight full sessions with topics ranging from Facies and Lithology Prediction to Conditioning to Static and Dynamic Data. Ashley chaired an excellent forum with much discussion during the day and often into the night with the aid of a pint of ale. Michele Sterner (SEG Meetings Coordinator) was instrumental in organizing the Snowmass summer forum. The D&P Committee is most appreciative of the hard work both she and Karen Wolf (SEG Technical Program Coordinator) put forth before and during the forum.

Finally, the SEG D&P Committee cochaired a joint SPE/SEG summer forum "Deepwater Development and Production," July 9-14, 2000. Jack Caldwell was SEG cochair.

At this year's SEG Annual Meeting in Calgary the Development and Production Committee will again be active. On Wednesday, August 9, we will have our Development and Production Luncheon. On Friday, August 11, Ashley Francis and John Eastwood will cochair the Development and Production Workshop. Our Development and Production Committee meeting will be held Thursday, August 10. If you are interested in becoming an active participant in the Development and Production Committee, please attend this meeting.

Next year's summer forum will be cochaired by Nazih Al-Najjar and Keith Hirsche and is tentatively scheduled for June 24-29, 2001. The topic for the forum is "Integration of Geological, Geophysical, and Engineering Data: The Quest for the Ultimate Reservoir Model."

Finally, I have finished my two-year term as the Development and Production Committee Chairman. We will announce/introduce the new chairman at the committee meeting in Calgary.

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## Distinguished Lecture

**Robert P. Brown, Cochairman**  
**Lynn D. Comeaux, Cochairman**

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Mike Cox served as the SEG's Spring 2000 Distinguished Lecturer. His lecture, "Static Corrections for the 21st Century," has been presented to 10 Sections/Associated Societies in North America and has been videotaped for future presentation on the Web.

SEG and AAPG have agreed to jointly support a lecture tour each year. The purpose of this effort is to bring local geophysical and geological groups into a common forum with a lecture relevant to both disciplines.

Each year, SEG and AAPG Distinguished Lecture Committees agree upon and submit a lecturer for approval by both Executive Committees. The two Business Offices alternate years in handling tour scheduling and logistics. AAPG organized the inaugural 1999-2000 tour; SEG's responsibilities begin in 2000-2001. To accommodate this program, one of the two (Fall or Spring) SEG Distinguished Lectures is replaced by the SEG-AAPG Distinguished Lecture. The fee for this program is \$335 for SEG Sections and AAPG Societies and \$270 for universities.

In 1999-2000, Alistair Brown was the first lecturer of the new combined AAPG-SEG Distinguished Lecturer tour with his lecture: "Let the Data Speak to You, or How to Improve Your 3-D Seismic Interpretation." He made 15 presentations at AAPG and SEG local Sections/Societies and universities in the United States. David Lumley will be the 2000-2001 SEG-AAPG Distinguished Lecturer, presenting his lecture "The Next Wave in Reservoir Monitoring: The Instrumented Oilfield." This will be the first combined tour to be organized by SEG.

Chris Ross, Technical Program Chairman for the SEG's 1999 International Exposition and Annual Meeting in Houston, will serve as Chairman beginning at the end of the SEG Annual Meeting in August. Bob Brown and Lynn Comeaux will serve on the Distinguished Lecture Committee until the close of the Annual Meeting in 2004.

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## Exhibitors

**Judi MacDonald, Chairman**

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The Exhibitors Committee was formed a few years ago to be a voice for all exhibitors at the Annual Meeting. This year's committee has a great cross-section that represents the largest and the smallest exhibitors. Our plan

for SEG 2000 in Calgary is to be on site at the beginning of set-up and to talk with most of the exhibitors one-on-one. During the show, it is our hope that if exhibitors need assistance, the committee will be able to respond quickly. The committee members are:

Micki Allen  
 John Bairstow  
 Jytte Cureton  
 Bernie DeLorme  
 Diana Frederick  
 Maureen Iglesias  
 Toni Marcellus  
 Terry Neffendorf  
 Phil Newby  
 Dixie Poché  
 Annette Smith

Not many issues were brought up at the exhibitor's meeting in Houston 1999. However, a couple of items were discussed. Questions about material handling have been a concern for a couple of years now (e.g., if there was a way to include this into the exhibit cost.) The Steering Committee decided, for the time being, material handling fees will be left as is. Another issue discussed was loading and unloading exhibit material for small exhibitors. The Steering Committee will be sure to have signs on site, along with a notice in the Exhibitor's Manual.

The close working relationship between the SEG Business Office and exhibitor representatives ensures a successful exhibition that will continue the standard of excellence established at past Annual Meetings. As of early May, Steve Emery, of the SEG Business Office, estimated booth sales to be about 1100. There is a waiting list for exhibitors at SEG 2000 in Calgary.

It has been a great year working with SEG, and, together with my committee members, I wish success to the 2001 Annual Meeting in San Antonio.

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## External Activities

### **Kenneth M. Tubman, Chairman**

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This committee was previously named the Public Affairs Committee. The name was changed this year to reflect the Executive Committee's desire to focus on a range of external influences on our profession, in addition to government activities.

This past year there has been an effort to reinvigorate the External Activities Committee, which had been essentially inactive for a number of years. The first challenge was to build the membership. Current membership includes: Ken Tubman (chairman), John Castagna (vice-chairman), Jack Caldwell, Albin Kerekes, Shawn Rice, Ernie Sanders, Carl Sondergeld, and Lynn Trembly. Efforts continue to add more members and provide geographic diversity to the committee.

The committee focused on clarifying activities and

goals. The agreed goals are: to promote the image of geophysics as a profession, to share and disseminate information within the Society, to share information about the profession, and to represent the profession outside the Society and industry, and to upper management within the industry.

Part of the information sharing is to tap into activities of other societies. For example, the American Geological Institute has an active Government Affairs program. Committee members receive monthly updates from the AGI program, and we are maintaining a distribution list of SEG members who wish to receive these updates.

The committee has also taken a strong interest in the recent activity about the effects of sounds on marine mammals. This is an issue of great relevance for the committee and the profession. Jack Caldwell has been very active in this area. He has joined the committee and will continue to push for action in this area. The committee supports his activities and will sponsor a workshop he is organizing for the upcoming SEG Annual Meeting.

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## SEG Foundation Scholarship

### **Mary Revoir Jones, Chairman**

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The SEG Foundation Scholarship Committee met on April 27 at Veritas DGC in Houston to select scholarship recipients for the 2000-2001 academic year. Scholarships to 106 students totaled \$183 500; 73 were renewals and 33 were to new recipients. We received a total of 247 applications. The committee is pleased to report continued success in increasing the dollar level of scholarship awards, raising the average award from \$1529 last year to \$1731 for 2000-2001.

The Foundation Trustee Associates secure scholarship funds in the form of annual and endowment contributions from corporations, individuals, and SEG sections. Our ability to increase scholarship awards for 2000-2001 was made possible through generous contributions. Special recognition is given to the new Charlie and Jean Smith scholarship(s) totaling \$13 000 annually, the new \$12 000 Robert Sheriff scholarship and the increase in Aubra Tilley's sponsored scholarships from \$6000 to \$12 000. Many thanks to the Executive Committee, the Trustee Associates, and especially to the many contributors who continue to invest in the future of geoscience. The complete list of scholarship recipients and donors for 2000-2001 is included at the end of this report.

Scholarship Committee members who served this past year were Bill Pearson, Richard Cieslewicz, Lynne Edleson, Jim Flis, Vicki Messer, Mike McCormack, and Karen Dittert. I take this opportunity to recognize the committee members for their support, dedication, and enthusiasm throughout the year. Each committee member spends many hours reviewing and assessing the numerous applicants, along with their ongoing responsibility of communicating with all current scholarship

recipients. The committee is especially grateful to Phyllis Connor, Associate Director of the Foundation, for assuming the task of completing last year's scholarship awards and preparing this year's applications for review following the death of Marge Gerhart. Marge spent the better part of her 27-year tenure with SEG coordinating SEG's Scholarship Program, and her dedication, efficiency, and pleasant personality will be greatly missed. The SEG Foundation has established a memorial scholarship fund in Marge's name to commemorate her many contributions to the Society. Contributions may be sent to SEG Foundation, 8801 South Yale, Tulsa, Oklahoma, 74137. The committee welcomes Sue LoBianco as the new Scholarship Program Coordinator. Sue, who has worked closely with Marge over the last 11 years, has made a smooth transition from Member Services to the Scholarship Program.

**Source of Funds**

Industry, Sections, Individuals	\$ 150 500
Other Individual Contributions	\$ 4000
SEG Foundation	\$ 29 000

**Sponsored Scholarships**

Corporate	36
Individuals	20
SEG Sections	22
General Contributions and Foundation Fund Contributions and Earnings	28

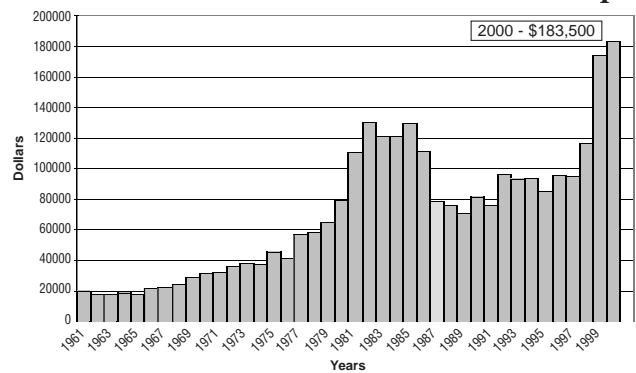
**Funds Committed to Scholarships**

Corporate, Individual, Section, Honorary, SEG Membership, Donations, and SEG Foundation Grant	\$183 500
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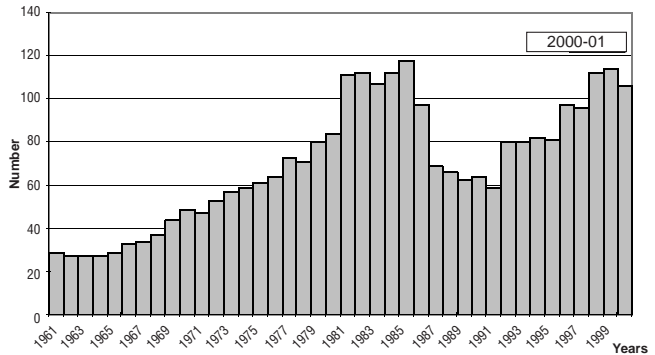
**SEG Foundation Scholarship Sponsors for the 2000-2001 Academic Year**

Agarwal, Dave	\$ 1000
AGIP	\$ 1000
ARCO	\$ 2000
Baird, Ralph W.	\$ 1000
Born, Ted Memorial	\$ 1000
Bridges, Rutt	\$ 1000
Chevron US	\$ 2000
Conoco Inc.	\$ 3000
Cottrell, Rodney	\$ 1000
Dallas Geophysical Society	\$ 6000
Denver Geophysical Society	\$ 3000
Exxon Production Research	\$ 8500
Geophysical Society of Alaska	\$ 1000
Geophysical Society of Houston	\$ 5500
Geophysical Society of Houston/Carleton-Farren	\$ 5000
Geophysical Society of Oklahoma City	\$ 4000
Geophysical Society of Tulsa	\$ 6000
Hilterman, Fred	\$ 1000
Hohmann Memorial	\$ 4000
KEGS	\$ 1000
LaCoste	\$10 000
Landmark Graphics	\$13 000
Permian Basin Geophysical Society	\$ 2000
Phillips Petroleum	\$ 1000
Schlumberger	\$ 2000
Schoenberger, Michael	\$ 1000
Shell Oil Foundation	\$ 2000
Sheriff, Robert E./Geophysical Society of Houston	\$12 000
Smith, Charlie & Jean/Geophysical Society of Houston	\$13 000
Southwest Louisiana Geophysical Society	\$ 2500
Tilley, Aubra	\$12 000
Veritas DGC	\$ 2000
Western Geophysical	\$18 000
Worthington, David	\$ 2000

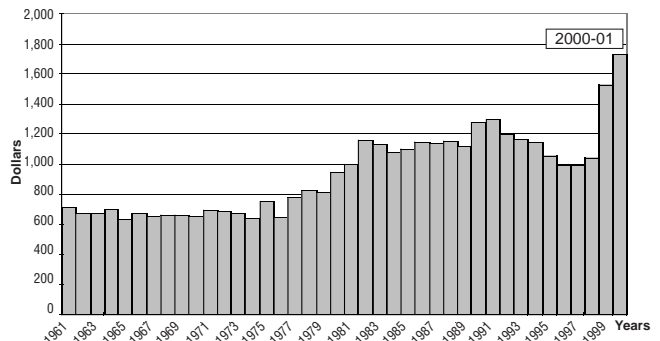
**SEG Foundation Contributions for Scholarships**



**Number of Scholarships**



**SEG Foundation Average Scholarship Amount**



<u>Recipient</u>	<u>School</u>	<u>Award</u>	<u>Amount</u>
Andy Aakhus-Witt	Colorado School of Mines	ARCO #1	\$1500
Adebola Olubunmi Adesida	University of Georgia	SEG General #18	\$1500
Ahmed Omar Alahdal	University of Oklahoma	Geophysical Society of Oklahoma City #3	\$1000
Maria Anneckchoine	Ecole Polytechnique de Montreal	SEG International #3	\$1000
Jessica Marie Arnoldi	Texas A&M University	Geophysical Society of Houston #4	\$1000
Bradley William Artman	Stanford University	Charlie and Jean Smith/Geophysical Society of Houston #1	\$5000
Stacey Ann Axton	Colorado School of Mines	Michael Schoenberger	\$1000
Jianyong Bai	Texas A&M University	Western Geophysical/Carl Savit	\$5000
Gregory Benson	Colorado School of Mines	Rutt Bridges	\$1000
		SEG General #10	\$1000
Alison Joy Berenback	Brown University	SEG General #6	\$1000
Michael Robert Brudzinski	University of Illinois	ExxonMobil #3	\$1500
Gregory Calvert	University of Oklahoma	Aubra Tilley #6	\$2000
He Chen	University of Oklahoma	Aubra Tilley #1	\$2000
Tianyou Chen	University of Texas, Dallas	Dallas Geophysical Society #3	\$2000
Elizabeth Scott Cochran	University of California, Santa Barbara	ExxonMobil #1	\$2000
Rucsandra Marie Corbeanu	University of Texas, Dallas	Dallas Geophysical Society #1	\$2000
Claire A. Currie	University of Western Ontario	SEG General #2	\$2000
Kelby Jamison Derenick	University of Washington	Shell Oil #1	\$1000
Sheridan Dodge	University of California, Los Angeles	SEG General #15	\$1000
Amanda Leigh Eads	University of Hawaii	SEG General #14	\$1000
Todd A. Ehlers	University of Utah	Landmark Graphics #6	\$2000
Julie A. Elders	Monash University	SEG International #1	\$1000
Hamed Zeidan El-Mowafy	University of Tulsa	Geophysical Society of Tulsa #2	\$2000
Tefera Eshete	University of Texas, El Paso	SEG General #21	\$2000
Rachel D. Finnegan	Montana Tech	Western Geophysical #6	\$1000
Andrew Michael Frassetto	University of South Carolina	SEG General #7	\$1000
Oron Frenkel	University of California, Berkeley	Landmark Graphics #9	\$1000
Paul Edward Gettings	University of Utah	Lucien LaCoste	\$10 000
Mariana Gherasim	University of Houston	Robert E. Sheriff/Geophysical Society of Houston	\$12 000
Tamara Louise Gipprich	University of Michigan	ARCO #2	\$ 500
Hansel J. Gonzalez	University of Oklahoma	Charlie and Jean Smith/Geophysical Society of Houston #2	\$2000
Thomas Joerg Gorgas	University of Hawaii	Phillips Petroleum	\$1000
Maria G. Kirtland Grech	University of Calgary	Canadian Exploration Geophysical Society	\$1000
		SEG General #11	\$1000
Patricia M. Gregg	University of Missouri, Rolla	Ralph W. Baird	\$1000
Monica Hartmann	New Mexico Tech	SEG General #16	\$1000
Andrew Hastings	University of Missouri, Rolla	Geophysical Society of Tulsa #1	\$2000
Shane Hickman	University of Missouri, Rolla	Fred Hilterman	\$1000
Denise Joy Hills	University of Hawaii	ExxonMobil #6	\$1000
Loren Hoffman	California Institute of Technology	ExxonMobil #4	\$1500
David August Hollema	Colorado School of Mines	Hohmann Memorial #1	\$1000
Jaqueline Ann Hope	University of Western Ontario	SEG General #3	\$2000
Earnest A. Hull	Colorado School of Mines	Charlie and Jean Smith/Geophysical Society of Houston #4	\$2000
John Edward Hunyadi	Colorado School of Mines	AGIP	\$1000
		SEG General #9	\$1000
Michael Leon Jessop	Montana Tech	Western Geophysical #5	\$1000
Sarah Stewart Johnson	Washington University	Chevron USA	\$2000
Timothy Chad Johnson	Boise State University	Landmark Graphics #10	\$1000
James Robert Jordan, Jr.	Rice University	SEG General #20	\$1000
Darcy Karakelian	Stanford University	Charlie and Jean Smith/Geophysical Society of Houston #3	\$2000
Ryan Keisler	Harvard University	SEG General #5	\$1000
Kathleen Mary Keranen	Michigan Tech	Ted Born Memorial	\$1000
Kerry W. Key	University of California, San Diego	Hohmann Memorial #2	\$3000
Jane Killingsworth	Texas A&M University	Geophysical Society of Houston #1	\$2000

<b>Recipient</b>	<b>School</b>	<b>Award</b>	<b>Amount</b>
Ka Wai Helen Lau	Dalhousie University	Landmark Graphics #7	\$500
Chunfeng Li	University of Tulsa	Geophysical Society of Tulsa #3	\$1000
Benjamin Randall Lichtwardt	Colorado School of Mines	Conoco #1	\$2000
Edwin Ivan Linares	University of New Orleans	Southwest Louisiana Geophysical Society #2	\$1500
Janessa Link	California Institute of Technology	Shell Oil #2	\$1000
Linong Liu	Chinese Academy of Sciences	SEG General #13	\$ 500
Shaoming Lu	University of Texas at Dallas	SEG General #23	\$1500
Yunqian Ma	Tsinghua University	Landmark Graphics #8	\$ 500
Ha Thanh Mai	University of Oklahoma	Geophysical Society of Oklahoma City #2	\$1000
Christine Malinowski	Millersville State College	Landmark Graphics #4	\$1000
Ellen P Mallman	University of Wisconsin	Rodney Cottrell	\$1000
Jason Ray Marsh	Colorado School of Mines	Charlie and Jean Smith/Geophysical Society of Houston #5	\$1000
Matt McGinley	University of Wisconsin	David Worthington	\$2000
Jennifer C. McGuire	Texas A&M University	Geophysical Society of Houston/Carleton-Farren	\$5000
Bradley David McHugh	Massachusetts Institute of Technology	ExxonMobil #5	\$1000
Jason Ronald McKenna	Southern Methodist University	Dallas Geophysical Society #2	\$2000
Suzanne Kay Moore	Colorado School of Mines	Dave Agarwal	\$1000
Matthew Graham Morris	University of Missouri, Rolla	SEG General #4	\$1000
Rachel Newrick	University of Calgary	SEG International #4	\$1000
Thang Hong Nguyen	University of Oklahoma	Geophysical Society of Oklahoma City #1	\$2000
Sean O'Brien	University of Texas, Austin	Geophysical Society of Houston #3	\$1000
Foldrunso Ayinde Ogunsola	Federal University of Technology	SEG International #5	\$ 500
German Yury Ojeda	Florida Int'l University	SEG General #19	\$1500
Robin Lynn Paarlberg	Arizona State University	Veritas DGC	\$2000
Steve Taechun Paik	California Institute of Technology	Geophysical Society of Alaska	\$1000
Passakorn Pananount	Cornell University	SEG General #8	\$2000
Robin Ann Pearson	McGill University	Western Geophysical #3	\$1500
Claire K. Perry	University of Western Ontario	Landmark Graphics #1	\$4000
Karen Marie Phillips	Memorial University of Newfoundland	SEG International #2	\$1000
Lindsey Lee Poth	University of Oklahoma	Aubra Tilley #2	\$2000
Stanley J. Radzevicius	Ohio State University	Landmark Graphics #2	\$1000
Heather Nichole Ramsey	University of West Virginia	Western Geophysical #1	\$2000
Kristi N. Rasmusson	Texas Tech	SEG General #22	\$1500
Marcus Alexander Rollins	Macalester College	Conoco #2	\$1000
Theodore Royer	Colorado School of Mines	Charlie and Jean Smith/Geophysical Society of Houston #6	\$1000
Daniel Samake	University of Oklahoma	Aubra Tilley #3	\$2000
Debashish Sarkar	Colorado School of Mines	Western Geophysical #2	\$2000
Dawn Astrid Schippe	Colorado School of Mines	Denver Geophysical Society #1	\$1000
Paul Schneider	University of Tulsa	Geophysical Society of Tulsa #4	\$1000
Catherine Snelson	University of Texas, El Paso	Permian Basin Geophysical Society	\$2000
Kyle Thomas Spikes	University of Kansas	Schlumberger #1	\$1000
Jeremy Strohmeier	University of Missouri, Rolla	Landmark Graphics #5	\$1000
Qiang Sun	University of Oklahoma	Aubra Tilley #4	\$2000
Shenjie Sun	University of Oklahoma	Aubra Tilley #5	\$2000
Kin-Man Edmond Sze	Massachusetts Institute of Technology	Western Geophysical/Henry Salvatori	\$5000
Martin Jordan Terrell	Colorado School of Mines	Landmark Graphics #3	\$1000
		SEG General #12	\$1000
Constantinos Tzimeas	Texas A&M University	Geophysical Society of Houston #2	\$1500
Daniel Maurice Ulmer	Princeton University	SEG General #17	\$1000
Erin Lynn Wallin	Colorado School of Mines	Denver Geophysical Society #2	\$2000
Bujin Wang	University of Alberta	SEG General #1	\$1000
Johnathan Andrew Wooley	Colorado School of Mines	ExxonMobil #2	\$1500
Hui Yan	Tsinghua University	Western Geophysical #4	\$ 500
Rhonda Mae Yates	Mississippi State University	Schlumberger #2	\$1000
Beth Maria Yuvancic	Louisiana State University	Southwest Louisiana Geophysical Society #1	\$1000

**SEG FOUNDATION  
BALANCE SHEETS**

	1999	1998
<b>ASSETS</b>		
<b>Cash and Investments:</b>		
Cash and cash equivalents	\$ 855,227	\$ 1,080,883
Fixed income investment securities	2,370,750	2,180,526
Equity investment securities	4,562,230	3,746,661
<b>Total Cash and Investments</b>	<b>7,788,207</b>	<b>7,008,070</b>
<b>Pledges Receivable, (no allowance for doubtful pledges)</b>	<b>46,255</b>	<b>96,220</b>
<b>Doodlebugger Inventory</b>	<b>25,565</b>	<b>-</b>
<b>Exhibits</b>	<b>32,223</b>	<b>32,223</b>
	<b>\$ 7,892,250</b>	<b>\$ 7,136,513</b>
<b>LIABILITIES AND NET ASSETS</b>		
<b>Liabilities:</b>		
Accounts payable	\$ -	\$ 37,735
Other liabilities	-	29,500
<b>Total Liabilities</b>	<b>-</b>	<b>67,235</b>
<b>Net Assets:</b>		
Permanently restricted	4,421,871	3,092,097
Temporarily restricted	926,378	848,344
Unrestricted	2,544,001	3,128,837
<b>Total Net Assets</b>	<b>7,892,250</b>	<b>7,069,278</b>
	<b>\$ 7,892,250</b>	<b>\$ 7,136,513</b>



**Independent Auditors' Report**

To the Board of Directors  
SEG Foundation

We have audited the accompanying balance sheets of the SEG Foundation (the "Foundation") as of December 31, 1999 and 1998 and the related statements of revenue and expenses and changes in net assets and cash flows for the years then ended. These financial statements are the responsibility of the Foundation's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the SEG Foundation as of December 31, 1999 and 1998 and the changes in its net assets and its cash flows for the years then ended in conformity with generally accepted accounting principles.

March 24, 2000

The accompanying notes are an integral part of the financial statements.

**SEG FOUNDATION  
STATEMENTS OF REVENUE AND EXPENSES  
AND CHANGES IN NET ASSETS**

	1999	1998
<b>Changes in Unrestricted Net Assets:</b>		
<b>Revenue and Gains:</b>		
Contributions	\$ 56,043	\$ 312,710
Sale of doodlebuggers	54,000	-
Interest and dividends	114,553	188,823
Net assets transferred and released from restrictions	24,151	(435,146)
<b>Total Revenue and Gains</b>	<b>248,747</b>	<b>66,387</b>
<b>Program Expenses:</b>		
Projects	342,423	288,133
Scholarships	169,500	105,950
Cost of doodlebuggers sold	57,520	-
Other	2,130	2,856
<b>Total Program Expenses</b>	<b>571,573</b>	<b>396,939</b>
<b>Supporting Expenses:</b>		
Administrative fees	148,989	147,068
Facility rent	114,000	114,000
Annual meeting	8,612	14,992
Fund raising	6,665	18,213
Professional fees	1,750	19,628
Other	516	7,468
<b>Total Supporting Expenses</b>	<b>280,532</b>	<b>321,369</b>
<b>Net Gain on Investments</b>	<b>18,522</b>	<b>390,203</b>
<b>Decrease in Unrestricted Net Assets</b>	<b>(584,836)</b>	<b>(261,718)</b>
<b>Changes in Temporarily Restricted Net Assets:</b>		
Contributions	332,455	141,231
Interest and dividends	149,965	126,692
Net gain on investments	32,474	-
Net assets transferred and released from restrictions	(436,860)	92,533
<b>Increase in Temporarily Restricted Net Assets</b>	<b>78,034</b>	<b>360,456</b>
<b>Changes in Permanently Restricted Net Assets:</b>		
Contributions	917,065	787,487
Net assets transferred and released from restrictions	412,709	342,613
<b>Increase in Permanently Restricted Net Assets</b>	<b>1,329,774</b>	<b>1,130,100</b>
<b>Increase in Net Assets</b>	<b>822,972</b>	<b>1,228,838</b>
<b>Net Assets, beginning of year</b>	<b>7,069,278</b>	<b>5,840,440</b>
<b>Net Assets, end of year</b>	<b>\$ 7,892,250</b>	<b>\$ 7,069,278</b>

The accompanying notes are an integral part of the financial statements.

**SEG FOUNDATION**

**STATEMENTS OF CASH FLOWS**

	1999	1998
<b>Cash Flows From Operating Activities:</b>		
Cash received from contributors	\$ 1,101,528	\$ 940,825
Interest and dividends received	264,518	354,852
Cash received for sale of doodlebuggers	24,500	29,500
Cash paid for doodlebuggers	(83,085)	-
Cash paid for program expenses	(514,053)	(396,939)
Cash paid for supporting expenses	(64,267)	(27,940)
<b>Net Cash Provided By Operating Activities</b>	<b>729,141</b>	<b>900,298</b>
<b>Cash Flows From Investing Activities:</b>		
Sales and maturities of investments	1,127,780	2,904,242
Purchases of investments	(2,082,577)	(3,952,991)
<b>Net Cash Used in Investing Activities</b>	<b>(954,797)</b>	<b>(1,048,749)</b>
<b>Net Decrease in Cash and Cash Equivalents</b>	<b>(225,656)</b>	<b>(148,451)</b>
<b>Cash and Cash Equivalents, beginning of year</b>	<b>1,080,883</b>	<b>1,229,334</b>
<b>Cash and Cash Equivalents, end of year</b>	<b>\$ 855,227</b>	<b>\$ 1,080,883</b>
<b>Reconciliation of Change in Net Assets to Net Cash Provided by Operating Activities:</b>		
Increase in net assets	\$ 822,972	\$ 1,228,838
Adjustments to reconcile increase in net assets to net cash provided by operating activities:		
Depreciation	-	1,694
Unrealized gains on investments	(50,996)	(390,203)
Change in assets and liabilities:		
Interest receivable	-	38,494
Pledges receivable	49,965	(65,760)
Other receivables	-	20,000
Doodlebugger inventory	(25,565)	-
Accounts payable	(37,735)	37,735
Other liabilities	(29,500)	29,500
<b>Net Cash Provided by Operating Activities</b>	<b>\$ 729,141</b>	<b>\$ 900,298</b>

The accompanying notes are an integral part of the financial statements.

**SEG FOUNDATION  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED DECEMBER 31, 1999 AND 1998**

**SEG FOUNDATION  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED DECEMBER 31, 1999 AND 1998**

**1. ORGANIZATION  
AND SUMMARY  
OF SIGNIFICANT  
ACCOUNTING  
POLICIES**

**Nature of Activities:** The SEG Foundation (the "Foundation") is a not-for-profit corporation administered by the Society of Exploration Geophysicists (the "Society"). The Foundation encourages and supports scientific, educational, and charitable activities of benefit to geophysicists. The Foundation awards scholarships to students involved in the study of geophysics and promotes research, primarily within the field of geophysics. The Foundation maintains a museum devoted to documents, equipment, films and publications in the field of geophysics. Contributions are received primarily from members of the Society.

**Net Assets:** To ensure observance of limitations and restrictions placed on the use of resources available to the Foundation, the net assets of the Foundation are segregated according to any restrictions placed on the resources. In the accompanying financial statements, net asset restrictions which have similar characteristics have been combined, though the accounting records maintain more detailed accounts. The net assets of the Foundation are segregated as follows:

- **Permanently Restricted:** This category reflects contributions provided by donors who have explicitly expressed that they wish only the income earned on their donations expended for Foundation activities while the corpus is to remain intact.
- **Temporarily Restricted:** This category reflects contributions provided by donors for specified Foundation activities and the earnings of investments thereon. Also included are pledges due in future periods.
- **Unrestricted/Board Designated:** This category reflects net assets which are generally available for authorized expenditures in furtherance of the goals and objectives of the Foundation and represent unrestricted contributions and cumulative earnings of funds other than those whose use has been specified by the donor. All unrestricted net assets have been designated by the Board of Directors as non-expendable funds. However, when practicable, program and supporting expenditures are limited to 50% of the current year earnings from board designated non-expendable funds.

**Program Activities:** The Foundation's programs consist of the following:

- **Scholarships:** The Foundation provides scholarships to university students in courses of study preparing for a career in the field of geophysics and related sciences. During 1997, the Foundation established a Permanently Endowed Scholarship Fund. Contributions received from donors for this Fund are matched 100% by the Society up to a maximum of \$100,000 per donor and \$500,000 in total. The Foundation received from donors approximately \$220,000 during 1998 specifically designated for this fund and eligible for the Society match. The earnings from investments in this fund will be used to provide scholarships to university students.
- **Continuing Education:** Continuing education program sponsors seminars, lectures and other educational courses to further the scientific understanding of geophysics.
- **Publications:** This program supports publications in the field of geophysics.
- **Museum:** The Foundation has established a museum which consists of historical documents and artifacts which chronicle the science of geophysics.
- **SEG Member Dues:** The member dues program supports the Society by providing assistance to international, unemployed and emerging nation students.
- **Projects:** The Foundation provides support to a variety of projects related to the field of geophysics.

During 1998, the Foundation established a Double Impact Program to match contributions to the Foundation. A maximum of \$1,000,000 in unrestricted general funds is available to match contributions received for the Foundation's Behind Education Programs and the Museum, for minimum donations of \$1,000 to maximum donations of \$100,000. The Foundation received from donors approximately \$441,000 during 1999 and \$342,500 during 1998 which were matched as part of this program.

**SEG FOUNDATION  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED DECEMBER 31, 1999 AND 1998**

**SEG FOUNDATION  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED DECEMBER 31, 1999 AND 1998**

Investments, at fair value, consist of the following at December 31:

	1999	1998
Fixed income securities:		
Certificates of deposit	\$ 471,960	\$ 532,339
U.S. Treasury notes	1,210,187	1,127,910
GNMA certificate	86,362	109,008
Corporate bonds	602,241	411,269
	<u>2,370,750</u>	<u>2,180,526</u>
Equity investments:		
Common stocks	4,562,230	3,280,943
Mutual funds	-	465,718
	<u>4,562,230</u>	<u>3,746,661</u>
	<u>\$6,932,980</u>	<u>\$5,927,187</u>

The fair value of fixed income securities at December 31, 1999 by maturity, are shown below:

Due after one year through five years	\$ 548,244
Due after five years through ten years	1,736,144
GNMA certificate	<u>86,362</u>
	<u>\$2,370,750</u>

**2. INVESTMENTS**

**Cash and Cash Equivalents:** Cash and cash equivalents include cash on hand and all highly liquid investments with a maturity when acquired of three months or less. Cash equivalents consist of money market funds held by a brokerage firm.

**Investments:** Investments consist of fixed income securities and equity investments and are carried at fair value at December 31, 1999 and 1998. Fair values for investment securities are based on quoted market prices, where available. If quoted market prices are not available, fair value is based on quoted market prices of comparable instruments.

**Property and Equipment:** Property and equipment are recorded at cost. Property and equipment other than museum exhibits are depreciated over the estimated useful lives of the assets using the straight-line method. Museum exhibits are not depreciated.

**Income Taxes:** The Foundation is exempt from federal income taxes under Section 501(c)(3) of the Internal Revenue Code. Contributions to the Foundation qualify as charitable deductions.

**Use of Estimates:** The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Reclassifications:** Certain reclassifications have been made to the 1998 financial statements to conform to the classifications used in 1999. These reclassifications had no effect on previously reported net increase in net assets.

**3. RELATED PARTY  
TRANSACTIONS**

The Society provides substantially all of the administrative and financial services and also provides office space to the Foundation free of charge. The estimated amount of the in-kind contribution from the Society for these services is \$254,000 and has been included as contribution revenue and administrative and rent expense for 1999 and 1998.

During 1999 and 1998, the Foundation received approximately \$474,000 and \$232,000, respectively, of contributions from the Society.

**SEG FOUNDATION  
NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED DECEMBER 31, 1999 AND 1998**

	1999	1998
<b>4. TEMPORARILY RESTRICTED NET ASSETS</b>		
Temporarily restricted net assets are available for the following programs:		
Scholarships	\$348,741	\$349,999
Continuing education	248,574	236,103
Publications	91,784	86,958
Museum	76,313	68,703
SEG member dues	137,142	106,581
Distinguished programs	27,369	-
General	(3,545)	-
	<u>\$926,378</u>	<u>\$848,344</u>
<b>5. PERMANENTLY RESTRICTED NET ASSETS</b>		
Net assets were permanently restricted for the following purposes:		
Scholarships	\$2,203,396	\$1,305,976
General	1,171,121	1,171,121
SEG member dues	594,237	615,000
Distinguished programs	453,117	-
	<u>\$4,421,871</u>	<u>\$3,092,097</u>

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## SEG Geoscience Center

### Gary Hoover, Chairman

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The SEG Geoscience Center Committee, formerly the SEG Foundation Museum Committee, was active over the past year to achieve SEG objectives. Committee members include Paul L. Beale, Norman Domenico, Craig Ferris, Jon Ferris, John N. Gallagher, Becky Hoover, John S. Knapp, Art H. Ross, Richard E. Snider, Gene W. Sparkman, and Robert Wyckoff. Sally Zinke, President-Elect, EC, serves as liaison to our committee. Judy Paull and Jennifer Swanson assist in coordination with SEG's Business Office.

The SEG Executive Committee voted at its March 2000 meeting to change the name of the SEG Foundation Museum to the SEG Geoscience Center; approve a Center operating budget for the current fiscal year, and create a new SEG staff position of SEG Geoscience Center Coordinator. The position was recently filled by Susan Henley. The committee is very pleased that Susan is actively pursuing the job of developing and operating the Geoscience Center.

#### 1999 Annual Meeting

A Museum Committee booth was assembled and operated by the Geophysical Society of Houston and coordinated by Art Ross and Tom Fulton. The booth included a vintage recording cab, alidade, and seismic instrumentation. The SEG Traveling Museum provided two display cases containing vintage seismic, gravity, and magnetic instrumentation. A prototype audio/video kiosk under development for the Physical Museum was also displayed. Don Howlett, inventor of the seismic floating-point amplifier, was a featured speaker at the booth.

Norman Domenico organized a videotape session at the Annual Meeting that captured the experiences of several geophysical leaders. Included were Craig and Sue Ferris, Sven Treitel, Gene Sparkman, and Bob Sheriff.

#### Committee Actions

In conjunction with Sally Zinke, proposals were debated following the suggestion by the Executive Committee that a curator be hired to assist with Museum operation and fundraising. Gene Sparkman made a presentation to the Executive Committee at its December 1999 meeting regarding the committee's visions for changing the name and the scope of the Museum. A subcommittee comprising of Judy Paull, Bob Wyckoff, and Gene Sparkman developed a recommendation for the name change and the job description for a coordinator (curator). The Museum Committee voted unanimously at its February 18, 2000 meeting to rename the SEG Foundation Museum to the SEG Geoscience Center and to recommend hiring a full-time coordinator. These actions were proposed to and accepted by the Executive Committee in March.

These changes reflect an expansion in scope from historical object archival and display to include hands-on, minds-on interactive exhibits and workshops designed to attract students, teachers, and the general public, as well as geophysicists. The committee expects that this broadened scope will increase interest and provide additional opportunities for funding.

#### Geoscience Center Projects

Projects are in progress at the Geophysical Resource Center to attract and interest visitors who might have little background in geoscience. One colorful mural depicting marine geophysics has been constructed and placed on the wall. Two other murals depicting marsh and desert exploration are now being designed. Two prototype audio/video kiosks were constructed and evaluated. Several kiosks will be located around the Center to describe the objects for visitors, and how their use has led to modern geophysical techniques.

The Smithsonian National Museum of American History has loaned 16 objects to the SEG Museum for display. This includes the Mintrop Field Seismograph and the Gulf Gravity Pendulum Apparatus. Both instruments attract interest from geoscientists and the public. The committee intends to continue borrowing instruments from other museums and to loan instruments and exhibits to other institutions, including colleges and universities, for display and educational purposes.

Elwin M. Peacock recently donated the manuscript to the Center titled *The Reflection Seismograph*, written by its inventor, J. C. Karcher. This manuscript was presented in 1976 to Peacock's father, H. B. Peacock, in recognition of his role in making the first discovery of petroleum using the reflection seismograph.

Plans are to include modern geophysical instruments as well in the Center, and to provide historical information describing how geophysical techniques have evolved from early roots. Consequently, donations of modern instruments and displays are welcome, including seismic sources, geophysical and geological data interpretation systems, and other devices.

The committee encourages anyone interested in helping develop the SEG Geoscience Center to contact us and become a part of its growth.

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## Global Affairs

### Ali Tura, Chairman

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The Global Affairs Committee (formerly International Affairs Committee) is the largest SEG committee both in membership and number of volunteers. The GAC (Global Affairs Committee) is becoming more dynamic and going through fundamental changes that eventually may lead to a reorganization of SEG (see the June 1999 issue of *TLE*, page 664).

Statistics show that from 1988 to 1998, non-U. S. mem-

bers of SEG increased from about 30% to 40%. To better serve global members, the GAC has reorganized and initiated several new programs. GAC currently has a Chairman (Ali Tura), Past-Chairman (not yet active), Vice Chairman (Samir Moaty), Region Coordinators, Representatives, and members. The 11 regions of the GAC, and the Regional Coordinators are:

- Latin America: Paul Cunningham and Maria Angela Capello
- Africa: Fred Aminzadeh and George Smith
- Middle East: Dick Edwards and Yi Luo
- Asia: Alfred Liaw and A. G. Pramanik
- Pacific: Shane Coperude and Mike Smith
- CIS: Tagir Galikeev and Alexander Zhukov
- Europe: Simon Spitz and Aldo Vesnaver
- Northwest U.S.: Not yet active
- Southwest U.S.: Not yet active
- Southeast U.S.: Not yet active
- Northeast U.S.: Not yet active

The GAC is currently assigning representatives. There will be one representative from each country or state in each region who will directly communicate with the Region Coordinators. Establishing this structure will allow easy communication from local sections to the SEG Executive Committee. SEG President Bill Barkhouse has already started to use this new organization to easily and rapidly communicate about specific issues. In addition, this new structure has been instrumental in assisting the SEG in several other ways, such as appointment of SEG members to the Organizing/Technical Committee of SEG-sponsored international meetings and finding locations for distinguished lectures.

A valued social responsibility of the GAC is to organize luncheons during SEG's Annual Meeting. This year, at the SEG Annual Meeting in Calgary, the GAC will have the following luncheons and speakers:

- CIS/European Luncheon, Simon Spitz (CGG, France)
- Africa/Middle East Luncheon, Agnes Jikelo (SOEKOR, South Africa)
- Latin America/ULG Luncheon, Ivan Simoes-Filho (ANP, Brazil)
- Asia/Pacific Luncheon, Deseng Li (CNPC, China)

The GAC will have its winter meeting on August 6, during the SEG Annual Meeting in Calgary.

Other functions of the GAC are:

- Serving as liaison to all SEG Standing Committees for their activities in the GAC regions
- Interacting with associated sister societies, SEG sections, and council representatives in GAC regions
- Holding local GAC meetings during SEG-sponsored international meetings to coordinate events in these regions
- Promoting SEG globally and coordinating all activities with local societies or associated sister societies.

- By way of country/state Representatives, assisting SEG in:
  - Conferences sponsored by SEG by providing feedback on venue of conference, level of support, and appointment of SEG member to the Organizing/Technical Committee
  - All education programs (CE, DISC, Distinguished Lecture)
  - Coordinating publicity, promoting membership, and providing information on SEG services
- Working with the International Showcase Committee for selection and sponsorship of appropriate exhibitors from the region
- Coordinating with THE LEADING EDGE on special editorial sections about the GAC regions

The GAC is in the process of putting up a new Web page that will help distribute information globally. Vikramaditya Sen has the main responsibility and is planning on having the new Web page active by early August.

In its current structure, the GAC is well positioned to assist SEG to become a global society.

GAC is a large committee with many members and issues. Therefore, I would like to especially thank Pamela Terekhova from the SEG staff for the truly exceptional assistance she has provided over the years. Orlando Chacín and Tony Del Pino have been instrumental in establishing and promoting the changes to the GAC.

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## Gravity and Magnetics

**Dale Bird, Chairman**

**Chuck Campbell, Vice-Chairman**

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The Gravity and Magnetics Committee convenes twice each year, once in the spring and again at each Annual Meeting. The role of the Committee in SEG and the exploration industry is to enthusiastically promote and expand the use of gravity and magnetics methods. Priority will be given to projects that encourage integrated geophysics in exploration, and projects that educate the membership about these useful and necessary tools. This report summarizes the Committee's activities and plans with regard to SEG Annual Meetings, publications, awards, continuing education, and Committee projects.

Committee activities at the 1999 Annual Meeting included three technical sessions, a poster session, a luncheon, and a workshop. Our Committee's representation on the Technical Program Committee for the 2000 convention in Calgary is led by Ted Glenn. Three technical sessions, a luncheon, and a workshop are planned. The Gravity and Magnetics Committee will sponsor one post-convention workshop titled "The Crust and Its Structure," convened by Guy Flanagan. This year's Gravity Magnetic Technical Luncheon speaker during the convention is Tom Hennig, program manager from NIMA in charge of the recent Shuttle SAR mission. The Continuing Education two-day Gravity Magnetics course will be taught

in Houston this year by Michal Ruder on June 27-28.

The award winning *Geologic Applications of Gravity and Magnetism: Case Histories*, edited by Richard Gibson and Patrick Millegan, an AAPG/SEG book has sold more than 1000 copies. Since beginning in January 1998, the *TLE* feature, "The Meter Reader," has been very popular and has included interesting, informative, and important articles. Many thanks to Patrick (Pat) Millegan, Gravity and Magnetism Publications Subcommittee, for his work with authors and *TLE* editorial staff. A project to update SEG's first Monograph, *Gravity and Magnetism for Geologists and Seismologists*, by L. L. Nettleton, is being led by Tom LaFehr and Stuart Hall. Because this book is an all-time SEG best seller, and Nettleton was one of our community's leading scientists, virtually all of the contents will be unchanged; however, recent technologies and methods will be added as footnotes, side-bars, boxes, or appendices. The monograph has been scanned, and initial chapters are reworked.

In the past year, the Gravity and Magnetism Committee adopted GXF-3 as the official grid data exchange format for gravity and magnetism data and agreed that GDF-2 shall be the defacto point/line data exchange format. A subcommittee, formed by members of the Gravity and Magnetism and Technical Standards committees, is working to establish GXF-3 as an official SEG data standard. GDF-2 will be considered as well after a sufficient period of use and final development. Subcommittee members are Alan Reid, Dave Pratt, Mike Norris, Ian MacLeod, Richard Hansen, Chuck Campbell, and Dale Bird.

Many thanks to Chuck Campbell and Nick Hoffman for their work to update and maintain the committee's Internet Web page. The page offers information about the gravity and magnetism community, distributes information about the Committee, and links to other gravity-and-magnetism-oriented Web pages.

All who are interested in active participation and joining Internet discussions with practicing gravity and magnetism specialists from all over the world, including professionals from universities, research institutions, and natural resource exploration companies, can join the Gravity and Magnetism User Group. The group is supported by Lamont-Doherty Earth Observatory at Columbia University. To subscribe send a note to: [majordomo@ldeo.columbia.edu](mailto:majordomo@ldeo.columbia.edu) and type subscribe grvmag-1 <your email> as the message (not in the subject line).

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## **2000 Gulf Coast Meeting and Geophysical Society of Houston 2000 Spring Symposium – April 25-26**

### **Eric von Lunen, General and Technical Chairman**

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The 2000 Spring Symposium on Multicomponent Reflection Seismic was held April 25-26 in Houston,

Texas. The 172 attendees represented a broad professional spectrum. Topics emphasized all phases of technical implementation. Presentations and open discussions were directed to technical concepts needed to implement mode-converted seismic waveform or "pure compressional integrated with shear wave image" interpretation concepts. These topics were useful in assessing the potential application in complex image enhancement, lithology and fluid identification, Poisson's ratio applications, and fracture characterization

The agenda for the two days was:

#### **April 25**

Jack Caldwell, Schlumberger-Geco Prakla  
"An Overview of Marine 4-Component Seismic Technology"

Michael C. Mueller, BP Amoco  
"A Strategy for Vector Interpretation of Seismic Data"

James Musser, Green Mountain Geophysical-I/O Company  
"Multicomponent 3-D Survey Design and Statics Issues"

Gerard Beaudoin, BP Amoco  
"3-D-4-C OBS Processing: The Need for Vector Fidelity"

Simon Spitz, GCC-Americas  
"Teal South Phase I and II 4-D-4-C: Project Review and Processing Update"

Xianhau Zhu, PGS  
"Converted Wave Statics and Velocity Analysis"

#### **Luncheon Speaker**

Bill Barkhouse, SEG President  
"Presidential Address on Technical and Professional Challenges of the Future"

William Chmela, Read-Well Services  
"2-D Wave Theory Applied to North Sea OBC Data"

Colin Sayers, Schlumberger-Geco Prakla  
"Anisotropic Velocity Analysis using Mode Converted S-Wave"

James Simmons, UTX-GEG  
"Radical Transverse (SV-SH) Coordinates for 9-Component 3-D Seismic Reflection Data Analysis"

Richard R. Van Dok, Western Geophysical  
"Stratigraphic Description of the Morrow Formation using Mode-Converted Shear Waves; Interpretation Tools and Methods for Three Land Surveys"

Heloise Bloxson Lynn, Lynn Inc.  
"Review of the Ninth International Workshop on Seismic Anisotropy"

#### **Open Forum 1**

"Acquisition Techniques and Processing Techniques of Multicomponent Reflection Seismic"

**April 26**

Steve Mitchell, Fairfield Industries  
"Four Component Seismic Acquisition Utilizing Radio Telemetry"

John Tessman, I/O  
"Blackfoot 3-C/3-D, A VectorSeis™ Case History"

Mike Reblin, Unocal  
"Unocal Experiences with 4-C. The Good, The Bad, and The Ugly"

Simon Spitz, CGG  
"The Road Ahead: Inversion of the Converted Mode Recorded on the Sea Floor: Structure (A) and Stratigraphy (B)"

Doug Foster, ARCO  
"AVO Attributes of Long Offset *P* waves and *P-SW* Converted Waves"

**Luncheon Speaker**

Robert H. Tatham, Professor UTX  
"An Historical and Current Perspective of Multicomponent Reflection Seismic"

Jason Robinson, Schlumberger-Geco Prakla  
"Maximizing the Value of 4-C Seismic Data, An Integrated Case Study"

Bertram Nolte, Texaco  
"Anisotropic Prestack Depth Migration of Converted Wave Data from the Gulf of Mexico"

Dan Ebrum, Texaco  
"Analysis of Multicomponent Seismic Data from Offshore Gulf of Mexico"

Dave Carlson, PGS  
"Converted Wave AVO Attributes for Large Volumes of Data: Encouragement with Caution"

Jim Gaiser, Western Geophysical  
"Enhanced *PS*-Wave Images and Attributes Associated with Vector-coordinate Systems"

Heloise Bloxson Lynn, Lynn Inc.  
"The Mobil 3-D Full-Azimuth Full-Offset *P*-wave Survey with Converted Wave Multicomponent Calibration"

**Open Forum-2**

"Interpretation Techniques of Multicomponent Reflection Seismic"

**Papers Discussed in Open Forum to be included:**

Ron Windels, Fairfield Industries  
"Four Component Seismic Acquisition and Processing"

Brian H. Hoffe and Laurence R. Lines, University of Calgary  
"Depth Imaging by Elastic Wavefields, Where *P* meets *S*"

M. K. McLeod, R. A. Hanson, C. R. Bell, Chevron and S. McHugo, Schlumberger  
"The Alba Field Ocean Bottom Cable Seismic Survey: Impact on Development"

Francois Audebert, Pierre Yves Granger, and Ariane Herrenschildt, CGG Americas  
"CCP-Scan Technique: True Common Conversion Point Sorting and Converted Wave Velocity Analysis Solved by PP and PS Pre-Stack Depth Migration"

Ronald Windels, Fairfield Industries  
"Telemetry Noode System: Processing of First Break Energy for Accurate Orientation Determination"

Seventy-one attendees at the meeting requested the presentations be included in a CD-ROM. This was being addressed at the end of May. Although no formal assessment of presentation quality was undertaken, comments indicated the quality was very good.

The success of all symposiums is based on everyone's effort. This year the meeting was closely supported by the efforts of

Ingrid Swendig	Cochairman and Arrangements
James Cozzens	Publicity Coordination
Michel Simon	Fund Raising Coordination
Lloyd Weathers	First Vice President GSH
Steve Roche	SEG Vice-President
Heloise B. Lynn	Liaison Coordinator, Technical Meeting

Special mention goes to Connie Van Schuyver and Cem Okan Kilic who graciously helped prepare notebooks and aid presenters in last minute details.

Financially the meeting was a success. The 172 attendees paid \$25 800 in fees, and an additional \$7050 was collected in sponsor support. These offset symposium costs of \$19 950, leaving approximately \$12 900 net income for the Geophysical Society of Houston. The sponsor cash contributors included:

Diamond Geophysical
Pan Canadian Petroleum
Kelman Technologies
Sercel, Inc.
Petroleum Geo-Services
Veritas DGC
Grant Geophysical Company
Baker Hughes Corporation

This spring symposium's financial success was particularly strong in light of the industry recession last year.

My deep appreciation to all contributors and attendees of the 2000 Spring Symposium. This support emphasizes the desire we all share to learn and apply this learning to today's challenging problems.

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## Honors and Awards Committee

### James D. Robertson, Chairman

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One of the most important functions of SEG is honoring those who have made significant contributions to the science and profession of exploration geophysics. By unanimous agreement of the Honors and Awards Committee and Executive Committee, the 2000 honorees are:

**Maurice Ewing Medal:** Stanley H. Ward for his distinguished contributions as a researcher in electrical geophysics, an educator of geophysics students, a disseminator of geophysical knowledge through publications and workshops, and a volunteer in professional society activities.

**Honorary Membership:** A. Peter Annan for his development of ground penetrating radar into a significant technology in exploration geophysics.

Larry Lines for his outstanding contributions to exploration seismology through publishing, teaching, editing, lecturing, and mentoring.

**Virgil Kauffman Gold Medal:** No 2000 award.

**Enterprise Award:** Thomas A. Smith for founding Seismic Micro-Technology Inc. (SMT), a leading vendor of PC-based 2-D and 3-D seismic interpretation software.

**Reginald Fessenden Award:** Robert E. Howard for the original development and subsequent improvements to the first commercial 3-D seismic horizon event picker (ZAP).

**J. Clarence Karcher Award:** Fernanda Araujo Gasparotto for her pioneering work on the attenuation of internal multiples in marine seismic data.

Tapan Mukerji for his many insights and advances in characterizing reservoirs through multidisciplinary application of rock physics, wave propagation theory, and geostatistics.

Tamas Nemeth for his exceptional work on the imaging of sparse, irregularly sampled seismic data.

**Life Membership:** Georgiy N. Gogonenkov for his contribution to Moscow 1992, the historic first geophysical meeting and exposition between SEG and the Russian exploration geophysics community, and for his role in forming the Russian Section of the SEG.

Jean-Claude Grosset for his pivotal role in forging a mutually beneficial partnership between the Society of Exploration Geophysicists and the European Association of Geoscientists and Engineers.

L. C. (Lee) Lawyer for his contribution to THE LEADING EDGE through his monthly column, "From the Other Side."

**Special Commendation:** W. Scott Baldrige and George R. Jiracek for their exceptional efforts in developing and directing the SAGE Program (Summer of Applied Geophysical Experience).

Stephen J. Hill for his outstanding work as chairman of a special ad hoc committee established to review SEG election procedures.

Lu Bang-gan for his leadership of exploration geophysics in China through both managing the conversion of the Chinese seismic industry from analog to digital technology and establishing professional and commercial ties between CNPC and non-Chinese geophysical service companies.

**Distinguished Achievement:** University of Toronto Geophysics Laboratory for its contributions to the science of geophysics in general and exploration geophysics in particular over the past 160 years.

#### Best Paper in GEOPHYSICS 1999:

*Manual seismic reflection tomography*  
Gary E. Murphy and Samuel H. Gray

#### Honorable Mentions

*Converted-wave reflection seismology over inhomogeneous, anisotropic media*  
Leon Thomsen

*Imaging structures below dipping TI media*  
Robert W. Vestrum, Donald C. Lawton, and Ron Schmid

*Estimating depth of investigation in dc resistivity and IP surveys*  
Douglas W. Oldenburg and Yaoguo Li

*Concepts of normal and dip moveout*  
Christopher L. Liner

*3-D moveout inversion in azimuthally anisotropic media with lateral velocity variation: Theory and a case study*  
Vladimir Grechka and Ilya Tsvankin

#### Best Paper in THE LEADING EDGE 1999:

*Recent advances in multicomponent processing*  
Xianhui Zhu, Suat Altan, and Jianchao Li

#### Honorable Mentions

*Elastic impedance*  
Patrick Connolly

*Improving seismic data for detailed structural interpretation*  
Jonny Hesthammer

#### Best Paper Presented at the 1999 Annual Meeting:

*Fault whispers: Transmission distortions on prestack seismic reflection data*  
Paul J. Hatchell

#### Honorable Mentions

*What is the best seismic attribute for quantitative*

*seismic reservoir characterization?*

Dennis Cooke, Arcangelo Sena, Greg O'Donnell, Tetang Muryanto, and Vaughn Ball

*AVO lithology prediction using multiple seismic attributes*

Daniel Hampson and Todor Todorov

*Velocity-independent datuming of seismic data*

Panos G. Kelamis, Eric Verschuur, A. J. Berkhout, and Kevin E. Erickson

*Meren Field, Nigeria: A 4-D seismic case study*

David E. Lumley, Alan G. Nunns, Guy Delorme, A. A. Adeogba, and Michel F Bee

**Best Poster Paper Presented at the 1999 Annual Meeting:***The construction of subsurface illumination and amplitude maps via ray tracing*

Glenn Bear, Chih-Ping Lu, Richard Shih-Ming Lu, Ian Watson, and Dennis Willen

## Honorable Mention

*Development of alternative interpretation models and discriminating between them using a borehole gravity survey and a walkaway checkshot survey*

Terry Knighton, Steve Western, Glenn Morton, Robert Fleming, and Alan Herring

**Best Student Paper Presented at the 1999 Annual Meeting:***Robust and stable velocity analysis using the Huber function*

Antoine Georges Guitton, Stanford University

**Awards of Merit:***Multi-configuration ground penetrating radar data*

Jean-Paul van Gestel, University of Texas at Austin

*Wave-equation migration velocity analysis*

Paul Constantin Sava, Stanford University

**Best Student Poster Paper Presented at the 1999 Annual Meeting:***Analysis of seismic wave dynamics by means of integral presentation and method of discontinuities*

Anton Albertovich Duchkov, Institute of Geophysics SB RAS, Novosibirsk, Russia

**Award of Merit:***AVO analysis for converted waves*

Katusca del Valle Álvarez, Simon Bolivar University, Edo. Miranda, Venezuela

On behalf of the Honors and Awards Committee, I extend congratulations to the distinguished recipients of these honors and awards and thank them for their contributions. The Honors and Awards process succeeds by receiving nominations from individual SEG members, SEG committees, and SEG sections and associated societies. We thank all who submitted nominations for 2000 awards and who provided supporting letters and other documentation. Nominations for those who were not

selected will be retained for consideration by future Honors and Awards Committees.

The Honors and Awards Committee comprises the past five SEG presidents: James D. Robertson, Gordon M. Greve, Fred J. Hilterman, Rutt Bridges, and Brian H. Russell. I thank my fellow committee members for their diligent and thoughtful efforts in researching and considering the nominations for SEG's awards as this process has consumed many hours of their time during 1999-2000. Chairing this committee concludes my presidential obligations to SEG, and I sincerely appreciate the opportunity to have been part of SEG's leadership during the past seven years.

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**Interpretation Committee****Gary Yu, Chairman**

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The SEG Interpretation Committee's (IC) goal is to serve the interpretation community and make the job easier. To achieve it we need to understand today's competitive exploration and production environment. In order to manage risk and increase profit margin, the industry has focused more and more on integrated interpretation—a team of geophysicists, geologists, and reservoir engineers working side by side on a project. The objective is to shorten cycle time and have a prospect from discovery to production as soon as possible.

The IC and the AAPG Geophysical Integration Committee (GIC) traditionally hold biannual joint meetings to exchange ideas and pursue common interests. We normally meet on Sunday morning prior to the SEG and AAPG Annual Meetings. Many members are in both societies and are on both committees. The greatest area for growth now is to work with SPE/SPWLA or reservoir engineers.

We are active in keeping interpreters current and broaden their vision through publications. Ray Thomasson has been generating ideas and soliciting papers for the *Geophysical Corner* which appear in the *AAPG Explorer*. It has been a successful series since April 1997. He has also teamed up with Lee Lawyer to generate a *Geologic Column* that has appeared in *THE LEADING EDGE* since January 1998. These columns, tutorial articles with good illustrations and simple examples, are very popular in our members. Randy Ray will be taking over as the primary contact for these publications. A new series, "Pitfalls," was added to *THE LEADING EDGE* after the successful workshop "Pitfalls in Seismic Interpretation" in 1998. Steve Henry is the contact for this series. An online version was put into place just prior to the 1999 SEG Annual Meeting, and a pamphlet was handed out during the committee meeting. Currently a framework exists that needs to be filled with examples.

The IC also sponsors workshops at SEG Annual Meetings. We sponsored and cosponsored two workshops in 1998: "Pitfalls in Seismic Interpretation" and "The Future of 3-D Seismic Interpretation and Visualization." We did not have one in 1999. For the 2000 Annual Meeting in

Calgary, Larry Lines has organized "Pitfalls and Solutions in Seismic Interpretation" in which eight speakers will address interpretation problems that apply to exploration in Canada and many other places.

Those interested in joining the Interpretation Committee should contact me ([gyu@elfexp.com](mailto:gyu@elfexp.com)). We would also like to hear your suggestions. What would you like to see? What would you like to help on?

## Membership

**Howell W. Pardue, Chairman**

This has been a short year, due to the SEG's early August Meeting. A full year's work must be compressed into 10 months. As I reported last year, the ongoing discussion concerning cooperation of SEG, AAPG, and other earth-science related professional societies is still being pursued.

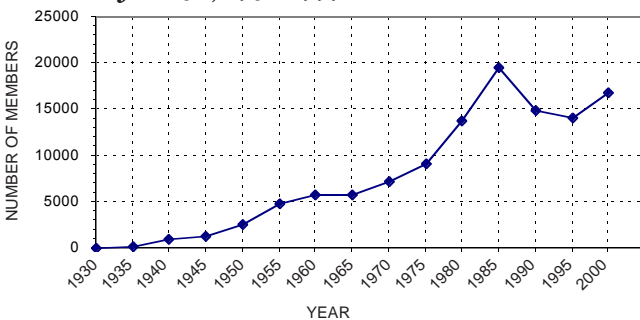
I was invited to attend the AAPG Membership Committee meeting again and was able to go to that meeting in New Orleans. The major topics of conversation at that meeting were how to maintain or increase membership and intersociety cooperation. The first jointly sponsored AAPG/SEG meeting will occur October 15-17 in Bali, Indonesia.

After speaking with SEG President-Elect Sally Zinke, I have agreed to continue as Chairman of the Membership Committee for another year. However, I am appointing Russ Opfer as Vice-Chairman. This will assure continuity when he becomes Chairman after the 2001 meeting in San Antonio.

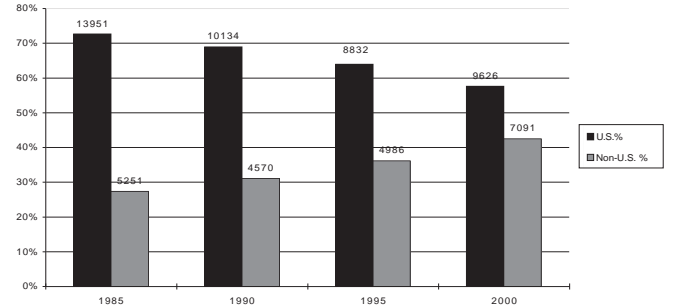
This has been another difficult year for our members due to continued mergers and acquisitions. My expectations for a fourth quarter turnaround last year were very premature. We still have not achieved any degree of recovery. Although these are not the best of times, our membership is projected to increase in 1999-2000. Because of the timing of this report, final June 2000 numbers will not be available at publication time. However, the figures included already reflect an increase in membership despite being only 11-month totals.

As you can observe from the following charts and graphs, SEG is healthy and growing. U.S. membership continues to decline but is more than offset by international growth.

**Figure 1. Total SEG members as of May 31, 2000/ June 30, 1930-1999**



**Figure 2. Membership Percentage and Counts U.S. vs. Non-U.S.**

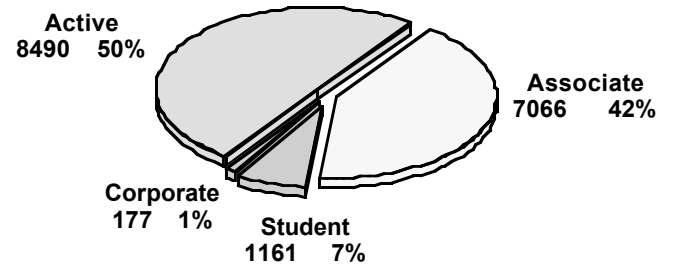


Canadian Membership Count is included in Non U.S. an average of 9% of the total membership. Does not include Corporate Members.

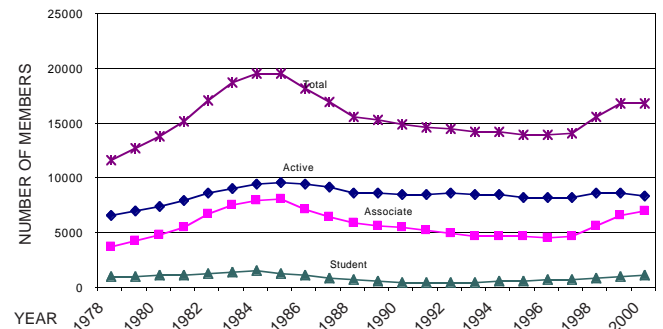
**Figure 3. Membership Report: Fiscal Years 1998-1999 and 1999-2000 (July 1-June 30)**

	1998-1999	1999-2000
Active Members	8749	8490
Associate Members	6692	7066
Student Members	1131	1161
Corporate	300	177
Total	16874	16894
Membership as of June 30	15589	16874
New Members Elected	2023	1695
Reinstatements	292	424
Deaths	-45	-33
Resignations	-118	-181
Dropped (nonpayment of dues)	-867	-1788
<b>Total</b>	<b>16874</b>	<b>16894</b>
<b>Net (Decrease)</b>	<b>1285</b>	<b>20</b>

**Figure 4. Membership by Classification—2000**



**Figure 5. Membership by Classification 1978-2000**



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## Mining and Geothermal

### Alan King, Chairman

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Since the last committee report, the Mining and Geothermal Committee held a meeting in March in conjunction with the PDA (Prospectors and Developers Association) Meeting in Toronto.

At the Toronto meeting, Dick West was nominated to serve as its vice chairman for the 2000-2002 term. Dick will be assisting with our major effort to bring the hardrock geophysical community together at the 2002 SEG Annual Meeting in Salt Lake City.

Current members of the committee are:

Alan King, Chairman . . . . .(kinga@inco.com)

Ken Witherly,

Vice-Chairman . . . . .(witherly.ken.k@bhp.com.au)

Dick West, In-coming

Vice-Chairman . . . . .(west.dick.rc@bhp.com)

Joe Inman . . . . .(inmanj@kec-slc.com)

Colin Barnett . . . . .(ctb@nel.newmont.com)

Craig Beasley . . . . .(craigwb@ix.netcom.com)

Jack Corbett . . . . .(corbettjd@aol.com)

Terry Crebs . . . . .(tjcrebs@aol.com)

Jan Klein . . . . .(janklein@compuserve.com)

Peter Kowalczyk . .(peter\_kowalczyk@placardome.com)

Vic Labson . . . . .(vlabson@usgs.gov)

Bob Lo . . . . .(boblo@ibm.net)

Ian MacLeod . . . . .(ian@geosoft.com)

Frank Morrison .(HFMENGEO@socrates.berkeley.edu)

Jim Taranik . . . . .(jtaranik@mines.unr.edu)

Jeff Wynn . . . . .(jwynn@usgs.gov)

Ken Zonge . . . . .(ken@zonge.com)

Zbynck Dvorak . . . . .(zdvorak@high-sense.com)

Any SEG member interested in mining and geothermal geophysics and seeking to be actively involved in the committee is encouraged to contact Alan King or Ken Witherly.

Activities of the Committee over the last year include:

- **Planning for SEG 2000 Calgary Annual Meeting.** In keeping with recent tradition, the Mining and Geothermal Committee is continuing to focus its efforts on every other SEG Annual Meeting.

This policy was initiated very successfully at Denver in 1996, and continued for New Orleans in 1998, and Calgary in 2000.

For the last year, much of the committee's efforts have been directed to organizing a strong hardrock geophysical presence at Calgary 2000. The results look promising with three special mining and geothermal sessions, two workshops, and two continuing education courses.

Calgary is in an area of world-class mining operations—the Alberta oil sand and coal operations, the Saskatchewan uranium deposits, the northern Alberta and Northwest Territories diamond plug, and the Western Cordilleran hardrock mining oper-

ations. As such, it is an ideal venue for what promises to be one of the premier hardrock geophysical events of 2000.

Ken Witherly has done an excellent job coordinating this event.

- **List Server.** The goal of this list server is to provide contacts among the scattered members of the hardrock geophysical community. It is up and running after a slow start and is being used more and more as the forum for informal, up-to-the-minute exchanges in hardrock geophysics. Due to the recent changes in our business, this list server is proving to be a valuable tool in the best sense of the wired world. It's what's happening now!

To subscribe, e-mail **Majordomo@lists.geosoft.com** with the following instruction in the body of your message: **subscribe segmin**.

- **Web Page.** Plans are still under way to produce a Mining and Geothermal Web page hosted by SEG. Discussions have been held with SEG regarding advertising on this yet-to-be-constructed page. Hopefully we will make some progress this year. The format is not yet finalized, but we hope to have hot links to suppliers, bulletin boards, discussion areas, etc. Contact Alan King with suggestions.
- **Future Meetings.** The next major technical meeting for the Mining and Geothermal Committee will be in Salt Lake City in 2002. There will be committee meetings between now and then to carry on our regular business and to prepare for Salt Lake City. Please contact any committee member if you would like to be more involved.

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## Committee on Nominations

### Brian Russell, Chairman

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The Committee on Nominations consists of the SEG's most recent three past presidents plus four Active Members each representing an SEG Section or Associated Society. The immediate past president serves as chairman. Each year two of the four Sections/Associated Societies representatives are replaced through a drawing conducted by the Tellers Committee. This year's members included past presidents Brian Russell (chairman), Rutt Bridges and Fred Hilterman, plus Sections/Associated Society representatives Bradley A. Birkelo and C. Riley Hanger, and representatives from the Sociedad Venezolana de Ingenieros Geofísicos and the Chamber of Geophysical Engineers of Turkey.

Suggestions for candidates come from a variety of sources, ranging from members of the nominations committee to past and present members who have been active in various SEG activities. Those elected to the 2000-2001 SEG Executive Committee will have the opportunity to work with Sally Zinke, who will move up from President-Elect to President following this year's

Annual Meeting. Nominees submitted for SEG offices by the Committee on Nominations were as follows:

President-Elect:	Walter S. Lynn Don W. Steeples
First Vice-President:	Allen J. Bertagne Philip S. Schultz
Second Vice-President:	A. Peter Annan Alan R. King
Vice-President:	Yoram Shoham Sudarshan Singh
Secretary-Treasurer:	Stephen J. Hill Richard W. Verm

No candidates were nominated by petition for this election cycle. I would like to thank my fellow committee members for the long hours and thoughtful consideration they put into the process of selecting and recruiting this outstanding slate of candidates.

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## Online Governing Board

### Joe Dellinger, Chairman

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This was a year for SEG to build up its software infrastructure. Although not yet particularly obvious from the outside, these improvements are already making new efficiencies possible for the SEG staff. Documents are being replaced by databases so that updates and additions (for example, a change of address, authors' biography information for an Expanded Abstract, or a new committee roster) now need be entered once instead of multiple times. These databases are then accessible by a new generation of Web-server software that can construct Web pages "on the fly." More and more SEG Web pages will thus automatically keep themselves current. It is also now possible to include varying features on the Web pages, such as the rotating advertisements on the home page navigation bar.

A lot of work this last year has gone into "populating" these new databases, much of it by performing one-time conversions of old proprietary formats to modern portable standards. The publications index is one such project; another is the GEOROM product (a CD-ROM archive of SEG's journals), which is being converted to a Web-friendly format. Soon, it will be possible for SEG to offer a complete searchable archive of all past issues of THE LEADING EDGE and GEOPHYSICS online, with full text and page images available for downloading. This will enable SEG to offer "online memberships" as a viable alternative to current membership. (If everything goes according to plan, SEG members will soon be able to forego receiving the traditional printed copies of GEOPHYSICS in exchange for unlimited free access to the electronic archives.)

Other longer-term projects are also in the works. SEG

has already successfully transitioned to online submission and review of SEG Expanded Abstracts. In cooperation with other societies, SEG is now working on a much more complicated problem of online submission, review, and manuscript tracking for *TLE* and *GEOPHYSICS*. (An online review/manuscript tracking module for *TLE* has just become available. *GEOPHYSICS* will take longer: Vendors of currently available online review software have been surprised and dismayed by some of our questions, such as "Does your software support reviews containing equations?")

Meanwhile, the number of documents online continues to grow. Placing them online often makes them more useful than before (for example, the online Buyer's Guide can contain links to companies listed). It also makes them easily available. (SEG staff can now refer callers asking for copies of SEG digital standards to the Web page.) A new e-mail server has made it possible for targeted notices to be sent out (for example, announcements of continuing education courses) that formerly would have gone by regular mail at greater expense and with slower delivery. Some section newsletters are now also transmitted electronically, instead of through the mail. Over the last year the SEG Web server has reached the "million accesses per month" milestone and, partially as a result, Web advertising revenue has significantly increased, more than doubling from fiscal year 1999 to 2000. It is expected to nearly triple again by fiscal year 2001.

We expect that SEG will continue "riding the digital wave" into a successful future, but the process must be managed carefully to safeguard the Society's finances, intellectual property, and assets. Our committee invites interested members to help us meet this challenge!

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## Publications

### Larry Lines, Chairman

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The Publications Committee works with the Publications Department staff to produce all Special Publications. Our objective is to provide exploration geophysicists with the technical geophysical information they require in their jobs or studies. This report summarizes those books recently published, those to be published in the near future, and gives a financial summary of revenues from publications.

#### Books published in fiscal year 2000 include:

- *Covariance Analysis for Seismic Signal Processing*, edited by R. Lynn Kirlin and William J. Done
- *Depth Imaging of Foothills Seismic Data*, edited by Laurence R. Lines, Donald C. Lawton, and Samuel H. Gray (CSEG publication sold on consignment by SEG)
- *Interpretation of Three-Dimensional Seismic Data*, Fifth Edition, by Alistair Brown
- *Processing Near-Surface Seismic-Reflection Data: A Primer*, by Gregory S. Baker

- *Seismic and Acoustic Velocities in Reservoir Rocks, Volume 3: Recent Developments*, edited by Zhijiang Wang and Amos Nur
- *Static Corrections for Seismic Reflection Surveys*, by Mike Cox
- *The Seismic Velocity Model as an Interpretation Asset*, by Phil Schultz
- *Three-Dimensional Electromagnetics*, edited by Michael Oristaglio and Brian Spies

**Books expected to be published before the end of calendar year 2000 include:**

- *Advances in Anisotropy—Selected Theory, Modeling, and Case Studies*, edited by Julie A. Hood
- *Applied Seismic Anisotropy and Field Studies*, edited by Colin MacBeth and Heloise Lynn
- *Geophysical Signal Analysis*, by Enders A. Robinson and Sven Treitel (reprint of book formerly produced by another publisher)
- *Geophysics in the Affairs of Mankind*, by L. C. (Lee) Lawyer, Charles C. Bates, and Robert B. Rice
- *Planning Land 3-D Seismic Surveys*, by Andreas Cordsen, Mike Galbraith, and John Pierce
- *Seismic Data Analysis—Processing, Inversion, and Interpretation of Seismic Data*, by Oz Yilmaz
- *Seismic Wave Propagation—Collected Works of J. E. White*, by J. E. White, edited by Dan Ebrom
- *3-D Seismic Exploration*, by Robert J. Graebner, Bob A. Hardage, and William A. Schneider

**Royalty Payment Schedule**

At the March 3-4, 2000 meeting, the Executive Committee approved a new royalty payment schedule for authors (books with four or fewer authors are eligible). The schedule is not retroactive to existing books:

Royalty %	Number of Sales
8	Up to 600
12	601 to 1000
14	1001 to 2000
16	2001 to 3000
17	3001 to 4000
18	4001 to 5000
19	5001 to 6000
20	6001 and subsequent sales

Publications Manager Ted Bakamjian reports that SEG reference publications revenue was \$557 786 through the first three-quarters of fiscal year 2000. Although this was under budget, reference publications have realized a profit of \$126 000. SEG has more than 100 books and standards in print, and its publications portfolio also includes several videotapes, slide sets, computer programs, and CD-ROM sets.

The Publications Committee is a group of dedicated individuals who generously donate their time. These committee members, along with editors, book authors, and the SEG Publications staff allow the SEG publication process to work efficiently. Series Editors are:

- Cynthia Menant Berlier, Slide Sets
- Michael R. Cooper, Investigations in Geophysics

- Dan Ebrom, Geophysics Reprints
- David V. Fitterman, Geophysical Monographs
- Stephen J. Hill, Geophysical Developments
- Gene Scherrer, Geophysical References
- Ilya Tsvankin, Translations Committee Chairman
- Roger Young, Continuing Education Course Notes

## Research

### Leon Thomsen, Chairman

The Research Committee is one of the largest and most active of the standing committees; we currently have 93 members, and at least as many opinions on every issue. Our general purpose is to foster research in exploration geophysics, and we do this in a variety of ways. Chief among these is the organization of special sessions at the Annual Meeting, Research Workshops following the convention, and week-long Summer Research Workshops in more bucolic settings. We accomplish these goals via active e-mail exchanges, a brief progress meeting during each Annual Meeting, and in two intense days each winter (this year in San Ramon). We also meet jointly with the EAGERC at the venue of the EAGE Annual Convention, this year in Glasgow.

Each of the following events required significant efforts from its own organizing committee; details are given on our Web site, <http://www.seg.org/research>

#### 1999 Convention Special Sessions

- “Recent Advances and the Road Ahead,” organized by Laurent Meister
- “E&P Technology Development in Times of Uncertain and Soft Economy,” organized by Yoram Shoham

#### 1999 Post Convention Workshops

- “Recent Advances in Logging Methods,” organized by Kurt-Martin Strack and H. H. Yuan
- “The Next SEG/EAGE Seismic Model,” organized by Leon Thomsen and Leigh House
- “Dynamic Reservoir Characterization and Production Optimization with Geoscience Constraints,” organized by Ali Tura and Fred Aminzadeh
- “Is True Amplitude Processing and Imaging Possible in 3-D?” organized by Simon Spitz, Fabio Rocca, and Graham Winbow
- “Fracture Characterization and Imaging,” organized by Mike Schoenberg, Ilya Tsvankin, and Colin Sayers

#### 2000 Summer Research Workshop

- “Recent Advances in Shear Wave Technology for Reservoir Characterization: A New Beginning,” jointly sponsored by EAGERC, organized by Colin MacBeth, Reinaldo Michelena, Maria Donati, Jim Geiser, Nick Moldoveanu, and Simon Spitz, to be held in Boise, Idaho, October 1-6. See the workshop Web site at: <http://www.seg.org/meetings/srwboise2000>

Looking ahead to the upcoming Annual Meeting (details on the SEGRC Web site): <http://www.seg.org/research>

### 2000 Convention Special Sessions

- “Recent Advances and the Road Ahead,” organized by Yoram Shoham and Kurt-Martin Strack, will concentrate on niche geophysical technologies.

### 2000 Convention Workshops

- “Using Converted Waves for Lithology and Fluid Discrimination and Interpretation,” organized by Ron Ward, Mark Meadows, and Mrinal Sengupta
- “Grains, Pores, and Fluids: Beyond Gassmann,” organized by Randy McKnight, Jim Berryman, and Nader Dutta
- “Instrumented Oilfields: The Next Step,” organized by Guillaume Cambois, Ali Tura, and Kurt-Martin Strack
- “Advances in Electromagnetic Methods for Petroleum Applications,” organized by Len Srnka, Kurt-Martin Strack, Andrea Zerilli, Geoffrey Dorn, and Mike Schoenberg
- “Definition of Attributes for Rock Physics Parameters,” organized by Larry Myer and Fred Aminzadeh
- “Quantitative Time-lapse Geophysics: Obtaining Dynamic Reservoir Parameters,” organized by Ian Jack and Colin MacBeth

Looking still further ahead:

### 2001 Summer Research Workshops

- “Joint Geophysical and Petrophysical Applications for Enhanced Reservoir Understanding,” jointly sponsored by EAGERC and organized by Laurence Nicoletis, Bjørn Ursin, Mike Schoenberg, Mihai Popovici, and Kurt-Martin Strack, to be held in Europe in early summer 2001.
- “Advances in Geophysical, Medical, and Space Imaging,” David Lumley, Geoffrey Dorn, Bob Stolt, Stewart Levin, Maarten de Hoop, and Rob Clayton

As you can see from these activities, research in exploration geophysics is alive and well. In fact, we see a healthy level of ongoing research as the indispensable key to the survival of our profession throughout the next millennium.

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## Reviews

### Paul Docherty, Chairman

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The goal of the Reviews Committee is to provide timely and critical reviews of geophysical and exploration-related publications to assist members in selecting state-of-the-art literature to enhance their professional skills. Reviews appear monthly in *THE LEADING EDGE*. During the reporting period (August 1999-May 2000), 26 books were reviewed by 13 reviewers from five different countries.

The practice of soliciting reviews electronically continues with 91 members currently receiving a monthly notice of recent publications. Reviewers request books by e-mail and are encouraged to submit their reviews by

e-mail. Interested members are invited to participate by contacting [pdocherty@fairfield.com](mailto:pdocherty@fairfield.com).

The committee extends its thanks to Merrily Sanzalone (SEG Projects Coordinator, Publications Department) for smoothly handling communications with publishers, and to Fairfield Industries for support in delivering books to reviewers worldwide.

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## SEG Student Sections/Academic Liaison Committee

### Kay Dautenhahn Wyatt, Chairman

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Once again, this has been a busy year for the SS/AL Committee. Before reviewing the specific activities of the Committee, I would like to share some of the changes that we have seen this year. On a sad note, we lost Marge Gerhart to cancer. Marge served SEG for 27 years in many capacities, including long-time support of the SS/AL committee and associated student activities. We will miss her dedication and attention to detail, but especially her kindness and gracious manner in working with all SEG members.

Marge's death resulted in a reevaluation of SEG Business Office resources necessary to adequately support student activities. The vision and commitment of this year's SEG Executive Committee, under the leadership of Bill Barkhouse, resulted in the appointment of Patricia (Trish) Wacker as our full-time SEG Student Affairs Coordinator. We are so happy to have Trish on board, and her energy and enthusiasm are an inspiration to us all.

In today's climate, and with the consolidation of many companies, geophysicists are busier than ever in their jobs. The amount of time that SEG members have to volunteer for SEG activities seems to be going down. In order to maintain the level of activity within the SS/AL Committee, we have reorganized into “teams” and have attempted to recruit volunteers and team leaders for each activity. In this way, we hope to break down activities into more reasonable sized tasks, spread this over a larger number of volunteers, and not overwhelm any single individual. I am pleased that most teams now have leaders who are actively recruiting volunteers to assist them.

Our activities for this year can be grouped according to two general goals:

- Demonstrate SEG's commitment to our student membership by revitalizing existing programs and by offering new and innovative activities,
- Develop geophysics education materials for high school juniors and seniors and for elementary school grades 4 and 5.

In meeting the first goal, renewed contacts have been made with all student sections. Currently, SEG has 85 student sections worldwide (45 outside the United States)

representing 17 countries. Our Student Section database has been updated, and inquiries have been made to all student sections to find out how the SEG can better assist them. On-site student section visits have been made at several universities and more are planned. In addition, we are aggressively recruiting new student sections and hope to increase the number of student sections by 10% by year's end. I am pleased to announce that four new sections have been added so far: (1) Kyushu University Geophysical Society; (2) University of Alberta Undergraduate Geophysics Society (UAUGS), and Federal University of Bahia Geophysical Society, (3) Federal University of Bahia Geophysical Society, and (4) National Chung Cheng University.

Special effort was made at SEG's 1999 Annual Meeting to assist the Steering Committee in organizing the Student Reception. This particularly fun reception (with great food, entertainment, and a Karaoke contest) caught the enthusiasm of students as well as many of our more established SEG members. Cash prizes were given to the winners of the Karaoke contest.

At the past Annual Meeting, the SEG SS/AL Committee had a booth on the exhibition floor for the first time. The Student Connection booth served to assist students at the Annual Meeting; to share resource materials with students, faculty, and potential SEG member volunteers; and to announce the newly released Student Connection Web pages. SEG member volunteers manned the booth. This booth was deemed a great success, and we will continue this effort at the 2000 Annual Meeting.

Ongoing efforts for SEG student members also include the student paper contest coordinated by Raghu Chundururu; the student newsletter (newly named as "The Anomaly") under the leadership of Alison Begeman; the Student Expo (a joint effort with the AAPG) under the leadership of Osman Hassan; and the SEG Student Connection Web pages (<http://students.seg.org>).

The second general goal this year—"develop geophysics education materials for high school juniors and seniors and for elementary school grades 4 and 5" resulted in considerable activity for the SS/AL Committee. Much of the passion of the committee members for these activities is a direct result of demographics trends in our industry today: only 11% of our SEG membership is under age 35 (1999 SEG Salary Survey), and more than 51% of SEG members will reach retirement age (55) in the next 10 years.

"Who will fill our shoes?" is a question all SEG members should be asking themselves today, and it has been the central theme of our K-12 activities. These programs are designed to encourage youngsters to enter the geosciences! One of our first objectives is to target high school juniors and seniors. These young students are currently deciding on careers before entering a university program. In order to introduce them to the possibility of a career in geophysics, SEG is sponsoring the development of a CD to be distributed to high school juniors and seniors which will contain a wealth of information about

exploration geophysics. Included in the CD are: a JAVA-based exploration seismology "game" with lots of animation and exciting sound effects; a step-by-step introduction to exploration geophysics including several animated graphics; an introduction to the activities of a geophysicist; a short movie clip of interviews with working geophysicists; and hands-on exercises and experiments in exploration geophysics, including lots of fun movie clips and interactive demonstrations; and much, much more. A prototype of this CD is now undergoing review by committee members.

Also this year, one of our SS/AL Teams, under the leadership of Kathleen Aikin, is completely revising and updating the "Catch the Wave" careers booklet and poster.

Another ongoing K-12 program is the sponsorship of the International Science and Engineering Fair. SEG is a strong supporter of the ISEF and provides judges and cash awards in the "Special Awards" division. Under the leadership of Doug Wyatt, a team of SEG volunteer judges reviewed all 1140 projects submitted by young students from 49 countries at the 1999 event in Detroit, Michigan. Special emphasis was placed on projects from the earth and space sciences, environmental sciences, physics, engineering, mathematics, and computer sciences fields. All projects were very deserving; many were simply outstanding. Seven projects were selected as "winners" for SEG. What better way to meet some of the world's best and brightest young minds.

The SEG's Electronic Mentor program (Ask-A-Geophysicist), under the leadership of Robert Wiley, and the SEG K-12 Slide Set program are two additional K-12 programs that received considerable activity this year.

Through the efforts of numerous dedicated volunteers and the SEG staff, these activities are contributing significantly to the health and welfare of the Society of Exploration Geophysicists. My sincere thanks to all of them!

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## Technical Standards

**Mike Norris, Chairman**

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### ANCILLARY DATA STANDARD

The Ancillary Data Standard, ADS and its associated Trace Attribute and Trace Edit formats were approved by the SEG Executive Committee. These standards taken as a group provide a structured means to collect and organize all field ancillary data sets into a single data file or into a suite of related data files. The ADS metafile structure allows existing ancillary data sets such as a SEG-P1 or a UKOOA P1/90 data set to be logically collected together. Existing data set formats do not have to be ADS aware to be included in the metafile. The metafile structure encapsulates existing formats and provides time tagging and sequencing. The structure allows unknown data set types to be programmatically skipped. ADS aware formats such as the ADS Trace Attribute and the ADS Trace Edit take

advantage of the relational structure of the ADS format to simplify their own internal structure and allow multiple versions of the data sets to exist within a single metafile. This last feature allows future users of the Trace Edit format to selectively reapply field trace edits without having to reevaluate the complete seismic data volume. Example "C" source code to read an ADS data set is provided as part of the format. ADS was a joint effort between the SEG and UKOOA. UKOOA have accepted the ADS format standard.

### SEG-Y Rev. 1

The original SEG Y Data Exchange Format (revision 0) was published in 1975. It has achieved widespread usage within the geophysical industry. This widespread usage has also brought about many proprietary variations. Since the initial publication of SEG Y rev 0, the nature of seismic data acquisition, processing, and seismic hardware has changed significantly. The introduction of 3-D acquisition techniques and high speed, high capacity recording media dictate that changes be made to the SEG Y rev 0 format. The changes are principally addressed at standardizing the location of header information needed for current processing practices, defining a SEG Y data set as a byte stream format, and adding format structure to accommodate high capacity storage media. A very significant amount of work has been done by the PESGB Data Management Group. Their draft 5 document has been incorporated into a draft SEG-Y rev 1 format. This draft standard still requires some additional work on new data stanzas and a larger review within the geophysical community.

### Technical Standards Web Page

The Technical Standards Web page at the SEG's Web site has been expanded to include MS Word and PDF versions of all of the existing SEG technical standards. Additionally UKOOA has granted permission to make some of its seismically related standards available at no charge and to allow links from the SEG Web site.

### Grid Exchange Format

**GXF (Grid eXchange File)** is a standard ASCII file format for exchanging gridded data among different software systems. Software that supports the GXF standard will be able to import properly formatted GXF files and export grids in GXF format. GXF Revision 1 was drafted by Ian MacLeod at the request of the Canadian Exploration Geophysical Society (KEGS) of Toronto. It found significant usage in the mining and environment sectors. Revision 2 was undertaken in conjunction with the Australian Society of Exploration Geophysicists (ASEG) who adopted it as their standard. The main advance of Revision 2 over Revision 1 was the addition of data compression through the use of base-90 numbers and simple repeat value compression. These extensions made GXF more practical for exchanging large gridded data sets. GXF Revision 2 was adopted by the Gravity and

Magnetics Committee of the Society of Exploration Geophysicists (SEG) in November 1997, with the urging that the standard be further extended to encompass the exchange of map projection information.

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## Tellers

### Arthur C. Falkler, Chairman

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This report covers the term July 1, 1999 to May 31, 2000.

Southwestern Computing Services, Inc. in Tulsa was retained for tabulation of the 1999-2000 SEG Officer election ballots. There were no District Representative posts to fill this year.

Of the 7943 ballots mailed, 2191 valid ballots were received through July 31, 1999. The ballots were opened under my supervision as Chairman of the Tellers Committee. The additional Tellers Committee members present were Stephen Hill and Richard Banks. The ballots were delivered to Southwestern Computing, where the votes were entered, verified, tabulated, and returned to the SEG Business Office.

The SEG Tellers Committee verified the Southwestern Computing Service data. The data was checked on 3 batches of 50 each. No data errors were found in those samples. The program was verified by counting the votes for all candidates.

The 2000-2001 SEG Officers and District Representative ballots were mailed to the voting membership by April 10, 2000.

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## THE LEADING EDGE

### Editorial Board

### Guillaume Cambois, Chairman

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Y2K has been a difficult year revenue wise for THE LEADING EDGE. Although the price of oil and gas have reached comfortable levels, manufacturers and service companies, our traditional advertisers, have been slower to recover. As a consequence, our revenue fell well short of the budget. On the other hand, the change of printing company that occurred last year has translated into significant cost savings. Consequently, THE LEADING EDGE should break even for the year, with a bright outlook for 2001. Remember, though, that *TLE's* goal is not to make hefty profits, but to remain the best asset of your SEG membership. Hence, increased revenue will mean more pages and therefore more content.

The current content of *TLE* is the result of a gradual evolution over the past few years, under the leadership of previous Chairman Allen Bertagne. Every issue now contains a special section and a series of regular features. The special sections offer a snapshot of a given technol-

ogy or of the current understanding of a basin and are often considered as a reference for the chosen topic. The regular features have become extremely popular among our readers and ensure that all interests are represented every month. I take this opportunity to thank all the special editors and the column coordinators for their dedicated contribution to the success of our journal. Following Alistair Brown's suggestion that we should renew with human-interest articles, Dolores Proubasta has spearheaded a "mini-profile" series (for now a semi-regular column) that features interviews of prominent geophysicists.

*TLE* is getting increased recognition for its technical content. Last year, the SEG Executive Committee decided to create a Best Paper in *TLE* Award. For 1999, the Board recommended to the Award Committee the nomination of Xianhuai Zhu, Suat Altan, and Jianchao Li for "Recent Advances in Multicomponent Processing." Congratulations to these authors for receiving the first ever Best Paper in *TLE* Award. The board has also decided on a process for selecting the nominee. Every single paper published in *TLE* is eligible. To be considered, a paper must be recommended by an SEG member, and we therefore encourage all our readers to submit their recommendations to Dean Clark. The board then chooses the best paper as the one that ranks highest for clarity, conciseness, originality, applicability, and technical or educational impact.

You will notice that "timeliness" has been excluded from these criteria. We just assume that the articles published in *TLE* are as timely as they can get, because of the extremely short turn-around time between submission and publication. This is a direct consequence of digital publication, combined of course with our "loose filter" editorial policy. This result was not achieved without growing pains though. *TLE*'s highly dedicated and motivated staff have diligently changed and improved their working practices to meet these new challenges. We can now offer flawless issues with the timeliest possible content. If this is not timely enough for you, we are also considering the possibility of including some articles on the SEG Web site. This could allow for "interactive" papers with sound and movies. More to come about this next year.

Finally, 2000 was Rosemary Knight's last year as a board member. Her contribution to *TLE* has been outstanding and, on behalf of past and present board members, I wish to congratulate her for a job well done.

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## Translations

### Ilya Tsvankin, Chairman

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The Translations Committee met in Houston on November 1, 1999, to discuss several foreign-language books for possible translation and publication by SEG. The committee decided that none of those books is

acceptable in their present form, although some might be published after revision. Books currently being considered by the committee include: *Vertical Seismic Profiling: Experiments and Results* by the late Russian geophysicist E. I. Galperin, and *Magnetotelluric Fields in 3-D Geoelectrical Models* by Vjacheslav Spichak. Another proposed book, *The Dynamic Fluid Method* by Vladimir Pisetski, is in preparation and will be reviewed by the committee as it becomes available.

*Magnetotellurics in the Context of Theory of Ill-posed Problems* (translation from Russian), by M. N. Berdichevsky and V. I. Dmitriev, recommended by the committee to SEG several years ago, has been prepared for publication. H. Dürschner's paper titled *Three-dimensional Seismics in the Exploration for Hydrocarbon Deposits* has been translated from German and will be included in the reprint series on 3-D seismic.

Tables of contents of the following foreign journals are presently published in *GEOPHYSICS* on a regular basis.

#### China

Oil Geophysical Prospecting  
Journal of the University of Petroleum

#### Hungary

Geophysical Transactions of the Eotvos Lorand  
Geophysical Institute

#### India

Journal of Geophysics (formerly Journal of Association  
of Exploration Geophysicists)

#### Japan

Butsuri-Tansa (Geophysical Exploration) of the SEG  
Japan

#### Russia

Geology and Geophysics, Russian Academy of  
Sciences, Siberian Branch

#### Ukraine

Geophysical Journal, Ukrainian Academy of Sciences

Tables of contents of other journals and one-time reports of possible interest to the readership of *GEOPHYSICS* are published as they become available.

# Reports of the Ad Hoc Committee Chairmen

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## Certification for Petroleum Geophysicists

**Eric von Lunen, Chairman**

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In recent years numerous requests for geology certification have been received by AAPG's Division of Professional Affairs (DPA). But the applicants and references underscored the individual's geophysical abilities. Rather than continue a policy that did not recognize petroleum geophysicists and their contributions to industry, the AAPG-DPA committee undertook a strategic initiative. In 1999, certification for petroleum geophysicists was included within the AAPG-DPA program. The certification was directed at the large group of dual AAPG/SEG members, in particular interpreters.

After a discussion with the SEG President in December 1999, an ad hoc committee was formed to support the AAPG-DPA initiatives and examine the rationale of potential membership "shared" with AAPG. Within AAPG, nearly 17% of the active members are certified petroleum geologists. Consequently, we would initially estimate that 5-8%, or nearly 700 Active SEG members may ultimately become certified petroleum geophysicists. AAPG certification is based on graduation from a recognized institution with a geoscience degree, eight years of relevant industry experience, and high professional career standards.

Since January 2000, more than 45 applications for petroleum geophysicist certification have been received at the DPA-AAPG office. At present, nine have been reviewed and approved by the DPA certification committee. Several joint publication announcements in professional periodicals have heightened awareness. We have suggested an SEG member, recently certified as a petroleum geophysicist, attend the SEG Annual Meeting and set up an information booth at the AAPG exhibit. Further, we continue to publicly announce this opportunity at SEG events and meetings of local sections. Finally, we have identified approximately 150 AAPG/SEG members who have applied for certification in recent years and are directing a letter to these individuals suggesting they renew their previous applications.

Discussions with SEG members at recent events emphasized the need to consider the broader issue of certification standards within the SEG community. The DPA-AAPG certification applies to dual society members, petroleum geophysicists and geologists, and primarily interpreters. The major subdisciplines of petroleum data

acquisition and processing may in the future be poorly represented. The mining and near-surface geophysical engineering professions are not recognized. Many near-surface and mining geophysicists point out their peers such as civil engineers, mining engineers, geologists, and hydrogeologists often have state regulatory or professional organization certification credentials. Consequently, it would be realistic and prudent to consider assembling an analog to DPA-AAPG within SEG. This can be accomplished by appointing two or three SEG members to examine the functions and organizational structure of the DPA. An analog organization within SEG would address professional standards and accomplishments of our more diverse career paths and specialties in geophysics.

The "Vision of the Need for Geophysicist Certification" is perhaps reflected in the current transition to dynamic career paths with multiple employers and as consultants. The future geophysicist's career will have several intermediate employment tenures of five to ten years; with up to four major subdiscipline career shifts emphasizing different aspects of geophysics and its technology application, in a 30- to 40-year career cycle. Records informally show more than 40% of our members are in petroleum-related careers, with significant membership fractions involved in data acquisition and processing. Another common petroleum industrial trend is continued contraction of U.S. operations, shifting our membership to nearly 45% international (up almost 15% in the last decade). This means fewer SEG members will work for major petroleum and/or service companies for lengthy periods. Hence, the question quickly focuses on "how do we recognize professional achievement, measure milestones, and describe credible standards among geophysicists?" Within AAPG, certified petroleum geologists account for 17% of the eligible membership, 27% are employed by petroleum companies, 53% listed as consultants and independents, and 20% as educators, government, etc. Clearly smaller employers and consultants value the certification process. Further, subcommittees within the DPA-AAPG provide position papers on industry-related topics on professional trends, realistic industry standards, and technical issues. Most professional societies shift toward certification and professional recognition of career standards and milestones, self-improvement through continuing education, advanced graduate degree emphasis, and ultimately regulatory control. Thus SEG should undertake a carefully chosen career certification or milestone recognition path for its members.

## Enhancement of Intersociety Relations

### Jeffrey D. Johnson, Chairman

Relations and cooperation between SEG and its major sister societies—EAGE, AAPG and to a lesser extent SPE—have improved in the last several years. Diverse cooperative initiatives, activities, and actions—mostly between various pairs of societies—are occurring. These are mostly between SEG and AAPG and SEG and EAGE and have been initiated through Presidential Summits, Executive Director interaction, and some committee efforts. Nevertheless, the pace of implementation, the extent of SPE collaboration, and the involvement of the SEG membership and Committees could arguably be improved. SEG President Bill Barkhouse sanctioned this ad hoc committee in March to provide additional ideas and actions that improve or enhance intersociety relations and provide some direct ownership of selected current initiatives. The progress of this committee will be reviewed at the Executive Meeting in August where a decision to continue or terminate the Committee will be made.

#### Committee Membership:

Jeff Johnson	NExT, LLC
Yoram Shoham	Shell
Simon Spitz	CGG
Joel Watkins	Texas A&M University
Bob Tatham	University of Texas
David Johnston	ExxonMobil

Committee members have discussed planned efforts through e-mail and a meeting between Johnson, Shoham, Spitz, and Tatham at the EAGE Convention in Glasgow on May 30.

#### Committee Objectives:

Recommend actions and processes that:

- Improve linkage of SEG members and appropriate committees with members/committees or forums in EAGE, AAAG, and SPE.
- Support industry's need for integration of geophysics with geologic and engineering disciplines and technologies.
- Specifically enhance synergies with SPE.

Any recommendations or actions must increase benefits to SEG members, lower costs for SEG, increase SEG revenue, support industry business trends, enhance technology development or best practice sharing, advocate value of geophysics, or support long range vision of SEG. At least one member of the Committee believes our group should have a bolder long-term vision of supporting future creation of a single "subsurface" society.

#### Proposed Tasks and Actions:

- Implement a session at each SEG Annual Meeting jointly sponsored by the SEG, SPE, and AAPG in which invited papers document case histories/best

practices of effective multidiscipline integration in subsurface business projects.

- This concept, which is quite different than past "Best of AAPG sessions," was approved by the SEG Executive Committee a couple of years ago. Bob Hardage, Technical Program Chairman for the San Antonio meeting, has reserved a slot for this session, and letters have been sent soliciting participation by SEG and AAPG.
- Evaluate synergies between appropriate SEG committees (e.g. Interpretation, Research, Development and Production) and similar committees/forums in AAPG, EAGE, and SPE in terms of potential for actual merged committees. Bob Tatham and Joel Watkins will begin this effort.
- Investigate where SEG could work with the other societies to offer continuing education in multidiscipline integration or cross discipline topics. Jeff Johnson will discuss with society continuing education leadership.
- Provide direct linkage to SPE officials who are considering recommendations from its task group on society relations for inclusion in their long-range plan. Jeff Johnson and Simon Spitz served on this SPE task group.
- Develop a position paper on society relationships that presents an intersociety vision for 2010.

Over the last 15 years many efforts have been made by leaders and committees to increase intersociety collaboration between the major exploration and production societies. Progress, particularly in jointly sponsored regional or topical conferences, certainly has occurred. Too often, however, initiatives have depended on specific individuals and have lacked long-term continuity. This Committee hopes to help build some longer-term ownership in the SEG for appropriate cooperation and actions. We also hope that our efforts might lead to a jointly sanctioned, multisociety cooperation committee in the near future.

# Reports of the SEG Representatives

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## AGI Member Society Council

### Craig J. Beasley, Representative

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The American Geological Institute (AGI) is made up of 34 member geoscience societies. These societies include academic, industrial, and governmental bodies. One of the primary goals of AGI is to communicate between the various earth sciences, and thus establish a common voice on educational, environmental, and governmental issues.

AGI serves the member societies in a number of tangible ways. News, trends, and general information concerning the geosciences are disseminated through AGI's primary publication, *Geotimes*. Particular attention is paid to governmental issues and funding for the geosciences. Realizing that public opinion plays a significant role in policy decisions, AGI has focused on promoting Earth Science Week to raise public awareness of issues that relate to earth science. This year's Earth Science Week, October 8-14, will include field trips, classroom visits, seminars, special exhibits, and activities with scout and youth groups. Information can be found at [www.earthsciweek.org](http://www.earthsciweek.org).

AGI monitors the U.S. Congress and the various meetings, hearings, and reports concerning the geosciences and advises the member societies of salient activities. It also provides geoscience information to policy makers through programs such as a Congressional Science Fellowship.

AGI is continuing its commitment to education through the Environmental Awareness Series (EAS) which covers such topics as soils, water, metals and mining, petroleum and the environment, global change, cities and geology. Another thrust of AGI is to increase awareness of national science awards among its member societies, and thereby increase participation in these awards by geoscientists. The AGI Web site at [www.agiweb.org](http://www.agiweb.org) is an excellent resource for the earth sciences. Training, educational information, links to home pages of member societies, governmental affairs links, and a wealth of other information make this one of the most diverse and useful Web sites related to geoscience. Please give it a visit.

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## API Central Committee for Telecommunications

### Clifford Ray, Representative

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The API Telecommunications Committee is a primary conduit by which our industry's perspective is transmitted to governmental agencies and legislative bodies which have regulatory or oversight authority in technical areas, particularly communications, that impact our operations. I have only recently been appointed to this position and, thus, cannot submit a detailed report at this time. Ben Thigpen, my predecessor as SEG's representative to the API Communications Committee, held this position for 23 years. I take this opportunity, on behalf of all SEG members, to thank him for such dedicated service in a very important job, one that impacts virtually a very large percentage of our membership.

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## International Association of Geophysical Contractors (IAGC)

### Louis I. Schneider Jr., Representative

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#### Edison Chouest Offshore

As IAGC enters a new millennium, it is in the process of reinventing itself to expand and enhance its value to the worldwide membership and to the geophysical industry at large. A major component of the change is directed to increasing the effectiveness of the association's international chapters for North America, Latin America, Europe, Africa, and Middle East (EAME), Far East region, and Australia. Discussions are taking place to possibly consolidate these chapters and link them together in a consistent and coherent manner to achieve the highest level of synergy and to assure a more equalized structure. A major development planned during 2000 is the establishment of a China Chapter supported by an office staff of two in Beijing.

Another major step is the consolidation of IAGC's two Web sites (one in Houston and a second in London) with a focal point for the organization's communications with the global membership and with others with whom it coordinates and cooperates. If you haven't visited the new, improved IAGC Web site, it can be reached at [www.iagc.org](http://www.iagc.org). Upgrades in the computer systems used by IAGC's two offices also will improve communications efforts.

Several innovations are under way to build on the association's image of quality, technology, professionalism, and HSE excellence with its members, potential members and others with whom IAGC works and communicates, including SEG. Among these value-adding activities is a series of special industry conferences planned during the last quarter of 2000 or in early 2001 on such subjects as "Spec Data Issues in the New Millennium," "Improving U.S. Geophysical Permitting and the Geophysical Industry's Image," "Capitalizing on the Opportunities to the Geophysical Industry, presented by E-Commerce," "Enhancing the Geophysical Industry's Environmental Stewardship," "A Layman's Guide to Multicomponent Seismic Systems," and "New Initiatives in Geophysical Industry Safety Performance."

To assure the strongest possible financial base in the future, IAGC is looking at several possible opportunities to partner and collaborate with other petroleum service and supply trade associations.

IAGC continues to provide industry standards for the industry. The IAGC land and marine safety manuals are available in English, Spanish, and Russian. The IAGC U.S. A. Geophysical Contract Manual will shortly be supplemented by a new millennium edition of the IAGC International Geophysical Contract Manual (available in July). The IAGC Guidelines for Geophysical Data-Use Licenses are proving to be a "best seller," and an improved second edition of the IAGC Environmental Manual for Worldwide Geophysical Operations will be available by March 1, 2001.

IAGC's operations are headed this year by Chairman of the Board Steve Ludlow of Veritas DGC (2000-01), Vice Chairman and Chairman-Elect Doug Elrod of Schlumberger, President Charles F. Darden, Vice President Mike Covil, and a 14-member board of directors.

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## **Offshore Technology Conference (OTC) Board of Directors**

### **James D. Robertson, Representative**

SEG is a sponsoring organization of the Offshore Technology Conference. This relationship dates from 1968 when SEG accepted an invitation to join AIME and seven other engineering and scientific societies to establish OTC as an interdisciplinary meeting on technology related to offshore resources. As a sponsoring organization, SEG is entitled to appoint one of the 13 members of the OTC Board of Directors. I have just finished the second year of a four-year term as SEG's representative to the Board.

The 2000 Offshore Technology Conference was held on May 1-4, 2000 at the Astrodome in Houston. Total attendance was 43 785, slightly less than 44 749 who registered for the 1999 OTC. Two hundred seventy-seven technical papers were presented, and 2033 exhibitors

from 28 countries occupied 370 000 square feet of exhibit space. Two OTC General Sessions covered the topics of "The Changing Face of the Offshore Industry—A Global Perspective" and "The Changing Face of the Offshore Industry—A Regional Perspective." The Active Arena focused on technology, opportunities, and developments in offshore West Africa. The 2000 OTC Distinguished Achievement Award for Individuals was presented to William S. French for his outstanding leadership in developing and commercializing 3-D seismic data processing technology to make 3-D seismology practical, affordable, and essential in offshore exploration and development. The 2000 OTC Distinguished Achievement Award for Companies, Organizations, and Institutions was presented to Kerr-McGee for the FPS Neptune Project, which featured the first use of spar technology for offshore production processing and operations and which pioneered a new generation of floating systems. John Browne, Group Chief Executive of BP Amoco, delivered the Keynote Address at the awards luncheon.

Exploration geophysics was exceptionally well represented in the 2000 OTC Technical Program by SEG-sponsored technical sessions on Reservoir Characterization, Multiple Attenuation, Geophysical Technology, and 4-D Seismology and by a topical luncheon speech delivered by Steve Cassiani of ExxonMobil. The details are covered in E. O. (Woody) Nestvold's report following this report. I thank Woody (Chairman), Linda Zimmerman (Vice-Chairman), and the other members of the SEG/OTC Technical Program Committee for their diligent efforts in assembling these excellent sessions. The hard work of these SEG members is directly responsible for the outstanding representation of exploration geophysics in the OTC Technical Program and for SEG's success in promoting geophysics to all OTC attendees. I would particularly like to thank Woody Nestvold, who is completing a five-year term as SEG's OTC Technical Program Representative, for his multiple years of exceptional service to SEG and OTC, and to welcome Linda Zimmerman as SEG's new OTC Technical Program Representative.

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## **OTC Technical Program**

### **E. O. (Woody) Nestvold, Representative**

The 2000 Offshore Technology Conference (OTC), held May 1-4 in Houston, continued the tradition of excellent technical programs sponsored by SEG. The presentations included seven half-day technical sessions plus a luncheon talk by Steve Cassiani of ExxonMobil. My perception is that our Monday and Wednesday sessions, together with most of Tuesday's Technology session, provided a definitive, state-of-the-art overview of reservoir characterization and 4-D seismic in the offshore industry today. Also, our Tuesday session on Multiple Attenuation

brought together the movers and shakers in that discipline and provided a forum for a collective statement on status and the road ahead. Finally, our topical luncheon speaker, Steve Cassiani, tied it all together with an excellent overview and look ahead—well into the 21st century—*The Importance of New Frontiers to Meet the Global Energy Demand in the 21st Century*. He addressed 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. He identified the new frontiers to meet the demand and thus help close the gap. He pointed out that companies must focus on where and how to explore for and produce hydrocarbons. Cassiani made it clear that a company's success depends on how it obtains maximum value from technology—and, most importantly, from people and their ability to understand and apply fundamental scientific principles.

On May 1, an all-day Reservoir Characterization session, coordinated by Edward Meanley of Veritas DGC and cosponsored by AAPG and SPE, featured keynote speakers Neal Goins of ExxonMobil and Bill Bashore of RC-Squared. Goins emphasized integration of multidisciplinary technologies as key to effective reservoir description. Bashore made the point that each discipline should work on the same earth model to provide a framework for effective integration of disciplines. Papers included fluid and lithology interpretation using marine 4-C seismic, overpressure detection with  $V_p/V_s$  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.

May 2 featured two SEG sessions. Art Weglein of ARCO (now University of Houston) coordinated an all-day Multiple Attenuation session. Keynote Speaker Dodd DeCamp of ARCO (now with Phillips) described the challenge of discovery, delineation, and development of new, high-quality, cost-effective resources in the face of complex, costly, and challenging technology requirements. He explained how removing multiples from seismic data to make them suitable for wave theoretic imaging can improve imaging in complex settings and meet the challenge. Papers in this session covered both specific technical responses and general strategic approaches to the challenges. Authors used synthetic and field data examples.

A second Tuesday session focused on Geophysical Technology. This half-day session, coordinated by Linda Zimmerman of ExxonMobil, spotlighted the application of diverse geophysical technologies to maximize exploration and production efficiency. Papers covered the range of geophysical technologies employed by the offshore industry 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.

The technical program finished on Wednesday with another session cosponsored by AAPG and SPE, 4-D Seismic: Evaluating Reservoir Dynamics. Mike Burnaman of Virtual Geoscience Consultants coordinated this session. Keynote speakers were Karl Berteussen of PGS and Roger Anderson of Columbia University. Berteussen discussed progress in 4-D acquisition technology and the impact on field development risks and economics. Anderson took us "out of the box" to provide a glimpse of the challenge facing companies as they evaluate and manage their total E & P portfolios of which reservoir characterization and 4-D seismic play only a part. Session papers emphasized the business relevance of this emerging technology. They covered 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.

Committee members instrumental in organizing this superior program were Chairman E. O. (Woody) Nestvold, Vice-Chairman Linda Zimmerman, Mike Burnaman, Dan Ebrom, Warren Franz, Tom Fulton, John MacDonald, Ed Meanley, Norman Neidell, Jim Robinson, Ed Stoessel, and Art Weglein. On a personal note, OTC 2000 completes my five-year term as SEG's OTC Technical Program Representative, and Chairman of the SEG/OTC Technical Program Committee. I appreciate the support of the SEG members who have helped make the OTC an important annual geophysics event.

For the 2001 OTC, Linda Zimmerman will become SEG's OTC Technical Program Representative and Committee Chairman; Dan Ebrom will be Vice-Chairman. The committee began work on the SEG-sponsored sessions for the 2001 OTC in February. Plans are now well under way for a technical program that promises to be as exciting as this year's sessions. We look forward to another great event next year and hope for the continuing support of the SEG membership.

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## **Petroleum Technology Transfer Council (PTTC) Board of Directors**

### **Glenn R. Breed, Representative**

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The Petroleum Technology Transfer Council (PTTC) <http://www.pttc.org> continues to play an important role in the transfer of technology to independent oil and gas companies. Independent oil and gas companies in the United States continue to drill 85% of all domestic wells, produce 65% of domestic natural gas and produce 60% of the oil in the lower 48 states. The independent producer continues to produce more and more of the domestic United States oil and gas. Because technology plays a major role in finding new reserves and increasing

the recovery factor in existing reservoirs, there needs to be a means of sharing technology among the independent producers. PTTC serves this function.

In a survey, the independent oil and gas producers ranked their technology needs as follows: (1) produce more from existing wells by identifying behind-pipe potential or through advanced stimulation; (2) prioritize in-field development through geologic targeting; and (3) increase output through improved oil recovery methods using realistic screening criteria and benefiting from sound operating practices, as documented in case studies.

PTTC offers more than 100 annual workshops throughout the country that are organized through its 10 regional resource centers. PTTC's workshops provide solutions to address specific regional concerns. Ranging from 3-D seismic imaging to horizontal drilling, these low-cost workshops can help independent operators reduce finding costs, improve operations, and meet environmental regulations.

Please visit <http://www.pttc.org/events.htm> for details on workshops from 1995 forward.

PTTC is a valuable resource for the industry, and SEG has a major role to play with PTTC and independent producers. This relationship will become even more important as multicomponent seismic data is used on a regular basis.

PTTC has an extensive list of different technologies in summary form. Please visit <http://www.pttc.org/techsum.htm> for details.

PTTC links to many of the e-commerce sites at <http://www.pttc.org/ts/state.html>



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