

# 2010 Annual Report of the Society of Exploration Geophysicists

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## Reports of the Officers

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# Reports of the Officers

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## Steve Hill, president

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**SEG Priorities.** I frame my report in the context of the priorities of the Society. These priorities are:

1. Serve a global membership.
2. Accelerate innovation.
3. Inspire geoscientists of tomorrow.

These priorities follow from SEG's mission: "Advance the science and technology of applied geophysics." In realizing this mission, our constituencies are our members and their employers.

The historical execution of these priorities reveals the following SEG values:

1. Geophysics to the core. Geophysicists come to our Society to recharge their geophysical batteries.
2. Border-free. Our science knows no political borders.
3. Member-driven. We have 32,000 members residing in 135 countries. We also have 48 affiliated societies.
4. Level playing field. We treat all under the same rules.
5. Investing in future: technology and students. I will expand upon these two items with examples in the following report.
6. Running a business. The Society is a multimillion-dollar business.

This combination of values uniquely describes our Society.

1. Serve a global membership
  - 1.1. New Executive Director

Upon the retirement of Mary Fleming, SEG's executive director, the Executive Committee welcomes Steven Davis as our new executive director.

At the first meeting of the 2009–2010 Executive Committee on 29 October 2009, Mary informed the Executive Committee of her intention to retire 30 June 2010. With this retirement, Mary completed more than eight years of energetic service to the Society. During her tenure, Mary's wide-ranging interests and abilities served the Society well. She will be missed.

With the knowledge of Mary's intended retirement, the Executive Committee created a Search Committee, charging it with providing the Executive Committee with a short

list of prospective candidates for its selection. As you will read in the report for the Search Committee included in this Annual Report, the Executive Committee selected search committee members who represented 1) the previous search committee, 2) academia, 3) industry and 4) knowledge of the executive director's responsibilities. The Search Committee's process reduced the approximately 200 applicants to three for the Executive Committee's consideration. In June 2010, the Executive Committee offered the executive director position to Steven Davis.

Steven Davis is the past executive director of the American Industrial Hygiene Association, based in Fairfax, Va. While having a smaller membership than SEG, the AIHA has comparable staff and financial investments. Steven has additional association management experience, both as executive director and through managerial roles. Steven earned a B.S. and M.S. in biology with an emphasis in botany at Old Dominion University in Norfolk, Va. He holds a Certified Association Executive (CAE) designation from the American Society of Association Executives and has been a member of the National Board of Trustees of the Institute for Organization Management of the U.S. Chamber of Commerce. We look forward to employing Steven's experience and thoughtful demeanor for the benefit of our Society.

### 1.2 Running a business

**Finances:** As I write this report at the first of July, it is unclear that the world's economy is out of the woods. Even though the world's financial outlook became more optimistic through the first half of the term for this Executive Committee, your Executive Committee focused on the business of the Society. We asked the question, "How can we improve our execution?"

Knowing we would be approving the 2010–2011 budget in May, we used the time between our first substantial January Executive Committee meeting and the May budget meeting to review selected product areas for financial improvements. Applying the observation that we are a member-driven society, we solicited feedback from the relevant SEG committees for our review. The accompanying reports by my fellow Executive Committee members reveal the ramifications of this measured approach. Additionally, the secretary/treasurer's report reviews the solid financial underpinnings of your Society.

While we have witnessed fluctuations in the value of our equity investments, the value of our Tulsa property, and, more significantly, the income we derive from that investment remains steady. Based on this observation, both the Executive Committee and the Finance Committee ask if we should increase our real estate investment on our Tulsa property by building a second building. To address this question, the Executive Committee in May created an ad-hoc task force charged with answering this question.

**Governance:** The members of this Executive Committee know the challenge of guiding the significant Society business with our “new-hire” crew. In fact, this year the president is the only Executive Committee member with more than one year of on-the-job experience. Previous Executive Committees likewise have recognized this challenge and created the Governance Review Committee to address our challenges in making informed decisions on behalf of the Society. You will read the report of that committee elsewhere in this report.

### 1.3 Digital revolution

Under the banner of SEG Online, we continue to increase our digital presence. As evidence of this, in 2009 we provided almost one million downloads of our content of *GEOPHYSICS*, *TLE*, and abstracts. This year we further expanded the reach of *GEOPHYSICS* by adding it to GeoScienceWorld, where it joins *TLE* in a collection of more than 40 geoscience journals published by approximately 25 publishers.

On a related note, our Geophysics journal now enjoys its highest-ever impact factor, perhaps because of the adoption of the special sections, the latest of which was addressed “seismic imaging and inversion.” In addition, the November-December 2009 issue was the largest in the journal’s history with 75 papers, all accessible to all members. This year, the journal celebrates its 75th anniversary.

To further our digital presence, we now have 51 books available for purchase in digital format, and have established plans to add more than 50 books to SEG eBooks in the next year. This allows our current and out-of-print books to be accessible by all. In addition, the complete, cover-to-cover version of *TLE* is also available to all members. Yes, this new digital edition even includes the advertisements.

We have expanded our online lecture series. Twenty-three Honorary Lectures (HL) and Distinguished Lectures (DL) are available for online viewing, with ten new lectures added in the past year. Six Distinguished Instructor Short Courses (DISC) are available online, as are selected SEG courses. Past Annual Meeting recordings are available for online viewing, and plans are set for online availability of selected technical sessions from the upcoming Annual Meeting in Denver.

### 1.4 Regional offices

Having expanded our Beijing office staff with the as-

sistance of a professional society management company, the Beijing office is now significantly increasing its offerings to local SEG members. New initiatives by SEG China include monthly networking meetings, expansion of professional-development programs, creation of a new South China Section, and preparation of a Shale Gas Technology Forum.

On the topic of office expansion, the Board of our international subsidiary, the SEG Global, Inc., and the Executive Committee agree that the next priority for a physical office is the Middle East. In support of this initiative, SEG has signed an agreement with AAPG to participate in the GEO Bahrain conference and exhibition, and a workshop focusing on mature fields will be conducted in Kuwait in collaboration with SPE.

We have signed a memorandum of understanding with the leadership of the SEG’s affiliated Brazilian society, SGBGf, to significantly increase our offerings in Brazil, with the later intention, as driven by demand, of opening an office in Rio de Janeiro. The cooperative program with SGBGf includes workshops, training programs, and a conference.

### 1.5 Continuing education

Our continuing-education program continues to build upon its past excellence. Our society offers 33 courses in its continuing-education curriculum. Our members continue to benefit from the SEG/EAGE DISC program, serving 1597 members in the last 12 months. Our Sections and Associated Societies benefit from both our Distinguished Lecture program (two per year) and our Honorary Lecture program; each covers one of six regions. In the last year, the Honorary Lecture program spanned 44 countries, with 122 presentations, attended by more than 6000 individuals.

### 1.6 Meetings

More than 9000 attendees profited from attending the SEG’s 2009 Annual Meeting. It was the world’s largest meeting of its kind with 360 exhibitors, 591 oral presentations, and 252 poster presentations. As we look forward to the 2010 Annual Meeting, we are encouraged that we have received our second-highest number of expanded-abstract submissions.

In addition to the events in China, the Middle East, and Brazil, SEG is actively pursuing meetings in Russia and Turkey and an event focusing on near-surface geophysics. Plans are to develop a comprehensive strategy for domestic and international meetings.

### 1.7 Collaboration agreements

We have signed collaboration agreements with SPE, AGU, and EEGS. These agreements set the stage for future joint activities.

## 2. Accelerate innovation

### 2.1 Forums and workshops

In 2010 we sponsored forums on the topics of integrat-

ed quantitative interpretation, shales, CO<sub>2</sub> sequestration, EOR, subsalt, and low frequencies.

## 2.2 SEAM

Our innovative SEAM subsidiary completed the acoustic simulation modeling of a marine, stratigraphic and subsalt complex covering the equivalent of 60 Gulf of Mexico blocks. The U.S. government, through RPSEA, has contributed an additional \$2MM for further elastic and potential fields simulation. For their initial \$100,000 investment, the 23 contributing companies have access to multimillion-dollar modeling results. In the next two years, the data will become available in the public domain. Building upon their success with Phase I, the SEAM Board decided to proceed with Phase II, which will simulate high-density land acquisition with complex near-surface challenge and fractures. This project is scheduled to launch next year with three-year commitments.

## 2.3 IQ Earth

This Statoil-sponsored project has the mission of creating a fundamental change in visualizing and predicting subsurface structure, along with rock and fluid properties through quantitative subsurface integration. The project held a kick-off Forum at the first of this year.

## 3. Inspire geoscientists of tomorrow

The SEG has more than 8,500 student members, many of whom are members of one of SEG's 229 student chapters. In the last ten years, the number of student chapters increased from 75 to the present 229. That growth in the number of student chapters has kept pace with the growth of SEG's student-member population. Through its student chapters, the Society is in a unique position to nurture the much-desired personal attributes of leadership and teamwork by encouraging excellence in the student-chapter programs. For example, some of our student chapters sponsor local community-outreach programs.

You may be proud of the following list of significant opportunities your Society provides to its student members:

1. Sponsored membership
2. Scholarships
3. Student-chapter programs
4. SEG/Chevron Student Leadership Symposium
5. SEG/ExxonMobil Student Education Program. In 2009 we offered this program in Bahrain, Beijing, Amsterdam, and Houston. In 2010 we will have offered this program in St. Petersburg, Bucharest, and Denver.
6. Challenge Bowl
7. Geoscientists *Without* Borders. This program helps to improve lives through the application of geophysics to humanitarian projects, connecting universities and industry with communities in need.
8. Field-camp grants

9. Student expos
10. Honorary Lecturers
11. SEG Online

The majority of the above-listed programs are available thanks to the generosity of our associated companies and individuals ("sustaining investors") who contribute through the SEG Foundation.

**More to come.** As is the case with all of these Annual Reports, I write this report during the first week of July 2010. The report covers the activities of the first two, all-inclusive Executive Committee meetings. By the time you read this report, your Executive Committee will have held two additional, all-inclusive meetings. Thus, this report covers the first half of the deliberations of your Executive Committee. There will be more to come.

**Thanks.** I am particularly grateful to each of you who contributes to our Society in so many different ways, both our sterling staff and enthusiastic volunteers. We all have benefitted through our totally engaged Executive Committee members, those who have taken leadership responsibilities in our Society committees and subsidiaries, those who contribute their thoughts and efforts for the advancement of our science. I thank you.

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## Klaas Koster, president-elect

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Becoming aware of the many activities in which SEG is engaged is no simple task. Comparing this year's SEG to that of only a few years ago shows that the scope and complexity of SEG's activities have grown remarkably in just a few years. I had the opportunity to attend a few SEG Foundation Board meetings in person. The way the Foundation and SEG are enhancing each other's effectiveness is important and is not easily deduced from a financial summary statement. The scarcity of discretionary funds available to the Foundation and the limited personnel support are points of concern, yet these can be remedied. This Executive Committee (EC) already has relieved some of the financial pressures on the Foundation. I intend to work with staff and the incoming Executive Committee to make more personnel available so the Foundation can continue to support SEG as effectively as possible.

The performance of the China projects was a concern at the time I joined the EC. Close cooperation among Tulsa- and China-based staff as well as SEG Global and other stakeholders has greatly improved the outlook. All relevant SEG parties are discussing whether another office should be opened, and if so, where and when. Several viable locations and models for cooperation are being investigated. I expect that a joint proposal for opening another office will be presented to the Executive Committee before the end of the year.

Regarding property improvements, I encouraged staff to investigate if there are better ways for SEG to benefit from its

current, underdeveloped Tulsa site. A number of proposals were discussed by the Executive Committee and are being considered by an ad-hoc committee led by Gary Servos.

I also found it useful to attend the Finance Committee's annual budget meeting. Years of experience with SEG's finances is both beneficial and critical to the effectiveness of this committee. Fortunately, the committee can draw upon a number of people who have just that kind of experience. With the ever-growing demands for financial rigour, I foresee that future members of this committee will need increased levels of formal financial training and experience. This is similar to what has already been achieved with SEAM.

Finally, I agreed to chair the Search Committee and identify suitable candidates for the Executive Director position. That committee's activities are summarized separately in this Annual Report.

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## David Lumley, first vice president

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The most significant challenge facing this Executive Committee has been that of finances. We began our term by inheriting a projected \$1 million net revenue loss for the 2009–2010 fiscal period—talk about a warm welcome! This was largely because SEG has historically built its budget based on a cost-recovery model, i.e., members are charged fees at cost for most SEG products and services. When the global financial crisis hit, everyone cut back spending and as a result there has not been enough revenue to keep pace with fixed program expenses.

There are two major problems with the old cost-recovery model. First, this model does not allow SEG to maintain a healthy cash reserve to fund programs that may not be cost-recoverable but are widely viewed as valuable benefits to the membership. Second, SEG programs that require long-term funding commitments are subjected to short-term cash-flow fluctuations that can risk cancellation of the program and loss of the original investment (not to mention adverse effects on morale and goodwill among the membership).

This Executive Committee has focused on transitioning to a cost-plus model, in which members are charged fees at cost plus a modest markup (but still less than street/market value), and nonmembers are charged the full-market rates. This simple shift in the business model will allow SEG to better serve its membership by allowing the Society to raise funds on some revenue-positive products/services to fund other revenue-negative but valued products/services, in both good and bad economic times, and without having to tap into the Society's strategic long-term investment reserves (analogous to your retirement funds). It also allows us to smooth out the highs and lows of unavoidable financial cycles so we can preserve continuity and investments in our programs.

SEG is a not-for-profit organization, but some services can generate a small profit in order to pay for other services that do not. In my opinion, this is a much more sustainable financial model than one in which some services break even and others lose money. SEG's new pricing strategy will keep our fees

at similar or lower rates than our sister societies (e.g., AAPG, AGU, SPE) while strengthening our financial security. I am proud to say it appears we have been able to balance the budget and avoid a potentially debilitating \$1 million shortfall.

While finances dominated many of the Executive Committee discussions, there were certainly other issues of major importance. Exponential growth in student memberships with essentially free products and services was not financially sustainable. We worked with students groups, the Membership (MC), the Global Affairs Committee (GAC), and others to develop new approaches (e.g., offering online *TLE* access instead of expensive shipments of print issues) that support and encourage student membership at lower cost to the society. SEG is poised to open several international offices, which require long-term financial commitments and associated risks. I have worked with the Executive Committee and SEG Global Inc. to explore small-business strategies to develop international services and leverage in-country partnerships to reduce risk and enhance the potential for success in our international projects.

Governance has been a major issue this year and will continue to be so. SEG's Constitution, Procedures, and Bylaws are inconsistent and outdated. A major revamping of our governance documents is necessary to bring us into compliance with modern corporate standards, to correct inconsistencies, and to remove possible legal liabilities to Executive Committee and Council members. SPE and AGU have recently completed major governance revamps for similar reasons; we need to find a way to do this soon before the Society finds itself in an adverse situation that becomes too far advanced to fix. As part of the governance revamp, SEG should create a proper Board of Directors to replace the Executive Committee, with wider elected representation, and with director terms that rotate every two to three years to provide continuity in the Board's knowledge and decision making.

On a personal note, I was happy to be able to promote some scientific issues important to me regarding energy and environmental concerns. I wrote a President's Page discussing the role that we as SEG members can play in the global energy and environment challenge and two technical papers in the February 2010 *TLE* special section on CO<sub>2</sub> sequestration. And in the spirit of the new SEG financial model, I organized two research workshops (SRW 2009 and AAPG/SPE/SEG Hedberg), both of which made an excellent scientific impact and generated modest profits for SEG to reinvest in other valuable SEG programs.

I have served as the Executive Committee liaison for several committees, the members of which I've found to be capably appointed with energetic and motivated volunteers. It has been a privilege to work with SEG staff in Tulsa, whom I've always found to be extremely friendly and professional—I'd certainly hire them any day! It has been especially nice to have worked with Mary Fleming, SEG's former executive director who recently retired; she will be missed in many ways. And finally, it has been a pleasure to work closely together with my fellow Executive Committee members, especially President Steve Hill,

throughout the past year. Although we brought diverse opinions to the table from time to time, we reached consensus on every issue with shared respect and humor that made it a great experience I would recommend to anyone.

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### **John Bradford, second vice president**

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While each Executive Committee faces a full slate of difficult decisions, this year was particularly challenging for SEG with three major issues on the table: (1) the fiscal fallout from the global financial crisis, (2) restructuring the governance to ensure legal compliance and a clear chain of accountability, and (3) hiring a new executive director. At the time of this writing, not all of these issues have come to final resolution, but I am pleased to report that with the hard work of SEG staff, volunteer committees, and my colleagues on the Executive Committee under the leadership of Steve Hill, the challenges have been met and are well on the way toward successful solutions. In addition to being actively engaged on the larger issues facing SEG, I worked toward two particular goals: (1) stimulating activity and visibility of groups focused on technical subdisciplines within applied geophysics, and (2) developing partnerships with other scientific organizations internationally.

A technical section is a self-organized and appointed formal unit within the overall SEG structure that allows organized technical focus groups to stimulate exchange of technical information through publications, forums and workshops, to promote networking and technology transfer, and to provide input into governance. SEG's peer organizations actively encourage and promote technical focus groups, and these groups have proven effective at accomplishing the objectives noted above. Formation of a technical section is a mechanism that has thus far been underutilized in SEG, perhaps because of lack of definition in the SEG governing documents. The restructuring of the SEG governance is a unique chance to clearly differentiate technical sections from geographically oriented sections and affiliated societies. I believe that this added definition and clarity, coupled with active promotion by the SEG, will enable technical subdisciplines to flourish and ultimately enhance SEG's primary objective of promoting the science of geophysics.

Efforts to enhance organizational partnerships or build new ones have been successful, and we have made excellent progress this year. Activities to date include securing SEG cosponsorship of the International Conference on Environmental and Engineering Geophysics held in June in Chengdu, China; executing a new intersociety collaboration MOU with the American Geophysical Union that calls for formation of an SEG/AGU collaboration subcommittee; and updating the collaboration MOU with the Environmental and Engineering Geophysical Society coupled with SEG Level III sponsorship of the 2011 SAGEEP meeting to be held in Charleston, S.C., USA, and formation of the SEG/EEGS collaboration subcommittee.

In addition to the particular efforts noted above, I serve as the Executive Committee liaison to a number of committees and would like to take this opportunity to highlight the fine

work that these groups have done this past year. The Committee on University and Student Affairs completed what has proven a difficult and at times controversial plan that continues to promote SEG's engagement of students while at the same time effectively dealing with the administrative and fiscal challenges of the exploding student membership. The SEG/AAPG Cooperation Committee continues to be active in seeking ways to facilitate improved communication between the organizations' respective members. The Arctic Technology Conference Program Committee has been working diligently to plan the inaugural ATC conference to be held in February 2011 in Houston. The Mining and Geothermal, Interpretation, and Gravity and Magnetism committees will highlight their respective subdisciplines through a variety of technical sessions and workshops at SEG's Annual Meeting in Denver. The Near Surface Geophysics Section was active in planning and cosponsoring a preconvention workshop held in Wuhan, China, in conjunction with the International Conference on Environmental and Engineering Geophysics. Additionally, the NSGS is sponsoring three special sessions at the Denver meeting.

In all, this has been a busy and exciting year to serve on the Executive Committee. I have learned a great deal and truly have enjoyed working closely with SEG staff and my fellow Executive Committee members. Thanks to the SEG membership for giving me the opportunity to serve the Society.

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### **Arthur Cheng, vice president**

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It is an honor and privilege to have served as SEG vice president this past year. I saw up close the challenges the Society faces in this changing world and how hard the dedicated SEG staff and volunteers work to make SEG the leading global professional geophysical society.

When this executive committee took office at the end of the 2009 Annual Meeting in Houston, we were immediately presented with three major challenges: One was the financial state of the Society, facing a global recession. Another was the issue of governance and the need to review and revise the SEG Constitution, Bylaws, and Procedures in light of changes in the Society and the legal framework under which it operates. The third, and unexpected, challenge was the retirement of Mary Fleming, SEG executive director. These items occupied much of the time of this executive committee, and each item took more time than anticipated. We hired Steven Davis as the new executive director, and we've made significant progress toward addressing the budget and governance issues during this past year. However, the incoming executive committee will still face budget and governance challenges.

I personally was involved in working with SEG staff to develop plans in two areas: meetings and research. In the area of meetings, which includes workshops and forums, we have been trying to expand the number of meetings to better serve our growing membership. We lag behind our sister societies in offering these services to our members. We are increasing the number of international meetings, organized by SEG

or through a cooperative arrangement with sister societies. In the coming year, we plan to offer meetings in China, Southeast Asia, South America, and Europe. We lack having a more formal meeting-planning group, relying on our members for many of the meeting proposals. I hope to continue to work with the staff and future executive committees to achieve a more streamlined procedure in planning meetings.

The second area is research. I was involved with the SEG Advanced Modeling project (SEAM) since its inception, and I am happy to report that SEAM Phase 1, the acoustic simulation of a deep subsalt reservoir, has been successfully completed, though it took longer than anticipated. SEAM Phase 1 has also resulted in SEAM-RPSEA, a project cofunded by the U.S. Department of Energy under the RPSEA program. SEAM-RPSEA extends the simulation to elastic as well as nonseismic measurements. The SEAM Corporation has initiated a Phase 2 proposal to the geophysical community. Phase 2 involves modeling of land seismic surveys. We hope to start Phase 2 in 2011.

I would like to thank our members for their support and the SEG staff who make our jobs easier.

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### **Anna Shaughnessy, secretary-treasurer**

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I am pleased to report that SEG's financial health is sound. SEG staff and the 2010 Executive Committee made a dedicated effort to ensure that processes are in place to maintain a strong financial stewardship of the Society as it grows more global and becomes more complex.

SEG consolidated revenues for the fiscal year ending 30 June 2010 totaled \$16,106,574—up from the previous year of \$14,263,166. Expenses totaled \$15,600,004—up from \$14,942,204 in 2009.

The cumulative net income was positive at \$506,570 despite a projected budget deficit of close to \$1 million. Items that contributed to the better-than-predicted results were: a positive variance of \$742,000 for the Annual Meeting, membership revenues of \$171,000, and \$117,000 for increased subscriptions to *The Leading Edge*. There was also a decrease of \$165,000 in staff costs that contributed to the positive bottom line. The reduced staff cost was primarily due to unfilled positions, which is clearly not a sustainable reduction and not a desirable goal in light of the continued growth and global expansion of our Society.

SEG did benefit from unrealized gains of \$362,828 this fiscal year. This is \$1,109,001 over the prior year which had a net loss of \$746,173. SEG investments are currently at \$6,271,016—up from \$6,291,006 at the end of June 2009.

The recession has adversely affected most of our product lines, such as meetings, reference publications, and advertising. However, membership, continuing education, and subscription revenues have grown slightly and appear to remain strong.

The Executive Committee and SEG staff spent a significant amount of time working to improve the financial strength and stewardship of SEG this past year. This effort was partly due to the projected budget deficit and the weak global market.

Historically, we have enjoyed a significant gain from our investments, which were used to supplement our operation costs, start new programs, or reinvest for future needs. The last several years have made it clear that unrealized gains are not a reliable way to finance our basic programs and services nor provide for growth. Other factors for revisiting our financial processes were the increased complexity of our Society and an effort to ensure alignment with our sister societies.

To address the budget deficit and to ensure a balanced budget for future years, the Executive Committee challenged each SEG department to review its product lines with their fully burdened costs and to identify potential ways to simplify processes, reduce costs, and increase revenues. After the review, the Executive Committee proposed that each product and service strive toward a cost-plus pricing model. If more of our products are revenue-positive, we could use the revenues to expand our services. SEG would have better financial flexibility even in a weak market when we don't realize a positive return on our investments.

It has been my privilege to serve as SEG's secretary/treasurer this year. I have gained a thorough understanding and appreciation for all the activities the Society is involved in. In addition, I have gained an even greater respect and admiration for SEG staff, my fellow Executive Committee members, and the numerous volunteers who dedicate their time and effort to drive the Society forward.

I would like to thank SEG staff for their cooperation and diligent effort in working with the Executive Committee in this year's effort toward even greater financial stewardship. Their dedicated work will benefit SEG members for years to come in our goal to ensure adequate funding for ongoing programs and continued expansion of services for our members.

I would also like to acknowledge the support from this year's Finance Committee, Ray Vogler, Dan Ebrom, Brad Birkelo, and Jamie Rector. In addition, special thanks go to SEG Director of Finance and Operations Nancy Carter and Accounting Manager Melanie Laster who supported me along the way.

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### **Vladimir Grechka, editor**

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This report summarizes the main developments in GEOPHYSICS in 2009–2010, my first year as SEG editor. I feel honored to be assisted by more than 100 excellent individuals. They include assistant editors José Carcione, Mauricio Sacchi (who replaced me after I was elected editor), Evert Slob, Tamas Nemeth (Supplements and Special Sections), and Johan Robertsson (GEOPHYSICS Letters); 63 associate editors; 18 special editors; four SWAT editors; two department editors; a rotating group of guest editors; and the staff of SEG's Publications Department.

Associate editors John Peirce, Robert Ferguson, Sergey Fomel, Bill Harlan, and Robert Keys recently resigned after a number of years of dedicated service. They were followed by Chris Liner, Oleg Portniaguine, Mike Tompkins, and Dirk-Jan van Manen. To fill their positions and to process papers submit-

ted to GEOPHYSICS, I welcomed the following associate editors: Phil Anno (AVO, replacing Robert Keys), Colin Farquharson and Xinyou Lu (Electrical and Electromagnetic Methods, replacing Oleg Portniaguine and Mike Tompkins), Michal Ruder (Gravity Exploration Methods, replacing John Peirce), Shawn Maxwell (Passive Seismic, a new section established in 2009), Luca Duranti (Poroelasticity, to assist Boris Gurevich and Tobias Mueller), Antoine Guitton (Seismic Inversion, replacing Bill Harlan), Ivan Vasconcelos (Seismic Migration and Signal Processing, replacing Sergey Fomel), Jeffrey Shragge, David Aldridge, and Stig Hestholm (Seismic Modeling and Wave Propagation, replacing Robert Ferguson and Dirk-Jan van Manen), Tariq Alkhalifah (Seismic Velocity/Statics, replacing Sergey Fomel), and Danilo Velis (Signal Processing). Former SEG Editor Kees Wapenaar became associate editor for the Seismic Interferometry section.

**GEOPHYSICS Bright Spots.** SEG President Steve Hill launched the GEOPHYSICS Bright Spots editorial column in THE LEADING EDGE several years ago and served as the column editor. When Steve became SEG president-elect in 2008, he resigned as editor of GEOPHYSICS Bright Spots. Chris Liner (former SEG editor) volunteered to coordinate the column, however, because of other commitments, he resigned in 2009. Although finding Chris' successor was not easy, Ken Mahrer (former GEOPHYSICS associate editor) agreed to take over. To lighten Ken's load and help him with paper selection for Bright Spots, we decided to automate the paper nomination process. Now, thanks to the help of GEOPHYSICS staff, an associate editor simply checks a box in GEOPHYSICS manuscript-handling system to bright-spot a paper. The associate editor or the authors then write a short summary for Bright Spots, and Ken compiles and edits the column, adding a few comments of his own.

**GEOPHYSICS Dissertation Abstracts.** Before ending his term as SEG editor, my predecessor Kees Wapenaar noted that some interesting studies in applied geophysics are carried out by students who write their theses, earn their degrees, but never publish the results elsewhere. He suggested that publishing abstracts of recently defended Ph.D. dissertations in GEOPHYSICS might be a valuable service to the SEG members. Both GEOPHYSICS editors and staff enthusiastically supported Kees' idea. As a result, the GEOPHYSICS Dissertation Abstracts department was formed with Peeter Akerberg as its first editor. To date, 10 abstracts of Ph.D. theses have been published.

**Supplements and Special Sections.** For the past several years, GEOPHYSICS produced a number of supplements and special sections dedicated to various geophysics subdisciplines. A supplement differs from a special section mainly in the format and the number of papers. According to the adopted definition, a supplement is a separately bound collection of more than 20 papers subdivided into different sections; whereas a special section, which typically contains approximately 20 or fewer papers, appears in a regular issue of GEOPHYSICS.

Former SEG editors Yonghe Sun and Kees Wapenaar saw a great value in publishing supplements and special sections, and I am determined to further their initiative. Tamas Nemeth, who handles supplements and special sections as assistant editor, helps greatly in this effort. Supplements and special sections give a comprehensive overview of the latest developments of a specific subject area within applied geophysics, as well as stimulate integration and cross-fertilization among different geophysics disciplines. They are edited by a small group of guest associate editors who are world-renowned experts in their subjects. The guest editors issue a call for papers, invite authors, and oversee the review process. Guest editors then write an introduction to the supplement or special section, which ties the published papers together, identifies a place of the entire collection within the broader context of applied geophysics, and points to possible directions of future development.

Supplements and special sections are well appreciated by SEG members. According to statistics recently gathered by Kees Wapenaar, "The emphasis on special sections has contributed to a significant increase in the number of papers submitted to GEOPHYSICS. From 2006 through 2009, the number of papers appearing in special sections steadily grew from 22 in 2006 to 84 in 2009. Averaged over this period, 17% of the GEOPHYSICS papers appeared in special sections. It is remarkable that in the same period, approximately 50% of the papers that received the Best Paper in GEOPHYSICS Award and Honorable Mention for Best Paper appeared in special sections." The winner of the Best Paper in GEOPHYSICS Award in 2010, which was published in the Seismic Anisotropy special section, reinforces this trend.

The following is an overview of supplements and special sections, both recently published and those planned for upcoming issues.

"Advances in Seismic Inversion and Imaging" is a supplement that appeared along with the November-December 2009 issue. The guest editors are Stefan Buske, Isabelle Lecomte, Stéphane Operto, and Valenti Sallares. This supplement contains 48 papers—a record of 75 technical contributions—for the November-December 2009 issue of GEOPHYSICS. The Seismic Inversion and Imaging supplement covers recent developments in seismic inversion and imaging at multiple scales, ranging from the near-surface scale (~50 m) to global scale (~1000 km). Although there is an obvious connection between seismic-exploration and global-seismology communities, they traditionally developed with little overlap. Hence, the supplement provides a ground for healthy collaboration of these two groups of geophysicists.

The special section "Hydrogeophysics—Electric and Electromagnetic Methods" was to be published in the July-August 2010 issue of GEOPHYSICS. It contains 23 manuscripts, which were collected and reviewed by guest editors Jan van der Kruk, André Revil, and Evert Slob. As a discipline, hydrogeophysics comprises geophysical, primarily electric and electromagnetic, methods dedicated to inferring the properties and monitoring the processes in vadose zone and aquifers. Hydrogeophysical studies are relevant to environmental, hydrological, and agri-

cultural research and engineering. The special section aims to review the existing theories and their applications in various geological environments and to bring together different communities of hydrogeophysicists.

Following the tradition of publishing Silver and Golden Anniversary issues of *GEOPHYSICS* in 1960 and 1985, respectively, the “*GEOPHYSICS* 75th Anniversary” special section will appear in the September-October 2010 issue. It will contain 17 overview- and tutorial-style papers from experts in the majority of the existing geophysics subject areas. The guest editors are Enders Robinson, Sven Treitel, Kees Wapenaar, and myself.

The special section “Seismic Data Sampling and Wavefield Representation,” which currently has 27 potential contributions, is scheduled to be published in the November-December 2010 issue of *GEOPHYSICS*. The special section is being edited by Sergey Fomel, Tamas Nemeth, and Mauricio Sacchi. Its main goal is to survey the recent concepts, methods, and applications related to acquisition and reconstruction of seismic data. This survey intends to produce a comprehensive modern overview of the long-standing effort to determine the optimal data for a given geological task.

A planned “Seismic Anisotropy” special section is based on presentations given at the 14th International Workshop on Seismic Anisotropy. The paper submission deadline for the Anisotropy special section was 31 July 2010. The section will appear in the May-June 2011 issue. Guest editors are Greg Ball, Andrej Bóna, Boris Gurevich, and Marina Pervukhina.

Up-to-date information about *GEOPHYSICS* supplements and special sections can be found at <http://seg.org/geophysics/specialsections>.

**Statistics.** The total number of papers submitted to *GEOPHYSICS* in the last three years is:

- 414 papers (1 July 2007–30 June 2008)
- 427 papers (1 July 2008–30 June 2009)
- 411 papers (1 July 2009–30 June 2010)

Approximately 67% of the contributions of the past year come from authors based outside the United States. The broadness of the geographical origins of the papers reflects the international character of *GEOPHYSICS* (Table 1). The involvement of oil and service companies continues to be relatively small, at approximately 15% (Table 2).

The manuscript handling improved dramatically in the past few years. The average time required for first review is approximately two months, thanks to the efforts of my predecessors (Table 3). The average time between acceptance and publication increased by 11 days in comparison to last year but is still significantly shorter than in previous years (Table 4). This increase can be explained by a relatively large percentage of special sections and supplements. These submissions take more time to publish because all manuscripts submitted for special sections and supplements are published together when the last paper on that topic is finished with production. General submissions

to regular issues of *GEOPHYSICS* are published immediately on completion of that paper’s production process.

Thomson’s ISI Web of Knowledge defines the impact factor of a journal in a specific year as the number of citations in that year for articles published in the journal in two preceding years, divided by the total number of articles published in those years. According to the Science Edition of Thomson Reuters’ Journal Citation Reports released in June 2010, *GEOPHYSICS* earned its highest impact factor—1.662—in the journal’s history. *GEOPHYSICS* impact factor has risen steadily during the past several years as the journal has sharply reduced its average time from submission to publication from nearly two years to approximately 11 months. The impact factors were 1.030 in 2005, 1.228 in 2006, 1.167 in 2007, and 1.349 in 2008. Table 5 presents the impact factors of *GEOPHYSICS* from 1975 to 2009.

Measured by impact factor, *GEOPHYSICS* ranks 31st in a list of 75 journals in the category of Geochemistry and Geophysics. In 2008, the journal ranked 35th among 64 journals. Based on the total number of citations (9,988 in 2009) of *GEOPHYSICS* by all other journals, *GEOPHYSICS* ranks in 10th place. The corresponding figures in 2008 were 7,811 citations and 11th place.

**Table 1. Origin of papers submitted for publication in GEOPHYSICS by country 1 July 2009—30 June 2010**

|                                           |            |
|-------------------------------------------|------------|
| USA.....                                  | 135        |
| China.....                                | 41         |
| United Kingdom.....                       | 33         |
| Norway.....                               | 24         |
| Canada.....                               | 23         |
| Germany.....                              | 19         |
| Netherlands.....                          | 15         |
| Australia.....                            | 14         |
| Italy.....                                | 13         |
| France.....                               | 12         |
| Japan.....                                | 11         |
| Brazil.....                               | 9          |
| Switzerland.....                          | 9          |
| India.....                                | 8          |
| Israel.....                               | 6          |
| Saudi Arabia.....                         | 6          |
| Denmark.....                              | 5          |
| Korea, Republic of.....                   | 4          |
| Portugal.....                             | 4          |
| Sweden.....                               | 4          |
| Taiwan, Province of China.....            | 3          |
| Argentina.....                            | 2          |
| Iran, Islamic Republic of.....            | 2          |
| Botswana.....                             | 1          |
| Czech Republic.....                       | 1          |
| Egypt.....                                | 1          |
| Greece.....                               | 1          |
| Hungary.....                              | 1          |
| New Zealand.....                          | 1          |
| Slovakia.....                             | 1          |
| United States Minor Outlying Islands..... | 1          |
| Vietnam.....                              | 1          |
| <b>Total.....</b>                         | <b>411</b> |

**Table 2. Origin of papers submitted for publication in GEOPHYSICS by employer 1 July 2009—30 June 2010**

|                                          |            |
|------------------------------------------|------------|
| Universities.....                        | 272        |
| Research Institutes.....                 | 49         |
| Service Companies and Manufacturers..... | 34         |
| Oil Companies.....                       | 25         |
| Governments.....                         | 19         |
| Consultants.....                         | 8          |
| Instrument Companies.....                | 2          |
| Retired.....                             | 2          |
| <b>Total.....</b>                        | <b>411</b> |

**Table 3. Manuscript-handling statistics**

| <b>Year submitted<br/>1 July–30 June</b> | <b>Average number of days<br/>required for first review</b> |
|------------------------------------------|-------------------------------------------------------------|
| 1991–92.....                             | 172                                                         |
| 1992–93.....                             | 157                                                         |
| 1993–94.....                             | 184                                                         |
| 1994–95.....                             | 182                                                         |
| 1995–96.....                             | 211                                                         |
| 1996–97.....                             | 186                                                         |
| 1997–98.....                             | 205                                                         |
| 1998–99.....                             | 214                                                         |
| 1999–00.....                             | 212                                                         |
| 2000–01.....                             | 211                                                         |
| 2001–02.....                             | 178                                                         |
| 2002–03.....                             | 133                                                         |
| 2003–04.....                             | 141                                                         |
| 2004–05.....                             | 105                                                         |
| 2005–06.....                             | 66                                                          |
| 2006–07.....                             | 53                                                          |
| 2007–08.....                             | 57                                                          |
| 2008–09.....                             | 55                                                          |
| *2009–10.....                            | 63                                                          |

\* First reviews have not been returned for all papers.

**Table 4. Manuscript-handling statistics**

| <b>Year published<br/>1 July–30 June</b> | <b>Average number of days between<br/>acceptance and publication</b> |
|------------------------------------------|----------------------------------------------------------------------|
| 1991–92.....                             | 176                                                                  |
| 1992–93.....                             | 181                                                                  |
| 1993–94.....                             | 178                                                                  |
| 1994–95.....                             | 210                                                                  |
| 1995–96.....                             | N/A                                                                  |
| 1996–97.....                             | N/A                                                                  |
| 1997–98.....                             | 180                                                                  |
| 1998–99.....                             | 177                                                                  |
| 1999–00.....                             | 202                                                                  |
| 2000–01.....                             | 208                                                                  |
| 2001–02.....                             | 213                                                                  |
| 2002–03.....                             | 195                                                                  |
| 2003–04.....                             | 161                                                                  |
| 2004–05.....                             | 158                                                                  |
| 2005–06.....                             | 181                                                                  |
| 2006–07.....                             | 143                                                                  |
| 2007–08.....                             | 82                                                                   |
| 2008–09.....                             | 111                                                                  |
| 2009–10.....                             | 122                                                                  |

**Table 5. Impact factor**

| <u>Year</u> | <u>Impact factor</u> |
|-------------|----------------------|
| 1975. ....  | 0.629                |
| 1976. ....  | 1.095                |
| 1977. ....  | 0.773                |
| 1978. ....  | 0.591                |
| 1979. ....  | 0.918                |
| 1980. ....  | 0.895                |
| 1981. ....  | 1.087                |
| 1982. ....  | 1.100                |
| 1983. ....  | 1.461                |
| 1984. ....  | 1.193                |
| 1985. ....  | 1.206                |
| 1986. ....  | 0.968                |
| 1987. ....  | 1.084                |
| 1988. ....  | 0.931                |
| 1989. ....  | 1.017                |
| 1990. ....  | 0.905                |
| 1991. ....  | 1.166                |
| 1992. ....  | 0.697                |
| 1993. ....  | 0.919                |
| 1994. ....  | 0.824                |
| 1995. ....  | 0.877                |
| 1996. ....  | 0.867                |
| 1997. ....  | 0.824                |
| 1998. ....  | 0.687                |
| 1999. ....  | 0.818                |
| 2000. ....  | 0.861                |
| 2001. ....  | 0.649                |
| 2002. ....  | 0.834                |
| *2003. .... | 0.589                |
| 2004. ....  | 1.087                |
| 2005. ....  | 1.030                |
| 2006. ....  | 1.228                |
| 2007. ....  | 1.167                |
| 2008. ....  | 1.349                |
| 2009. ....  | 1.662                |

\* The impact factor for 2003 is based on a single issue.  
A recalculation based on all issues in 2003 is 0.862.

# Reports of the Standing Committee Chairmen

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## Annual Meeting Steering Nancy House, chairman

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The steering committee chose the theme of the Annual Meeting—Imaging Our Future—from a number of options because it reflects the optimism and excitement we feel for the upcoming meeting. Oil and gas industry professionals in Denver and the Rocky Mountain region have led the way over the past few years in developing and implementing technology to locate and develop unconventional resources. Geophysical technology evolved to highlight areas with natural fracturing. It measures changes in the reservoir over time, reducing the risk of developing the resources, and calculating the size of the prize. The meeting in October promises to showcase that technology for geophysical and nongeophysical professionals, as well as the beauty and vibrancy of Denver, the Mile High City.

In addition to a great technical program organized by Stewart Levin, the upcoming meeting promises something for all who attend—from golf to more gender-neutral activities of the spouse program. For those who play golf, Brian Pluemer is organizing a Golf Tournament to be held at the Ridge at Castle Pines, a beautiful course a few minutes south of Denver. Tee-off will be Saturday morning before the official convention opening, at approximately the same time as the Denver Rock and Roll Marathon in downtown Denver. The meeting begins Sunday afternoon with the Honors and Awards Ceremony and Presidential Address, followed immediately by the Sunday evening Icebreaker to open the exhibit hall, allowing an opportunity to preview the many exhibits, thanks to Exhibitor Chair Sue Jackson.

The International Showcase and Global Theater (ISGT), with the theme “Unite in Denver,” is chaired by Mary Sue Purcell and cochaired by Tagir Galikeev. ISGT will be showcasing this year’s focus region, FSU/Europe, while highlighting technologies that have influenced geophysics in the U.S. Rocky Mountain Region, including many from other societies such as AAPG, EAGE, and SPE. At the end of June, the sponsorship for ISGT was a little under the budgeted goal, and the number of attendees was not as high as hoped. ISGT may achieve its original goal for having it every year at the Annual Meeting. I will suggest that the Executive Committee consider alternatives for globalization such as GAC-run conferences at venues outside North America on a biannual basis.

On Monday morning, the conference starts with the SEG Forum, chaired by Rutt Bridges. The topic of the forum is “Unconventional Gas: Political and Environmental Challenges and Opportunities.” Recent advances in geophysics, completion technologies, resource play economics, and development strategies have identified large natural gas resources in North America. Because the technology has evolved, the remaining challenges of successful development of the natural gas resources are political, policy-related, and environmental. The forum will address how unconventional (tight gas/shale gas) represents a potentially worldwide resource with many challenges—resources still capable of emerging if the industry fails to appropriately address the political and environmental challenges associated with the development of this resource. Current confirmed panelists include U.S. Secretary of the Interior Ken Salazar, Colorado Governor Bill Ritter, and Anadarko CEO Jim Hackett.

Stewart Levin reports the second-largest number of submitted abstracts. The poster sessions will be situated so that they are better integrated with the oral presentations, making it easier to visit them while attending various oral sessions. A number of preconvention courses and workshops following the technical sessions are planned.

Wednesday’s Applied Science Program, chaired by Sarah Shearer Gach, will feature Peter Cerevelli of the U.S. Geological Survey who will discuss volcanism in Yellowstone. The program is open to all delegates, along with more than 100 students and teachers from secondary schools in the community invited to hear the presentation and visit the exhibit floor. Volunteer Chairman Paul Heuermann is coordinating more than 200 volunteers needed to help with this and the many other aspects of the meeting. Please check the SEG Web site for information on volunteer opportunities for the Annual Meeting.

The Wednesday night event will be at the Denver Art Museum, coordinated by Ray Vogler, who has put together a special evening of food and music in a stunning setting. With the help of Apache Corporation, tickets will be available for a special viewing of the King Tut Exhibition.

The Spouse Program is organized by Shelley Fitz Maurice. I challenged her to provide gender-neutral activities to encourage all spouses and guests to come along to enjoy Denver. There will be tours of the Phoenix Mine, a tour of the Coors Brewery in Golden topped off by a Denver landmark—the Red Rocks amphitheater—and a walking tour of Denver.

A large part of the Annual Meeting is made possible by

sponsorship moneys from supporting businesses. Sponsorship Chair Samantha Malach has helped the SEG staff to raise more than the goal (as of this writing). Current sponsorship totals have exceeded the goal by nearly 10%. Exhibit rentals are only five below the target (1095/1100). A fourth hall of the exhibit floor has been rented to accommodate additional exhibitors, possibly an 18-wheeler from Encana that runs on natural gas. The Executive Committee agreed to increase the registration fee by \$30. I have been asked by a number of small contractors who don't lease booth space to provide an exhibit-only pass for those not attending any technical sessions. I would encourage the Executive and Finance committees to consider this proposal to make the meeting open to more of the associated professions. The committee has worked diligently to reduce costs and stay within budget. High sponsorship levels to date indicate the annual meeting revenues will contribute significantly to the overall financial health of the SEG.

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## Audit

### John Sumner, chairman

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The SEG Audit Committee was formed in 2009 to separate the audit function from the Finance Committee as well as provide an independent body able to hear and investigate complaints and grievances of a serious nature that may arise within the Society.

Committee members are Randy Byrne and Richard Verm.

We reviewed and approved IRS Form 990, the Society's tax return for fiscal year 2009 (July 2008 through June 2009). Two requests from the Executive Committee are pending: (1) to establish a review mechanism for anonymous letters of a whistleblower nature, and (2) to review the sensitivity of current office procedures to fraud.

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## Committee on University and Student Programs

### Douglas Wyatt, chair (industry representative)

### Seyed Kimigar, cochair (student representative)

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In 2010, the Committee on University and Student Programs (CUSP) continued to grow in scope and activity to serve our three main constituents: students, faculty, and industry. The current committee profile has grown to 19 students, 10 faculty, and 23 industry members. A "Recruiter" subcommittee is being cultivated to address the needs of our industry recruiters, such as how SEG can better connect recruiters, students, and universities for new-hire development.

In 2010, the CUSP was charged by the Executive Committee to develop a business model that reduces the current cost of student membership to the Society and constrains future cost growth. The CUSP formed a Student Membership subcommittee to work on the issue and submitted its formal recommendation to the Executive Committee in early March:

Establish a student membership package that does not impose restrictions on the number of student memberships available and that includes online access only to *TLE*; the package would be coupled with an increased mailing of *TLEs* to active Student Chapters, to be set at a minimum of three per chapter and at a maximum ratio of one *TLE* for every 10 chapter members.

This recommendation was unanimously approved by the Executive Committee during its meeting of 17–19 May 2010. In addition to this approval, the Executive Committee asked the CUSP committee to engage the Membership and Global Affairs committees to work on ways to strengthen student membership and to seek input on ways we might jointly support Student Chapters to "more broadly benefit the aims of SEG."

The CUSP continues to support ongoing programs such as the SEG/Chevron Student Leadership Symposium (SLS), AAPG/SEG Student Expos (with AAPG), SEG Challenge Bowls, and the SEG/ExxonMobil Student Education Program (SEP). This year we also successfully implemented a new book program: the Fred and Kathi Hilterman/SEG Foundation Student Chapter Book Program sponsored by Geokinetics Inc. This book program provided 216 active Student Chapters with copies of three new SEG book publications for the chapter libraries in addition to the Annual Meeting abstracts and a copy of the DigitalDISC on DVD.

CUSP has worked to maintain and grow our active Student Chapters. In the past year we have grown our active chapters from 216 to 232, representing 55 countries worldwide. A top priority for the coming year is to develop a "Student Chapter Merit" program that encourages each Chapter to engage in activities that strengthen its students, its department, and its community.

The inaugural Faculty Advisor Workshop took place during the Houston Annual Meeting where 16 Faculty Advisors from across the globe came together to share best practices, network, and discuss how SEG can best serve the scholastic community. The Faculty Advisors were also able to take advantage of a benefit of the new Faculty Advisor Support program that affords complimentary Annual Meeting registration to active SEG Faculty Advisors.

CUSP has ventured out on the social media front. We are using new ways to keep the student members actively engaged in the Society through social networking programs such as Facebook, where we have an active and growing membership (1,057). Additionally, we have updated a number of key program Web pages on the USP Web site to make the pages more student/user friendly.

Our international presence continues to grow, bringing administrative and financial challenges along with it. Since the last world championship in Houston, Challenge Bowls were held in 10 locations in 7 countries. The 2010 championship will be held in conjunction with the SEG Annual Meeting in Denver, 18 October. CUSP also extended our international reach by supporting the SEP in St. Petersburg, Russia, and a Student Expo in Bucharest, Romania.

The SEG/Chevron SLS brought together 50 students from 26 countries for a weekend of leadership and team building in Houston preceding the 2009 Annual Meeting. The students participated in discussions with the SEG Executive Committee that helped shaped the work of the CUSP for the past year. The students also participated in team building exercises throughout downtown Houston on Sunday, before engaging actively in all of the learning and networking opportunities provided by the Annual Meeting and Exhibition.

Student Expos continue to grow as well. Three Expos were held in the past year: the Spring Break Expo in Norman, Oklahoma; the Fall Expo in Houston, Texas; and the West Coast Expo in Northridge, California. SEG's first international student expo was held in Bucharest, Romania. The International Geoscience Student Conference was cosponsored by SEG, AAPG, and EAGE. The conference had 243 students from 13 countries and 161 attendees (exhibitors and delegates) in attendance.

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## **Constitution and Bylaws**

### **Joseph M. Reilly, chairman**

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The SEG Strategic Governance Review Subcommittee was established under the Constitution and Bylaws Committee (CBSGRC) in September 2007 at the request of then-President Leon Thomsen on behalf of the SEG Executive Committee. Klaas Koster was appointed to chair the subcommittee. The mission statement was as follows:

"The task of the ad hoc Governance Review Subcommittee is no less than to perform a complete review of the Society's governance structure, Constitution, and Bylaws, and to recommend to the Executive Committee, and eventually to the membership and the Council, a governance structure suitable for the 21st century." (Leon Thomsen, 7 August 2007).

Following these instructions, the subcommittee spent nearly two years reviewing the governing documents and creating a prioritized list of recommended changes. Rather than attempting to fully rewrite the Constitution and Bylaws, we decided to promote an "evolutionary" path to modernization. As a result, three recommendations were presented at the 2009 Annual Meeting. The committee felt strongly enough about one proposal that it was brought forward to the Council for a vote, but it was defeated.

As a result of this experience, the CBSGRC agreed that pursuing incremental improvements in the SEG governing documents was not an efficient use of our time and that our "evolutionary" approach was unlikely to result in significant improvements to the organization and performance of SEG. Instead, we carefully reexamined our foundation documents and identified several potentially significant inconsistencies between the Articles of Incorporation and the Constitution; the most important of which relates to the status of the Council as a governing body. Specifically, although the Articles of Incorporation define the Executive

Committee as having the "power and authority" to govern the Society and there is no reference to the Council, the Constitution indicates that the Council is the governing body.

In November 2009, the CBSGRC, working with the SEG executive director and the president, brought these findings to SEG's attorney, who provided a draft opinion which was consistent with our observations.

Based upon this information, the SEG Executive Committee instructed the CBSGRC to continue its investigative work and to begin to directly communicate with, and seek input from, a cross section of the SEG Council. Since then, the CBSGRC has pursued a program of direct contact and discussion with Council members, Associated Society leadership, and other interested parties. Two surveys have been sent out to the full Council and a draft of the new proposed Bylaws is in progress. The plan was to finalize the draft by late July, receive Executive Committee approval before the end of August, and publish in *THE LEADING EDGE* in September. Executive Committee approval occurred, and the revised Bylaws will be brought to a vote by the Council in October.

With regard to other business, the committee reviewed and endorsed the new redistricting proposal from the Membership Committee. We also reviewed and endorsed the Bylaws of the Geophysical Society of Pittsburgh. In response to a request from the special interest groups, we have included in the new draft of the Bylaws a definition of "technical sections" as entities operating under the SEG organization. This will allow for future growth of SEG and a greater range of options for the formation of technical sections in the future. At the request of SEG staff, we reviewed and suggested changes to the Constitution and Bylaws templates for Student Chapters. Finally, we reviewed the Bylaws for New South China Section and forwarded them to SEG staff for revision.

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## **Continuing Education**

### **Bob Bruce, chairman**

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Continuing Education continues to offer high-quality, well-received courses. Attendance was slightly up last year at 17 public course offerings and eight contract offerings. The number of contract offerings set a new record. Ten of the public offerings were held at the SEG Annual Meeting in Houston. Four more public offerings were in Houston, and the remaining public courses were offered in New Orleans and Calgary.

The SEG/EAGE Distinguished Instructor Short Course (DISC) continues to be a highly respected offering of SEG. The DISC Committee chaired by Baishali Roy took office effective at the SEG 2009 Annual Meeting. See the DISC subcommittee report for more information about the program.

A significant development is that SEG will now offer Continuing Education Units (CEU) with most of our course offerings. The need for a formal metric was evident with increasing licensing and requirements to show professional development. The staff in Tulsa, along with SEG instructors, have begun de-

veloping metrics to track student learning and award CEUs which fit within the guidelines of the International Association for Continuing Education and Training (IACET).

An initiative to define and focus the Continuing Education effort began with Bill Abriel chairing two meetings. During these meetings, a mission statement was developed and plans to reach a broader range of the membership were discussed.

A demographics study early in the year found that while the age profile of SEG mirrors the petroleum industry, the geographic distribution of SEG members does not reflect the historic distribution of the course locations. This is to be expected to a large extent, but it does not serve our membership as well as we wish. Therefore, a number of new efforts have begun.

SEG offers the best in advanced courses, but we have lost a number of our basic course offerings. In order to fill this gap, we have arranged to host IHRDC courses on the SEG Web site. These will be vetted and moved to the Web site in the coming months. IHRDC has a long history of providing quality course content and offers a wide range of topics of interest to the large number of younger members.

Keeping in line with the two online courses released last year, instructors have been contacted for interest in presenting courses via the Internet. While four methods of delivery have been identified outside of the current methods in use, we will start with two formats that promise to be popular. The first is the webinar concept, where a short (approximately one-hour) interactive presentation is presented over the Internet. The second method is distance-learning. This method divides courses into smaller segments and presents the material via the Internet. The advantages are that the courses can be presented to other time zones, preserving interactivity. Several instructors have expressed interest in modifying their courses for this type of delivery, and the staff is working with them to accomplish this. We see these methods as an important way to reach more of our members and to possibly expand membership.

Another initiative arose from comments of members attending the Annual Meeting. The number and diversity of technical sessions makes it impossible for attendees to attend all of the desired sessions. At the 2010 Annual Meeting in Denver, a number of sessions will be recorded and later offered as DVD-ROMs to attendees.

The Committee wishes to acknowledge and thank the tremendous efforts of the SEG staff in Tulsa. In particular, Tom Agnew, the director of professional development, Cecilia Martin, who handles all of the course arrangement for DISC as well as the other offerings, and Patty Bohannon, online professional development advisor have been instrumental in developing and implementing the Continuing Education Program.

**SEG/EAGE DISC.** The new SEG DISC Committee took office effective at the SEG 2009 Annual Meeting. The SEG 2009 DISC lecture was presented by Patrick Corbett from Herriot Watt University on "Petroleum Geoengineering: Integration of Static and Dynamic Models." The DISC tour included 27 loca-

tions with close to 1600 participants.

The 2010 DISC by Colin Sayers of Schlumberger is on "Geophysics Under Stress: Geomechanical Applications of Seismic and Borehole Acoustic Waves." The DISC has received positive feedback from the 10 locations completed so far. Attendance has been steady, especially considering the price increase from \$35 to \$100 per person. The DISC will go to 30 locations (18 SEG, 12 EAGE). Sayers' presentation of the SEG/EAGE Distinguished Instructor Short Course has been enthusiastically received by our Chinese colleagues in Nanjing and Beijing. The DISC went to Nanjing for the first time in the program's history, and the SEG China office coordinated a successful DISC in Beijing. Below is a short overview of the 2010 DISC:

"The state of stress within the earth has a profound effect on the propagation of seismic and borehole acoustic waves, and this leads to many important applications of elastic waves for solving problems in petroleum geomechanics. The purpose of this course is to provide an overview of the sensitivity of elastic waves in the earth to the in-situ stress, pore pressure, and anisotropy of the rock fabric resulting from the depositional and stress history of the rock, and to introduce some of the applications of this sensitivity. The course will provide the basis for applying geophysics and rock physics solutions to geomechanical challenges in exploration, drilling, and production. A variety of applications and real data examples will be presented, and particular emphasis will be placed on the rock physics basis underlying the use of geophysical data for solving geomechanical problems."—Colin Sayers

The 2011 DISC instructor will be Julien Meunier from CGGVeritas on "Seismic Acquisition." His DISC book manuscript is in preparation. The 2012 DISC instructor will be Professor Christopher Liner from the University of Houston and the topic will be "A Practical Overview of Seismic Dispersion." The SEG/EAGE joint committee is also in the process of recommending the 2013 DISC instructor.

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## Development and Production

### Michael A. Payne, chairman

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Over the past year, the Development and Production (D&P) Committee conducted the 2009 D&P Forum, hosted the D&P Luncheon at the Annual Meeting, prepared for the 2010 D&P Forum, and began early planning for the 2011 D&P Forum. The committee also coordinated with SPE on a proposed workshop to be held in the Middle East in 2011 and with the SEG Oil and Gas Reserves Committee for a workshop to be held at the 2010 SEG Annual Meeting. The latter workshop is discussed in the Oil and Gas Reserves Annual Report.

The 2009 D&P Forum was held in April in Bahrain. This venue was our first foray into the Middle East. Mike Wilt was

the chairman of the organizing committee. Ralph Bridle was the cochairman representing the cohost society, Dhahran Geoscience Society. The topic of the forum was “Reservoir Characterization and Monitoring in Carbonates.” Approximately 80 participants attended the forum. Thirty-four papers and posters were presented and discussed during this four-day forum. Six papers presented at the forum were selected to be repeated in a workshop titled “Best of D&P Forum” at the 2009 SEG Annual Meeting in Houston.

At the 2009 SEG Annual Meeting in Houston, we hosted the D&P Luncheon with speaker Delores Hinkle. Hinkle was the chair of the SPE Oil and Gas Reserves Committee working on recommendations for new standards to the SEC for calculating and reporting reserves. She reviewed the work of the committee, including new definitions of proven, probable, and possible reserves. Of particular interest, she discussed how the standards will impact the role of geophysics in determining reserves.

The 2010 D&P Forum was held in July in Boston. Charlotte Sullivan was the organizing committee chair. The presentations were related to CO<sub>2</sub> sequestration and enhanced oil recovery (EOR) processes. A Herculean effort by the organizing committee resulted in high-quality presentations with 40 attendees.

We plan to hold the 2011 D&P Forum in Beijing, China. Zandong (Sam) Sun, professor at China University of Petroleum, and Enru Liu of ExxonMobil Upstream Research have agreed to be cochairmen of the organizing committee. They have begun to assemble an organizing committee. The topic of the forum will be related to unconventional resources.

We are coordinating with SPE on a workshop to be held in Bahrain in early 2011 to discuss giant field developments in the Middle East. SPE and SEG are each providing a chair for the organizing committee. Maria Angella Capello and Khaled Sheddi are the cochairs, and the organizing committee is being assembled.

The book *Methods and Applications in Reservoir Geophysics* edited by Dave Johnston and largely coedited by members of the D&P Committee is on sale through the SEG Book Mart.

In early 2010, Mark Houston agreed to be the next chairman of the D&P Committee and was named the chairman-designate to work with the current chairman to ensure a smooth transition.

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## Distinguished Lecture

### Guillaume Cambois, chairman

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Following years of success with the Distinguished Lecture program, the Honorary Lecture program is now firmly established. The Distinguished Lecture (DL) program honors outstanding individuals who are recognized for the high quality of their contributions to geophysics on an international level and who are outstanding communicators of ideas and concepts. The program is partly supported by CGGVeritas through the SEG Foundation.

The Honorary Lecture (HL) program focuses on the transfer of knowledge within a region and/or topic, recognizing prominent geophysicists and strengthening the services SEG provides to an expanding global membership. The program is fully supported by Shell through the SEG Foundation, enabling the organization of six HL tours per year.

Craig Beasley, the Fall 2009 DL, gave his lecture titled “Lessons learned from simultaneous source investigations” in 36 locations, reaching close to 2000 geoscientists worldwide. The feedback was positive as exemplified by Roderick Perez of the University of Oklahoma: “It was a good talk. The message was delivered clearly for students, based on good images and easy-to-understand explanations by Dr. Beasley.”

The Fall 2009 SEG/AAPG DL was Bruce Hart. Because this tour was organized by the AAPG—as is the case every other year—we do not have the final attendance figures. By all accounts, his lecture titled “Reservoir-scale seismic stratigraphy: A call to integration” was highly successful.

Patrick Connolly served as the Spring 2010 DL. So far, he has presented his lecture titled “Robust workflows for seismic reservoir characterization” in 44 locations, reaching close to 2500 geoscientists worldwide. He has three more presentations to deliver in early 2011.

The Fall 2010 SEG/AAPG DL will be organized by the SEG, and Carl Sondergeld has been selected to present “Rumblings from the laboratory: Past, present and future.”

The 2009 HL were:

- Europe: Per Avseth with “Mind the gap in seismic reservoir prediction: How rock physics can bridge the gap between qualitative geology and quantitative geophysics.” Avseth reached close to 1300 geoscientists in 24 locations.
- Central and South America: José Carcione with “Physics and simulation of waves for exploration and environmental geosciences.” Carcione reached more than 1100 geoscientists in 19 locations.
- Pacific South: Andrew Long with “Multi-azimuth and wide-azimuth seismic: Foundations, challenges, and opportunities.” Long reached nearly 1200 geoscientists in 21 locations.
- South and East Asia: Chaitanya Mehta with “Significance of Fresnel zones in seismic reflection prospecting.” Mehta reached nearly 1000 geoscientists in 16 locations.
- North America: Bill Goodway with “The magic of Lamé.” Goodway reached about 800 geoscientists in 21 locations.
- Middle East and Africa: Samir Abdelmoaty with “Multi-azimuth seismic in the Nile Delta, Egypt.” Abdelmoaty reached approximately 1300 geoscientists in 24 locations.

Overall the HL program has been attended by approximately 6600 geoscientists worldwide (many of them students) through 125 lectures. The feedback has been overwhelmingly positive. A webcast of all lectures is available online through the SEG Web site, along with pictures and a travel log from the lecturers.

The 2010 HL program is:

- Europe: Aldo Vesnaver, "Talking and listening to reservoirs: Production monitoring by active and passive seismic."
- Central and South America: Efrain Mendez-Hernandez, "Quantitative seismic analysis and its role in improving reservoir description and exploration results."
- Pacific South: Ben Clennell, "Electrical properties of sedimentary rocks from DC to dielectric frequencies."
- South and East Asia: Deva Ghosh, "Geophysical issues and challenges in Southeast Asia with emphasis on Malay Basin."
- North America: Mike Batzle, "It's the fluids that count."
- Middle East and Africa: Susan Webb, "Deep gravity—long wavelengths and measured Moho."

In addition, Alan Green will serve as a special joint ASEG/SEG HL in Australia with a lecture titled "Mapping active faults using 3D ground-penetrating radar and 2D and 3D reflection seismology: Examples from New Zealand."

The general feedback from all lecturers is that Judy Wall and Crystal Dugger from the SEG office do a fantastic job organizing the tours. They are hereby thanked!

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## Global Affairs

### Hermes Malcotti, chairman

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Global Affairs Committee (GAC) activities in 2010 have focused on:

1. increased effectiveness of communication and the Global Affairs Committee (GAC) network;
2. the expansion of SEG and SEG membership;
3. promotion of new governance initiatives;
4. support for SEG student initiatives and furthered linkages among Student Chapters;
5. support for the work of other committees through GAC's worldwide Network of Regional Coordinators and Country Representatives.

The GAC provided communication assistance, helping SEG to overcome challenges and ensure the expression of global views. With online tools (such as e-mail, Skype, and GAC Online Community), the Committee supported discussions among its members and task forces regarding goals, opportunities, and challenges. The minutes of these discussions were stored on GAC's Online Community Space, securing the Committee's institutional memory.

GAC conducted a mid-year meeting and a meeting outside North America at EAGE in Spain, resulting in a more decentralized structure, and the inflow of local views and needs to transfer responsibilities to the regional coordinators and country representatives. GAC officers empowered country reps and regional coordinators to promote country teams, local initiatives, and membership growth. GAC emphasized the need for more effective

communication with the Sections/Associated Societies.

GAC discussed and submitted proposals for: (GAC/Membership Committee (MC)) funding Global Membership; globalizing SEG and opening international offices; expanding the PCs for Students Program. The Committee and the SEG Foundation identified the need for SEGF/GAC/SEG collaboration in fundraising through the development of a partnering strategy for activities with Sections/Associated Societies and leveraging/matching of funds to share expenses at the local level.

GAC successfully incorporated the new districting proposal into its structure; promoted a second General Assembly of SAS; helped institutionalize the SEG/SAS partnership through a proposal to involve SAS in the Annual Meeting and International Showcase; discussed SEG's restructuring with the Governance Committee; set up a task force to organize a meeting on major challenges facing SEG's Council.

GAC continues to support student initiatives and further linkages among Student Chapters by encouraging Student Chapters to exchange activities and leadership. GAC organized a Student Task Force to support SEG student members' participation in SEG committees, organizing a SEG Student Forum in the SEG Annual Meeting.

During 2010, European GAC regional coordinators and country representatives helped the International Showcase/Global Theater to have a successful program focused on Europe and FSU. A task force focused on the future of the IS/GT recommended the continuation of the IS/GT as a communication tool for Sections/Associated Societies.

GAC and the Foundation brainstormed about how to keep the PCs for Student Sections program alive. The Committee is well situated for international outreach, one opportunity for which could be the fundraising activities of the Foundation. GAC had a productive exchange of ideas with the 2009–2010 Executive Committee members regarding how SEG committees can contribute to SEG activities.

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## Gravity and Magnetism

### Rao Yalamanchili, chairman

### Tim Grow, vice chairman

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The Gravity and Magnetism Committee focuses on activities within the Society dealing with gravity and magnetism, and promotes the knowledge and use of these potential field methods. Our Committee meets twice a year—midyear (April 2010) and again at the Annual Meeting. The annual committee meeting will be Tuesday, 19 October 2010 at 5 p.m. at the Convention Center in Denver. There are more than 50 members on this committee. They are instrumental in organizing Annual Meeting sessions and activities, providing input to THE LEADING EDGE, advising on technical standards, and overseeing the Gravity and Magnetism dedicated list server, which includes geophysicists outside SEG.

The 2010 Annual Meeting features technical oral and poster sessions, a luncheon, and a workshop. Chuck Campbell and

Yaoguo Li, with abstract-reviewing assistance from committee members, have organized the technical oral and poster sessions. Robert Pawlowski and his committee are putting together a postconvention workshop titled “Gravity and Magnetic Technologies Applied to Oil and Gas Field Drilling, Development, and Production.” There will be oral and poster presentations in this workshop. The presentations will be scheduled to facilitate maximum interaction and discussions among the participants. The luncheon, organized by Rao Yalamanchili and Tim Grow, will feature John Wahr, professor at the University of Colorado, as speaker. His topic will be “The GRACE satellite mission: Using time-variable gravity to study the Earth.” Our committee is also heavily involved in SEG publication activities. The publication committee consists of Pat Millegan, Dale Bird, and Alan Reid. They are coordinating with Ted Bakamjian (publications director) and are progressing on the CD of case histories. The LEADING EDGE includes The Meter Reader editorial column coordinated by Greg Lyman. Bimonthly dinner discussions were organized by committee member Greg Jorgenson through the Potential Fields SIG of the Geophysical Society of Houston. Alex Blacque has now assumed this position for a two-year term. Continuing education activities continue with Michal Ruder presenting a gravity and magnetism methods and interpretation short course several times through the year.

The chairmanship of the Gravity and Magnetism Committee rotates every two years. Tim Grow will be the new chairman after the Annual Meeting in October.

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## Historical Preservation

### Robert Wyckoff, chairman

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The second annual meeting of the SEG Historical Preservation Committee (HPC) was held in Houston during the SEG Annual Meeting, 27 October 2009. During the past year, activities have focused on action items and discussions from that meeting. In alignment with these action items and discussions are the HPC recommendations to the SEG Task Force, appointed by Larry Lines, to examine the preservation and transfer of museum materials after the closing of the SEG Geoscience Center in Tulsa.

Activities in progress or completed follow with brief commentary:

- SEG geophysical exhibits remain on the entry- and fifth-floor levels of the SEG HQ building in Tulsa.
- SEG artifacts inventory completed (basement storage area—SEG HQ) by Energy America (EA).
- Storage facilities were secured by SEG for storing artifacts.
- Nerwin and Martin (Fort Worth), professional art movers, moved the artifacts to Tulsa storage, the University of Oklahoma (OU), and Fugro, Houston.
- Documents (paper/photos/books) are filed at SEG HQ.
- SEG geophysical artifacts/documents are on exhibit at the ConocoPhillips School of Geology and Geophysics at the University of Oklahoma.

- Establishing SEG geophysical exhibits at Oklahoma State University (OSU), Boone Pickens School of Geology (July/August).
- SEG Student Sections at OU and OSU will monitor, maintain, and facilitate tours for the SEG exhibits.
- SEG Robert Iverson grav/mag collection is on exhibit at Fugro in Houston (GSH is custodian).
- Ongoing communications with the University of Tulsa and the Petroleum Club of Tulsa to set up exhibits have promise.
- Collaboration with SEG Online Committee to streamline the SEG Geophysical Virtual Museum is ongoing.
- Completed Energy America workshop Phase I to determine objects and resources that SEG has available, ideas for objects and resources that SEG has available, and ideas for viable exhibits identifying relevant artifacts and media. Phase II is in progress to create mini-scripts and traveling exhibits.
- Inventory/sorting of SEG artifacts and documents is ongoing.
- Synergy with the Geophysical Society of Houston Museum Committee (GSH) is ongoing for exhibiting, and historical preservation of artifacts and documents.
- SEG loan policy for artifacts and documents is in place.

Next steps/agenda to be discussed at the SEG Annual Meeting, Denver 2010, follow:

- Engage Energy America in SEG geophysical exhibit logistics/administration.
- Rotate exhibits, i.e., OU/OSU/SEG—Tulsa/GSH.
- Roles of GSH and HPC.
- Surplus SEG artifacts/documents (donate/dispose/transfer).
- Funding for SEG traveling exhibits, GSH/Energy America administration.
- Storage facilities in Tulsa to accommodate storage and staging exhibits.
- Sponsors for current exhibits.
- Establish budget guidelines.

My sincere thanks goes to committee members, Tom Agnew (SEG staff), Bill Gafford (GSH), Energy America personnel, OU/OSU staff and students, SEG Foundation, and Nerwin and Martin for a successful year.

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## Honors and Awards

### Craig J. Beasley, chairman

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The Committee on Honors and Awards is established and its duties defined in the Constitution and Bylaws of the SEG. Its five members consist of past presidents of the SEG, one appointed each year by the current president to a five-year term, if available. Traditionally, this committee has consisted of the five most-recent past SEG presidents and this year continued the tradition. It has been a pleasure and a privilege to serve with Terry Young, Leon Thomsen, Fred Aminzadeh, and Larry Lines in this year's deliberations.

In concert with the Annual Meeting, nominations are solicited from the membership at large to be considered for honors and awards at the next Annual Meeting. These suggestions are gathered early in the next year then augmented by explicit contact with SEG committees, business and academic leaders, and the Committee on Honors and Awards itself. The Technical Program Committee of the Annual Meeting, the Editorial Board of *TLE* and the Editor of *GEOPHYSICS* provide nominations for the various awards associated with oral presentations, poster papers, and published articles and papers.

The decision process then involves an extensive amount of research by the committee. Nominations that receive approval of the committee are submitted to the Executive Committee where they must also be approved. The Constitution and By-laws require that the two highest awards—the Maurice Ewing Award and Honorary Membership—must receive unanimous approval. The customary procedure actually involves unanimous consent by both groups. Additionally, the Constitution states that Life Membership may be conferred by means of a unanimous vote of the Executive Committee. This careful and deliberate process ensures that the Society recognizes those who are truly deserving of the honors and awards granted.

The 2010 Honors and Awards Committee, acting in concert with the Executive Committee as described above, agreed that the following Honors and Awards be conferred by SEG in 2010 at the 80th SEG Annual Meeting in Denver:

2010 Honors and Awards Committee Recommendations  
Approved by the Executive Committee 18 May 2010

The Honors and Awards Committee—Craig Beasley (chairman), Terry Young, Leon Thomsen, Fred Aminzadeh, and Larry Lines—after due consideration, unanimously make the following recommendations for SEG Awards to be given at the 2010 Annual Meeting in Denver.

**Maurice Ewing Award:** The Honors and Awards Committee recommends Maurice Ewing Medals be awarded to both Anthony R. Barringer (posthumously) and M. N. (Nafi) Toksöz.

Tony Barringer wrote more than 80 technical papers, was awarded more than 70 patents, and invented various techniques and instruments that revolutionized geophysical applications in mineral exploration. His most famous invention, the INPUT (Induced Pulse Transient) airborne EM prospecting system, is credited with discovery of more than 25 orebodies worth more than US\$100 billion. Barringer's extraordinary contributions won considerable previous recognition: the Logan Medal of the Geological Association of Canada (1977), the Virgil Kauffman Gold Medal (1980) of SEG, the Daniel C. Jackling Award of the American Association of Mining and Petroleum Engineers (1985), and induction into the Canadian Mining Hall of Fame (1998). He served as SEG's second vice president in 1987–1988.

Nafi Toksöz has made major contributions to the advancement of the science and profession of exploration geophysics throughout his 40 years as a professor at Massachusetts Insti-

tute of Technology (MIT). As the founder of MIT's Earth Resources Laboratory, Toksöz's impact is measured both in lives (the hundreds of students he has taught and mentored) and in scholarship (more than 180 technical publications and 3000 citations). The intellectual breadth of his scholarship is impressive: seismic exploration for hydrocarbons, full-wave sonic logging, rock physics, VSP, seismological applications for the Apollo program, electroseismic/seismoelectric, and earthquake seismology. Toksöz was recognized previously by SEG with Honorary Membership in 1999. The Seismological Society of America awarded him the Harry Fielding Reid Medal in 2006 for his outstanding contributions in seismology and earthquake engineering. Previous recipients of the Reid Medal include Sir Harold Jeffreys, Frank Press, Keiiti Aki, Freeman Gilbert, and other highly distinguished geophysicists.

**Honorary Membership:** The Honors and Awards Committee recommends Honorary Membership for Mike Bahorich, Walt Lynn, and Bjørn Ursin.

Mike Bahorich, a previous recipient of the Kauffman Gold Medal, has made significant contributions by serving as SEG president and contributing to the globalization of the Society. His active participation on various industry-related panels and Web casts as well as his publications in the *Oil and Gas Journal* helped the Society and the geophysics discipline earn deserved respect. Bahorich also made significant technical contributions, including his role in the development and practical applications of coherency technology.

Walt Lynn served as SEG president at a crucial transition period and helped develop a strong strategic plan for the Society. He demonstrated strong leadership and wisdom during the San Antonio Annual Meeting as the horrific September 11 tragedy was unfolding. Lynn has made significant technical contributions, including his work on imaging through a complex water bottom, prestack  $f$ - $k$  migration, marine seismic source arrays, and pioneering work on seismic acquisition that can be considered the foundation for multisource-multireceiver or multiazimuth/wide-azimuth 3D seismic surveys.

Bjørn Ursin's technical body of work and his illustrious academic and oil industry career span more than four decades. His technical contribution has both depth and breadth, often starting new research directions and giving birth to new business opportunities for the industry. Noteworthy are his work in seismic imaging in the angle domain, his original contributions to controlled-source electromagnetic technology, his work on velocity analysis in transverse anisotropy, the utilization of mode-converted events, and various novel seismic signal-processing ideas.

**Virgil Kauffman Gold Medal:** The Honors and Awards Committee unanimously recommends that the Virgil Kauffman Gold Medal for 2010 be given to Gerard Schuster and Kees Wapenaar "for their pioneering work on seismic interferometry and imaging."

Jerry Schuster has long been interested in exploiting new types of seismic data and in better utilization of the information contained in conventional data. He consequently extended the

daylight imaging concept, originally derived by Jon Claerbout, into a mathematical framework for imaging called interferometric imaging. The method combines cross-correlation with downward extrapolation and imaging (also a cross-correlation process), which makes his method less dependent on the availability of sources. Interferometric imaging offers new imaging opportunities, such as migration of multiples in data, even of transmitted waves, and identifying the location of unknown source locations from daylight data. His imaging of multiples, particularly from VSP data, is now widely accepted and has had profound effect on expanding the imaging aperture for salt flank delineation. He integrated these results in the book *Seismic Interferometry*. Schuster's contributions to seismic interferometry are seminal and the importance of his pioneering work will become even more important as seismic interferometry becomes widely accepted.

Schuster possesses a rare insight into the fundamental issues of the problems and quickly connects the problems with other, seemingly unrelated topics. With his exceptional research creativity and old-fashioned scientific curiosity, he has been a fountain of ideas, conjectures, and great results throughout his career. His career has significantly impacted all four areas of professional life: research, teaching, organizing, and practice.

Kees Wapenaar is nominated for his thorough and extensive theoretical work on interferometric methods in multidimensional acoustical and elastic imaging, and on the practical implementation of his theory to retrieve subsurface reflection responses from ambient noise recordings. Whereas others in the field followed a more physically intuitive and kinematically oriented approach, Wapenaar established a rigorous foundation for the field based on Green's theorem and reciprocity. The application of seismic interferometry with ambient noise to retrieve 3D subsurface reflections is a direct consequence of Wapenaar's theory. Successful field tests have been carried out by and in cooperation with Shell. His work is now well connected to the industry practice.

Wapenaar has also been active in lecturing, teaching, and communicating the subject of seismic interferometry to a broader audience. His EAGE Distinguished Lecture on the subject is one excellent example. He was one of three editors of a supplement for *GEOPHYSICS* on the subject in 2006, and he and the same team edited the 2008 SEG reprint volume *Seismic Interferometry: History and Present Status*. Wapenaar has also organized a number of workshops to share ideas and to connect different disciplines.

**Reginald Fessenden Award:** The Honors and Awards Committee unanimously recommends that the Reginald Fessenden Award be given to Samuel H. Gray and Arthur Weglein.

Sam Gray has a long and distinguished record of publications that address the theoretical side of wave propagation and migration theory (and other topics). But, significantly, along with these contributions, his work has also focused on the practical side of imaging. Most recently, he has contributed to our understanding of beam migration and other true-amplitude imaging issues.

Art Weglein has influenced the seismic industry through his work in inverse scattering. He and his colleagues and students

have published widely on this topic, and the result is seen in the thinking and practice in the industry today, particularly in the treatment of multiple reflections.

**J. Clarence Karcher Award:** Awarded to Deyan Draganov and Jeffrey Shragge

Deyan Draganov, a postdoctoral fellow at Delft University, is internationally known for his excellent research and publications in wave propagation and seismic interferometry (SI) including his master's thesis and doctoral dissertation. He has published 10 papers in international journals (including *TLE*, *GEOPHYSICS*, *Geophysical Prospecting*, *Journal of the Acoustical Society of America*, and *Geophysical Research Letters*), 52 peer-reviewed abstracts at international conferences, and co-edited an SEG book on SI. Draganov has been an Associate Editor of *GEOPHYSICS* since 2005 and co-edited a supplement of *GEOPHYSICS* on SI. He received the award for best student poster paper at SEG's 2003 Annual Meeting.

Jeffrey Shragge, assistant professor at the University of Western Australia, has one of the most impressive publication records of any young geophysicist. His doctoral thesis at Stanford was on wave-equation migration in generalized coordinate systems. His publications include papers on a wide range of topics including seismic imaging, inversion, teleseismic analysis, EM induction, resistivity, and geochemistry. He has published 11 papers in prestigious journals such as *GEOPHYSICS*, *Bulletin of the Seismological Society of America*, and the *Journal of Geophysical Research*, and he has presented 15 papers at international meetings. He served as vice chairman of SEG's Committee on University and Student Programs and has been an Associate Editor of *GEOPHYSICS*.

**Distinguished Achievement Award:** Awarded to Amoco Research Center and Sociedade Brasileira de Geofísica

Amoco Research Center: It would be difficult to list all of the achievements that can be traced to this outstanding research organization. Among them are contributions to the Society in the form of participation (six SEG presidents, for example). Moreover, the publication record speaks for itself as does the number of awards given by the SEG in all categories. It no longer exists but should be honored for its major contributions to the science, business, and profession of exploration geophysics.

Sociedade Brasileira de Geofísica (SBGf), an affiliated society of SEG, is recognized for its outstanding and amazing growth and contributions to exploration geophysics. Founded 30 years ago by volunteers with the support of Petrobras, SBGf has progressed to the point of hosting what is arguably the world's third largest international exploration geophysical meeting. Although it was started when Brazil was not a large oil producer, through the support of the government and Petrobras, it now services more than 800 professional exploration geophysicists in Brazil and has become one of SEG's strongest affiliates.

**Life Membership:** Bradley A. Birkelo, Steve H. Danbom, Mary L. Fleming, and John R. Sumner are recommended for 2010 Life Membership.

Brad Birkelo has served SEG in many capacities: as secretary-treasurer on the 2007–2008 Executive Committee, chairman of the SEG Finance Committee and the DISC Committee, vice chairman of the Strategic Finance Committee, and as a member of the Committee on Nominations, the CE Committee, the Online Technology Committee, and the Online Content Committee. Birkelo has also served as president of the Permian Basin Geophysical Society. He has extensive industrial and government experience as a practicing geophysicist including employment with Phillips Petroleum, the U.S. Geological Survey, and the Kansas Geological Survey.

Steve Danbom served on the 2005–2006 SEG Executive Committee as Second Vice President. He has co-edited SEG's publication *Shear-Wave Exploration* and was published in the SEG book *Near-Surface Geophysics*. Steve has taught SEG courses on modeling and near-surface geophysics and is a past president of SEG's Near-Surface Geophysics Section. Danbom was president and secretary of the Geophysical Society of Houston (GSH) and first vice president of the Geophysical Society of Tulsa (GST). Most recently, he provided early leadership for SEAM (SEG Advanced Modeling Corporation) and helped organize the Challenge Bowl.

Under the leadership of Mary L. Fleming as executive director of the SEG, the Society has grown and expanded its international presence in an unprecedented way. While it has been Fleming's job to oversee the SEG's business office with its myriad responsibilities, she has always gone beyond these duties and put SEG's success first and foremost, which always required long hours and sometimes personal sacrifice. Under her tenure, the SEG has grown as never before, expanding the international base and increasing student involvement. Moreover, the SEG Foundation has excelled during this time. This has come about in no small measure through her devotion and passion to make SEG the best.

John Sumner has made many technical and service contributions to SEG during his career as a university professor and in Exxon Production Research. He has been active in many areas of seismic research and was corecipient of the Best Paper in GEOPHYSICS Award in 2007. Sumner was SEG secretary-treasurer in 2002–2003. He also served on the SEG Research Committee and the Continuing Education Committee and was Technical Program Chairman for the 1995 SEG Annual Meeting in Houston. Sumner has been active with the Geophysical Society of Houston, including a term as first vice president (Technical Activities) and chairing the GSH Continuing Education Committee.

#### **Top Oral Paper Presented at SEG's 79th Annual Meeting**

"Multilevel airgun array: A simple and effective way to enhance the low frequency content of marine seismic data"  
*Guillaume Cambois, Andrew Long, Gregory Parkes, T. Lundsten, A. Mattsson, and Eivind Fromyr*

#### **Honorable Mention (Oral Paper)**

"Building TTI depth models using anisotropic tomography with well information"

*Andrey Bakulin, Marta Woodward, David Nichols, Konstantin Osypov, and Olga Zdraveva*

#### **Top Poster Papers Presented at SEG's 79th Annual Meeting Tie**

"Seismic-based lithology and fluid delineation of the ROK reservoir sand, shallow offshore Niger Delta"

*Prince Obi Nwogbo, Meshach Omudu, Robinson Dike, S. Olotu, and N. Osayande*

"A workflow for the processing of reflection seismic data with CRS attributes"

*Stefan Dümmling, Mikhail Baykulov, and Dirk Gajewski*

#### **Honorable Mention (Poster Paper)**

"Spectrum decomposition technology based on physical wavelet transform and its application"

*Zhu Zhenyu, Zhao Wei, and Song Liang*

#### **Top Student Oral Paper at SEG's 79th Annual Meeting**

"Resolution function for controlled-source seismic interferometry: A data-driven diagnosis"

*Joost van der Neut*

#### **Award of Merit (Student Oral Paper)**

"Sandstone petrofacies prediction to characterize permeability for Postle Field, Oklahoma"

*Crucelis López*

#### **Top Student Poster Paper at SEG's 79th Annual Meeting**

"Extrapolation of log properties by integrating fuzzy self-organizing maps and local linear modeling"

*Mehdi Eftekhari*

#### **Award of Merit (Student Poster Paper)**

"Archaeological investigation of the Court Kiva in Chaco Canyon using geophysical methods"

*Cerica Martinez*

#### **Best Paper in THE LEADING EDGE 2009**

"Taking apart beam migration"

*Samuel H. Gray, Yi Xie, Carl Notfors, Tianfei Zhu, Daoliu Wang, and Chu-Ong Ting*

#### **Honorable Mention**

"Digital rock physics: 3D imaging of core material and correlations to acoustic and flow properties"

*Mark A. Knackstedt, Shane Latham, Mahyar Madadi, Adrian Sheppard, Trond Varslot, and Christoph Arns*

"Observation and modeling of source effects in coda wave interferometry at Pavlof volcano"

*Matthew M. Haney, Kasper van Wijk, Leigh A. Preston, and David F. Aldridge*

**Best Paper in GEOPHYSICS 2009**

“Role of the inhomogeneity angle in anisotropic attenuation analysis”

*Jyoti Behura and Ilya Tsvankin*

**Honorable Mention Best Paper in GEOPHYSICS**

“Unified theory of global flow and squirt flow in cracked porous media”

*Morten Jakobsen and Mark Chapman*

“3D finite-difference frequency-domain modeling of controlled-source electromagnetic data: Direct solution and optimization for high accuracy”

*Rita Streich*

“Reverse time migration in tilted transversely isotropic (TTI) media”

*Robin P. Fletcher, Xiang Du, and Paul J. Fowler*

**Interpretation****Donald A. Herron, chairman**

The Interpretation Committee is sponsoring a workshop titled “Interpretation in the year 2010: How far have we come?” at the 2010 Annual Meeting in Denver. The purpose of this workshop is to revisit ideas discussed at a workshop titled “Interpretation redefined for the year 2000” that was held at the 1993 Annual Meeting in Washington, D.C. Scheduled speakers/panelists for the 2010 workshop are Dave Johnston, Geoff Dorn, Kurt Marfurt, Alistair Brown, Paul Hatchell, and Bob Hardage. The workshop will follow a format similar to the SEG Forum, with individual presentations by the speakers and panel discussion of topics and questions from the audience. The proceedings of the workshop will be documented in an article for *THE LEADING EDGE*.

The Interpretation Committee also has had informal discussions with representatives of the AAPG’s Geophysical Interpretation Committee with regard to areas of common interest and cooperation between the two committees. The following items summarize these discussions:

1. The respective committees should maintain their autonomy, with shared activities conducted jointly rather than by a single merged body.
2. The joint committee would have cochair, one from AAPG and one from SEG, with staggered terms so that both do not start or end terms in the same year.
3. The joint committee would sponsor at least one committee activity (such as a convention workshop) per year, preferably two (one per convention).
4. The joint committee would encourage and oversee the exchange of technical materials and/or articles for publication in the respective society publications.
5. There would be no changes to any of the current budget pro-

cesses for either SEG or AAPG, as they would relate to the joint committee (no new expenses would be incurred as a result of joint committee actions).

To meet the objective of item No. 3, members of the AAPG Geophysical Interpretation Committee are assisting in preparation for the Interpretation Committee’s workshop at the upcoming Denver meeting.

**Intersociety Relations****Fred Aminzadeh, chairman**

The Intersociety Relations Committee has endeavored to create a more formal structure for the Committee’s work by outlining a set of procedures for future activities. Some of the objectives outlined in those procedures are:

- To stimulate the development of relationships and increase interaction among and between SEG and its sister societies.
- To interact with other societies to study, plan, and coordinate actions which lead to mutually acceptable cooperative activities. These societies include Sections/Associated Societies, Affiliated Societies, and other national and international professional and scientific societies in geophysics and other related fields.
- To organize periodic assemblies for the presidents of Sections/Associated Societies and Affiliated Societies.

**SEG/AAPG Cooperation Committee****Lee T. Billingsley, chairman**

This subcommittee is composed of equal representation from both AAPG and SEG. The purpose of the joint committee is to identify and recommend various means by which AAPG and SEG may cooperate to serve geoscientists better.

Lee Billingsley.....Chairman (thru December 2010)  
Dick Baile.....Vice chairman

**Members:**

|             |                 |
|-------------|-----------------|
| Tim Berge   | John Bradford   |
| Ed Heath    | Randi Martinsen |
| Randy Ray   | Elwin Peacock   |
| Gary Servos | Jim Tucker      |

Since forming in the fall of 2008, the committee has met at least twice per year at each of the annual meetings of the two societies. We have discussed and recommended the following:

- Reviewed locations of existing and potential international offices. Recommended that the two societies share offices in Beijing, China, and Manama, Bahrain.

- Conduct joint international meetings, such as the International Conference and Exhibition (ICE) offered by AAPG, and APPEX offered by AAPG.
- Currently both AAPG and SEG have active committees that attempt to integrate geology and geophysics. The committee recommended that the two committees be combined into one and serve both societies.
- Recommended that SEG become an affiliated society with AAPG and vice versa. Members of one society could then receive member discounts for meeting fees, publications, and continuing education from the other society.
- Recommended review of potential for reciprocal or joint membership in each society.
- Recommended joint meetings for Trustee Associates for both societies.

Both society staffs drafted a “white paper” that contains a blueprint for future cooperative efforts between the two societies. This committee will continue to monitor the progress of the white paper, provide input, and recommend implementation upon its completion.

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## **EAGE/SEG Collaboration Committee**

**Lee Bell, cochairman**

**Neil Goulty, cochairman**

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The committee was founded to seek new collaborative initiatives between SEG and EAGE that might improve the quality of services, educational programs, publications, or student support. Any new initiatives found to be worthy of recommendation by the committee members are then presented to the relevant committees of both societies and their respective Executive Committees for subsequent consideration and action.

The current SEG members of the committee are Eugenio Loinger and David Monk, with Mary Fleming (and now Steven Davis) as a nonvoting member. The current EAGE members are Steve Pickering and Alexandre Bertrand, with Anton van Gerwen as a nonvoting member.

At the EAGE Conference in Barcelona, it was decided that the presidents of the respective societies, Steve Hill and Davide Calcagni, would send a letter to their respective members soliciting additional ideas for joint activities that the collaboration committee could pursue. Included in this letter would be a compilation of the existing joint activities to remind the memberships of what is currently in place.

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## **Meetings Review and Planning**

**Michael Burianyk, cochair**

**Paul Cunningham, cochair**

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The Meetings Review and Planning Committee (MRPC) has the role of overseeing applications to SEG for support—and at what level—of meetings, conferences, and workshops.

Over the last year, MRPC has reviewed and approved requests from Italy, Russia, Brazil, Australia, Azerbaijan, China, Czech Republic, Thailand, Malaysia, Turkey, and the United States. In addition, MRPC has a mandate to discuss and recommend actions for SEG policies for international meetings and conferences. We have initiated many discussions and will report to the Executive Committee at the end of our tenure.

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## **Membership**

**Michael Burianyk, chairman**

**Eugene Okoli, vice chairman**

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For much of the first half of our term, the Membership Committee had to deal with our previous year’s proposal on redistricting. The new Executive Committee asked for clarifications and for further discussion with other committees and the Business office. This became a time-consuming task, but eventually we reworked the districting proposal for submission to the Executive Committee, which approved it for the next stage of acceptance. Concurrently, Mike Burianyk and Aldo Vesnaver rewrote an article for *THE LEADING EDGE*, which introduces the redistricting proposal to the entire membership, clarifying points and incorporating concerns brought up by the wider consultations. With this effort, we also managed to clarify several issues involved with the procedures for submission of proposals to Executive Committee and related articles submitted to the journal, *THE LEADING EDGE*.

The Membership Committee has been concerned over the last few years with student matters as evidenced by our strong stand against the proposal to reduce student benefits by taking away their rights to receiving *THE LEADING EDGE* in print. With that in mind, a subcommittee was formed, headed by Gustavo Carstens, to discuss and report on student members. The resulting recommendations were submitted to the Executive Committee after further clarifications of perceived contractions with recommendations from the Committee on University and Student Programs. This initiative led to the Executive Committee requesting the formation of a joint task force on student membership to be conducted by the Membership, University and Student Programs, and Global Affairs committees. We have initiated the creation of this joint task force whose Membership Committee component will be led by Gustavo Carstens.

The Membership Committee, through another subcommittee led by Eugene Okoli, worked on a recommendation on unemployed member benefits. The temporary measure passed last year to address the issue of dues waivers for unemployed members will be revisited and sent to the Executive Committee for consideration of a permanent SEG policy.

The Membership Committee also initiated a discussion on benefits to retired members. Pamela Terekhova will summarize this and have a short proposal to place before the Executive Committee to deal with concerns about retired members that have been raised by a few individuals.

## Mining and Geothermal

### Richard Smith, chairman

### Bob Lo, vice chairman

The mining and geothermal community is relatively small, so we are unable to attend every second SEG Annual Meeting in full force. We normally concentrate on the locations that are away from Texas, because these cities usually have a stronger tradition of mining geophysics. Thus, for the 2009 SEG Annual Meeting in Houston, we were not making a special effort. However, we did manage to organize one poster session, and we noted that there were a number of papers on geothermal investigations, which was consistent with a growing trend we had seen for the last few years.

When planning our activities for the 2010 Annual Meeting in Denver, we decided to put a special effort into organizing a technical session on geothermal geophysics. Des Fitzgerald took on this task, and Bob Lo organized the mining technical sessions. Despite Des' efforts, the response from the geothermal community was not as strong as we had hoped. However, we received enough high-quality abstracts in the mining topic area to fill two oral sessions and one poster session. In addition, a number of our members submitted mining-related papers to the EM sessions because EM techniques are widely used in mining exploration. A workshop is also being planned for the Thursday afternoon on the use of physical property measurements in mineral exploration.

The committee is reaching out to students and is hoping to involve them in the workshop at the SEG Annual Meeting. It is planned that a student/Mining and Geothermal Committee event will be sponsored by Condor Consulting.

As usual, we are organizing a Mining and Geothermal Committee luncheon on the Wednesday of the conference. The luncheon speaker will be Barbara A. Filas, the executive vice president of Geovic Mining Corp. The Mining and Geothermal Committee meeting will be held late Wednesday afternoon of the conference. Geotech Airborne has offered to sponsor the committee meeting.

The Mining and Geothermal Committee has been involved with organizing a workshop at the Society of Economic Geologists meeting in Keystone, Colorado, USA, 2–5 October. The workshop, titled "Exploration in 2020—Tools and Techniques to Explore Undercover," will be held 6–7 October in Golden, Colorado, USA; details can be found at [www.seg2010.org](http://www.seg2010.org). This event is an SEG-sanctioned event and is listed in the calendar of events.

The Mining and Geothermal Committee list server, sponsored by Geosoft Ltd., currently has 227 members. The list server is used by the Committee to communicate to a global group of peers interested in the affairs of the committee as well as to provide a unique forum that permits enrolled members to pose questions of concern to the collective group.

Other M and G Committee meetings have been held throughout the year at the Prospectors and Developers Association of Canada annual meeting in March 2009 and 2010 and at the Cordilleran Roundup in January 2010.

## Nominations

### Larry Lines, chairman

The Committee on Nominations for 2009–2010 consisted of Larry Lines (chairman), Hector Alfredo Alfonso Acero, Micki Allen, Fred Aminzadeh, Zheng Huasheng, Lee Lawyer, and Leon Thomsen. The committee had its first meeting in October at the SEG Annual Meeting in Houston. To communicate with the maximum number of members, a Call for Nominations was published both in *TLE* and on the SEG Web site. Our teleconference meetings and e-mail communications were held throughout the winter and early spring.

After a series of meetings, we were able to recommend the following slates of excellent candidates for the Executive Committee and District Representation as published in the April 2010 issue of *THE LEADING EDGE*.

The Nominating Committee recognizes that candidates have made an important commitment to the SEG by allowing their names to stand in nomination. In view of this commitment and today's increased workload for exploration geophysicists, we are grateful to the aforementioned dedicated individuals.

| Executive Committee Nominees     |                                                                         |
|----------------------------------|-------------------------------------------------------------------------|
| President-elect                  | Bob Hardage<br>Dave Monk                                                |
| First vice president             | William L. Abriel<br>Mike Gaul                                          |
| Second vice president            | Joseph Reilly<br>Susan Webb                                             |
| Vice president                   | Alfred L. Liaw<br>Aldo Vesnaver                                         |
| Secretary-treasurer              | John Eastwood<br>Jie Zhang                                              |
| District Representative Nominees |                                                                         |
| District 1                       | Holly Fair<br>Michael Kelly                                             |
| District 2                       | Steven C. Constable<br>Thomas M. Daley                                  |
| District 3                       | Gerard Beaudoin<br>Michael M. Deal<br>Cung Khac Vu<br>Arthur B. Weglein |
| District 7                       | Dirk Gajewski<br>Klaus Holliger<br>Evgeny Landa                         |
| District 11                      | James C. Sun                                                            |
| District 12                      | Max Meju                                                                |

## Online Committee

**Stephan Gelinsky, chairman**

**Tony Sabatino, chairman**

The SEG Online Committee (OC) was reestablished at the 2009 Annual Meeting in Houston via the merger of the Online Technology Committee and the Online Content Committee. These two committees had been chaired by Tony Sabatino and Stephan Gelinsky, respectively, and a cochair arrangement for the Online Committee was adopted for 2009–2010. The OC was convened on a quarterly basis throughout the year, with meetings in January, April, and July.

During the course of the year, the OC worked closely with the SEG IT department to develop and refine a series of Web analytics tools to examine user access to the SEG Web site and determine ways of improving the SEG online experience. As a result of this effort, a number of changes to the layout of the SEG Web site are being implemented to simplify navigation throughout the site.

A significant accomplishment during this past year was the creation of five task forces designed to concentrate OC efforts in specific priority areas. The five task forces are:

- Online Collaboration
- Online Technical Content Process
- SEG Wiki
- Virtual Museum
- Data sets and Software

The main goal of the Online Collaboration Task Force is to provide the SEG committees (and other SEG-related groups such as student chapters) with a set of SEG-hosted online collaboration and communication tools to facilitate their interaction in virtual global teams. Key elements include member home pages, document sharing and archival areas, calendars, discussion fora, committee blogs, and wikis.

The purpose of the Online Technical Content Process Task Force is to develop a process by which online technical content on the SEG Web site is solicited and reviewed. The product then is a process, not the online content itself. The task force has recommended to the SEG Executive Committee that an Online Technical Content Board (OLTCB) be created to oversee the online technical content on the SEG Web site, similar to the way that the *TLE* Editorial Board oversees technical content in *THE LEADING EDGE*.

The SEG Wiki will be an online encyclopedia and knowledge base focused on exploration geophysics—SEG's core discipline. It will not exclude material pertinent to related geosciences in as far as it complements its focus on exploration geophysics. It will be accessible by the general public, but editable only by SEG members. All edits will need to be approved by volunteer moderators to ensure that blatant commercialism and factual errors are excluded.

The SEG Virtual Museum will focus on showcasing all aspects of exploration geophysics and on educating SEG members and the interested public about the history and evolution of the wide spectrum of SEG activities. The Virtual Museum will have an online representation of the SEG Museum's physical artifacts that will grow over time to include pictures, photos, video clips, and scanned historical documents. The Virtual Museum will also portray the people who invented, designed, created, and used the artifacts and those who have laid the underlying theoretical foundations and have become part of the rich history of SEG.

The Data sets and Software Task Force is concentrating its efforts in two distinct areas:

- A. The process by which data sets and software are submitted, reviewed, and accepted by SEG and maintained for future use.
- B. The process of distribution of data sets and software to the public, either through digital publications, Web site, download or some combination thereof.

The target audience for this project is a wide portion of the SEG community engaged in both scientific (public) and corporate (private) computer-based research. The broad base of the target audience requires that our system of data set and software submission and distribution be simple enough to be easily accessible to all members of this audience, regardless of their particular technical expertise or experience.

## Publications

**Yonghe Sun, chairman**

In April 2009, SEG launched an online system for book submission, peer review, editorial collaboration, and production designed around the new procedures adopted the previous year. The system provides greater operational efficiency to all aspects of book acquisition, manuscript development, and production.

The benefits of the new procedures and the online system are starting to be realized. SEG published only two new books during the past fiscal year, but several titles are in production and expected to be published in the summer and fall.

During fiscal 2010, SEG published:

- *The Misadventures of Interpreter Sam*, by Donald A. Herron
- *Geophysics Under Stress: Geomechanical Applications of Seismic and Borehole Acoustic Waves* (2010 DISC book)

Titles due for publication in the second half of 2010 include:

- *Methods and Applications in Reservoir Geophysics*, edited by David H. Johnston
- *Heavy Oils: Reservoir Characterization and Production Monitoring*, edited by Satinder Chopra, Laurence R. Lines, Doug-

las R. Schmitt, and Michael L. Batzle

- *Geophysical Characterization of Gas Hydrates*, edited by Michael Riedel, Eleanor C. Willoughby, and Satinder Chopra
- *Advances in Near-Surface Seismology and Ground-Penetrating Radar*, edited by Richard D. Miller, Klaus Holliger, and John H. Bradford
- *GEOPHYSICS Today: A Survey of the Field as the Journal Celebrates its 75th Anniversary*, edited by the Editors of GEOPHYSICS

SEG eBooks launched in February with 36 books, mostly titles already in digital form. The new e-books offering shares the SEG Digital Library with SEG journals and expanded abstracts. By early July, another 14 titles had been added. Online books are available to institutions by subscription and to individuals through credit-card purchase of chapters.

In June, the SEG Foundation committed US\$21,000 from its publications fund to finance the scanning of more than 60 additional SEG titles. SEG intends to add these titles to its online collection within the next year.

Publications Committee members are Yonghe Sun (chairman), Sergey Fomel, Lianjie Huang, Ian F. Jones, Rebecca B. Latimer, Michael A. Pelissier, Louise Pellerin, and Dietmar Schumacher. The Executive Committee liaison is Editor Vladimir Grechka, and the staff liaison is Publications Director Ted Bakamjian.

## Publications Policy

### Michael Schoenberger, chairman

The Publications Policy Committee (PPC), now in its fourth year, addresses a range of issues that fall outside the purview of other publications-related committees or involve more than one such committee. It focuses on strategic issues such as member publications benefits, intersociety publication initiatives, publication pricing policies, and questions of commercialism and conflicts of interest in publications. The committee recommends actions to the Executive Committee as necessary.

Committee members are Michael Schoenberger, chairman; Colin Sayers, *TLE* Editorial Board chairman; Yonghe Sun, Publications Committee chairman; Sergey Fomel, Translations Committee chairman; Johan Robertsson, *GEOPHYSICS* representative; Stephan Gelinsky, Online Committee co-chairman; Kees Wapenaar, at-large member; Sven Treitel, at-large member; Vladimir Grechka, editor, ex-officio member and Executive Committee liaison; and Ted Bakamjian, publications director and staff liaison.

Committee activities included:

- Recommended that *GEOPHYSICS* be added to GeoScience-World, a collection of approximately 40 geoscience journals that has included *THE LEADING EDGE* since GSW's 2005 launch. *GEOPHYSICS* launch was scheduled for summer 2010.
- Advised the editor on whether to compose an article or re-

print one on ethical guidelines for publications. Other journals have addressed the practice of artificially inflating a journal's impact factor.

- Advised the publications director to delay adopting a policy to address open access to SEG publications of work that was supported by the U.S. government.
- Endorsed an increase in the member subscription price of the print version of *GEOPHYSICS* to US\$55 per year for 2011.
- Advised the Executive Committee to regularly increase the price institutions pay for journal subscriptions but opposed altering SEG's member online-publications benefits.
- Endorsed pricing books to reflect fully burdened costs and continuing to provide a significant member discount.
- Supported having SEG serve as a reseller of geophysics books from other publishers but opposed outsourcing the books program to a commercial publisher.
- Recommended providing the SEG Yearbook via online download and sending it on DVD only to those members who request it.
- Opposed a suggestion of placing a page limit on *GEOPHYSICS*. Timely and complete publication should be among SEG's highest priorities.
- Recommended further study of the financial benefit of splitting the print version of *GEOPHYSICS* into two or more journals.
- Recommended that the Executive Committee request that the SEG Foundation commit US\$21,000 from its publications fund for scanning legacy SEG publications—mostly books—for online publication.
- Recommended requesting the SEG Foundation to undertake the task of soliciting financial support from corporations for the publication of *GEOPHYSICS* and *TLE*.

All recommendations to the Executive Committee except the last one were adopted or informally endorsed.

## Research

### Greg Ball, chairman

The Research Committee fosters communication among scientists interested in applied geophysical research and promotes the advancement of the science.

The Committee meets formally twice each year. One meeting occurs in conjunction with the Annual Meeting, while the Winter Meeting is traditionally hosted in January by a member of the Committee at his or her company or university. The most visible activity of the Committee is organizing summer research workshops, often in conjunction with other professional societies, and the postconvention workshops and special sessions at the Annual Meeting. For the 2010 Annual Meeting, the Committee is sponsoring the following:

#### 2010 Annual Meeting Special Sessions:

- Recent Advances and the Road Ahead

2010 Annual Meeting Research Workshops:

- Research at national companies
- Land seismic: Sensors and coupling, cost reduction, and economic challenges
- High-performance computing and GPU implementation of geophysical applications
- Anisotropic parameters in our depth imaging: making physical sense out of them
- Advances in joint inversion of multiset and multiphysics data
- Seismic resolution and uncertainty: How far can we go?
- Surface waves as signal and Integrated near-surface studies
- Shales—never just conventional: Geophysics and geology of (un)conventional shale plays
- Advances in elastic rock property inversion from seismic and Are shear waves being used optimally in interpretation and beyond AVO?
- Microseismicity: Beyond dots in a box
- Wide-azimuth processing for imaging and reservoir characterization

The Committee is sponsoring the following workshops in 2011:

2011 EAGE/SEG Summer Research Workshop:

- Integration of geosciences into petroleum engineering

2011 SEG/SEP/AAPG Research Workshop:

- New advances in high-performance computing for oil and gas exploration and production

2011 SEG Summer Research Workshop:

- Full-waveform seismic inversion as the ultimate tool for reservoir characterization—Issues and challenges

The 2010 SEG/EAGE Summer Research Workshop on Low Frequencies: Their Value and Challenges is scheduled for 15–20 August in Snowbird, Utah. The 2010 SEG Summer Research Workshop on Subsalt Exploration and Development is scheduled for 26–29 July in Lake Tahoe, California. The SEG/SPE/AAPG Workshop on Shales: Seal, Reservoir, Source is scheduled for 6–9 June 2010.

Last year, the Committee formed the Research Committee Online Collaboration Group to realize the opportunities offered by SEG Online: technical discussions, participation of remote attendees at meetings, organizing research workshops, and capturing and sharing knowledge from summer research workshops. Efforts to realize these opportunities will continue into next year.

Getting students more involved in Committee activities is a priority. SEG Student Members attended the Committee Meeting held in conjunction with the Annual Meeting, and some students have joined the Committee. Also, we expect students will actively participate in online technical discussions.

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**Reviews****Ali I. Mese, chairman****David C. Bartel, vice chairman**

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Members of the Reviews Committee review recently published books of geophysical interest in *THE LEADING EDGE*. The book reviews help keep SEG members up to date with the recent geophysical publications and provide broader coverage of other geoscience disciplines. The monthly column provides the committee a continuing presence to interact with the entire SEG membership.

We are a global committee with one-third of our members outside the United States. The Committee has 35 members affiliated with various service companies, operators, consulting and research companies and prominent universities. The committee operates entirely by e-mail, allowing all members around the globe to participate regardless of geographical location.

We have added three new members to the Reviews Committee this year to enable timely turnaround of the soaring numbers of relevant books to review.

Book lists are sent to members of the committee several times a year. The SEG office forwards the selected books to the reviewers, and the reviews are sent by e-mail back to me for forwarding to the SEG office. Members' suggestions on the books to review are also taken into consideration.

The publishers soliciting a review provide our main source of books. We have been successful in working with the SEG Publications Department to quickly receive new SEG publications for review and subsequent publication of the review.

I thank Merrily Sanzalone of the SEG Publications Department for her help in handling the logistical side of the review process. I also thank David C. Bartel, Dean Clark, Vladimir Grechka, and Spring Harris for their efforts in the rapid conversion of the e-mailed reviews into the finished products in *THE LEADING EDGE*. Finally, thanks to all the contributors to the "Reviews" column. Without them, the committee could not have reached the level of efficiency we've attained today.

Any member who would like further information or would like to contribute to the review process is welcome to contact me via [amese@geomech.org](mailto:amese@geomech.org) or 1-281-546-2480.

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**Technical Standards****Jill Lewis, chairman**

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**Committee members**

Jill Lewis, Troika International Ltd. (chairman)  
 Rune Hagelund, Roxar Ltd.  
 Stewart Levin, Halliburton  
 Peter Green, Saudi Aramco

**OGP Liaisons**

Jill Lewis and Barry Barrs

### Energistics Liaisons

Jill Lewis and Jerry Hubbard

The team is pleased to announce that it was able to ratify the SEG-D 3.0 format during SEG's 2009 Annual Meeting in Houston.

This format is a positive step forward. It not only provides a far greater granularity for recording data, but it also brings into the field standard a range of other disciplines such as EM, CSEM, passive seismic methods, seabed, under/over cabling, multicomponent seismic methods, etc.

The committee currently is carrying out a fast-track update of the SEG-Y format to a Rev 1.1, which will ensure that we continue to strive for "standards within standards." The update will bring the SEG-Y format in-line with the OGP (International Association of Oil and Gas Producers) EPSG worldwide Geodetic Parameter Database ([www.epsg.org](http://www.epsg.org)).

Rune Hagelund, one of the driving forces behind this format revision, served as deputy chairperson of the SEG Technical Standards Committee.

The SEG Technical Standards Committee continues to work with the OGP and Energistics to create "standards within standards." An example of this is SEG-D 3.0, which uses the Energistics measurements table and the OGP.

To increase format awareness, Jill Lewis has given presentations at various trade shows and data management conferences. She continues to promote the work of the SEG and increase awareness of the importance of these exchange formats.

During the forthcoming year, the committee will look at SEG-Y to see what can be done to modernize this format yet keep its elegant simplicity. The SEG-Y format is one of our most successful exchange formats, and so far the industry has resisted all attempts to bring this format up to date. The TSC welcomes those who would like to work on this update.

### Tellers

#### Steve Simmons, chairman

Survey and Ballot Systems, Inc. (SBS) was contracted to conduct the SEG election this year. SBS designed and distributed a Web ballot and a paper ballot to each voting SEG member. SBS received, tabulated, and verified the votes, and submitted the results to the SEG business office. The SEG Tellers Committee verified the count provided by SBS.

Official ballots were sent out 3 June 2010 to 8,125 Active members eligible to vote in this year's election. In addition to receiving a paper ballot, 7,816 eligible voters received e-mail from SBS with personalized login information and specific instructions to vote electronically if they preferred.

The annual election had a participation rate of 37.5%. The final results include 3,046 returned ballots received on or before 30 July. Of those ballots, 2,339 were received online, while 707 paper ballots were returned by mail. This figure does not include 42 ballot envelopes that were deemed invalid; 41 mem-

bers failed to sign their return envelope and one member did not include the ballot in the return envelope. Sixteen members duplicated votes by using both the paper and Web method of voting; therefore SBS counted the Web votes as valid and the paper votes as invalid as directed by SEG.

A two-way tie for the second district representative position in District 7 was decided by secret vote of the SEG Committee on Nominations, in accordance with SEG Bylaws, Article VII, Section 7.

The election results are as follows:

#### 2010–2011 SEG Executive Committee

|                       |                |
|-----------------------|----------------|
| President-elect       | Bob Hardage    |
| First vice president  | Mike Graul     |
| Second vice president | Susan Webb     |
| Vice president        | Alfred L. Liaw |
| Secretary-treasurer   | John Eastwood  |

#### District Representatives

|              |                                                                    |
|--------------|--------------------------------------------------------------------|
| District #1  | Michael Kelly                                                      |
| District #2  | Thomas M. Daley                                                    |
| District #3  | Michael M. Deal, Gerard Beaudoin, Arthur Weglein, and Cung Khac Vu |
| District #7  | Dirk Gajewski and Klaus Holliger                                   |
| District #11 | James C. Sun                                                       |
| District #12 | Max Meju                                                           |

### THE LEADING EDGE Editorial Board

#### Colin Sayers, chairman

THE LEADING EDGE is the Society's principal vehicle for delivering news and announcements as well as historical and technical articles and commentaries to its more than 30,000 members. In 2010, the magazine continued to expand its appeal to our Society's diverse, international membership. Theme articles reporting on cutting-edge technologies have become a signature component within the magazine. Maintaining the highest possible quality and timeliness of materials makes the production of the magazine one of the most challenging of SEG publication products. *TLE* staff met these challenges and exceeded the expectations of our membership.

The seven-member *TLE* Editorial Board is tasked with providing advice and direction for the *TLE* staff, led by Editor Dean Clark. Dean is the foundation upon which *TLE* has been built for the last 25-plus years, and, along with his highly skilled staff, has made the magazine a top benefit to the membership. With barely three months between submission and publication of theme articles, *TLE* staff routinely lives with tight deadlines. Throughout 2010, *TLE* has met the high expectations of our members due in large part to the excellent work of Associate Editor Jenny Kucera, Assistant Editor Spring Harris, Graphic Designer/Production Specialist Ian Danziger, Graphic Design Manager Kathy Gamble, Graphic Designer Tonia Gist, Advertising Coordinator Mel Buckner and Senior Publications Co-

ordinator Merrily Sanzalone. Jenny replaced Linda Holeman as associate editor at the beginning of the year, and Linda is thanked for her excellent work. Publications Director Ted Bakamjian has provided this very talented team with the latitude to create and the resources to continue meeting the expectations of our membership.

One of the principal jobs of the Editorial Board has been selecting the special-section themes that attract the outstanding technical manuscripts that fill more than half the pages of the magazine each month. The *TLE* Board must identify these special-section themes more than a year in advance of their publication. With hundreds of possible geographic, discipline, and focus areas representing current or potential “leading edge” areas of activity, the *TLE* Board must gaze into the geophysical crystal ball to predict the future. In 2010, *THE LEADING EDGE* covered the following topics in its special sections: high-performance computing; CO<sub>2</sub> sequestration; microseismic; offshore technology; uncertainty analysis; borehole geophysics; Brazil; shallow hazards; seismic interpretation; multicomponent seismic; velocity analysis/RTM; and tight gas sands.

January 2010 marked a transition from the “Suggested reading” list at the end of every technical article to a list of references similar to that published in *GEOPHYSICS*. Also in 2010, the first digital issue of *TLE* appeared. This new version of *TLE* is a page-by-page reproduction of the print issue, enhanced with a variety of additional features. Readers are aided by a search function to find specific terms in an individual issue or across multiple issues, and those wanting additional information about an article’s sources can use the linked references to locate and even download source materials.

An important duty of the *TLE* Board is to nominate the Best Paper for the previous year. The Board voted to nominate “Taking apart beam migration” by S. Gray, Y. Xie, C. Notfors, T. Zhu, D. Wang, and C-O. Ting for the 2009 Best Paper award. Two papers were nominated for Honorable Mention: “Digital rock physics: 3D imaging of core material and correlations to acoustic and flow properties” by M. Knackstedt, S. Latham, M. Madadi, A. Sheppard, T. Varslot, and C. Arns, and “Observation and modeling of source effects in coda wave interferometry at Pavlof volcano” by Matthew M. Haney, Kasper van Wijk, Leigh A. Preston, and David F. Aldridge. These nominations were forwarded to the Honors and Awards Committee.

The popularity of the special sections has resulted in a large number of excellent articles submitted for publication in *TLE*. In contrast to previous years, it has not been possible to accom-

modate all of those articles judged to be technically correct due to the 128-page limit resulting from budget restrictions arising from the current economic environment. The *TLE* Board has implemented several guidelines to help authors, guest editors, and *TLE* maintain the high quality of articles while staying within the budgeted limit of 128 pages.

The *TLE* Editorial Board has experienced several membership changes since the last report. Rick Miller and Satinder Chopra concluded their terms on the board at the close of the 2009 Annual Meeting, while Bill Goodway and Greg Baker began theirs. During 2010, membership on the Board included Colin Sayers, Jeff Deere, Reinaldo Michelena, Alan Jackson, Bill Goodway, Greg Baker, and Chris Liner.

At the conclusion of the 2010 Annual Meeting in Denver, Colin Sayers and Jeff Deere will conclude their terms and will be replaced by Tad Smith and Shuki Ronen. Reinaldo Michelena will assume the role of *TLE* Editorial Board chairman. Michelena’s years of experience on the Board will allow for a smooth transition. The makeup of the Board reasonably represents the technical diversity of our membership and will provide the right mix of experiences and backgrounds for the continued excellent outlook for *TLE*.

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## Translations

### Sergey Fomel, chairman

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The Translations Committee continued its traditional activity of reviewing and recommending books for translation from foreign languages and subsequent publication by SEG. After reviewing several geophysical books published in Chinese, the committee recommended the book *The Way to Obtain a Better Resolution in Seismic Prospecting—Systematical Analysis of High-resolution Seismic Exploration* by Qing-zhong Li for translation and publication by SEG. The committee is currently reviewing the book *SAL: Geologia e Tectônica: Exemplos nas Bacias Brasileiras* published in Portuguese. Several independent reviews have been obtained and should be sufficient for making a recommendation. The book is proposed for a possible joint publication by SEG and AAPG.

In collaboration with the Global Affairs Committee and the regional SEG offices, the committee continues to discuss possible translation of selected SEG materials from English into other languages, with the goal of extending access to them to more geoscientists.

## SEG-ISEF Subcommittee

### Richard Nolen-Hoeksema, chairman

The SEG ISEF Subcommittee's focus is the International Science and Engineering Fair (ISEF), which occurs annually in May.

The 2011 ISEF will be 8–13 May 2011, in Los Angeles, California.

The 2010 ISEF was 9–15 May 2010, in San Jose, Nevada.

The SEG judging team at the 2010 ISEF included Chuck Meeder (Marathon Oil), Alex Becker (UC Berkeley), Barry Kirkendall (LLNL), Patricia Berge (LLNL), and Richard Nolen-Hoeksema (e4sciences|Earthworks LLC).

The SEG judging team selected the following projects to receive awards or honorable mention (see Table 1).

| Award                | Awardee                                                      | Project | Title                                                                                                               |
|----------------------|--------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------|
| First                | Alexander Kendrick                                           | EE022   | Underground Imaging                                                                                                 |
| Second               | Ivan Lazarevich                                              | PH013   | Sandstorm in a Teacup: Patterns in a Vibrated Granular Layer                                                        |
| Third                | Zi Su                                                        | EA008   | The Research on Application of Common Digital Camera in Meteorological Visibility Measurement                       |
|                      | Marian Bechtel                                               | EA019   | Developing a Process for Seismo-Acoustic Imaging Applied to Humanitarian Demining                                   |
|                      | Nicholas Rajen                                               | EE017   | Learning from the Past: Heat Transfer in Ancient Native American Buildings                                          |
|                      | Katrina Hui                                                  | PH019   | Experimental Study of Viscosity Using Stokes' Law: Examining and Correcting Stokes' Law's Limitations in Viscometry |
| Team                 | Lucas Conci<br>Juan Velasco                                  | PH308T  | Measurement of the Earth-Moon Distance by a Dynamic Method                                                          |
| Honorable<br>Mention | Jianting Qiu                                                 | EA007   | The Short-Cycle Digital Seismometer                                                                                 |
|                      | Arjun Aggarwal                                               | EE061   | Can the Concept of Stereo Vision be Applied in Robotics?                                                            |
|                      | Wyatt Dunham                                                 | MA012   | Markov Matrices Applied: Testing the Accuracy of the Markov Chain Using a Popular Board Game                        |
|                      | Erin Lewis                                                   | PH006   | The Effect of Temperature and Salinity on Accuracy of Locating an Underwater Object Using Multilateration           |
|                      | Lilia Khrapunova<br>Antonina Toropkina<br>Anastasia Shaykina | PH301T  | Research of Atmosphere Influence on Propagation of Electromagnetic Waves                                            |

Table 1.

# Reports of the Ad Hoc Committee Chairmen

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## Search

### Klaas Koster, chairman

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At calendar year-end 2009, the Executive Committee approved the hiring procedure, the position description, and put the Executive Director Search Committee (SC) in place. The SC consisted of seven members including the retiring SEG executive director. (1)

The SC approved a long and short version of the ad, and advertising in print and online format began in mid-January 2010.(2) The SC then established a list of essential qualifications based on the position description to use in determining the initial candidate match. SEG Human Resources received and provided the initial review of résumés. Qualified candidates were then forwarded to the SC members for review.

Close to 170 candidates applied and the committee reviewed approximately 80 résumés that met the qualifications of the position. The committee then ranked the candidates and 36 received votes. Candidates receiving two or more votes were invited to participate in group teleconferences. The SC developed and approved ten interview questions and teleconferences were scheduled matching three SC members per candidate. (The retiring ED did not participate in the teleconferences.) Fourteen candidates were invited to interview with the six committee members. One candidate withdrew her name prior to the interview. Based on the teleconferences, the candidate list was further narrowed to seven who were then invited to Houston, for face-to-face interviews. Six candidates were interviewed, and one candidate withdrew for another job opportunity. From the six candidates interviewed, the SC formally recommended two candidates and one alternate to the Executive Committee. SEG Human Resources ordered a complete background check with credit report and called references for the top three candidates. The Executive Committee interviewed the two top candidates in mid-May and the alternate in mid-June. Steven Davis was appointed as the new executive director starting 1 August.

*(1) Search Committee consisted of: 1) president-elect (committee chairman), 2) meetings and a past ED search committee member, 3) chair, SEG Global, Inc, 4) chair, SEG Foundation, 5) representative from Advisory Committee, 6) independent and AGI executive director, and 7) retiring SEG executive director.*

*(2) Advertised in: CEO Update, EOS (AGU), EARTH – AGI (online only), Tulsa World, Washington Post (Online), AAPG Explorer, The Chronicle of Higher Education, Houston Chronicle, and multiple months in TLE, on the SEG Web, and in ASAE, plus various social networking sites (Facebook, LinkedIn, Google AdWords).*

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## SEG Oil and Gas Reserves Committee

### Bruce Z. Shang, representative

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The SEG Oil and Gas Reserves Committee (SEG OGRC) was officially formed in 2008 to promote the responsible use of geophysical technologies in the estimation of oil and gas reserves and resources. We collaborate with our sister professional organizations and government agencies in the development and education of oil and gas reserve systems.

SEG OGRC is an observer to the Society of Petroleum Engineers' Oil and Gas Reserves Committee (SPE OGRC). We have attended four SPE OGRC meetings since last annual report and collaborated with our counterparts within sister organizations on several fronts:

1. SEG sponsorship to the Petroleum Resources Management Systems (PRMS) is revisited. Its approval is supported by representatives from all current sponsors. Pending formal approval later this year, SEG will become a formal sponsor to PRMS along with the Society of Petroleum Engineers (SPE), American Association of Petroleum Geologists (AAPG), World Petroleum Council (WPC) and Society of Petroleum Evaluation Engineers (SPEE).
2. Bruce Z. Shang (Marathon Oil) chaired an SPE OGRC subcommittee to translate PRMS into Chinese with most of the subcommittee members being from Chinese American Petroleum Association (CAPA) and significant assistance from major Chinese oil companies, PetroChina and SinoChem.
3. Robert J. Withers (Chevron) and Bruce Z. Shang have been working with SPE OGRC to review the geophysics sections of the PRMS Application Document (PRMS AD) which is designed to facilitate the application of PRMS.
4. SEG OGRC is in discussion with the Joint Committee on Reserves Evaluator Training (JCRET) to join the committee and nominate geophysics training classes for reserves estimation. However, given that SEG has a late start due to historical reasons, the classes may take time, effort, and consensus to be developed.

OGRC is organizing a postconvention workshop on the roles of geophysics in oil and gas reserves booking and reporting at the upcoming Annual Meeting in Denver. We are glad to have SEG Development and Production Committee (D&P) as our cosponsor. The workshop will begin by introducing the reserves reporting system and the highlights of the new SEC rules to the participants and also by covering the investment community viewpoint on the new rules. The discussion topics will focus on the opportunities for geophysics; what are reli-

able geophysical technologies and their application conditions; and what integrated workflows with other disciplines may be required to qualify as reliable technology. The workshop will conclude with a discussion on the necessity and feasibility of establishing SEG-recognized technologies and workflows for reserves booking and reporting.

I am glad to report that interest among SEG members has been increasing steadily. Our committee has grown from 12 members to 18 members since last report.

# Reports of the Representatives

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## **AAPG, SEG, and SPE Joint Workshops Committee**

### **Stephan Gelinsky, representative**

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A few years ago, SEG and several of its fellow professional societies with similar focus on different aspects of applied geoscience initiated the Joint Workshop Series. The purpose of this initiative is to allow for improved information sharing among the various subsurface disciplines. The effort initially required some proactive engagement to connect across the boundaries of the participating societies, but at this point in time, the Joint Workshops are reasonably established and regularly produce well-attended workshops that facilitate learning and cross-fertilization among our disciplines.

The series of joint intersociety workshops continues using a flexible format: One society takes the lead on a specific workshop and sets the format for that specific event. All three societies alternate taking the organizer role. SEG-led workshops tend to follow SEG's Summer Research Workshop format, SPE-led events are organized as part of the SPE Forum series, and AAPG-led events are joint Hedberg Research Conferences.

Recent entries in the series were two successful workshops in June 2010—the SEG-led Joint Workshop “Shales: Seal, Reservoir, Source” in Austin (led by Bob Tatham and Colin Sayers), and the SPE-led Forum “Quantitative Interpretation: Reducing Uncertainty through Integration of Petrophysics, Geophysics, Geo-modeling and Reservoir Simulation” in Denver.

Upcoming in December is the AAPG-led Hedberg Research Conference on “Critical Assessment of Shale Resource Plays.” In addition to SEG and SPE, SPWLA is co-organizing this event in Austin. The candidate for the next SEG-led workshop is a high-performance computing-themed event (lead Nikraves).

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## **AGI Environmental Geoscience Advisory Committee**

### **Azra N. Tutuncu, representative**

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The Environmental Geoscience Advisory Committee (EGAC) has been established to help identify and focus on the highest priority environmental informational needs and issues best addressed by the geosciences community. The activities of the AGI Environmental Affairs Program are guided by the

EGAC. Representatives of AGI's member societies serve on the EGAC along with liaison representatives from selected government agencies, academic institutions, and the industry. Approximately 30 geoscientists are actively involved in various aspects of environmental research and industrial applications, and the EGAC provides a forum for developing broad consensus concerning the role of geosciences in key environmental issues.

I am pleased to inform SEG members that we have set up a portal within the SEG Web site to relay relevant environmental information to the interested SEG members in a timely manner. SEG members may find recent news at the following portal address:

[http://www.seg.org/SEGportalWEBproject/portals/SEG\\_Online.portal?\\_nfpb=true&\\_pageLabel=pg\\_gen\\_content&Doc\\_Url=prod/SEG-About-SEG/About-Related-Organizations/about-related-organizations.htm](http://www.seg.org/SEGportalWEBproject/portals/SEG_Online.portal?_nfpb=true&_pageLabel=pg_gen_content&Doc_Url=prod/SEG-About-SEG/About-Related-Organizations/about-related-organizations.htm)

The AGI Environmental Affairs Program developed a highly successful Environmental Awareness Series of publications which promotes awareness among policy-makers and the public on the role of Earth sciences in understanding and mitigating environmental concerns.

Publishing partners are typically invited to sponsor and distribute the individual volumes in the Environmental Awareness Series. EGAC members help with the reviews for suitability of the manuscripts submitted to the AGI and EGAC mission and vision for consideration.

The 11th book of the Environmental Awareness Series titled *Living with Unstable Earth* by Thomas Holzer has been published as a practical guide to help increase awareness and understanding on how one can build safely in areas with unstable ground. The book has been sponsored and published by AGI in cooperation with Association of Environmental and Engineering Geologists, Applied Technology Council with support from the ATC Endowment Fund, and the U.S. Geological Survey. Another book titled *Environmental Science: Understanding our Changing Earth*, published by the AGI with financial support from the National Science Foundation, offers a unique approach to teaching both earth science and environmental science, by incorporating earth science and environmental science to earth systems.

The EarthNote administration tool and associated template for publications has been developed and a prototype article has been finalized for publication in Fall 2010. EGAC is providing resources and advice in preparation of EarthNotes that are

designed to provide timely information about the Earth to increase public awareness in geosciences and the vital role of resources and interactions with the environment.

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## **AGI Member Society Council**

### **David Zinzer, representative**

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Founded as a Federation in 1948, the American Geological Institute provides information and education services to its 47 member societies, promoting a unified voice of shared interests for the geoscience community of more than 120,000 geologists, geophysicists, and other earth and environmental scientists.

AGI strengthens geoscience education and increases public understanding of the vital role that geosciences play in society's use of resources, resilience to natural hazards, and interaction with environment.

The AGI Education Department has created a comprehensive portfolio of geoscience educational materials and resources for students and teachers—from kindergarten through high school and college. Curriculum includes K-5 GeoSource (elementary school), Investigating Earth Systems (middle school), Earth System Science in the Community (high school), and Environmental Science (high school).

AGI offers the Earth Science Organization (ESO) database as a resource to assist educators in their efforts to research and identify potential partners in the local earth science community for educational activities. The ESO database includes state and national organizations.

AGI's Directory of Geoscience Departments has been updated with GeoDirectory and is now a free, online resource.

Pulse of Earth Science is a Web site that contains information on the current status of earth science education in the United States. Information includes K-12 enrollment numbers, teacher certification, course requirements for grades 8-12, and science content standards.

Since October 1998, AGI has organized Earth Science Week to help the public gain a better understanding and appreciation for the earth sciences and to encourage stewardship of the earth. This year's Earth Science Week is 10–16 October. The theme, "Exploring Energy," will engage young people and the public in learning about earth's energy resources. Read the latest news in the e-newsletter, "Earth Science Week Update."

AGI has relaunched its geoscience profession newsletter, "GeoSpectrum," released a new video titled "This is AGI," and coproduced "Visions of Earth," (high school), and "Earth and You" (grades 3–5). Other publications include *The Geoscience Handbook*, *Faces of Earth*, and the authoritative *Glossary of Geology* (fifth edition).

The AGI Foundation supports educational, scientific, and charitable activities to benefit the entire geoscience community.

The SEG representative to the AGI Council encourages more interaction and cooperation between AGI and SEG regarding earth science education.

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## **International Association of Oil and Gas Producers Surveying and Positioning (S&P) Committee**

**Jill Lewis, representative**

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### **Status update on OGP P1 and P2 Format Revisions**

#### **1. Background**

*by Leen Boer, Tony Blackburn, and Tom Owen*

The International Association of Oil and Gas Producers (OGP) Surveying and Positioning Committee decided in November 2008 to revise its main positioning data exchange formats.

The EPSG guidelines and EPSG geodetic parameter data set were transferred to the OGP Surveying and Positioning Committee during 2005. The UKOOA P-formats and guidelines followed in 2006, and a major revision of these documents had been planned for some time.

Parallel discussions with the Society of Exploration Geophysicists (SEG) covered deprecation of their P-formats and recognition of the revised OGP P-formats as their replacement.

From the start, the objective has been to have a single global source for positioning advice, guidance, and formats provision for the upstream oil and gas industry for the following formats:

- P1—Data exchange format for processed (post plot) coordinate data
- P2—Data exchange format for raw marine positioning data

Why these format revisions?

Why a need to return to a common standard?

And what are we trying to fix?

First of all, acquisition and processing technologies have moved. This had made obsolete current OGP formats. OGP P1/90 and P2/94 are no longer able to handle modern acquisition systems. This has led to a proliferation of variations.

#### **2. Approach and current status**

Early in 2009, we set up small groups consisting of OGP-member company representatives to begin assessing the revision scope, timeline, and the revision task forces.

We then developed and distributed questionnaires on the P1, P2 revisions. In March 2009, these questionnaires were distributed to all members of the Committee as well as to major survey and seismic contractors, major service providers, software vendors, and other companies with a professional interest in these formats.

We were seeking input on current format utilization, requirements for updates, update areas, format basis (ASCII, XML) and possible participation in task forces for both formats. Our aim was to establish if the surveying and positioning industry would consider the revision of the (P1 and P2) data exchange formats to be a valuable industry initiative.

We presented responses to these questionnaires at the April 2009 Surveying and Positioning Committee meeting. On the agenda were papers for P1 and P2 based on industry feedback as well as discussions between P1 and P2 scoping working groups. We also obtained specialist input. Combined with input from questionnaires, this resulted in a joint proposal going forward, with suggestions for Task Force (TF) composition for both formats. Following a presentation, OGP accepted this in October 2009.

Since then, several virtual TF meetings were held. We agreed on the format options (variable-width, comma-delimited format, see chapter 3), established core teams from Task Forces working on Header/Data records and CRS/Geodetics, and are now in the process of converting existing P1 and P2 records to the new formats. The Header records are being dealt with jointly, as P1 is in effect a subset of P2 (in terms of Header records). We are integrating into new formats the update areas, which were obtained through questionnaire feedback, specialist input, and subsequent discussions.

Consistency between formats is ensured through common TF members, and through feedback loops during P1 and P2 TF meetings. We are working a plan to have a proposed format ready for ratification by October 2010 for both P1 and P2.

### 3. Format Options

To summarize the outcome: The Task Forces for P1 and P2 reached a decision—for both P1 and P2—against XML, and decided to adopt a variable width, comma delimited (vw, cd) format, out of a number of options initially identified.

Options were as follows: XML, Header-fixed width/Data-fixed width, Header-fixed width/Data-variable width delimited, Header-variable width delimited/Data-variable width delimited.

Although the XML format has many advantages, there is one overarching disadvantage, which excludes it from further consideration: the file size. This has been a significant obstacle to the future acceptance of this data format. Therefore, we proposed to drop it from further consideration. Based on this, the choice was narrowed to one of the ASCII formats (fixed width or variable-delimited width).

The distinct advantages of the variable-width delimited ASCII format outweigh any disadvantages. The selected format also overcomes many of the limitations of the fixed-width ASCII format which is deemed to have passed its shelf life. We are working in the P1 and P2 Task Forces to mitigate/eliminate these disadvantages to the selected format.

Ensuring precise format rules for headers, lead words/letters before records, sequences of data, and other details will help in this process.

### 4. Features of new formats

**Format Changes.** The main disadvantage with the existing “P” formats has been the constraints of the fixed width, both in terms of the fixed-field widths and the requirement to fit each line into an 80-character width. A good example of this is the single-digit streamer number used in the P1 receiver position

records. At the time of P1 definition in 1990, there was no concept that we would ever tow more than nine streamers. Consequently, this field was defined as a single digit. As surveys have moved to 10 streamers and beyond, data-recording systems must find methods to record the data. This scenario has been repeated in a number of places in the P1 and P2 format, and different systems have implemented different solutions. The result is a divergence from the original formats.

It would be possible to expand the existing formats to solve the specific formatting issues that have come up. However, this would only solve the issues currently known and would leave the format needing constant revision every 20 years or so.

Moving the new formats to a comma-separated, variable-width-delimited methodology has the advantage of keeping the original line-by-line nature of the existing formats. At the same time, this allows individual fields to be recorded to the size and accuracy required; thus, the streamer number can be 1, 10 or even 100, or a shot time can be 20.2 or 20.123456789 seconds.

The new formats also address the lack of presentation precision in coordinates in the existing P formats. The fields were defined to support North Sea (U)TM meters and Offshore GOM UTM in feet. This easily exceeds the designated fields on the existing formats causing things like implied decimals.

As part of this definition, the new formats do not need to strictly define the precision of a field value (as defined as “F6.2” in the old formats). It is up to the system writing the data to ensure they are recorded to the correct precision. If this requirement changes in the future, the formats can simply cope with the change.

**Data Recording Improvements.** One of the issues with the existing “P” formats has been the recent growth in recording user-defined values. This data relates to completely new acquisition device, such as the data from a current meter, as well as to additional values from an existing acquisition device for which the format has no available fields. An example is the new quality measurement output by a GPS receiver. Data are currently all stored in a common record. This makes it difficult for data to be identified and accessed in any consistent manner without additional knowledge.

The new formats allow for these scenarios to be handled (optionally) by providing the concept of additional extra fields to be logged alongside a data value. They also provide a method to extend the data types, which are logged into the main observation storage records. This ensures that any future requirements for data storage can be handled in the optimum way by the format without the need for future redefinition.

The new formats have also extended a number of areas that were not well covered in the original formats. These include better pre-plot definitions and cable-section definitions.

**Flexibility.** A number of areas within the existing “P” formats are too rigid in their definition. For example, the system supports only the definition of certain specific projection and datum transformation methods. Redefining all of these areas in a

more flexible way allows for wider format use. Flexibility improvements also include updating of geodetic storage records to include the ability to reference back to the EPSG parameter repository.

While the original formats were designed specifically for towed streamer seismic surveys, the new format provides a wider scope to cover surveys such as ocean floor and electromagnetic methods.

Simplification of a number of data-storage areas has removed restrictions in the existing formats. For instance, the requirement within P294 that a USBL system must be located on a vessel has been removed.

**Header Commonality.** To avoid the current situation where the “P” formats all have different headers, the format design allows for a common header to be shared across every implementation. The geodetic header allows for easy transfer into the latest SEG-D format.

#### 5. What else?

In addition to this, we are generating a scope for a data reader/extractor. This will help alleviate concerns over readability and data extraction. We also are considering a convertor (P1 only). This would facilitate uptake of new formats while allowing time for (re-)developing existing format readers.

## IPTC Management

**Philippe M. Doyen, representative**

**Joseph M. Reilly, representative**

The International Petroleum Technology Conference (IPTC) is an international oil and gas conference and exhibition. The event rotates between various venues in the Eastern Hemisphere. The scope of the conference program and associated industry activities addresses technology and relevant industry issues that challenge industry specialists and management around the world, particularly in the gas business and certain overarching issues such as HSE, security, HR, and training.

The IPTC is a collaborative effort among the American Association of Petroleum Geologists (AAPG), the European Association of Geoscientists and Engineers (EAGE), the Society of Exploration Geophysicists (SEG), and the Society of Petroleum Engineers (SPE).

Attendance at the December 2009 IPTC in Doha was 2,833 with 574 organizations and 64 countries represented.

In 2009, the sponsoring societies agreed to form a Board of Directors to provide greater oversight for this event. The SEG appointed Joseph M. Reilly and Philippe Doyen to the IPTC Board. The first Board meeting was held in Barcelona on 14 June 2010. The primary focus of this meeting was to agree on organizational issues and to discuss the upcoming Conference in Bangkok, Thailand, 15–17 November 2011. The primary challenge associated with this venue is the current security situation in Bangkok. The IPTC staff agreed to provide a detailed

report on major decision/investment milestones associated with this event so that the sponsoring societies can provide input in a timely manner. We also discussed a proposal to host an additional conference in Beijing, China, in December 2012. The SEG IPTC Board members are also providing assistance to the local Thai SEG cochair in the formation of the SEG program subcommittee.

## NAPE Advisory

**Chris O. Tutt, representative**

The NAPE Expo (formerly the North American Prospect Expo) holds two events per year at the George R. Brown Convention Center in Houston: one in February and one in August with attendance of approximately 14,000 and 6,000, respectively.

The NAPE Expos are the largest prospect and property expos in the world, after humble beginnings in 1993. The NAPE show floor is a sea of exhibit booths that provide a unique marketplace for the buying, selling, and trading of oil and gas prospects and producing properties from the United States and around the world. Exhibits also include those showing the latest in oil-finding technology and providing capital formation. NAPE is, without a doubt, the premier networking venue in our business.

Although NAPE attendance was adversely affected by the economic downturn, it remains strong and profitable. NAPE is experiencing strong registration for both the August 2010 and the February 2011 shows.

The NAPE Expos are owned by NAPE Expo LP, which is comprised of the American Association of Professional Landmen (AAPL), the Independent Petroleum Association of America (IPAA), SEG, and the American Association of Petroleum Geologists (AAPG) as limited partners. AAPL is the operator.

## OTC Board of Directors

**Wafik B. Beydoun, representative**

**Jack Caldwell, representative**

The Offshore Technology Conference (OTC) is the world's foremost event for the development of offshore resources in the fields of drilling, exploration, production, and environmental protection. 2010 OTC was held May 3–6 at Reliant Park in Houston. Attendance at the 2010 OTC reached 72,900 as offshore energy industry experts from around the world came together to share technological advances and innovative approaches at the world's largest event for offshore resources development.

Attendance surpassed the 2009 total of 67,700, and the sold-out exhibition was the largest in 28 years, totaling more than 568,000 square feet, up from 557,000 square feet in 2009. OTC's expanded exhibition in Reliant Arena in addition to Reliant Center enabled the exhibition growth. Covering four full

days, this year's technical program offered sessions on renewable energy sources including offshore wind and wave energy. OTC's Spotlight on New Technology program highlighted 13 innovative technologies that are already making the industry more effective.

SEG is a sponsoring organization of the Offshore Technology Conference. The relationship dates to 1969 when SEG accepted an invitation to join with 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 12 members to the OTC board of directors. To provide an idea of how interdisciplinary the OTC is, a list of the other 11 sponsoring organizations follows: AAPG; American Institute of Chemical Engineers; American Institute of Mining, Metallurgical, and Petroleum Engineers; American Society of Civil Engineers; Institute of Electrical and Electronics Engineers—Oceanic Engineering Society; International Petroleum Technology Institute (formerly ASME-PD); Marine Technology Society; Society for Mining, Metallurgy, and Exploration Inc.; Society of Naval Architects and Marine Engineers; Society of Petroleum Engineers; and The Minerals, Metals and Materials Society.

SEG and its members accrue several benefits through participation in the Offshore Technology Conference. First, it is an event where one can broaden her/his view of the technology and technical advances that are required to make the oil and gas industry what it is. Second, besides the big-time hardware that's on view and being discussed in technical sessions, there are strong reservoir engineering and geosciences technical sessions that are, without question, relevant to what most geoscientists are working on today. Third, as with almost any well-attended industry meeting, it's a good place to network. Fourth, this meeting alone provides about 5% of the total annual income for SEG.

SEG and its members help make OTC the success that it is. First there are the members who work on the Technical Program Committee. Members of the 2009–2010 SEG/OTC Technical Program subcommittee included: Joseph M. Reilly (chair), William Barkhouse, Rocco Detomo, Dave Ridyard, Don Herron, John MacDonald, Joshua (Shuki) Ronen, Larry Scott, Gene Sparkman, Dan Ebrom, Charles Knobloch, Dan Heinze, Jim Kreamer, and Aurora Castelan. They did another outstanding job of constructing an interesting and instructive technical program. SEG's contribution to the OTC Technical Program is reported in this 2010 SEG Annual Report by Joe Reilly.

**2010 OTC.** Although this was a record year for OTC, the drilling accident in the Gulf of Mexico affected the mood and the tone of the event.

"We are coming together at a sobering time for the offshore energy industry. Although we don't yet know what caused the accident, we know that this industry takes safety and environmental stewardship very seriously. That is why when we do learn how this occurred, I know that all of us in the offshore in-

dustry will work together to prevent this from happening again anywhere in the world," said Susan Cunningham, 2010 OTC chairman.

The keynote speaker for the OTC Awards Luncheon, Noble Energy's Chairman and Chief Executive Officer Charles Davidson, opened his remarks with reference to the tragic fire and sinking of the Deepwater Horizon rig by saying, "We've got to clean it up ... find out what happened, and fix it so that it never happens again."

"I certainly had second thoughts," Davidson said, about giving his keynote address: "Today's reality is yesterday's impossibility." But he concluded that the industry must also celebrate its successes. "Our willingness to take on the impossible has led to immense change and success. Believing that anything is possible is critical to that success." He cited U.S. gas shale plays, Chevron's Jack Field in the lower tertiary Gulf of Mexico, and Israel's gas-field discoveries of the past 18 months as examples of achievements that once seemed impossible.

**New Developments.** OTC continues to grow with two new conferences. The OTC Brasil conference is scheduled on 4–6 October 2011 in Rio de Janeiro. OTC's first Arctic Technology Conference will occur 7–9 February 2011 in Houston, as a separate new conference focusing on both offshore and onshore technology for Arctic exploration and development. The 2011 OTC takes place 2–5 May 2011 at Reliant Park.

Jack Caldwell completed his eighth and final year as SEG's representative on the OTC Board. Jack wishes to express his appreciation to the Board members with whom he served during his tenure, as well as to the Executive Committee members and SEG staff, who made this period extremely enjoyable, rewarding, and educational for him. Jack also reports that next year's SEG representative on the OTC Board of Directors is Dr. Wafik Beydoun, from Total. According to Jack, "Wafik's background is going to be a great asset to the Board. He is strong technically, but also has a great knowledge of the industry overall, and an international network of contacts, and he knows the importance of trying to achieve consensus on contentious issues."

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## OTC Technical Program

### Joseph M. Reilly, chairman

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Founded in 1969, OTC is the world's foremost event for the development of offshore resources in the fields of drilling, exploration, production, and environmental resources. This year marked the 41st anniversary of OTC.

Attendance at the 2010 Offshore Technology Conference (OTC) reached 72,900. Attendance surpassed the 2009 total of 67,700, and the sold-out exhibition was the largest in 28 years, totaling more than 568,000 square feet, up from 557,000 square feet in 2009. Although this was a record year for OTC, the drilling accident in the Gulf of Mexico affected the mood and the tone of the event.

SEG is one of 12 sponsoring professional societies of the

technical program. The technical program features four full days of presentations, in eight concurrent sessions, covering the latest and most important topics, technologies and innovations in today's exploration and production industry.

For 2010, the spotlight SEG-sponsored geophysics technical sessions were:

**Creating Value Through Geoscience:** The presentations covered topics such as the global energy challenge, impact of the SEC "Reliable Technologies" ruling, assessing the value of geoscience in exploration and development, identifying salt-related drilling hazards, and the value of multi-azimuth seismic.

**Salt Structural Styles Informing Deepwater Exploration:**

Developments in salt tectonics thinking are changing the way explorers look for hydrocarbon accumulations beneath salt. These speakers brought the latest insights to the problem of constraining prospective subsalt hydrocarbon accumulations in regions of conflicting or ambiguous seismic images.

In addition, SEG, AAPG, and SME cosponsored a series of four sessions on gas hydrates. These sessions reviewed recent developments in identifying and quantifying gas-hydrate resources, highlighted by a discussion of the results of drilling gas-hydrate targets in the deepwater Gulf of Mexico in 2009.

SEG also sponsored three topical luncheons:

1. *Geoscientists Without Borders: Bringing Geoscience and Engineering Technology From the Energy Industry to Humanitarian Needs*, by Craig Beasley, WesternGeco
2. *U.S. Climate Change Policy: Facing Up to Costs and Sacrifices*, by Phil Grossweiler, M&H Energy Services
3. *Why We Hate the Oil Companies: Straight Talk From an Energy Insider*, by John Hofmeister, Citizens for Affordable Energy

Members of the 2009–2010 SEG/OTC Technical Program subcommittee included: Joseph M. Reilly (chairman), William Barkhouse, Rocco Detomo, Dave Ridyard, Don Herron, John MacDonald, Joshua (Shuki) Ronen, Larry Scott, Gene Sparkman, Dan Ebrom, Charles Knobloch, Dan Heinze, Jim Kreamer and Aurora Castelan.

This year we were honored by the presence of SEG President Steve Hill. Hill attended all SEG-sponsored events and hosted a dinner for the SEG Technical Program subcommittee. The subcommittee would like to express its gratitude to Steve for his very visible support.

*Footnote: For 2010, the OTC Board has appointed Joseph M. Reilly as the Technical Program general vice chair. Charles Knobloch and Rocco Detomo will become the SEG subcommittee cochairs.*

# SEG Foundation

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## Foundation Board of Directors Gary Servos, 2009 chairman

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This past year has been both successful and challenging for the SEG Foundation. I want to thank all our 2009 donors, our volunteers, and our Tulsa staff for their generosity, their wisdom, and their hard work.

Your 2009 Board consisted of 14 directors, several of whom also served on our Finance Committee, ably chaired by Vicki Messer. Award recipients were selected by four dedicated grant program committees: Scholarship, chaired by Martin Stupel; Travel Grants, chaired by Bob Van Nieuwenhuise; Projects of Merit, chaired by Gokay Bozkurt; and Geoscientists *Without Borders*, chaired by Craig Beasley. All in all, 50 dedicated volunteers deserve our accolades for what they have achieved on your behalf.

The major gift campaign, Advancing Geophysics Today, Inspiring Geoscientists for Tomorrow, concluded in 2008 with a record US\$17,232,510 in new gifts, much of which was pledged over five years to significantly grow existing programs and to establish new programs that will make a substantial difference in the services SEG offers to members around the world. The challenge for 2009 has been to implement these programs and demonstrate to our donors that their generosity is well placed. As if this was not a big enough challenge, the world economy and equity markets went into free fall.

How does the work of the Foundation relate to SEG? The answer is straightforward: the Foundation was established in 1987 as a charitable and educational “supporting organization.” We exist to raise funds and to make grants aligned with the SEG’s mission. To do this successfully, we must communicate effectively with our membership and corporate constituents; engage in fundraising and grant best practices; codify our activities through sound policies and procedures; and exercise effective financial oversight of the assets entrusted to us.

Let’s start with fundraising and donor stewardship, or “development.” During 2009, we strengthened our processes and activities with our many recent donors. Key to this has been our donor newsletter, Carrying the Torch (available at [www.seg.org/foundation](http://www.seg.org/foundation)). In July, we reached out to our members with our first-ever direct-mail appeal. We expanded our annual giving donor clubs by adding High Velocity (gifts of \$1000–\$5000) to the popular Doodlebugger Society (gifts of \$50–\$900). We

strengthened the Foundation’s premier donor club, the Trustee Associates by opening membership to all based on cumulative lifetime giving of \$10,000 or greater.

I am pleased to announce that as of 31 December, the Foundation had the support of 358 Doodlebuggers and 28 High Velocity contributors! We also added two new Trustee Associates in 2009, bringing the total to 189. The complete list of donors is available at [www.seg.org/foundation](http://www.seg.org/foundation). Your generosity provides the essential sustaining funding that enables all the activities of the Foundation. Without your commitment, our impact on the geophysical community would be so much less.

But let’s not forget—our goal is not just to raise money, but to use this money wisely. Grants directly to SEG during the year totaled almost \$1 million for programs including Honorary Lecture, Distinguished Lecture, SEG Online, student membership dues support, and several dynamic new student programs. These essential SEG programs are sharing technology advances with our global members, providing role models for students and young professionals, and driving the growth and engagement of student members. In 2009, SEG’s student membership grew to more than 8,000. This student engagement secures a bright future for the field and the many ways in which our discipline can assist the needs of Society.

Grants to third parties also increased in 2009 to more than \$900,000. These grants included \$415,000 in scholarships to 139 recipients, \$205,000 in travel grants to 146 students, \$91,000 in support of 14 summer field camps, \$187,000 in awards to four Geoscientists *Without Borders* projects, and \$16,500 in support of five Projects of Merit. One such project of particular note was Project GeoFORCE, conducted by the University of Texas to encourage underrepresented youth toward careers in earth science (see [www.jsg.utexas.edu/geoforce](http://www.jsg.utexas.edu/geoforce) for more info).

The rapid increase in third-party grants has required a comprehensive overhaul of the Foundation’s procedures. We are committed to the principle that recipients will be selected by independent committees, representative of our global membership, acting according to best practice policies and procedures. The Foundation assumed responsibility for these committees in late 2008, and the Board developed new policies and procedures for each committee. The Foundation’s conflict of interest policy has been expanded to include committee members. We entered 2010 with our grant committees well positioned to carry out our donors’ intent.

The Finance Committee of the Board was one of our most active. The Foundation's endowments were hit hard by the market fall, registering a 33% loss in 2008. Thankfully, much of the Foundation's assets were not affected because they were in programmatic (pass-through) funds and in yet-to-be-received pledges. The Finance Committee undertook a comprehensive review of investment policy, of investment-manager performance, and of alternative approaches for prudently investing our assets. The Finance Committee and Board voted unanimously to retain the services of the investment consultants who have advised us for the past three years. I am pleased to report

that as of 31 December our endowments have recovered nearly 40% of last year's loss.

This past year has been one of much progress. I want to thank all those who have contributed, from the \$25 student Doodlebuggers to several new major gift donors. I thank my Board and the committed members of the Finance and program grant committees. And I thank our hard-working staff in the SEG Business Office led by Executive Director Mary Fleming and Director, Foundation, Peter Pangman. Together we are advancing geophysics today and inspiring geoscientists for tomorrow.

# SEG Subsidiaries

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## SEAM

### William (Bill) Abriel, chairman

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SEAM Corporation was established in 2007 as a wholly owned subsidiary of SEG. Our purpose is to advance the science and technology of applied geophysics through cooperative industry efforts focused on subsurface model construction and generation of geophysical datasets for problems of importance to the resource-extraction industry.

Please see the Web site for details: <http://www.seg.org/SEAM>.

SEAM provides opportunities for companies to share the high cost of model design and data simulation. It also provides a forum for industry leaders to discuss geophysical problems of common interest, advances the art of modeling and computation by stimulating research and development, and provides datasets for industry benchmarks and educational purposes. SEAM intends to proceed in phases; each phase will last approximately two years and will be conducted by an industry consortium assembled around a geophysical challenge of great current relevance.

SEG President Steve Hill appointed Craig Beasley and Walt Lynn to three-year terms on the SEAM Board of Directors, effective 1 January 2010. They joined Bill Abriel, Leigh S. House, Steve H. Danbom, Sheldon Breiner, Jesse Perez, and Xiong Lee. Founding Director Ken Larner completed his term on the Board. The Board elected as its officers: Abriel (chair), Danbom (vice chair), and Perez (treasurer). Perez chairs the Audit Committee, consisting of Danbom, House, and nonboard members Robert Corbin, Jerry Dresner, and Prasad Narayan.

The Board has been occupied this year with completing SEAM Phase I and executing a grant from the Research Partnership for Security of Energy in America (RPSEA). They are planning for Phase II, ensuring that the operations of SEAM are conducted in a fiscally and legally sound manner.

**SEAM Phase I.** Phase I was completed in the first half of 2010. This phase is focused on the challenges of subsalt imaging in tertiary basins, with particular relevance to the deepwater Gulf of Mexico. The project had a budget of US\$2.45 million and was supported by 23 participants: Anadarko, BHPBilliton, CG-Veritas, Chevron, ConocoPhillips, Devon, Eni, EMGS, ExxonMobil, Geotrace, GX Technology, Hess, Landmark, Maersk,

Marathon, Nexen, Petrobras, PGS, OHM/RockSolidImages, Repsol, StatoilHydro, Total, and WesternGeco.

The SEAM project manager is Mike Fehler, who coordinates the various activities of the SEAM project, participant subcommittees, and contractors. Mike is supported by the SEG staff consisting of Jan Madole, who is the SEG research manager, and Peter Pangman, the SEG chief geophysicist.

A large geologic model representative of a 60-block area of the deepwater Gulf of Mexico was delivered to the participants in October 2008. The model was constructed in a form that easily enables extension to other complex imaging challenges by adding the rock properties necessary for elastic, nonseismic, anisotropic, and viscoelastic.

The contract for simulation of an acoustic data set was awarded to Tierra Geophysical LLC in February 2009. Approximately 65,000 shot records, containing as many as 450,000 traces each, were simulated. Tierra has completed this work on time and within budget. For quality control, their results were compared to records generated by the highly accurate but computationally inefficient verification code created for SEAM by Professor William (Bill) W. Symes and the Applied and Computational Mathematics group of Rice University. This code (IWAVE) is now in the public domain and can be downloaded from the SEAM Web site.

The contract for quality assurance was awarded to Nexus Geosciences Inc. (NGI) in April 2009. NGI established an automated routine for verifying that the simulated records and their headers meet required standards. The quality control routine included comparison of up to 20 randomly selected shots against benchmark shots independently computed with the Rice University code.

The contract for long-term storage and distribution of simulated data sets and Earth models was awarded to Landmark Graphics "PetroBank" in July 2009. Landmark is storing the Phase I deliverables for up to 10 years and will distribute copies of the classic data subsets to participants and fill orders from the global geophysical community, once the two-year period of proprietary usage by participants has passed.

**SEAM RPSEA.** SEAM announced in June 2009 the successful conclusion of negotiations with RPSEA for a \$2 million award for the project "Geophysical Modeling for Studying Acquisition and Processing Methods in the Deepwater Gulf of Mexico." The project will last two years. The Phase I group of participants

contributed an additional \$500,000 from the Phase I budget.

Synthetic data are being acquired over the SEAM Phase I numerical earth model. The data sets generated to date are limited to gravity. Additional data sets to be acquired will be acoustic (absorbing upper surface) seismic, elastic seismic, controlled-source electromagnetic (CSEM), and magnetotelluric. These data sets will lead to better understanding of elastic-wave propagation effects and will enable research into joint-inversion techniques. An additional RPSEA project has also been funded to collect an anisotropic (TTI) data set from the Phase I model. This is supported by both RPSEA and participant funds.

**SEAM Phase II.** The board has identified the focus of Phase II as “Challenges in imaging of land-seismic survey data.” Focus sessions were formed at the 2009 SEG workshop in October during the Annual Meeting, as well as a special industry meeting called by Ken Lerner in Houston in February 2010. During these sessions, it was determined that the next challenge of greatest impact for the industry is related to land-data problems, with near-surface complications, significant coherent noise, and fractured geology. With the opportunity to acquire vastly greater channels in the field, an important aspect of the Phase II planning will include sufficient tests of acquisition sampling. Subgroups on model design and numerical computation are envisioned to be prepared for the Phase II initiation scheduled for January 2011. This phase is planned for a three-year period with annual fees of \$60k per participant. SEAM will also actively seek government partners.

**SEAM Publicity.** The board is committed to disseminating SEAM results to the global geophysical community. Progress reports by Phase I Project Manager Mike Fehler were published in *THE LEADING EDGE*, including the following issues: June 2007, August 2007, August 2008, March 2009, July 2009, October 2009, February 2010, and June 2010. An overview paper was presented by Fehler, Cheng, Lerner, and Pangman in the “Recent Advances and the Road Ahead” session at the SEG Annual Meeting in Las Vegas. Tim Brice of WesternGeco published an article on “Seismic Acquisition Design for the SEAM Project” in the May 2009 *TLE* special section on seismic modeling. In addition, presentations were made at the SEG Annual Meeting in October 2009, the RPSEA Ultra-deepwater Forum in June 2010, and the SEG Summer Research Workshop in July 2010.

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## SEG Global, Inc.

### Dave Monk, chairman

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SEG Global Inc. was founded to provide strategic and tactical oversight and recommendations to the SEG Executive Committee regarding the planning, establishment, resourcing, and management of SEG’s regional offices, and it is the avenue for future development of regional offices. The group held regular (monthly) phone conferences to discuss the various issues brought to its attention.

Continuing members of the SEG Global Inc. Board of Directors include Dr. David Monk (chairman), Dr. Lee Bell (vice chair), Dr. Alfred Liaw (treasurer), Dr. Guillaume Cambois, Dr. Nader Dutta, and Dr. Leon Thomsen. To maintain continuity within SEG Global, committee members rotate on three-year terms. New members of the board in 2010 were Dr. Abdullatif, A. Al-Shuhail, and Ricardo A. Rosa Fernandes.

Working closely with SEG staff, particularly with Director of Global Relations Terry Todd, SEG Global Inc. reviewed a number of regional office opportunities including Australia, Brazil, India, and the Middle East (Bahrain and Dubai). Following a disappointing first-year performance of the SEG office in China, SEG Global made several recommendations including moving the office, establishing a relationship with a separate management company, and hiring a new chief representative. Subsequently, SEG entered into a contract with MCI, and Gary Liu was hired early in the year. Activity in China has picked up considerably as a result. The China office has physically moved, a new section was established in Nanjing (with the assistance of Sinopec), and the office is moving toward self-sufficiency.

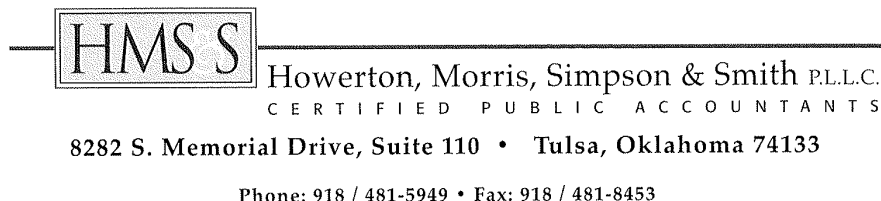
The two new members of the board have specific knowledge and background in South America and the Middle East. Both areas have been the subject of ongoing discussions regarding the establishment of regional SEG offices. A model involving management of company support and/or partnership with sister organizations is being examined at the time of this report. We now believe that SEG is in a better position to develop opportunities for regional offices based on our experience in China.

# SEG Consolidated Financial Statements

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## Society of Exploration Geophysicists 30 June 2009 and 2008 (With Independent Auditors' Report Thereon)

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### INDEPENDENT AUDITORS' REPORT

To the Board of Directors of  
Society of Exploration Geophysicists

We have audited the accompanying consolidated statement of financial position of the Society of Exploration Geophysicists (the "Society") as of 30 June 2010 and 2009, and the related consolidated statement of activities and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Society's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Society of Exploration Geophysicists as of 30 June 2010 and 2009, and the changes in its net assets and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

*Howerton Morris Simpson & Smith, P.L.L.C.*

3 September 2010

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Consolidated Statements of Financial Position

30 June 2010 and 2009

|                                                                                                        | <u>2010</u>          | <u>2009</u>       |
|--------------------------------------------------------------------------------------------------------|----------------------|-------------------|
| <b><u>Assets</u></b>                                                                                   |                      |                   |
| Current assets:                                                                                        |                      |                   |
| Cash and cash equivalents                                                                              | \$ 2,693,613         | 1,477,073         |
| Short-term investments                                                                                 | 700,433              | 1,657,996         |
| Accounts receivable, less allowance for doubtful<br>accounts of \$109,361 in 2010 and \$11,335 in 2009 | 742,294              | 1,532,407         |
| Accounts receivable SEG Foundation                                                                     | 557,356              | 1,188,718         |
| Inventories                                                                                            | 504,413              | 593,781           |
| Prepaid expenses                                                                                       | 711,906              | 475,405           |
| Accrued interest receivable                                                                            | <u>34,056</u>        | <u>45,029</u>     |
| Total current assets                                                                                   | <u>5,944,071</u>     | <u>6,970,409</u>  |
| Investments                                                                                            | 5,570,583            | 4,633,010         |
| Property and equipment:                                                                                |                      |                   |
| Land                                                                                                   | 489,605              | 489,605           |
| Building                                                                                               | 8,497,749            | 8,303,336         |
| Application development                                                                                | 2,688,309            | 2,531,054         |
| Furniture, fixtures and equipment                                                                      | <u>1,905,316</u>     | <u>1,750,939</u>  |
|                                                                                                        | 13,580,979           | 13,074,934        |
| Less accumulated depreciation                                                                          | <u>7,038,572</u>     | <u>6,129,485</u>  |
| Net property and equipment                                                                             | <u>6,542,407</u>     | <u>6,945,449</u>  |
|                                                                                                        | <u>\$ 18,057,061</u> | <u>18,548,868</u> |

See accompanying notes to consolidated financial statements.

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Consolidated Statements of Financial Position (Continued)

30 June 2010 and 2009

|                                             | <u>2010</u>          | <u>2009</u>          |
|---------------------------------------------|----------------------|----------------------|
| <b><u>Liabilities and Net Assets</u></b>    |                      |                      |
| Current liabilities:                        |                      |                      |
| Accounts payable and accrued liabilities    | \$ 670,462           | 765,102              |
| Current portion of capital lease obligation | 18,152               | 18,152               |
| Deferred revenue                            | <u>4,671,161</u>     | <u>5,560,112</u>     |
| Total current liabilities                   | 5,359,775            | 6,343,366            |
| <br>Deferred revenue                        | <br>26,240           | <br>22,873           |
| <br>Capital lease obligation                | <br><u>3,025</u>     | <br><u>21,178</u>    |
| <br>Total liabilities                       | <br><u>5,389,040</u> | <br><u>6,387,417</u> |
| <br>Unrestricted net assets:                |                      |                      |
| Undesignated                                | 12,537,021           | 12,030,451           |
| Board designated                            | <u>131,000</u>       | <u>131,000</u>       |
| Total net assets                            | <u>12,668,021</u>    | <u>12,161,451</u>    |
|                                             | \$ <u>18,057,061</u> | <u>18,548,868</u>    |

See accompanying notes to consolidated financial statements.

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Consolidated Statements of Activities

For the Years Ended 30 June 2010 and 2009

|                                                                      | <u>2010</u>          | <u>2009</u>       |
|----------------------------------------------------------------------|----------------------|-------------------|
| Revenues:                                                            |                      |                   |
| Membership dues                                                      | \$ 1,510,560         | 1,389,484         |
| Conferences and meetings                                             | 7,030,988            | 7,425,918         |
| Publication sales and advertising                                    | 2,683,819            | 2,942,751         |
| Professional development                                             | 410,779              | 379,913           |
| Investment income (loss)                                             | 559,508              | (493,312)         |
| Building lease operations                                            | 1,077,853            | 1,065,430         |
| Management fees / support                                            | 2,705,397            | 1,464,605         |
| Other                                                                | <u>85,515</u>        | <u>88,377</u>     |
| Total revenues                                                       | <u>16,064,419</u>    | <u>14,263,166</u> |
| Expenses:                                                            |                      |                   |
| Program expenses                                                     |                      |                   |
| Membership record services                                           | 369,834              | 454,874           |
| Conferences and meetings                                             | 2,907,767            | 3,581,716         |
| Publications and advertising                                         | 3,138,407            | 3,205,875         |
| Professional development                                             | 1,532,387            | 1,301,214         |
| Research                                                             | <u>1,573,071</u>     | <u>295,978</u>    |
| Total program expenses                                               | <u>9,521,466</u>     | <u>8,839,657</u>  |
| Support expenses                                                     |                      |                   |
| General and administrative                                           | 1,954,129            | 2,433,064         |
| Building lease operations                                            | 917,765              | 992,901           |
| Communications                                                       | 1,956,935            | 2,066,978         |
| Global relations                                                     | <u>812,715</u>       | <u>542,497</u>    |
| Total support expenses                                               | <u>5,641,544</u>     | <u>6,035,440</u>  |
| Total expenses                                                       | <u>15,163,010</u>    | <u>14,875,097</u> |
| Increase (decrease) in net assets before contributions to Foundation | 901,409              | (611,931)         |
| Contributions to Foundation                                          | <u>(394,839)</u>     | <u>(67,107)</u>   |
| Increase (decrease) in net assets                                    | 506,570              | (679,038)         |
| Unrestricted net assets, beginning of year, as previously reported   | <u>12,161,451</u>    | <u>12,840,489</u> |
| Unrestricted net assets, end of year                                 | \$ <u>12,668,021</u> | <u>12,161,451</u> |

See accompanying notes to consolidated financial statements.

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Consolidated Statements of Cash Flows

For the Years Ended 30 June 2010 and 2009

|                                                      | <u>2010</u>         | <u>2009</u>      |
|------------------------------------------------------|---------------------|------------------|
| Cash flows from operating activities:                |                     |                  |
| Increase (decrease) in net assets                    | \$ 506,570          | (679,038)        |
| Adjustments to reconcile increase (decrease)         |                     |                  |
| net assets to net cash used by operating activities: |                     |                  |
| Depreciation and amortization                        | 910,522             | 982,478          |
| Net realized/unrealized (gain) loss on investments   | (362,828)           | 746,173          |
| (Increase) decrease in assets:                       |                     |                  |
| Accounts receivable                                  | 790,113             | (614,870)        |
| Accounts receivable SEG Foundation                   | 631,362             | (1,127,449)      |
| Inventories                                          | 89,368              | (106,997)        |
| Prepaid expenses                                     | (236,501)           | 74,965           |
| Accrued interest receivable                          | 10,973              | (8,097)          |
| Increase (decrease) in liabilities:                  |                     |                  |
| Accounts payable and accrued liabilities             | (94,641)            | 301,354          |
| Deferred revenue                                     | (885,584)           | (401,157)        |
| Net cash provided (used) by operating activities     | <u>1,359,354</u>    | <u>(832,638)</u> |
| Cash flows from investing activities:                |                     |                  |
| Purchases of property and equipment                  | (507,480)           | (563,529)        |
| Purchases of investments                             | (2,210,182)         | (2,113,620)      |
| Proceeds from sale of investments                    | <u>2,593,000</u>    | <u>2,379,606</u> |
| Net cash used in investing activities                | <u>(124,662)</u>    | <u>(297,543)</u> |
| Cash flows from financing activities –               |                     |                  |
| Principal payments on capital lease obligation       | (18,152)            | (34,190)         |
| Proceeds from capital lease obligation               | <u>-</u>            | <u>54,457</u>    |
| Net cash provided (used) by financial activities     | <u>(18,152)</u>     | <u>20,267</u>    |
| Net increase (decrease) in cash                      | 1,216,540           | (1,109,914)      |
| Cash, beginning of year                              | <u>1,477,073</u>    | <u>2,586,987</u> |
| Cash, end of year                                    | \$ <u>2,693,613</u> | <u>1,477,073</u> |
| Cash paid for interest                               | \$ <u>-</u>         | <u>489</u>       |

See accompanying notes to consolidated financial statements.

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

## NOTE 1 - 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 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 professional development programs and technical meetings, and providing other informational services.

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.

Principles of Consolidation

The consolidated financial statements include the accounts of the Society and its subsidiaries, SEG Advanced Modeling Corporation and SEG Global, Inc. All intercompany balances and transactions have been eliminated.

Cash and Cash Equivalents

Cash and cash equivalents include cash in banks and all highly liquid investments with an original maturity of three months or less. The Society maintains cash balances at several banks. Accounts at each institution are insured by the Federal Deposit Insurance Corporation up to \$250,000. At 30 June 2010, and 2009, the Society and SEAM had deposits in excess of the federally insured limit.

Accounts Receivable

Accounts receivable consists of uncollateralized billings for memberships, sponsorships, and exhibit space. Accounts receivable are stated at the amount billed, less an allowance for uncollectible accounts. The Society provides for losses on receivables using the allowance method. The allowance is based on experience, terms of agreements, and other circumstances affecting the ability of customers to meet their obligations. Outstanding balances are written off when management determines that the receivables will not be collected. The Society provides for probable uncollectible amounts through a provision to bad debts expense and a corresponding amount being added to the valuation allowance based on management's assessment of the current status of individual accounts. Unpaid amounts that remain after management has pursued reasonable collection efforts are written off through a charge to the allowance for uncollectible accounts and a credit to accounts receivable. Interest is not charged on outstanding balances.

(continued)

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Accounts Receivable (continued)

At 30 June 2010, management estimates that the allowance for uncollectible accounts of \$109,361 is adequate to absorb any losses which might arise from non-payment.

Receivables are considered impaired if full principal payments will not be received in accordance with contractual terms. Such impaired receivables are written down to the amount of cash expected to be collected.

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 statements of financial position. Fair values for investments are based on quoted market prices. Unrealized gains and losses are included in the statements of activities. Investments in joint ventures are valued at cost.

Property and Equipment

Property and equipment are 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 the statement of activities. Expenditure for maintenance and repairs are charged to expense as incurred. Major improvements are capitalized. The lives used in computing depreciation are as follows: building – 50 years; furniture and equipment – 3 to 10 years.

The Society reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying values of long-lived assets may not be recoverable from the future cash flows expected to result from their use and ultimate disposition. In cases where the un-discounted expected future cash flows are less than the carrying values, an impairment loss is recognized equal to the amount by which the carrying value exceeds the fair value of each asset. The factors considered by the Society in performing an impairment assessment include current operating results, trends, and prospects, and the effects of obsolescence, demand, competition, and other economic factors. Based on these criteria, there was no impairment in 2010.

Application Development

Direct costs associated with the development of SEG Online are capitalized and are amortized over the estimated product life of five years on the straight line basis. Unamortized costs are carried at the lower of book value or net realizable value.

(continued)

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Net Assets

Net assets and income, expenses, gains and losses are classified based on the existence or absence of donor-imposed restrictions. Accordingly, our net assets and changes therein are classified & reported as follows:

- ***Unrestricted*** – Unrestricted net assets represent those resources that are not restricted by donors. Board-designated net assets represent amounts that our Executive Committee has set aside for future use. The Executive Committee of the Society has designated \$131,000 of net assets for future building improvements as of 30 June 2009.
- ***Temporarily Restricted*** – Temporarily restricted net assets reflect donor-imposed restrictions that require us to utilize or expend the related assets as specified. We record contributions as temporarily restricted if they are received with donor stipulations that limit their use through either time or purpose restrictions. When donor restrictions expire, that is, when a time restriction ends or a purpose restriction is fulfilled, temporarily restricted net assets are reclassified to unrestricted net assets and presented in the statement of activities as “net assets released from restrictions.”

Our policy is to record temporarily restricted contributions received and expended in the same accounting period as unrestricted revenues and expenses in that period.

- ***Permanently Restricted*** – Permanently restricted net assets reflect donor-imposed restrictions which stipulate that the related resources be maintained in perpetuity, but which permit us to expend part or all of earnings derived from the donated assets for either specified or unspecified purposes. The Society does not have any permanently restricted net assets at 30 June 2010 and 2009.

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.

(continued)

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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.

Fair Value Measurements

The Society establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets that the Society has the ability to access at the measurement date.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the assets, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the assets.

The level in the fair value hierarchy within which a fair measurement in its entirety falls is based on the lowest level input that is significant to the fair value measurement in its entirety.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America 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 revenue and expenses during the reported period. Actual results could differ from those estimates.

Reclassifications

Certain amounts in the 2009 consolidated financial statements have been reclassified to conform to the 2010 presentation.

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

## NOTE 2 – INVESTMENTS

At 30 June 2010 and 2009, investments were as follows:

|                                 |    | 2010             |                     |
|---------------------------------|----|------------------|---------------------|
|                                 |    | <u>Cost</u>      | <u>Market</u>       |
| Certificate of deposit          | \$ | 1,525,000        | 1,550,997           |
| Equity investments              |    | 2,354,012        | 2,798,501           |
| Government bonds                |    | 200,000          | 200,254             |
| Corporate bonds                 |    | <u>1,436,293</u> | <u>1,471,264</u>    |
| Subtotal – Total Level 1 Assets |    | 5,515,305        | 6,021,016           |
| Joint venture (Level 3 Asset)   |    | <u>250,000</u>   | <u>250,000</u>      |
| Total investments               | \$ | <u>5,765,305</u> | 6,271,016           |
| Less short-term investments     |    |                  | <u>700,433</u>      |
| Long-term investments           |    |                  | \$ <u>5,570,583</u> |

|                                 |    | 2009             |                     |
|---------------------------------|----|------------------|---------------------|
|                                 |    | <u>Cost</u>      | <u>Market</u>       |
| Certificate of deposit          | \$ | 2,870,000        | 2,893,867           |
| Equity investments              |    | 1,903,670        | 2,064,508           |
| Corporate bonds                 |    | <u>1,125,080</u> | <u>1,082,631</u>    |
| Subtotal – Total Level 1 Assets |    | 5,898,750        | 6,041,006           |
| Joint venture (Level 3 Asset)   |    | <u>250,000</u>   | <u>250,000</u>      |
| Total investments               | \$ | <u>6,148,750</u> | 6,291,006           |
| Less short-term investments     |    |                  | <u>1,657,996</u>    |
| Long-term investments           |    |                  | \$ <u>4,633,010</u> |

(continued)

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

## NOTE 2 – INVESTMENTS (CONTINUED)

The Society's only investment measured at fair value on a recurring basis using significant unobservable inputs (Level 3 inputs) is its investment in a Joint Venture. The Joint venture is valued at cost but has received significant cash flow in excess of cost since its purchase. The Society's ability to sell this investment is limited because of the nature of the investment arrangement.

The fair value of fixed income securities at 30 June 2010 by maturity, are shown below:

|                                        |    |                  |
|----------------------------------------|----|------------------|
| Due in less than one year              | \$ | 700,433          |
| Due after one year through five years  |    | 2,198,932        |
| Due after five years through ten years |    | <u>323,150</u>   |
|                                        | \$ | <u>3,222,515</u> |

Investment income (loss) in the accompanying consolidated statements of activities includes the following:

|                              | <u>2010</u>       | <u>2009</u>      |
|------------------------------|-------------------|------------------|
| Interest and dividend income | \$ 196,680        | 252,861          |
| Gain (loss) on investments   | <u>362,828</u>    | <u>(746,173)</u> |
|                              | \$ <u>559,508</u> | <u>(493,312)</u> |

## NOTE 3 – RELATED PARTY TRANSACTIONS

The Society and Foundation support each other with contributions and the Society provides services for which they are reimbursed by the Foundation. Those transactions for the years ended 30 June, are as follows:

|                                                                                       | <u>2010</u>  | <u>2009</u> |
|---------------------------------------------------------------------------------------|--------------|-------------|
| Contributions to the Foundation                                                       | \$ 17,000    | 67,107      |
| In-kind contributions to the Foundation<br>(administrative services & rental revenue) | \$ 377,839   | -           |
| Contributions from the Foundation                                                     | \$ 1,182,223 | 385,000     |
| Reimbursement from the Foundation<br>for fundraising services                         | \$ 219,194   | 190,908     |
| Reimbursement from the Foundation<br>for administrative services                      | \$ -         | 606,468     |

Accounts receivable due from the Foundation was \$557,356 at 30 June 2010 and \$1,188,718 at 30 June 2009.

**SOCIETY OF EXPLORATION GEOPHYSICISTS**

## Notes to the Consolidated Financial Statements

For the Years Ended 30 June 2010 and 2009

**NOTE 4 – 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 \$460,964 in 2010 and \$434,652 in 2009. Subsequent to 30 June 2006, the Society amended both benefit plans. As of 1 August 2006, the Society will continue to sponsor the defined contribution pension plan for persons employed as of 31 July 2006 until 31 July 2011. For employees hired 1 August 2006 and after, no defined contribution pension plan will be sponsored.

As of 1 August 2006, the Society will continue to sponsor the salary reduction plan for persons employed as of 31 July 2006 until 31 July 2011. For employees hired 1 August 2006 and after, and all employees after 31 July 2011, the Society's contributions to this plan are computed based on 6% of salaries and a one-for-one matching contribution of employees' contributions, up to a maximum of 3% of salaries.

**NOTE 5 – LEASING ARRANGEMENTS**

The Society leases approximately 75% of the office space in its headquarters building to unaffiliated parties under non-cancelable operating leases. The following is a schedule of minimum future rental revenues from those tenants as of 30 June 2010:

| Year Ending<br>30 June |    | <u>Amount</u>    |
|------------------------|----|------------------|
| 2011                   | \$ | 783,912          |
| 2012                   |    | 495,198          |
| 2013                   |    | 246,461          |
| 2014                   |    | 143,584          |
| 2015                   |    | 86,413           |
| 2016                   |    | <u>6,197</u>     |
|                        | \$ | <u>1,761,765</u> |

(continued)

# **SOCIETY OF EXPLORATION GEOPHYSICISTS**

## **Notes to the Consolidated Financial Statements**

For the Years Ended 30 June 2010 and 2009

### **NOTE 5 – LEASING ARRANGEMENTS (CONTINUED)**

The Society leases computer equipment under a capital lease expiring August 2011. At the inception of the capital lease, the asset and liability under the capital lease are recorded at the lower of the minimum lease payments or the fair value of the asset. The asset is amortized over its estimated useful life. Computer equipment under the capital lease (which is included in furniture, fixtures and equipment) was \$21,178, net of accumulated depreciation of \$18,152 at 30 June 2010.

Minimum future rental payments under capital lease are as follows:

| Year Ending                   |    | <u>Amount</u> |
|-------------------------------|----|---------------|
| <u>30 June</u>                |    |               |
| 2012                          | \$ | 18,152        |
| 2013                          |    | <u>3,025</u>  |
| Future minimum lease payments | \$ | <u>21,177</u> |

### **NOTE 6 – COMMITMENTS**

The Society has pledged \$1,000,000 to match contributions to the SEG Foundation campaign - *Advancing Geophysics Today and Inspiring Geoscientists for Tomorrow*. Matching funds are for individual contributions for amounts of \$5,000 up to \$50,000. All funds reserved for this program were committed through contributions and pledges as of December 2007 and as of 30 June 2010, \$960,013 has been contributed to the Foundation for this campaign.

### **NOTE 7 – SUBSEQUENT EVENTS**

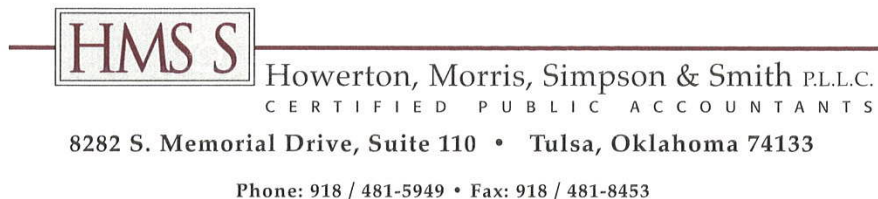
The Society has reviewed subsequent events and transactions which occurred after 30 June 2010 through the date of the independent auditor's report on these financial statements, which is the date that the financial statements were available for release. The financial statements include all events or transactions, including estimates, required to be recognized in accordance with accounting principles generally accepted in the United States. The Society has also determined that there are no non-recognized subsequent events which require additional disclosure in order for these financial statements to not be misleading.

# SEG Foundation Financial Statements

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## SEG Foundation 31 December 2009 and 2008 (With Independent Auditors' Report Thereon)

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To the Board of Directors of  
SEG Foundation

In planning and performing our audit of the financial statements of SEG Foundation as of and for the year ended 31 December 2009, in accordance with auditing standards generally accepted in the United States of America, we considered SEG Foundation's internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Foundation's internal control. Accordingly, we do not express an opinion on the effectiveness of the Foundation's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses and, therefore, there can be no assurance that all such deficiencies have been identified. We did not identify any deficiencies in internal control that we consider to be material weaknesses.

This communication is intended solely for the information and use of management, board of directors, and others within the organization, and is not intended to be and should not be used by anyone other than these specified parties.

*Howerton, Morris, Simpson & Smith, PLLC*

27 April 2010

## SEG FOUNDATION

## Statements of Financial Position

31 December 2009 and 2008

|                                                                                                            | <u>2009</u>              | <u>2008</u>           |
|------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|
| <u>Assets</u>                                                                                              |                          |                       |
| Cash and cash equivalents                                                                                  | \$ 3,349,219             | 1,402,765             |
| Accounts receivable                                                                                        | 104,930                  | 100,645               |
| Interest receivable                                                                                        | 31,075                   | 42,347                |
| Promises to give                                                                                           | 5,895,183                | 6,703,291             |
| Prepaid expenses                                                                                           | 3,401                    | 4,159                 |
| Doodlebugger inventory                                                                                     | -                        | 3,008                 |
| Property and equipment at cost, less<br>accumulated depreciation of \$9,645<br>in 2009 and \$8,840 in 2008 | 131,736                  | 132,540               |
| Endowment promises to give                                                                                 | 465,155                  | 1,632,009             |
| Endowment investments                                                                                      | <u>7,716,536</u>         | <u>6,807,703</u>      |
| <br>Total assets                                                                                           | <br>\$ <u>17,697,235</u> | <br><u>16,828,467</u> |
| <u>Liabilities and Net Assets</u>                                                                          |                          |                       |
| <u>Liabilities:</u>                                                                                        |                          |                       |
| Accounts payable                                                                                           | 97,336                   | 625,908               |
| Grants payable                                                                                             | <u>398,837</u>           | <u>259,171</u>        |
| Total liabilities                                                                                          | <u>496,173</u>           | <u>885,079</u>        |
| <br><u>Net assets:</u>                                                                                     |                          |                       |
| Unrestricted                                                                                               |                          |                       |
| Undesignated                                                                                               | (432,178)                | (1,499,766)           |
| Board designated                                                                                           | <u>533,587</u>           | <u>533,587</u>        |
| Total unrestricted                                                                                         | <u>101,409</u>           | <u>(966,179)</u>      |
| <br>Temporarily restricted                                                                                 | 6,923,050                | 7,011,174             |
| Permanently restricted                                                                                     | <u>10,176,603</u>        | <u>9,898,393</u>      |
| Total net assets                                                                                           | <u>17,201,062</u>        | <u>15,943,388</u>     |
| <br>Total liabilities and net assets                                                                       | <br>\$ <u>17,697,235</u> | <br><u>16,828,467</u> |

See accompanying notes to financial statements.

## SEG FOUNDATION

## Statements of Activities

For the Years Ended 31 December 2009 and 2008

|                                                | <u>2009</u>          | <u>2008</u>        |
|------------------------------------------------|----------------------|--------------------|
| Changes in unrestricted net assets:            |                      |                    |
| Revenues:                                      |                      |                    |
| Contributions                                  | \$ 187,350           | 209,783            |
| In-kind imputed contributions                  | 173,276              | -                  |
| Inventory sales                                | 6,000                | -                  |
| Interest and dividends                         | 39,002               | 88,777             |
| Net gain (loss) on investments                 | <u>1,292,079</u>     | <u>(3,154,544)</u> |
| Total unrestricted revenue                     | 1,697,707            | (2,855,984)        |
| Net assets released from restrictions          | <u>2,125,553</u>     | <u>1,089,552</u>   |
| Total revenues                                 | <u>3,823,260</u>     | <u>(1,766,432)</u> |
| Expenses:                                      |                      |                    |
| Program expenses                               | 2,021,799            | 978,981            |
| Supporting expenses                            | 646,561              | 842,099            |
| Fundraising expenses                           | <u>158,302</u>       | <u>349,769</u>     |
| Total expenses                                 | <u>2,826,662</u>     | <u>2,170,849</u>   |
| Net assets transferred                         | <u>70,990</u>        | <u>81,267</u>      |
| Increase (decrease) in unrestricted net assets | <u>1,067,588</u>     | <u>(3,856,014)</u> |
| Changes in temporarily restricted net assets:  |                      |                    |
| Contributions                                  | 1,691,261            | 3,115,266          |
| Interest and dividends                         | 283,249              | 315,384            |
| Net gain (loss) on investments                 | 191,417              | (986,808)          |
| Net assets released from restriction           | (2,125,553)          | (1,089,552)        |
| Net assets transferred                         | <u>(128,498)</u>     | <u>(45,000)</u>    |
| Increase in temporarily restricted net assets  | <u>(88,124)</u>      | <u>1,309,290</u>   |
| Changes in permanently restricted net assets:  |                      |                    |
| Contributions                                  | 220,702              | 1,995,795          |
| Net assets transferred                         | <u>57,508</u>        | <u>(36,267)</u>    |
| Increase in permanently restricted net assets  | <u>278,210</u>       | <u>1,959,528</u>   |
| Increase (decrease) in net assets              | 1,257,674            | (587,196)          |
| Net assets at beginning of year                | <u>15,943,388</u>    | <u>16,530,584</u>  |
| Net assets at end of year                      | \$ <u>17,201,062</u> | <u>15,943,388</u>  |

See accompanying notes to financial statements.

## SEG FOUNDATION

## Statements of Cash Flows

For the Years Ended 31 December 2009 and 2008

|                                                                                                                | <u>2009</u>                | <u>2008</u>             |
|----------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------|
| Cash flows from operating activities:                                                                          |                            |                         |
| Increase (decrease) in net assets                                                                              | \$ 1,257,674               | (587,196)               |
| Adjustments to reconcile increase (decrease)<br>in net assets to net cash provided by operating<br>activities: |                            |                         |
| Depreciation and amortization                                                                                  | 804                        | 3,214                   |
| Net (gain) loss on investments                                                                                 | (1,483,496)                | 4,141,352               |
| Endowment promises to give                                                                                     | (7,546)                    | (1,598,368)             |
| (Increase) decrease in:                                                                                        |                            |                         |
| Accounts receivable                                                                                            | (4,285)                    | 13,215                  |
| Interest receivable                                                                                            | 11,272                     | 3,996                   |
| Promises to give                                                                                               | 808,108                    | (2,373,317)             |
| Prepaid expenses                                                                                               | 758                        | (2,718)                 |
| Doodlebug inventory                                                                                            | 3008                       | -                       |
| Increase (decrease) in:                                                                                        |                            |                         |
| Accounts payable                                                                                               | (528,572)                  | 598,667                 |
| Grants payable                                                                                                 | 139,666                    | 259,171                 |
| Net cash provided by operating activities                                                                      | <u>197,391</u>             | <u>458,016</u>          |
| Cash flows from investing activities:                                                                          |                            |                         |
| Proceeds from investments                                                                                      | 9,649,237                  | 14,387,578              |
| Purchases of investments                                                                                       | <u>(9,074,574)</u>         | <u>(14,774,872)</u>     |
| Net cash provided (used) by investing activities                                                               | <u>574,663</u>             | <u>(387,294)</u>        |
| Cash flows provided by financing activities:                                                                   |                            |                         |
| Endowment pledge receipts                                                                                      | <u>1,174,400</u>           | <u>247,807</u>          |
| Net increase in cash and cash equivalents                                                                      | 1,946,454                  | 318,529                 |
| Cash and cash equivalents, beginning of year                                                                   | <u>1,402,765</u>           | <u>1,084,236</u>        |
| Cash and cash equivalents, end of year                                                                         | \$ <u><u>3,349,219</u></u> | <u><u>1,402,765</u></u> |

See accompanying notes to financial statements.

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

SEG Foundation (the “Foundation”), is a not-for-profit corporation affiliated with the Society of Exploration Geophysicists (the “Society”). The Foundation encourages and supports scientific, educational, and charitable activities of benefit to geophysicists. The Foundation provides funding to the Society, students and others. Awards to the Society support major programs including student programs, lecture programs and SEG Online. Awards to students include scholarships and travel grants. The Foundation also provides grants to other organizations for projects of special merit, summer field camps and the Geoscientists *Without Borders* program. Contributions are received primarily from members of the Society.

Net Assets

To ensure observance of limitations and restrictions placed on the use of resource available to the Foundation, the net assets of the Foundation are segregated according to any restrictions placed on the resources. The net assets of the Foundation are segregated as follows:

- Unrestricted board Designated: This category reflects net assets that 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.
- Temporarily Restricted: This category reflects contributions provided by donors for specified Foundation activities and unexpended earnings on permanently restricted assets.
- 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.

Activities

The Foundation’s activities consist of the following:

- Professional Development Programs: Programs that support practicing geophysicists and to further the science of applied geophysics.
- Student Support Programs: Programs that encourage and inspire the participation of university and college students in the geosciences.
- Youth Outreach Programs: Programs designed to engage youth from six to seventeen years of age in the geosciences.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, money market funds and all highly liquid investments with a maturity when acquired of three months or less. At 31 December 2009 and 2008, the Foundation had cash and cash equivalents in excess of federally insured limits by approximately \$3,094,155 and \$1,257,550, respectively. The recorded values of cash and cash equivalents approximate their fair value based on their short-term nature.

Investments

Investments consist of trading securities of fixed income investments and equity investments and are carried at fair value at 31 December 2009 and 2008. Trading securities consist of investments that are held for resale in anticipation of fluctuations in market prices. Fair values for trading securities are based on quoted market prices.

The Foundation maintains a pool of investment funds for the unrestricted, temporarily restricted and permanently restricted assets. Investment returns are allocated to net assets classifications based upon a percentage of the balance of net assets held in each classification. Returns on permanently restricted assets and allocated matching funds from unrestricted board designated net assets are allocated to temporarily restricted net assets and expended according to donor restrictions. Returns on temporarily restricted assets and unallocated matching funds of unrestricted board designated assets are allocated to unrestricted net assets.

Promises to Give

Promises to give are classified as unconditional and conditional. Unconditional promises to give consist of pledges that do not have donor stipulations or have donor stipulations in which the possibility that the stipulation will not be met is remote. Unconditional promises to give are recognized as revenues in the period pledged. Conditional promises to give consist of pledges with donor stipulations that depend on the occurrence of a specified future and uncertain event to bind the donor. Conditional promises to give are recognized when the stipulation is substantially met. An allowance for uncollectible promises to give is provided based on management's evaluation of potential uncollectible promises to give at year-end.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Property and Equipment

Property and equipment are stated at cost. The Foundations policy is to capitalize all major tangible property expenditures above \$1,000 and a useful life of more than 1 year. Depreciation is computed using the straight-line method over the estimated useful lives of the assets.

Exhibits include art and museum artifacts. The exhibits are carried at cost or the estimated fair market value, at the date donated, and is not depreciated. These exhibits are currently on display at various locations in Texas and Oklahoma.

Contributions

Contribution revenue is recorded as unrestricted, temporarily restricted or permanently restricted net assets depending on the existence and nature of any donor restrictions.

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.

Endowment Funds

The Foundation's endowment spending policy and the strategies employed for achieving those objectives follow FASB ASC 958-205-50-1 (formerly FSP FAS 117-1, paragraph 1). The State of Oklahoma enacted the Uniform Prudent Management of Institutional Funds Act ("UPMIFA") effective 1 January 2007, the provisions of which apply to endowment funds existing on or established after that date. The board of directors, on the advice of legal counsel, has determined that the majority of the Foundation's permanently restricted net assets meet the definition of endowment funds under the UPMIFA. See Note 6.

Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America 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.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Subsequent Events

The Foundation has evaluated subsequent events through April 27, 2010, the date the financial statements were issued, and all required disclosures have been made.

Fair Value Measurements

The Financial Accounting Standards establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets that the Society has the ability to access at the measurement date.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the assets, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the assets.

The level in the fair value hierarchy within which a fair measurement in its entirety falls is based on the lowest level input that is significant to the fair value measurement in its entirety.

## NOTE 2 – ENDOWMENT INVESTMENTS

Endowment investments, trading securities that are at fair value and are all Level 1 assets, consist of the following at 31 December:

|                          | <u>2009</u>                | <u>2008</u>             |
|--------------------------|----------------------------|-------------------------|
| Fixed income securities: |                            |                         |
| U.S. Government notes    | \$ 718,405                 | 318,994                 |
| Corporate bonds          | 1,515,097                  | 1,342,165               |
| Asset backed securities  | <u>465,339</u>             | <u>1,601,980</u>        |
|                          | 2,698,841                  | 2,723,139               |
| Equity investments:      |                            |                         |
| Common stocks            | <u>5,017,695</u>           | <u>4,084,564</u>        |
|                          | \$ <u><u>7,716,536</u></u> | <u><u>6,807,703</u></u> |

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 2 - INVESTMENTS (CONTINUED)

The Fair value of fixed income securities at 31 December 2009 and 2008, by maturity, are shown below:

|                                        | <u>2009</u>         | <u>2008</u>      |
|----------------------------------------|---------------------|------------------|
| Due in less than one year              | \$ 138,866          | -                |
| Due after one year through five years  | 873,773             | 861,931          |
| Due after five years through ten years | 693,151             | 576,335          |
| Due after ten years                    | <u>993,051</u>      | <u>1,284,873</u> |
|                                        | <u>\$ 2,698,841</u> | <u>2,723,139</u> |

## NOTE 3 - PROMISES TO GIVE

The Foundation has completed a major gifts campaign, *Advancing Geophysics Today, Inspiring Geoscientists for Tomorrow*, that will advance programs for the benefit of the Society's members and the Society at-large. Many gifts were pledged over a period of five years. These pledges are included in the promises to give. One million dollars in funds was reserved by the Society to encourage donations by matching individual and closely held company gifts of \$5,000 to \$50,000. All Society funds reserved for this program were committed as of 31 December 2007. With the Society funds fully committed, the Foundation Board of Directors has extended the matching of funds to encourage donations for the *Advancing Geophysics Today, Inspiring Geoscientists for Tomorrow* campaign. The board has designated \$533,587 of unrestricted general funds for this purpose following the same guidelines as held by the Society above. All Foundation funds reserved for this program were committed as of 31 December 2008.

The Trustee Associates promises to give are contributions that have been pledged over five years by a group of donors that support the general operations of the Foundation. Scholarship promises to give consist of donor contributions to scholarship program pledged over five years.

At 31 December, unconditional promises to give consist of the following:

|                                               | <u>2009</u>         | <u>2008</u>      |
|-----------------------------------------------|---------------------|------------------|
| Major gifts campaign                          | \$ 6,562,633        | 8,696,326        |
| Trustee Associates                            | <u>13,000</u>       | <u>21,510</u>    |
|                                               | 6,575,633           | 8,717,836        |
| Less unamortized discount                     | <u>215,295</u>      | <u>382,536</u>   |
| Unconditional promises to give                | 6,360,338           | 8,335,300        |
| Less endowment unconditional promises to give | <u>465,155</u>      | <u>1,632,009</u> |
| Net unconditional promises to give            | <u>\$ 5,895,183</u> | <u>6,703,291</u> |

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 3 - PROMISES TO GIVE (CONTINUED)

Unconditional promises to give due in less than one year are reflected at net realizable value. Unconditional promises to give due in more than one year are reflected at present value of estimated future cash flows using a discount rate of 1.62% for pledges originating in 2009, 3.18% for pledges originating in 2008 and 5.13% for pledges originating prior to 2008. The recorded values approximate fair value. At 31 December the unconditional promises to give are due as follows:

|                    | <u>2009</u>         | <u>2008</u>      |
|--------------------|---------------------|------------------|
| Less than one year | \$ 2,492,395        | 3,611,143        |
| One to five years  | <u>3,867,943</u>    | <u>5,106,693</u> |
|                    | \$ <u>6,360,338</u> | <u>8,717,836</u> |

The Foundation does not expect these promises to give to be uncollectible.

## NOTE 4 - PROPERTY &amp; EQUIPMENT

A summary of property & equipment at 31 December 2009 follows:

|                               | <u>2009</u>       | <u>2008</u>    |
|-------------------------------|-------------------|----------------|
| Computer equipment            | \$ 9,644          | 9,644          |
| Exhibits                      | <u>131,736</u>    | <u>131,736</u> |
|                               | 141,380           | 141,380        |
| Less accumulated depreciation | <u>9,644</u>      | <u>8,840</u>   |
|                               | \$ <u>131,736</u> | <u>132,540</u> |

## NOTE 5 - NET ASSETS

Unrestricted Board Designated:

The Foundation Board of Directors designated \$533,587 of unrestricted funds to be used as matching funds to promote contributions to temporarily restricted and permanently restricted funds (see Note 3). All Foundation funds reserved for this program are committed of 31 December 2009.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 5 - NET ASSETS (CONTINUED)

Temporarily Restricted:

Temporarily restricted net assets are available for the following programs at 31 December:

|                               | <u>2009</u>         | <u>2008</u>      |
|-------------------------------|---------------------|------------------|
| Professional development      | \$ 3,061,543        | 2,753,611        |
| Student support               | 2,503,727           | 3,053,702        |
| Youth outreach                | 4,629               | -                |
| Geoscientists Without Borders | 1,189,486           | 1,109,838        |
| Other                         | <u>163,665</u>      | <u>94,023</u>    |
|                               | \$ <u>6,923,050</u> | <u>7,011,174</u> |

The temporarily restricted net assets are held in cash and as promises to give at 31 December 2009 and 2008.

Permanently Restricted:

Net assets consisting of endowments were permanently restricted for the following purposes at 31 December:

|                          | <u>2009</u>          | <u>2008</u>      |
|--------------------------|----------------------|------------------|
| Professional development | \$ 474,142           | 474,045          |
| Student support          | 7,930,913            | 7,660,457        |
| Youth outreach           | 292,445              | 292,396          |
| Other                    | <u>1,479,103</u>     | <u>1,471,495</u> |
|                          | \$ <u>10,176,603</u> | <u>9,898,393</u> |

The permanently restricted net assets are held in various investments and as promises to give at 31 December 2009 and 2008.

## NOTE 6 - ENDOWMENT FUNDS

The Foundation's endowment consists of approximately 12 individual funds established for a variety of purposes. Its endowment includes both donor-restricted funds and funds designated by the Board of Directors to function as endowments. As required by generally accepted accounting principles, net assets associated with endowment funds, including funds designated by the board of directors to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 6 - ENDOWMENT FUNDS (CONTINUED)

The board of directors of the Foundation has interpreted the State Prudent Management of Institutional Funds Act (SPMIFA) for Oklahoma as requiring the preservation of the fair value of the original gift as of the gift date of the donor-restricted endowment funds absent explicit donor stipulations to the contrary. As a result of this interpretation, the Foundation classifies as permanently restricted net assets the original value of gifts donated to the permanent endowment, the original value of subsequent gifts to the permanent endowment, and accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund.

The remaining portion of the donor restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the Foundation in a manner consistent with the standard of prudence prescribed by SPMIFA. In accordance with SPMIFA, the Foundation considers the following factors in making a determination to appropriate or accumulate donor-restricted endowment funds: the duration and preservation of the various funds, the purposes of the donor-restricted endowment funds, general economic conditions, the possible effect of inflation and deflation, the expected total return from income and the appreciation of investments, other resources of the Foundation, and the Foundation's investment policies.

Investment Return Objectives, Risk Parameters and Strategies

The Foundation has adopted investment and spending policies, approved by the board of directors, for endowment assets that attempt to provide a predictable stream of funding to programs supported by its endowment funds while also maintaining the purchasing power of those endowment assets over the long-term. Accordingly, the investment process seeks to achieve an after-cost total real rate of return, including investment income as well as capital appreciation, which exceeds the annual distribution with acceptable levels of risk. Endowment assets are invested in a well diversified asset mix, which includes equity and debt securities, that is intended to result in a consistent inflation-protected rate of return that has sufficient liquidity to make an annual distribution of 3 to 5 percent, while growing the funds if possible. Therefore, the Foundation expects its endowment assets, over time, to produce a real return, net of fees, of at least 4 to 6.25 percent per annum. Actual returns in any given year may vary from this amount. Investment risk is measured in terms of the total endowment fund; investment assets and allocation between asset classes and strategies are managed to not expose the fund to unacceptable levels of risk.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 6 - ENDOWMENT FUNDS (CONTINUED)

Spending Policy

The Foundation has a policy of appropriating for distribution each year 3 to 5 percent of its endowment fund's average fair value of the prior 12 quarters through the 3<sup>rd</sup> calendar quarter year-end preceding the fiscal year in which the distribution is planned. In establishing this policy, the Foundation considered the long-term expected return on its investment assets, the nature and duration of the individual endowment funds, many of which must be maintained in perpetuity because of donor-restrictions, and the possible effects of inflation. The Foundation expects the current spending policy to allow its endowment funds to grow at a nominal average rate of 1 to 3 percent annually. This is consistent with the Foundation's objective to maintain the purchasing power of the endowment assets as well as to provide additional real growth through new gifts and investment return.

Endowment net asset composition by type of fund as of 31 December 2009 is as follows:

|                                  | <u>Unrestricted</u> | <u>Temporarily<br/>Restricted</u> | <u>Permanently<br/>Restricted</u> | <u>Total</u>      |
|----------------------------------|---------------------|-----------------------------------|-----------------------------------|-------------------|
| Donor-restricted endowment funds | \$ -                | 199,762                           | 10,176,603                        | 10,376,365        |
| Board designated endowment funds | <u>477,117</u>      | <u>-</u>                          | <u>-</u>                          | <u>477,117</u>    |
| Total funds                      | \$ <u>477,117</u>   | <u>199,762</u>                    | <u>10,176,603</u>                 | <u>10,853,482</u> |

Changes in endowment net assets as of 31 December 2009 are as follows:

|                                         | <u>Unrestricted</u> | <u>Temporarily<br/>Restricted</u> | <u>Permanently<br/>Restricted</u> | <u>Total</u>      |
|-----------------------------------------|---------------------|-----------------------------------|-----------------------------------|-------------------|
| Endowment net assets, beginning of year | \$ 467,117          | 78,352                            | 9,898,393                         | 10,443,862        |
| Contributions                           | 10,000              | -                                 | 220,702                           | 220,702           |
| Investment income                       | -                   | 283,249                           | -                                 | 283,249           |
| Net appreciation                        | -                   | 191,417                           | -                                 | 1,270,086         |
| Amount appropriated for expenditure     | -                   | (180,384)                         | -                                 | (194,706)         |
| Fund adjustments & transfers            | -                   | (172,872)                         | 57,508                            | (1,003,704)       |
| Endowment net assets, end of year       | \$ <u>477,117</u>   | <u>199,762</u>                    | <u>10,176,603</u>                 | <u>10,853,482</u> |

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 6 - ENDOWMENT FUNDS (CONTINUED)

Endowment net asset composition by type of fund as of 31 December 2008 is as follows:

|                                  | <u>Unrestricted</u> | <u>Temporarily Restricted</u> | <u>Permanently Restricted</u> | <u>Total</u>      |
|----------------------------------|---------------------|-------------------------------|-------------------------------|-------------------|
| Donor-restricted endowment funds | \$ -                | 78,352                        | 9,898,393                     | 9,976,745         |
| Board designated endowment funds | <u>467,117</u>      | <u>-</u>                      | <u>-</u>                      | <u>467,117</u>    |
| Total funds                      | <u>\$ 467,117</u>   | <u>78,352</u>                 | <u>9,898,393</u>              | <u>10,443,862</u> |

Changes in endowment net assets as of 31 December 2008 are as follows:

|                                     | <u>Unrestricted</u> | <u>Temporarily Restricted</u> | <u>Permanently Restricted</u> | <u>Total</u>      |
|-------------------------------------|---------------------|-------------------------------|-------------------------------|-------------------|
| Endowment net assets, beginning     |                     |                               |                               |                   |
| beginning of year                   | \$ -                | 1,123,045                     | 7,938,865                     | 9,061,910         |
| Contributions                       | -                   | -                             | 1,995,795                     | 1,995,795         |
| Investment income                   | -                   | 315,384                       | -                             | 315,384           |
| Net depreciation                    | -                   | (986,808)                     | -                             | (986,808)         |
| Amount appropriated for expenditure | -                   | (331,359)                     | -                             | (331,359)         |
| Fund adjustments & transfers        | <u>467,117</u>      | <u>(41,910)</u>               | <u>(36,267)</u>               | <u>388,940</u>    |
| Endowment net assets, end of year   | <u>\$ 467,117</u>   | <u>78,352</u>                 | <u>9,898,393</u>              | <u>10,443,862</u> |

As of 31 December 2009 the fair value of assets related to the endowment fund was \$9,557,972 which is \$1,295,510 less than the historical value of the endowment fund. The Foundation anticipates the recovery of this deficit through future market appreciation of investments and use of undesignated assets.

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 7 - NET ASSET TRANSFERS

New donor agreements for contributions greater than \$25,000 allow for a portion of the earnings of permanently restricted contributions to be used for investment portfolio management fees, expenses related to the restrictive purpose of the endowment, amounts held for future expenses and amounts to be transferred back into the endowment fund in permanently restricted net assets. Per formulas and percentages set forth by the agreement and the Board of Directors, approximately \$56,680 in 2009 and \$0 in 2008 was transferred from the temporarily restricted net assets to permanently restricted net assets. In addition \$18,110 in 2009 and \$56,443 in 2008 were released from temporarily restricted net assets to unrestricted net assets for management fees.

## NOTE 8 - FUNCTIONAL CLASSIFICATION OF EXPENSES

For the year ended 31 December 2009:

|                                     | <u>Program<br/>Expenses</u> | <u>Support<br/>Expenses</u> | <u>Fundraising<br/>Expenses</u> | <u>Total</u>     |
|-------------------------------------|-----------------------------|-----------------------------|---------------------------------|------------------|
| Grants                              |                             |                             |                                 |                  |
| SEG Online                          | \$ 480,050                  | 383                         | -                               | 480,433          |
| Student support                     | 325,616                     | 256                         | -                               | 325,872          |
| Field camps                         | 1,000                       | 2,752                       | -                               | 3,752            |
| Awards                              | 3,250                       | 1,163                       | -                               | 4,413            |
| Projects                            | 106,091                     | -                           | -                               | 106,091          |
| Distiguished Programs               | 216,192                     | 570                         | -                               | 216,762          |
| Scholarships                        | 386,562                     | 56,349                      | -                               | 442,911          |
| Student support                     | 308,328                     | 3,564                       | -                               | 311,892          |
| Geoscientist <i>Without Borders</i> | 189,562                     | 36,999                      | -                               | 226,561          |
| Other program expenses              | 5,148                       | -                           | -                               | 5,148            |
| Administrative fees                 | -                           | 380,288                     | 127,617                         | 507,905          |
| Facility rent                       | -                           | 7,867                       | 5,148                           | 13,015           |
| Professional fees                   | -                           | 52,720                      | 305                             | 53,025           |
| Travel & meetings                   | -                           | 35,338                      | 19,473                          | 54,811           |
| Other                               | -                           | 3,114                       | 5,759                           | 8,873            |
|                                     | <u>\$ 2,021,799</u>         | <u>581,363</u>              | <u>158,302</u>                  | <u>2,761,464</u> |

(continued)

## SEG 2010 Annual Report

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 8 - FUNCTIONAL CLASSIFICATION OF EXPENSES (CONTINUED)

For the year ended 31 December 2008:

|                        | <u>Program<br/>Expenses</u> | <u>Support<br/>Expenses</u> | <u>Fundraising<br/>Expenses</u> | <u>Total</u>     |
|------------------------|-----------------------------|-----------------------------|---------------------------------|------------------|
| Grants                 |                             |                             |                                 |                  |
| SEG Online             | \$ 40,000                   | 1,533                       | -                               | 41,533           |
| Student support        | 204,961                     | 2,526                       | -                               | 207,487          |
| Field camps            | 1,000                       | 5,191                       | -                               | 6,191            |
| Awards                 | 2,650                       | -                           | -                               | 2,650            |
| Projects               | 105,303                     | -                           | -                               | 105,303          |
| DISC program           | 37,509                      | 30                          | -                               | 37,539           |
| Scholarships           | 449,806                     | 61,083                      | -                               | 510,889          |
| Student support        | 126,430                     | 45,138                      | -                               | 171,568          |
| Other program expenses | 11,322                      | 138,112                     | -                               | 149,434          |
| Administrative fees    | -                           | 430,974                     | 142,345                         | 573,319          |
| Facility rent          | -                           | 12,734                      | 2,326                           | 15,060           |
| Professional fees      | -                           | 51,822                      | 72,606                          | 124,428          |
| Travel & meetings      | -                           | 84,487                      | 110,082                         | 194,569          |
| Other                  | -                           | 8,469                       | 22,410                          | 30,879           |
|                        | <u>\$ 978,981</u>           | <u>842,099</u>              | <u>349,769</u>                  | <u>2,170,849</u> |

(continued)

## SEG FOUNDATION

## Notes to the Financial Statements

For the Years Ended 31 December 2009 and 2008

## NOTE 9 - RELATED PARTY TRANSACTIONS

The Foundation and Society support each other with contributions and the Society provides services for which they are reimbursed by the Foundation. Those transactions for the years ended 31 December, are as follows:

|                                                                 | <u>2009</u> | <u>2008</u> |
|-----------------------------------------------------------------|-------------|-------------|
| Contributions to the Society                                    | \$ 660,993  | 227,500     |
| Contributions from the Society                                  | \$ 25,800   | 75,807      |
| Reimbursement to the Society for fundraising services           | \$ 104,674  | 139,514     |
| Reimbursement to the Society for administration of DISC program | \$ 4,622    | 34,809      |
| Reimbursement to the Society for administrative expenses        | \$ 264,340  | 574,761     |

Included in accounts receivable at 31 December 2009 and 2008 is a receivable of \$104,930 and \$71,252, respectively, due from the Society. Included in the promises to give and endowment promises to give at 31 December 2009 and 2008 are promises to give of \$0 and \$1,578,607 respectively. Included in accounts payable and grants payable at 31 December 2009 and 2008 is a payable to the Society of \$496,174 and \$861,770, respectively.

