Navigating through an International Enhanced Oil Recovery Project: A Cross-Cultural Odyssey

George D. Klein, CPG-01487

4-7

ARTICLES BY AIPG OFFICER NOMINEES

The Agenda is Tough—The Time to Act is Now
Robert H. Fakundiny, CPG-04977

Strategies, Tactics, and Action Plans: Let’s Mobilize
Thomas Z. Jones, CPG-03441

Where Do We Go From Here?
Ronald E. Alexander, CPG-06372

Building Bridges
Thomas M. Berg, CPG-08208

Candidate Article for AIPG National Secretary
Michael D. Lawless, CPG-09224

The Role of AIPG in an Evolving Profession
James A. Jacobs, CPG-07760

New Kid on the Block
Virginia T. McLemore, CPG-07438

The Professional Geologist and a Common Voice
James D. Shotwell, CPG-08290

Biographies of AIPG Officer Nominees

16-17

Spring 1999 AIPG Executive Committee Meeting

Proposed AIPG Policy Statement on “Competition between the Government and the Private Sector”

24

FRONT COVER - Faulting or parting of the North American and European plates in Thingvellir, Iceland. The total width of the graben structure between the outermost faults is c. 5 km and it may be traced longitudinally for about 25 km from the southwestern end of Thingvallavatn to near Lagafell adjacent to Hwy. 52. The American Plate lies on the northwestern side of the graben while the Eurasian Plate lies on the southeastern side of Thingvallavatn. Photographs/Slides were provided courtesy of the Anchorage Convention and Visitor’s Bureau, Glue Anderson, Representative (ACVB), and Evelyn’s Focus Photography, Evelyn S. Erickson, Photographer (EFP, ESE).

The Professional Geologist, AIPG, 8703 Yates Dr., #200, Westminster, CO 80030.

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DEPARTMENTS

PRESIDENT’S MESSAGE - Results of Task Force for Continuing Professional Development Survey

EXECUTIVE DIRECTOR’S COLUMN - For Your Consideration

GOVERNMENT AFFAIRS REPORT

AGI GOVERNMENT AFFAIRS PROGRAM MONTHLY UPDATE

PROFESSIONAL ETHICS & PRACTICES - Column 43

LETTERS TO THE EDITOR

MEMBERS IN THE NEWS

PROFESSIONAL SERVICES DIRECTORY

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Results of Task Force for Continuing Professional Development Survey

During my Presidential year I have continued as Chair of the Task Force for Continuing Professional Development. As the Chair has an important message of his own for the membership, the President hereby temporarily cedes this space to the Chair.

The results of the Task Force Questionnaire have now been compiled and are reported here (Table One). A mistake may have been in relying on the Sections to distribute the questionnaire to their CPGs, collect the completed questionnaires, summarize the results and report them to Headquarters. The questionnaire was e-mailed by Headquarters to the Sections early last December. Some Sections maintain that it was not received or could not be read. (Simply publishing the questionnaire in TPG might have worked better, but as many Sections have been complaining about being ignored by National, they were put to the test here.) Only 11 Sections complied and reported back to Headquarters. This is understandable in part with about 10-12 of our (usually) smaller Sections struggling to survive, many without officers, but is disappointing with large Sections like Texas, Northeast, Alaska, California, and Pennsylvania making no report. Further, the response was also affected negatively by Illinois-Indiana Section, which included only two of the Task Force questions within a larger questionnaire of their own.

Nevertheless, the number of questionnaires returned was more than adequate for a valid response. With 396 CPGs out of a total CPG membership averaging about 4210 during the December-February questionnaire period, the response rate is 9.4%. However, the responses were received from only 11 Sections, so 9.4% is not representative of the population actually receiving and responding to the questionnaire. The CPG membership of these 11 Sections averaged about 1530 for the questionnaire period, for a more valid response rate of 25.9% of those actually polled— an excellent response to a question -naire like this.

For those of you who no longer have a copy of the questionnaire, or did not receive one, a copy appears in Table Two, with the responses summarized for each question. There are variations in the number of responses recorded because Colorado’s response (96) did not include Questions 1 and 4-B and Illinois-Indiana (18) used only Questions 1 and 5. The following Sections reported on the entire questionnaire: AZ (15), Carolinas (21), FLA (44), KY (41), MI (70), MO (7), NV (36), OH (17), VA (17) and Unidentified (15). The number of responses per Section is shown in parentheses.

Table Three is a Section-by-Section compilation of responses to the questionnaire. These data are summarized below. Refer to Table One for the complete texts of the questions.

### TABLE ONE

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<td>183</td>
<td>72</td>
<td>46</td>
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1. No Opinion/N Neutral.

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Most of those responding were Certified during the 1980s and 1990s. The number responding who were Certified in the 1960s and 1970s was smaller but more negative in their responses. Comments were offered by many respondents, even qualifying their responses to individual questions. With regard to continuing education (a popular concept as can be seen with Question 3), a broad range of acceptable forms of continuing education and professional participation plus flexibility in application were often suggested. The high degree of acceptance of "voluntary continuing education" (Question 4-B) is encouraging, as is the near-two-thirds positive response to Question 2-B: "should CPG indicate a higher level than state registration?"
As to exams for new CPGs, the low positive response coming from people (existing CPGs) who would never be affected by this requirement is puzzling. However, only three Sections out of twelve voted predominantly “No.” One is Colorado, a large non-registration Section. Illinois and Missouri both got registration recently, so it is difficult to explain their negativity. But, with only 11 Sections replying, local issues may be important here.

In any event, the questionnaire responses form a basis of opinion that reduces the uncertainties affecting the Task Force’s work in the past. After considering the past comments of Task Force members and those offered by a number of individual CPGs via letters, e-mail comments on previous articles, and the questionnaire, plus the survey results, a working concept for a voluntary Certification Maintenance program for existing CPGs, based upon broadly-defined and flexible Continuing Education and Professional Participation activities, will be developed by the Task Force before the Annual Meeting. The question of an AIPG examination for new CPGs is under review by the Task Force’s Examination Sub-Committee, complicated in part because ASBOG will not make their examination available for use by AIPG.

**TABLE TWO**

Please enter the year in which you were originally Certified. No other identification is requested.

1) AIPG serves its membership by attesting to the education, experience, integrity, and technical competence of an individual professional geologist at the time he or she is Certified. Should AIPG be able to attest that individual CPGs have acted effectively in remaining current with new ideas, methods, concepts, etc., and increasing his or her technical competence during the 5, 10, or more years since they were first Certified?

<table>
<thead>
<tr>
<th>Section</th>
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<tr>
<td>Carolina</td>
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<td>Florida</td>
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<tr>
<td>Ill-Ind</td>
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<tr>
<td>Michigan</td>
<td>37</td>
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<td>3</td>
<td>6</td>
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<tr>
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<td>Totals</td>
<td>(396)</td>
<td>183</td>
<td>72</td>
<td>42</td>
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</table>

**TABLE THREE**

Please enter the year in which you were originally Certified. No other identification is requested.

2) AIPG Certification and state registration are not the same thing. AIPG Certification should indicate a higher level of competence, integrity, and credibility than state registration. Are current CPG requirements adequate to affirm the superiority of a CPG over a RG or PG in most states offering registration/licensing?

<table>
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<th>N</th>
<th>NO/N</th>
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<td>42</td>
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</tbody>
</table>

**Question 1** Should AIPG be able to attest that individual CPGs have acted effectively in remaining current with new ideas, methods, concepts, etc., and increasing his or her technical competence during the 5, 10, or more years since they were first Certified?

**Question 2-A** Should AIPG be required to take and pass an examination? (Assume that applicants who have passed the ASBOG or other acceptable state registration exams for geologists would be exempted from this requirement.)

**Question 2-B** Should they be?

**Question 3** Should AIPG Certification indicate a higher level of education, integrity, and technical competence during the 5, 10, or more years since they were first Certified?

**Question 4-A** Should AIPG be able to attest that individual CPGs have acted effectively in remaining current with new ideas, methods, concepts, etc., and increasing his or her technical competence during the 5, 10, or more years since they were first Certified?

**Question 4-B** Should AIPG be able to attest that individual CPGs have acted effectively in remaining current with new ideas, methods, concepts, etc., and increasing his or her technical competence during the 5, 10, or more years since they were first Certified?

**Question 5** Should they be?

**Question 6** What specific suggestions do you have that you feel would strengthen the competence and effectiveness of CPGs in practice of the geological sciences? Please prioritize your suggestions with #1 being most important.

Too numerous and wide-ranging to be summarized easily or briefly, but full of interest, concern, and some good ideas.
Navigating through an International Enhanced Oil Recovery Project: A Cross-Cultural Odyssey

George D. Klein, CPG-01487

Introduction

On June 30, 1998, I received a telephone call inquiring “Is this George Klein the sedimentologist?” When I assured the caller I do such work, he explained that he represented a major US multinational corporation which was contracted to complete an enhanced oil recovery (EOR) project in a Latin American country on behalf of the “National Company” (and so referred to herein). The caller inquired about my interest and availability to consult for his corporation, which hereafter is referred as “Contractor.” I indicated interest and availability, faxed my resume, interviewed with the contractor’s management, agreed to terms, and flew shortly afterwards to their regional Latin American location.

The duties required me to describe core, interpret depositional environments, develop a depositional model, use it to establish a stratigraphic model, establish megascopic diagenetic trends, sample for another subcontractor, establish possible reservoir flow connectivity, advise on low resistivity pay zones, evaluate basin evolution, conduct a core audit, and “other duties as assigned.” Clearly, a busy yet productive work period was involved, and geologically, it turned out to be one of the most stimulating projects with which I have ever been associated.

Confidentiality considerations prevent me from disclosing the client, exact specifics about location, stratigraphic age, and relevant prior publications.

Work Activity and Contractor–Staff Interactions

During my assignment, I met regularly with the contractor’s staff. My prime contacts were with a North American Senior Geologist, a North American Senior Geophysicist, a North American Petroleum Engineer, a Latin American Petrophysicist, and a North American Technical Manager. Associated staff were local nationals and included at least two local national geologists (educated in their country), one national geophysicist (North American educated), two systems people, one petroleum engineer, and four data managers. Seven geotechs and three clerical staff completed the group. Two work rooms were provided by the national company in their main building, one with work stations and high-end PCs, the other with PCs, a layout table, drafting tables, work tables, and a desk for clerical staff.

Within ten days of my arrival, several personnel and management issues surfaced in my presence and the civilized top seal began to breach. The Technical Manager to whom I reported had arrived six weeks before me, and he was the fourth person to guide the project in two years. He was replaced by another Technical Manager two months after I left. The Technical Manager felt isolated and lonely, so we socialized and became good friends, and still remain in touch. He started to share his management problems with me. I gently reminded him I was under contract as a geological consultant only, so deflected his requests for advice to avoid such involvement.

My work with the Senior Geologist, Senior Geophysicist, and Senior Engineer was productive, and we all enjoyed each other’s company as well. We socialized and became good friends, and still are. They, too, shared their frustrations with management and the contractor, and I told them I could not get into this with them. They talked and I listened.

These conversations revealed that the contractor’s management structure was quasi-TQM (Total Quality Management), and lacked structure, reporting lines, and job descriptions. Lacking was the complementary spine of the traditional structure of multinational corporations that fitted Latin American culture, customs, and legal codes. Such management practices existed when multinational corporations completed such projects in the past.
Shortly after my arrival, some of the expatriates took vacations in the USA, and after they returned, several disconnect-
ed responsibilities began to surface. The national company's liaison to the project gave me some copies of well logs which had been annotated for Fining-Upward (FU) and Coarsening-Upward (CU) log motifs and stacking patterns. These inter-
preted parasequences and parasequence sets were marked. Where there was a change in stacking pattern either from multi-
cule CU to multiple FU, or from multiple FU to multiple CU, “Candidate Sequence Boundaries” were marked. I was asked to look at cores to see if they were true sequence boundaries. It turned out they emphatically were NOT sequence boundaries at all; in fact, these intervals were completely gradational. Moreover, the so-called FU and CU intervals in cores consisted instead of thinly laminated sandstones and mudstones, and no grain-size change or trend of any type was detected. Clearly the logging tool resolution and motif was far coarser than the geol-
y reduction in my responsibilities began to surface. The national company's liaison visited me at the core facility. I suggested he examine the cores while I finished something, and he told me I had marked key items with the taped self-adhesive notes because I thought it might help him and others when they came to visit. After a few minutes, he came back quite upset and said, “They are gradational! What are you going to do?” I reminded him that I had been describing cores for only four days, there was still a lot to do, and an explanation would be provided with more facts and observations. Later, working together with the Senior Geologist, we identified marine flooding sur-
faces and their correlative equivalents, and a sequence strati-
graphic model and rationale developed. The Senior Geologist mapped the entire area by correlating the flooding surfaces with identical flooding surfaces recognized in all blocks in the basin, so consistent stratigraphic correlations were established through the entire basin. The national company's liaison geologist finally accepted these, as did the national company's management oversight team.

The national company's oversight team represented a diverse set of skills at the middle management level. All shared one thing in common. They either earned Master's degrees in Geology, Geophysics, or Petroleum Engineering in the USA or had attended many short courses in sequence stratigraphy, reservoir characterization, structural geology, petrophysics, and reservoir engineering in the USA offered by the AAPG, SEG, and SPE. All were highly educated.

Two weeks before my departure, the national company management team requested a presentation regarding progress with three days' notice to the contractor, although this request came less than a month after a previous presentation. Because of vacation schedules and staffing changes, this created a problem for the contractor because these presentations are formal exercis-es in accountability, and the critical mass to meet this obliga-
tion was thin. The Technical Manager asked me to make a 20 minute presentation on my work, to which I agreed, but within four hours, he asked if I could extend it to 45 minutes. With so many people away, he thought if he made my talk the center-
piece of the meeting, especially being a “new face,” the meeting would likely be more productive for the national company. I agreed with both his assessment and plan, was given assistance to prepare graphics, and put materials together.

After completing all presentations, the national company's management team, given their technical background, accepted findings, models, insights, proposals, recommendations, and pre-
dicted outcomes. They also told the contractor substantial progress had been made.

A separate contractor working on the same floor was under-
taking a similar study of the adjoining block (this group is referred to hereafter as “second company”). Data sharing was common, encouraged by the national company, and all of us met informally for that purpose. The second company, an interna-
tional company, did not hire any national staff. One day, one of their consultants invited the contractor's US expatriate group and me to attend a core workshop, with the condition we did not include any contractor's national staff because he would conduct it in English. We attended and on our return were met by the Technical Manager who could not attend. He shared a serious cross-cultural problem with us. As soon as we left, the national geoscientists had been upset about their exclusion and protest-
ed. The Technical Manager asked for suggestions. Although I still had lots of work to complete to meet the deadlines imposed by a departure less than a week away, I offered to conduct a slightly different core workshop the following day using cores from our area. The national company made arrangements, and enlarged the group to their management team and staff, and invited second company staff also. I also personally met with every one of the contractor's national geoscientists and invited them to attend and to use the opportunity to ask me the tough questions that would come out where there might be disagreements on fact or interpretation.

On the morning of the workshop, I went to the site early, placed additional taped self-adhesive notes on cores, and laid out logs. After a short presentation, and at the Technical Manager's request, I provided guided personal tours to the national company management. The contractor's staff who wanted one, and the second company staff. As the workshop concluded, I checked to see if others had questions and discussion, and no one did.

It puzzled me that the contractor's national geologists never spoke to me during the workshop, nor did they ask questions. I expected them to ask about the discrepancy in cores and their interpretation of the base and top and internal structure of their FU and CU log motifs, and their so-called “Candidate Sequence boundaries” they had proposed. At lunch, no discussion. They avoided me and the issue entirely.

I found this disturbing because before I became a consultant, I was a research professor in three major universities. I knew many students who acted similarly on field trips or lab exer-
cises or group discussions, and all uniformly failed the geology course and switched to another field. This indicated to me there was going to be serious trouble ahead for the contractor. Later, after my departure, this came full circle to cause major fiscal costs, cascading delays on project completion and deliverables, and nearly six months' loss of time and momentum on the entire project.

Clearly a major disconnect had developed between the contractor's national geological staff who started to operate as a cell group, on one hand, and the contractor's Senior Geologist,
The Professional Geologist • JUNE 1999

Geophysicist, and Engineer, and the management team of the national company, on the other hand.

**The Technical Disconnect Worsens**

On completing my report, I returned to Houston. Because limited drafting and clerical facilities existed on-site, the contractor retained me while their Houston staff drafted the illustrations and appendix to my report, and I arranged transcription of core descriptions.

Periodically, I received phone calls and e-mail messages from the Senior Geologist. After I left, the technical disconnect I had observed earlier intensified. On four different occasions, disputes arose over principles of sequence stratigraphy, and I was asked to provide information. The national geological cell group continued to correlate using F&U and CU motifs and ignore facts upon which everyone else, including core workshop participants, and the national company’s oversight management team, had agreed. Their lack of understanding of the contractor’s management structure was a contributing factor also. It appeared as if they were acting as a cell group, holding their employer hostage over a dispute of no merit, using discredited science. Essentially, two competing geological approaches and interpretations were on the table: one consistent with results of adjacent regional and oil field simulation studies, and one that was clearly flawed.

When the Senior Geologist and Senior Geophysicist began writing their final reports, the Business Manager arranged for them to work in a different building. Immediately, the national geological cell group approached the Business Manager to arrange a request for the contractor’s upper management in that nation’s capital to go forward with their flawed approach without knowledge of either the Technical Manager, the Senior Geologist, or the Senior Geophysicist.

Two days before a final presentation to the national company, everyone met for a final review and this development became public. Bitter exchanges apparently took place. Finally, the Technical Manager ruled that the work of the Senior Geologist and Senior Geophysicist was to be the official work to be presented to the national company. A serious added consequence was that computer simulations slipped well past deadlines for deliverables, and this created additional cascading consequences that are best left unstated.

A week later, I received two e-mail messages and a phone call from the Technical Manager, asking me to clarify a change that had been made on one of the core description plots. He was unaware of the change, but the national geological cell group discovered it and escalated the situation. I assured the Technical Manager that the changes had been approved by me, the contractor’s draftsperson made the changes and sent them to the Senior Geologist, whom I understood had distributed them. At this stage, the situation also deteriorated to the point that is best left unwritten.

**Differences in Cultural Values in this Case**

During a recent trip to another Latin American country for another client, I was referred to an op ed column by Michael Rowan, a columnist, for the English-language Caracas Daily Journal. His column was entitled “A Very Different Culture.” Built on an extensive study by Trompenaars and Hamden-Turner (1998), Rowan emphasized that the impedance to entry to the global economy of two Latin American countries, Venezuela and Uruguay was cultural and not political. In several major cultural indicators that are considered crucial for economic success, several Latin American countries rank near the bottom globally. Although Rowan focuses on Venezuela (for his readership), Trompenaars and Hamden-Turner (1998) demonstrated it existed elsewhere in Latin America, including another country where the contractor was doing business.

In the case discussed above, it appears that the driving force behind the technical disconnect on the part of the national geological cell group was primarily cultural, and issues of science were peripheral, becoming only a vehicle to drive a cultural agenda. Moreover, misunderstanding of the contractor’s management structure by certain individuals likely made the problem worse.

Critical to this issue is how a corporation is viewed within the framework of many of these countries. For instance, asked to choose two definitions of “a company, 39 percent of Venezuelans, 4th lowest in the world,” said that “a company is a system designed to perform functions and tasks in an efficient way” (Rowan, 1998).

A majority (61 percent) of Venezuelans preferred the following definition: “A company is a group of people working together. They have social relations with other people and with the organization. The functioning is dependent on these relations” (Rowan, 1998).

This perception appears to be KEY to the technical disconnect. The national geological cell group appears to have turned the EOR project into a battleground to impose a national cultural assumption on their employer’s corporate culture and management style, thus using it to delay meeting corporate goals set by the Senior Geologist, Geophysicist, and Engineer. The national geological cell group appeared to have perceived the work plan and management style as a serious cultural threat. The result was that the contractor’s entire technical staff was caught in a cross-cultural firefight.

One of the characteristics of many Latin American cultures is how they perceive time, and again, several rank at the bottom of global surveys (Rowan, 1998; Trompenaars and Hamden-Turner, 1998). Rowan explained (again in a Venezuelan context): “Take the issue of time. To Venezuelans, the most important time in their lives is the past, the second most important time is the present, while the future is a very diminished concern. Significantly, Venezuelans do not believe that the past, present or future ARE CONNECTED (emphasis added).

“While Russians share this configuration of time with Venezuelans, almost no one else does. The most important typical notion of time is a connected view of the past, present, and future and for most of the world, the most important time is the future, or the present and future in tandem.” Trompenaars and Hamden-Turner (1998) reported Mexico operates within this concept of time also.

Rowan further reminded his readers that fixation on the past means little value is given to planning, anticipation, or thinking about present action, which can produce positive future consequences, or avoid negative ones.

Finally, Rowan mentioned that only 33 percent of Venezuelans (his readership), and the lowest worldwide, when asked to identify who was in control of their fates said, “What happens to me is my own doing.” Sixty-Seven percent said “I don’t have enough control over the directions my life is taking.” Such people tend not to behave responsibly but do as they like. The national geological cell group appeared to act in accordance with this cultural pattern to the detriment of progress on the project.

It appears that cultural patterns were the root cause of the behavior of the national geological cell group, who seemed to want to keep the project going in perpetuity (past time), per-
haps even to keep their jobs as long as possible, and never let it come to conclusion and closure (present and future) time. The corporate cultural issue, management style, and view of lack of personal control and responsibility, continued to fuel the delays that ensued.

**What steps might have prevented the above outcome?**

Ultimately, if the project fails, contractor senior management is likely to undertake a review. A critical issue not yet known is what happens should the national company refuse to accept a deliverable which they know contains flawed work and is unusable. Yet certain steps could have been taken to prevent such issues from arising.

Here are some things that could be done:

1. Each employee should be issued a bilingual employment contract or job description spelling out their duties and reporting lines. Apparently none were issued.
2. Reporting lines within groups (Geology, Geophysics, Engineering, Petrophysics) with the Senior Technical Leader in charge, need clear, written protocols for all staff.
3. The Technical Manager’s duties and reporting lines should be clearly announced to all, and protocols should be spelled out concerning access to and above that individual.
4. The Business Manager should be required by job description and instruction to stay out of any and all issues dealing with technical matters, no matter what personal relations existed.
5. Work assignments issued should be accompanied by bilingual memos of understanding signed by the Senior Technical leaders and the people who reported to them.
6. Regular group progress meetings should be required, and duties re-evaluated involving both evaluating duties and reviewing assignments for the next stage of the project. Memos covering outcomes should be countersigned. The Technical Manager should be kept abreast of changes.
7. All the groups should meet for a half-day session on a regular (monthly) basis to report on each other’s activities and progress, so everyone is kept current concerning work progress, what needs to be done next, and so on. These meetings provide an opportunity to commence periodic integration of findings. Summaries of these integrative meetings should be prepared and forwarded to the national company. National company members could be invited to attend if they wished.
8. Every four or six weeks, the contractor company should request participation by everyone at a common, local cultural event and cover the expense. Such a social outlet provides some benefits to the contractor. First, it provides a social venue for all the nationals and the expatriates to interact with each other in terms of their host country’s culture. It provides the expatriates an opportunity to become more conversant with and attuned to the national culture away from the office as a way to bring unity to the group. It provides an opportunity for all to see each other with a human face away from business and technology. It should involve families.
9. For the expatriate employees, the contractor should provide an orientation venue covering the culture, language, and traditions of the host country and it should involve some of the national employees serving as “local hosts” so as to smooth the transition to the workplace. Learning and respecting traditions is one of the best ways to come together and develop a unifying mission.

Let me share an example. At the end of the 1998, I sent an overnight package to a client in a Latin American country. I enclosed Christmas cards for everyone I met in the office, from the secretaries on up to management, and requested the recipient to distribute them. A week later, I called and the receptionist answered. After I identified myself, the glow and warmth radiated over the phone connection because I had remembered from prior trips to Latin America that the Navidad tradition is so strong. The fact that I remembered its importance was noticed and everyone there wanted me to know that my simple act was not only unexpected, but appreciated because it showed I learned and respected some of their traditions.

The lesson learned from this entire experience is that probably the key to the successful management of cross-cultural projects requires using simple common sense and courtesy, and respect for others’ traditions and cultural values. Management protocols that permit the work to go forward, yet allow for cultural differences, provide an added bonus for success. Earth scientists working internationally must come to grips with local customs to be successful in such settings.

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CANDIDATE FOR AIPG NATIONAL PRESIDENT-ELECT

The Agenda is Tough—The Time to Act is Now

Robert H. Fakundiny, CPG-04977, Albany, New York

What can AIPG do for me? This is the most frequent question I hear from colleagues who are considering joining or remaining a member—and it is a valid question. The answer is that AIPG is at a crossroads where, if proper action is taken now, it will be able to provide a services package needed by every geologist who wishes to perform at the highest levels of the profession. At that crossroads stands AIPG with a newly formulated agenda that embraces a new five-category membership system, imminent establishment of an improved and expanded continuing education program, a growing website, and a new push to enlist members. All these items bode well for an improved Institute, but only if we all get down to work to energize this new agenda. That agenda has been built through the Executive Committees’ response to the 1991 Long-Range Planning Committee’s suggestions to improve AIPG in the following nine major areas of activity: most of which are not yet fully implemented; those suggestions that need attention are italicized (1) Increase involvement in the national legislative program; (2) increase emphasis on national affairs by holding every fourth National meeting in Washington, D.C.; (3) encourage state sections to adopt State legislative programs; (4) provide increased support to the sections; (5) improve the image of the Institute; (6) increase emphasis on professional ethics; (7) clarify the Institute’s position on registration of professional geologists; (8) improve the structure of the Institute; (9) increase revenue; and (10) ensure that the Institute remains relevant to its members. That Committee has set a tough agenda and the time to act is now.

In 1995, in my essay seeking election as National Secretary, I presented a set of recommendations that included (1) increased networking with the other professional and academic societies; (2) establishment of a mentoring program for young members and students; (3) establishment of an internet website; and (4) building the continuing education program for our membership by developing workshops and publications on business practices. Most of these projects have already been started, thanks to the energetic Executive Committees, a diligent and conscientious Executive Director (Bill Knight), and the enormous voluntary efforts of the membership. We must now push to complete these projects and get the results out to the membership.

Four issues that need immediate attention are to (1) increase revenues; (2) increase membership; (3) increase services to the membership; and (4) increase visibility on the national geologic scene.

—Increased revenues: Increasing our revenues has been addressed in part by a slight increase in dues, by an invigorated effort to produce publications for sale, and an outreach for endowments. Now we need to increase the revenue stream through the production of continuing-education services and products for the practicing geologist. I have also proposed to the Executive Committee that we establish a mega-database system that for a fee allows geologists to find the location of local and regional data sets and analyses that may be useful for site investigations. This system could be accessed immediately for information on the location, type, scope, and cost of data that are now stored in file cabinets and boxes of government offices. This information could save many thousands of dollars worth of effort in literature searches at the beginning of projects while it adds funds to our revenue stream.

—Increased membership: We need to increase membership with young professionals and students who need mentoring that only AIPG and its sections can provide. Older professionals could be attracted by a respected and relevant continuing education program.

—Services to members: The website is now established and could contain resources such as a job board, the mega-database, continuing-education material, a networking system with other professional and academic societies, a media link for sections and local societies, and a chatroom for professionals with geologic problems and issues.

The requirement that all members demonstrate active continuing education is imminent. President Tom Fails, with his Task Force for Continuing Professional Development, has done a fine job of outlining the problems and suggesting approaches to implement this critical addition to the membership requirements. These new approaches should provide an added reason for all professional geologists to become members.

—Increased visibility: We must increase our visibility in several areas, especially the academic world, where our presence is sorely needed to convince our university colleagues that most of their students will become professional geologists in the business world rather than teachers. Curricula need to be adjusted to include business practices, business ethics, practical professional skills such as field mapping, and skills to interact with the legal profession and government. We also must become more visible in local and national media; exposure could come from a media bureau at National Headquarters. We also could make greater use of the internet. We need a clear mission and a set of guiding principles regarding national geologic issues that can be taken to Washington. As Chairman of the Association of American State Geologists’ Committee to Obtain Reauthorization of the National Geologic Mapping Act (which was first enacted when I was President of the AASG), I know the value of having the profession support good legislation on geological issues.

Some of the issues described above are being addressed by sister societies and our liaison society, the American Geological Institute (AGI). Some of our latest successes have been because of our strong association with AGI, and we need to continue to use its resources to grow, to communicate, and to prevent redundancy.

I propose that the next few Executive Committees take the following actions: (1) review the 1991 Long-Range Plan to evaluate the progress of our new agenda; (2) poll all Sections to determine how the new agenda can address their needs; (3) invigorate the efforts to enlist students and aid their professors; (4) initiate the continuing-education standards process that is proposed by the Continuing Professional Development Committee; (5) provide new services on the website; and (6) establish a media bureau at Headquarters. By taking these measures, we can increase our relevance to the professional geologist and thereby strengthen our membership and increase our revenues. The agenda is tough. The time to act is now.
Strategies, Tactics, and Action Plans: Let's Mobilize

Thomas Z. Jones, CPG-03441, Columbus, Georgia

During my years of membership in AIPG I have been amazed at the diversity of opinions that have been chronicled in TPG by way of articles and letters to the editor: opinions on a variety of issues that confront geologists and our profession. I view this diversity as a healthy display of the seriousness with which members view the practice of geology and the role of the professional geologist. I also see it as evidence that the Institute is continuing to attract thoughtful professionals who value their profession and its importance to the public. That is the good news.

Unfortunately, not all news is good news. Of concern is the future of the Institute and its financial health. One need not look far for evidence of concern about this future. For example, I direct your attention to the excellent article authored by President Fails, “Delivery - For Now!”, in the April 1999 issue of TPG. Tom tells it “like it is” with no “sugar coating.” For the Institute to realize its mission and, in fact, continue to exist, it must be fiscally sound. Membership dues cannot be the Institute’s only significant revenue source. As noted by Tom, currently AIPG membership dues are the “...highest among our scientific and engineering peers.” Tom not only identifies the problem, but offers three ways by which the revenue problem can be addressed:

- Increasing AIPG membership
- New publications targeted at broader markets
- New sources of non-dues revenue.

These strategies must be addressed with specific tactical plans, action plans that will allow the Institute to attain fiscal soundness in the shortest possible time, while retaining a commitment to its mission and those it serves. However, before we rush to develop and implement these plans, we should focus on some underlying issues relating to each strategy.

Increasing Membership – One important issue we need to address is “what does AIPG have to offer prospective members?” Why should geologists want to join AIPG? Will the prospects see value in the investment, financially and professionally? The issue can be framed by these questions or similar ones. What should the Institute’s answer be?

Reflecting back to the early 80s when I held various offices at the section level of AIPG, my colleagues and I were constantly recruiting practicing geologists to make application to AIPG. The rationale we proposed was “Certification.” We marketed the concepts of professional recognition through national certification as the primary benefit of AIPG. This was an effective recruiting tool since there were few state licensing registration programs for geologists available at the time. Practicing geologists immediately saw the benefit. To them there was a return on investment. Now, nearly twenty years later, I doubt if this marketing tool will be as effective. As noted by William Dixon (April 1999 issue of TPG, “Letter to the Editor”), some twenty-seven states have licensing and/or registration programs. AIPG is no longer a sole source for credentials.

So, before we launch into a major membership campaign, let’s take care to develop a case statement which clearly articulates the benefits of AIPG for prospective members. We need to take the time to formulate the answers to those questions which will surely be asked of us. “Why should I join AIPG?” “What are the benefits (to me) of being a member of AIPG?” In other words, what will be the return on my investment?

New Publications – Publications of interest to a broader audience concerning the role and value of geology should be an effective way to generate revenue for the Institute and help to fulfill its educational mission. They can elevate the visibility of AIPG as a major organization in our profession. And in time, I believe they can serve as an effective marketing tool for increasing our membership. I had the opportunity to serve AIPG as its editor in 1991-1993 and worked with Ed Nuhfer as he was completing work on The Citizens’ Guide to Geologic Hazards. I knew while it was in editorial review that it was going to be a “success.” It was well written, geared to a wide variety of potential audiences, and magnificently illustrated with photographs and easy-to-read and understand tables and figures. In other words, one did not have to be a geologist to understand what it had to say.

We need more publications of the “Citizens’ Guide” type, those that address geologic issues of interest to the public (and significant professional populations thereof), not just publications for us geologists. Geology publications written by geologists for geologists are good, and plentiful I may add, but geology publications written by geologists for non-geologists, who need information about the Earth and its many processes, may be better. It is a niche not being served effectively to date. Why not AIPG?

Sources of Non-dues Revenue – Diverse income source generation is a wise strategy. President Fails offers several ideas along these lines (TPG, April 1999). One such source, which Director Knight proposed as early as 1991, was for AIPG to take a proactive role in the arena of continuing education (professional development programming, sponsorship, and certification). I believe this needs to be a major initiative for AIPG. Many professional organizations and universities have effectively developed it into a “cottage industry.” And, as we all know, lifelong learning is essential for all of us.

A related strategy, one that could be linked effectively with our publication strategy, is to develop continuing education programs of interest to select professional audiences. To illustrate, the “Citizens’ Guide” is marketed to homeowners, architects, insurance agents, legislators, engineers, zoning commissioners, city planners, real estate agents, bankers, and attorneys. Using these target populations, AIPG could work with regional and national professional associations representing these groups for follow-up continuing education programs. Development and coordination of such programs could be orchestrated by AIPG National and delivery could be facilitated by our sections, where appropriate. The necessary expertise to develop and deliver such programs certainly exists among our membership!

In closing, the good news is that AIPG is comprised of a diverse, talented, and creative community of geologists who are dedicated to their profession and to serving the best interests of the public. The challenging question ahead for the membership and leadership of AIPG, in pragmatic terms, is what strategies and tactics (action plans) must we formulate and implement that will keep this “ship afloat” so it can continue to evolve and better serve? We need the full support of our membership to offer creative strategies which can be mobilized into action plans for results. It is not prudent to “take a wait and see attitude.”
Where Do We Go From Here?

Ronald E. Alexander, CPG-06372, Louisville, Kentucky

Since my initial involvement at the national level as an advisory board representative in 1997, the Institute has evolved to position itself as “The” representative of the profession in many ways. Changes to the bylaws to create new categories of membership and spur increased interest; reactivation of the Washington, D.C. Fly-In to support advocacy efforts; investigation and possible implementation of a program to continue education program; creation of a committee to solely market and advertise publications; creation of the Institute website; and numerous additional programs have either been implemented or targeted for implementation. All will be beneficial to further the mission of the Institute as we move into the new millennium.

However, many questions continue to be asked, and often the most repeated is, “What can and does AIPG do for me?” From the past downsizing of the oil and gas industry in the U.S. to the proliferation and subsequent shrinking of the environmental and hydrogeological market, many geologists are finding themselves in the middle of a battle for survival and existence. Registration legislation, although attractive and appealing to those constituents without it, is often falsely perceived to be either a substitute for Institute membership or in some cases, felt to be superior. Once enacted, it can, BUT SHOULD NOT, be a detriment to the health and vitality of any section, yet often is quoted as being just that. Therefore, the real question presently at hand is, “Where do we go from here?”

From my vantage point within the present Executive Committee as an advisory board representative and as a past officer of the Kentucky Section, I see an increasing need to “minister” to sections on an individual basis in an effort to assist them in touting the benefits of the Institute to their members as well as offering ways to cope with problems more specific to their section. Although addressing the general membership with these topics through articles within The Professional Geologist is one attempt to accomplish the same goal, it often is read, digested, discarded, and then relegated to the far reaches of the mind and forgotten along with the daily business news. Besides, being addressed to the membership at large, it cannot deal with the specific problems and concerns that any one section must. A higher degree of personal communication between sections and national HQ is needed to effectively motivate members to realize what AIPG stands for and to communicate the same message to non-members. And, although one-on-one and face-to-face dialogue with each and every section is, in most cases, not entirely possible, there is more room for improvement.

Much more can be accomplished with efforts aimed at direct intervention with those sections looking to invigorate their membership and increase local participation in their activities. Interaction between and among sections can also be helpful by showing how specific sections successfully deal with similar situations that others have not. A mechanism to get that dialogue started is needed. And, it can only come from the leadership within the Executive Committee.

Subsequently, the Institute, and specifically each section, must recognize the importance of the necessity to effectively communicate its mission, goals, values, and benefits to those students and/or individuals within the pool of potential members to seriously deal with the issues of continuity and self-preservation. Membership drives are a necessity from time to time. However, it is much more preferable to create a desire to be a part of an organization that truly claims to support and advocate for the profession of its membership than to simply recruit new members. A few sections have successfully hosted events at universities aimed at informing geology students about the Institute and its benefits. And, in some cases, student chapters have been organized which will, in many instances, serve as a pipeline for new members as students move into the profession after graduation. Again, the key to future success stories is in motivating each section to follow through with similar events.

The methods we employ to assist our sections and encourage them to be more proactive in their affairs, will greatly impact their ability to grow in numbers. In turn, section activity levels will create the attraction. A proactive national leadership has, and will continue to instill a high level of zeal and interest in those who desire to commit time and energy by serving as section officers and leaders in furthering the ideas formulated by early members. All of us make commitments in one form or another almost every day. Few can be more important than ones made to insures the integrity and viability of our own profession. National officers and Executive Committee members almost always begin as section officers where those first commitments frequently originate. Thus, where else “do we go from here” to continue efforts to insure the vitality of our organization, but to our sections? Expect a call soon.
Building Bridges

Thomas M. Berg, CPG-08208, Columbus, Ohio

As we witness continued expansion of our cities and our transportation and utility infrastructure, along with increasing demand for construction materials and water supplies, we also witness rising public concern about land use. We hear public clamor for protection of farmlands. We hear loud objections to the opening of new mines. We listen to heated debate about the development of megafarms. In the midst of all this, where is the voice of good geology? Are public decisions being made with the benefit of accurate geologic understanding and an up-to-date geologic framework? AIPG and the rest of the geologic community should be at the very center of debate about all these issues. Individual members of AIPG should be attending public hearings and providing testimony about the geological aspects of urban expansion, construction of highways, management of waste, and development of new water supplies. More than ever before, the Institute needs to be instrumental in building bridges between geologists and the general public.

AIPG has done well in providing resources to its members to help shape public policy and elevate public awareness of the crucial role that geology plays in our daily lives. Publications such as The Citizens’ Guide to Geologic Hazards, Home Buyers’ Guide to Geologic Hazards, and Government Affairs Manual have helped members of the Institute tremendously. Individual sections should be encouraged to prepare similar publications or brochures specific to particular states. AIPG’s Fly-In visitation to Washington, D.C. promises to have important impacts on national policies and priorities. Individual sections should be encouraged to conduct their own “drive-in” visitations to state legislators, state agencies, and local mining, groundwater, and engineering associations. In addition, AIPG should play a major role in celebrating the annual Earth Science Week, and sections should become deeply involved at the local level. Individual section members should be encouraged to join in local activities of Earth Science Week, and materials designed to promote the earth sciences should be widely disseminated by the Institute.

I have a continuing concern about attempts by nongeologists to practice geology, especially engineers. We witness debacles and huge cost overruns in construction projects where the geologic framework is poorly understood or ignored. We see homeowners lose everything when their foundations fail because builders were ignorant of the underlying geology or paid no attention to it. Whole apartment complexes slide downhill because engineering assessments failed to recognize that subsurface conditions included high landslide potential. We pay millions of dollars to remediate highways that collapse into abandoned underground mines and sinkholes. AIPG should become a national leader in expanding communication and understanding between geologists and engineers. The Institute should be proactive in establishing nonadversarial relationships between geologists and engineers. AIPG’s members should strongly support the state geological surveys and the U.S. Geological Survey and help assure that their geologic maps and wealth of geological information are used in engineering design. I believe it should be a high priority of AIPG’s Intersociety Committee to build bridges between the Institute and engineering associations at national and local levels. AIPG should support and assist geological presentations by its members for engineering organizations at their regular meetings. More than ever before, geologists need to market their science in the engineering community and the Institute should become a national leader in making that happen.

As Membership Chairman for the Ohio Section, I have a keen awareness that AIPG needs to work very hard to maintain and increase its membership. The Institute now has a good spectrum of membership categories that should appeal to almost anyone working in—or interested in—geology. The Institute needs to develop a very aggressive membership campaign at the national level and at the section level. Section membership chairs need encouragement and support from national headquarters and from the Membership Development Committee. Colorful and attractive fliers in addition to the already well designed new application booklets need to be produced for a nationwide effort. AIPG membership fulfills a very important need for many geologists, particularly those in the applied-geology arena. Let’s aggressively build bridges to the many other geologists who are not yet members and find innovative ways to expand our membership.

Finally, AIPG needs to greatly increase its efforts in establishing student chapters. Geology majors need to see the Institute as a dynamic, exciting, supportive, and caring organization that is interested in promoting successful geology careers and playing an assertive role in shaping public policy. Students need to know that membership in AIPG will significantly aid them in their professional development. Attention-grabbing fliers specifically targeting geology students need to be produced. The current AIPG Student Chapter Operations Manual is dry and boring. It needs to be totally revised and illustrated with colorful photographs showing student members participating in the fun of geology and participating in section activities, rubbing elbows with AIPG members who enjoy their profession! Let’s build bridges to our geology students!

I enthusiastically believe in AIPG and its mission. Let’s move into the next millennium and put the Institute at the helm of our profession!
I propose to grow AIPG's membership through increased advocacy, improved communication, and new offerings. AIPG offers a unique perspective among national groups for geologists. The breadth and diversity of AIPG membership is our strength, but to maintain our membership and grow, we must provide real economic value to our members. Since there are dozens of national geology professional organizations a geologist can potentially join, the cost of tangible and intangible benefits that AIPG offers must exceed the cost of membership.

There are three areas where AIPG can increase political impact for the profession and provide increased value to its members: 1) by being an advocate for the profession and continuing to evaluate new bills and regulations that affect the practice of geology, 2) to provide prompt communication with members regarding how to respond to political situations that affect geologists, and 3) to act as a buyer's group for services and products frequently purchased by geologists.

1) Lobbying for the Profession: AIPG should continue to work to improve Federal and state policies that advocate the use of sound geologic knowledge and increase the quality of geologic practice. Frank McClure, former U.S. Senator from Idaho, in addressing a group of scientists and engineers, said "If you don't like politics and don't get involved with politics, you will be governed by those who do." Professional geologists not only have to watch the technical quality of their work, but over the past few years they must also be vigilant of the proposed legislation that might push geologists out of business or severely limit their practice. A totally unacceptable "Fields of Expertise" document stamped "draft" was developed and circulated in California, and although it was never finalized, law makers in several states and other agencies have used this inaccurate document, to the detriment of geologists. The need to be more politically active is highlighted by the defeat of the Texas and Ohio registration laws, even though the AIPG sections fought hard for their members. The unfair treatment of Oklahoma geologists who must work under a registered engineer on underground tank projects indicate the type of problems that will only continue to get worse for geologists working in multi-disciplinary fields. If elected Secretary, I will continue the momentum for the advocacy role of AIPG, and examine unfair legislation and practice issues.

In California, each legislative session brings about 100 new bills that have either an energy, environmental, or engineering component to them. These bills must be prioritized and reviewed as to their impact on geologists. AIPG California Section with others fought to keep the Board of Registration for Geologists and Geophysicists (BRGG) when the Sunset Review process occurred a few years ago. Although the BRGG's charter was narrowly renewed for four more years, AIPG California Section worked diligently with a dozen other professional geology associations to create the California Council of Geoscience Organizations (CCGO). I am the AIPG California Section representative to CCGO.

During the last two years, using e-mails and planned CCGO board meetings, the member organizations have provided a united front on a few important bills, and we are following the development of several dozen more bills. During recent 2000 International Building Code (IBC) hearings, CCGO succeeded in ensuring the consideration of geologic factors in pertinent portions of the proposed building code. This IBC example shows how AIPG did provide real value to our membership.

2) Prompt Electronic Communication with Members: If we want to improve future opportunities for geologists, we must get organized as a group and let our legislators know how important geologic knowledge is to the nation's welfare. Sometimes in the political process, a bill will take a strange turn on a moment's notice. At those times, an e-mail response system for interested committees and members will provide for an informed membership and more political impact. An e-mail response to an agency or legislator from many AIPG members is much more impressive than an e-mail from one or two members. If we are to improve the prospects for geologists in the future, AIPG must get more members to become aware of the Federal and state legislation affecting geologists. There is no better way to accomplish this goal than by using e-mail among the electronically connected AIPG membership. If elected Secretary, I would propose that for 2000, AIPG develop a state- and committee-based rapid e-mail response system in order to become more politically active and communicate with the membership.

3) AIPG provides value to members in several areas already: The Professional Geologist, the reasonably priced insurance programs, as well as the low cost of AIPG publications. However, AIPG's value can be increased if AIPG acts as a buyer's group and offers other services or products which are frequently purchased by geologists and small businesses. Using outside vendors, these offerings should not cost AIPG anything, and might even provide additional revenue to the Institute. If elected Secretary, I propose to increase the array of discount services and products that AIPG allows other vendors to offer to the membership.

In sum, AIPG must provide real value to the membership in order to grow. Three areas of larger value are increased advocacy for the profession, improved communication using a rapid e-mail response system, and new business offerings to members. Thank you for your support.
The Role of AIPG in an Evolving Profession

Michael D. Lawless, CPG-09224, Christiansburg, Virginia

The role of AIPG as we move into the new millennium is more important than ever. The changing dynamics both within and outside of the profession of geology demand an active political voice. The geological sciences will play an increasingly important role in maintaining and improving the quality of life in this country and throughout the world as the population grows and natural resources become more scarce and politically more difficult to extract. AIPG is the organization best positioned to ensure that decisions made regarding natural resources and the environment are based on good information provided by qualified professionals.

The Institute has made great progress in the past several years in communicating the importance of geologists and geology to our federal government. We must remain committed to continuing this communication and extend it more effectively to the state level. The Washington, D.C. Fly-In conducted over the past three years serves as an excellent model for the Sections to institute similar programs with their state legislatures. If elected Secretary, I would propose that National expand and revise the information currently available to Sections to effectively initiate lobbying programs at the state level.

As one who is actively involved in the political arena, I have seen evidence that decisions that affect not only the profession of geology, but quality of life of the general public, are being made by politicians who may or may not be fully aware of the relation of the geological sciences to the decisions that they are making. These politicians are elected by the general public, which may have even less understanding of the relation of geology to these issues and decisions. It is our responsibility to educate the public to ensure informed decisions are made about the people they elect to public office, as well as make informed decisions about the increasingly technical issues regarding natural resources, the environment, and natural hazards. AIPG must continue to fulfill the purposes of the Institute set forth in our bylaws, namely to advance the profession, establish qualifications for professional geologists, certify those qualifications to the public, and promote high standards and ethical conduct within the profession.

In order to continue to meet the purposes of the Institute, we must recognize that even as geology begins to play a more significant role in the well-being of populations around the globe, the profession is not well understood. I believe that in recent years AIPG has made great strides in promoting the profession on both the national and international stages. If elected, I would actively work to continue those efforts. We are living in a time when the size of the world is rapidly shrinking as a result of improved communication and increased availability of information. It is therefore critical that AIPG continues to increase its role internationally through alliances with similar organizations in other countries, and improves its ability to provide and disseminate information about the geological sciences to the citizens around the world, all of this at a time when economic constraints are greater than ever. I believe that current and future communication links around the globe will enable us to effectively operate internationally within our budget constraints.

As the global population is increasing and the quality of life in developing countries is improving, the demand for natural resources is increasing. Additionally, in order to maintain the quality of life in developed countries, including the U.S., that demand will further increase. This comes at a time when the general public is relatively unaware of the dependence of our current quality of life on natural resources. There is the further expectation that we should somehow be able to protect ourselves from natural hazards, thus enabling us to live risk-free.

The profession of geology, ranging from the oil and gas industry to mineral exploration to environmental protection and remediation, has become increasingly multidisciplinary. Therefore, geologists have had to learn to relate to and work with individuals with many different backgrounds and talents. In order to serve our membership, AIPG as an organization should increase its efforts to establish relations with other professional organizations in related fields including engineering, chemistry, biology, and toxicology, among others. AIPG is well positioned to do this as we represent geologists in the diverse subdisciplines of geology located throughout the country.

If elected National Secretary, I would advocate a continued active role for AIPG on both the national and international stages. I would work to increase the support of National to the Sections in order that the Sections could benefit from programs which have been established on the National level, such as the Washington, D.C. Fly-In. I would also advocate that AIPG continue to strengthen its voice as an educational resource for the general public and our elected representatives. I would actively pursue relations with related professional organizations in order that they better understand the profession of geology and we better understand the multidisciplinary nature of our role as professional geologists.
New Kid on the Block

Virginia T. McLemore, CPG-07438, Socorro, New Mexico

I don't generally think of myself as a "new kid on the block", but when I read over the biographies of the previous candidates for editor-elect, I realize that I have not been involved with AIPG at either the national or state level and that I have only been a member of AIPG for little over ten years. Being a "new kid" isn't all bad. The title of this article not only reflects my own position, but it also reflects how many of our colleagues in other science disciplines view our profession. Roy Shlemon, CPG-01766, brings home this point with many examples of the public's perception in his recent article in April 1999 (The Hazard of Geologic Hazards to Geology). Geologists, as new "kids" on the team, are joining multi-disciplinary efforts to solve many of our national problems, especially in the fields of environmental and geologic hazards, and with great success. The public is aware of more potential geologic hazards than ever before, for instance landslides, collapsible soils, meteor/comet impacts on Earth, and liquefaction of soils during earthquakes. We need to find effective ways of predicting and, if possible, preventing environmental and geologic hazards without using scare tactics. The Institute's publications offer such a forum.

Our Institute is responding quickly to the challenges of public awareness and perceptions. We offer a variety of policy statements, issues and answers series, and monographs that address some of these challenges, such as Homeowners' Guide to Geologic Hazards, and The Professional Geologist as Expert Witness. The Institute's WEB page is informative and effective, but could be improved. We need to continue these types of publications, and, more importantly, we need to get the word out to other geologists and scientists. I have been a 4H leader since 1984, and the motto of 4H is quite pertinent here: "Make the Best Better." That is essentially what I plan to do: improve and build upon what Myrna Killey, Dale Nations, and other outstanding editors before them have started.

Our profession and our Institute have changed dramatically from an organization representing mostly geologists working in the petroleum and mining fields to one representing a broad spectrum of geologists working in many fields, including petroleum and mining, environmental geology, geologic hazards, geohydrology, and urban geology. Our current editor, Myrna Killey, pointed this out in her article in June 1997 (Bugs and Bunnies: Friends or Foes?). As Ms. Killey pointed out, we need to continue to encourage articles on the interplay between geology and ecosystems. Our Institute, at the state level, must continue to take the lead in state certification where appropriate. We need well-defined legislative programs at the national and state levels to promote our profession and enable us as an Institute to help solve geological problems that affect the public. And, we can not forget the challenges facing our extractive industries, mainly how to operate within new stricter environmental regulations and how to correct public misperceptions, yet provide the natural resources our industrial society requires. What better place to voice these concerns than in The Professional Geologist?

Geology is fun, exciting, and challenging. We need to make sure that our young people and their parents see it that way, but just as important, we need to explain geologic processes in straightforward scientific language that everyone can understand. Geologic processes form the foundation of every scientific discipline, and we need to convey that concept to the public and to other scientists and engineers. The Professional Geologist and the Institute's publications provide an excellent opportunity to convey these messages.

According to the Institute Bylaws (section 5.3.6), the Editor shall be in charge of the publications of the Institute and shall have authority to solicit, edit, accept, or reject material for publication, subject to policy direction by the Executive Committee. I hope I have given you an idea of my philosophy and how I plan to meet some of these challenges. Also, I wish to warn you. If I am elected as Editor-Elect, I plan to call on many of you to contribute. The main reason I haven't been involved with AIPG at the state or national level is that I was asked only once before and didn't have the time then. No one asked me since until I was asked to accept the nomination for Editor-elect. I hope to call upon others to help out where and when they can. Maybe it is time that we all do a little for our science! The Professional Geologist and the AIPG publications are some of the many ways we can. I am looking forward to meeting these challenges as Editor-elect, then as Editor for your Institute!
The Professional Geologist and a Common Voice

“They fought retail and were slaughtered wholesale. If they had been inseparable they would have been insuperable.” — Tacitus

James D. Shotwell, CPG-08290, Austin, Texas

Bill Knight, AIPG's outgoing Executive Director, communicated this quote to many of us at the beginning of this year. The quote is attributed to Tacitus, the Roman poet who was commenting on the ancient Gauls and their tendency to dissipate their incomparable fighting ability and spirit in skirmishes among themselves rather than marshaling the energy to do battle with the Romans, whose superior organization overwhelmed and slaughtered the Gauls by the thousands. Bill Knight drew an analogy between the Gauls and modern-day geologists who cannot seem to work together for very long on matters that require unity and that should be important to all of us.

As I have pointed out in the past in The Professional Geologist, the advocacy role is one of the five fundamental missions of AIPG. Advocacy of the profession before governmental agencies at the local, state and federal level, as well as before other professional organizations, such as engineering groups, is an important activity in which a display of unity is paramount. AIPG is the only geologic professional organization which has our diversity of membership. We represent almost all professional areas of the geosciences. Our message will always have greater impact if we are unified.

I have served on the National Affairs Committee for five years, and have chaired the Committee for the past four years. For three years in a row the National Affairs Committee has hosted the AIPG Annual Washington DC Fly-In. The Fly-In's overriding purpose is to provide a national venue for AIPG to advocate the profession. We have engaged the United States Geological Survey in a dialog on such issues as governmental competition with private sector geologists, we have provided the USGS with comments on their Strategic Plan for the next decade, and we have participated in the first external review of the USGS - Water Resources Division Federal-State Cooperative Water Program. AIPG's visibility in Washington, DC has positioned the Institute for inclusion in the National Science Foundation's grant review process, and in an advisory capacity at the National Research Council.

How does all this relate to the position of Editor-Elect? Since my background of service to the Institute has been primarily in the national advocacy arena, I would work toward an evolution of the TPG to a more prominent forum for professional affairs, including issues involving advocacy. I believe TPG should be the platform from which the Institute could be much more proactive in addressing issues of concern to the geosciences. Issues such as the National Geologic Data Repository, reauthorization of the National Geologic Mapping Act, interaction with the engineering organizations and participation as an advisor to the federal government will help position AIPG to more effectively represent its membership.

If elected to the position of Editor-Elect (and then assume the responsibility of Editor a year later), I would work to elevate the discourse among the other geologic societies as well as other professional groups by soliciting articles to be published in TPG. We have already embarked on this course by inviting articles from the USGS - WRD and Geologic Divisions. Of course, this would mean reciprocal invitations for AIPG to write articles for other societies as well. Additionally, TPG should become the forum in which AIPG members state their views, thus creating an open dialog to come to a consensus which can be presented effectively to our target audiences.

In summary then, I would attempt to utilize the TPG as means to unite geologists on issues that have a direct impact on the profession. The goal would be a unified voice reached through a consensus process, which can be greatly facilitated by the TPG. In recent years, AIPG has been migrating to this end with the publication of the Government Affairs Manual, the Executive Committee's creation of four new Subcommittees under the National Affairs Committee and the recent series of Washington, DC Fly-Ins. With a unified approach, facilitated by TPG, AIPG can minimize the disarray within our profession to face the many challenges that will be presented to us in the coming years.
CANDIDATES FOR AIPG NATIONAL PRESIDENT-ELECT

ROBERT H. FAKUNDINY

CPG-04977
Albany, New York

Statement of purpose or goals you have for AIPG: To strengthen those programs in continuing education, networking, and professional practices support with the use of computer networks for the membership, especially younger members, and build networks with other Geological Societies to speak with force to the legislative process at local, State, and Federal levels.

Unemployment History:
- Dow Chemical Company
- Sohio Petroleum
- Petrofina Delaware, Inc.
- Draper Aden Associates

AIPG Activities:
- Northeast Section Educational Affairs Comm.
- AIPG National Ad Hoc Comm. on Geol. Maps
- AIPG National National Screening Comm. Chr.
- AIPG National John T. Galey Sr. Memorial Public Service Award
- AIPG National Presidential Certificate of Merit
- AIPG National Academic Education Comm.
- AIPG National Secretary
- AIPG National Assoc. Editor, TPG
- AIPG National Representative to Conference
- AIPG National Task Force for Cont. Prof. Develop.

Degrees Granted:
- B.A., Geology
- M.A.
- M.A., Geology

Employment History:
- Sohio Petroleum Exploration Geologist
- Dow Chemical Company Consulting Geologist in Mexico
- NY State Geological Survey State Geologist and Chief
- NY State Geological Survey State Geologist and Chief
- NY State Geological Survey State Geologist and Chief

CANDIDATES FOR AIPG NATIONAL SECRETARY

JAMES A. JACOBS

CPG-07760
Mill Valley, California

Statement of purpose or goals you have for AIPG: Grow AIPG’s membership by increasing value through increased advocacy, improved communication, and better offerings.

Unemployment History:
- Franklin & Marshall College
- The University of Texas at Austin
- Bates College

AIPG Activities:
- Sohio Petroleum
- Petrofina Delaware, Inc.
- Harding Lawson Assoc.
- FAST-TEK Engineering

Degrees Granted:
- B.A., Geology, English
- M.A..
- M.A., Geology

Employment History:
- Northwestern University
- California State University
- California State University
- California State University
- California State University

CANDIDATES FOR AIPG NATIONAL REGISTRAR

THOMAS Z. JONES

CPG-03441
Columbus, Georgia

Statement of purpose or goals you have for AIPG: I fully support the goals of the Institute stated in its statement of purpose (Bylaws). I believe that the Institute must continue to act upon its Long Range Planning Committee Report findings and recommended actions. In particular, I have a keen interest in AIPG formulating a lifelong learning initiative through sponsorship of continuing professional development programming and an aggressive new publication strategy so that appropriate target professional and lay audiences can be identified: groups that need geologic information, whether they realize it or not, in their professional and daily lives. An expanded audience for the goods and services of AIPG will yield the necessary revenue to keep AIPG as a major professional organization.

Unemployment History:
- Fairmont State College
- West Virginia University
- Minnesota University

AIPG Activities:
- AIPG National National Screening Comm.
- AIPG National John T. Galey Sr. Memorial Public Service Award
- AIPG National Presidential Certificate of Merit
- AIPG National Academic Education Comm.
- AIPG National Secretary
- AIPG National Assoc. Editor, TPG
- AIPG National Representative to Conference
- AIPG National Task Force for Cont. Prof. Develop.

Degrees Granted:
- B.A., Physics
- M.A., Geology
- Ph.D., Geology

Employment History:
- NY State Geological Survey State Geologist and Chief
- NY State Geological Survey State Geologist and Chief
- NY State Geological Survey State Geologist and Chief

CANDIDATES FOR AIPG NATIONAL REGISTRAR

MICHAEL D. LAWLESS

CPG-09224
Christiansburg, Virginia

Statement of purpose or goals you have for AIPG: Continue to strengthen the Institute as a professional organization. Increase awareness of the contributions of the profession of geology to the public well-being and sustainability of our current quality of life.

Unemployment History:
- Old Dominion University
- Brigham Young University
- Virginia Tech

AIPG Activities:
- AIPG National
- AIPG National
- AIPG National

Degrees Granted:
- B.S., Geology
- M.S., Geology

Employment History:
- Virginia Section
- Virginia Section
- Virginia Section
- Virginia Section
- Virginia Section

AIPG Activities:
- Secretary-Treasurer
- Vice President
- President
- Vice President
- President

Degrees Granted:
- B.S., Geology
- M.S., Geology

Employment History:
- Draper Aden Associates
- Virginia Section
- Virginia Section
- Virginia Section
- Virginia Section

CANDIDATES FOR AIPG NATIONAL REGISTRAR

Support Services President

Virginia Section
- Virginia Section
- Virginia Section
- Virginia Section
- Virginia Section

AIPG Activities:
- Secretary-Treasurer
- President-Elect
- President
- President
- President

Degrees Granted:
- B.S., Geology
- M.S., Geology

Employment History:
- Brigham Young University
- Virginia Tech
- Virginia Tech
- Virginia Tech
- Virginia Tech
CANDIDATES FOR AIPG NATIONAL VICE PRESIDENT

RONALD E. ALEXANDER
CPG-06372
Louisville, Kentucky

Statement of purpose or goals you have for AIPG: By focusing on ways to improve and enhance the perception of certification through increased visibility in advocacy efforts at all civic levels, the Institute can make progress in membership growth, as well as inspire increased participation at the section level.

Universities Attended:
- University of Kentucky
- Webster University, St. Louis, MO

Degrees Granted:
- B.S., Geology 1976
- M.B.A., Business 1994

Employment History:
- Reynolds, Inc., Louisville, KY
  - Staff Geologist to District Operations Manager 1976-present

AIPG Activities:
- Kentucky Section Legislative/Regulatory Comm., Chrm. 1994
- Kentucky Section Vice President 1995
- Kentucky Section President-Elect 1996
- Kentucky Section President 1997
- AIPG National Advisory Board Representative 1997
- AIPG National Task Force for Continuing Professional Development 1998-99
- AIPG National Institute Finances Task Force 1999
- AIPG National Advisory Board Representative 1999

THOMAS M. BERG
CPG-08208
Columbus, Ohio

Statement of purpose or goals you have for AIPG: To elevate broad public awareness of the crucial role that geology plays in our daily lives; to make AIPG a national leader in expanded communication and understanding among geologists and engineers; to find innovative ways to increase AIPG’s regular membership and student membership.

Universities Attended:
- University of Colorado
  - B.A., Geology 1962
  - University of Colorado 1967

Employment History:
- Graduate Assistant 1962-64
  - Geologist - Geologic Mapping 1965-75
  - Senior Research Geologist 1976-78
  - Geologic Mapping Division Chief 1978-87
  - Associate State Geologist 1987-89
  - State Geologist & Chief 1989-present

AIPG Activities:
- Ohio Section Program Chair 1993
- Ohio Section Vice President 1993
- Ohio Section President 1994
- Ohio Section Certificate of Merit 1995
- AIPG Annual Meeting Field Trips Chr. 1996
- Presidential Certificate of Merit 1996
- Outstanding Service to the Profession Award 1998
- Membership Chrm. 1995-present

CANDIDATES FOR AIPG NATIONAL EDITOR-ELECT

VIRGINIA T. MCLEMORE
CPG-07438
Socorro, New Mexico

Statement of purpose or goals you have for AIPG: To improve and expand the scope of the Institute’s publications, to increase interaction with other scientific disciplines, to broaden understanding of geologic concepts to the public, and to continue to provide a forum for controversial issues facing our profession.

Universities Attended:
- University of Texas at El Paso
- Brooklyn College, CUNY
- University of Tulsa

Degrees Granted:
- B.S. - Geology 1972
- M.A. - Geology 1977
- M.B.A. - Finance 1983

Employment History:
- Phillips Petroleum Company
  - Senior Economic Geologist 1980-93
- National Energy Company
  - Assistant field geologist 1999
- Enron Oil and Gas Company
  - Team Leader, Hydrogeology 1996-present

AIPG Activities:
- AIPG National
- AIPG National
- AIPG National

JAMES D. SHOTWELL
CPG-08290
Austin, Texas

Statement of purpose or goals you have for AIPG: To facilitate the evolution of The Professional Geologist toward the premier forum for advocacy of the profession of the geological sciences and to seek consensus of opinion among professional geologists on issues of vital concern to the AIPG membership.

Universities Attended:
- University of Colorado
  - B.S., Geology 1962
  - University of Colorado 1967

Employment History:
- Computer Appl. Geologist 1977-80
- Exploration Geologist 1980-81
- Sr. Exploration Geologist 1981-83
- District Geologist 1983-89
- Exploration Geologist 1989-90
- Senior Hydrogeologist 1990-96
- Team Leader, Hydrogeology 1996-present

AIPG Activities:
- Member, Nat'l Affairs Comm. 1995
- Chair, National Affairs Comm. 1996-present
- Annual Washington DC Fly-In 1997-present
- Presidential Certificate of Merit 1997
Election of the New Executive Committee Members

This issue of TPG is one of the most important of the year because it contains essays by Member candidates for the year 2000 AIPG Executive Committee. The offices to be filled include President-Elect, Vice-President, Secretary, and Editor-Elect. The slate of candidates presented by the Nominations Committee includes CPGs who have contributed time and talent in the interests of our profession. All candidates are dedicated to continue volunteering their time, energy, and talent in the furtherance of our profession. Their willingness to serve is a commitment that they are prepared to work on behalf of us all, individually and collectively. Please read the essays, and select the candidate you prefer to represent your interests. The ballots will be mailed in a few weeks. I urge all Members to please take the time to vote your preference for next year’s new Executive Committee members, and do so with the understanding that they DO represent you and me and the entire profession.

State Affairs

You probably know that in the recent past there have been some state and federal legislative/administrative efforts to reduce the size or even eliminate government Geological Surveys. This statement is a plea to all Members to be on the alert for any such activities, be they rumor or something more substantial. If you learn of an effort to eliminate or decrease funding for surveys in your state, please don’t assume it’s an issue being addressed by someone else. In all probability, even the affected parties won’t be apprised of the proposed cuts until the issue has gained some momentum in favor. If you become aware of such a move, in your state or another, please make an effort to contact AIPG by sending an e-mail to John Howard, CPG-08740, Chairman of the State Affairs Committee at [jhoward@secor.com]. If AIPG learns of developing issues in a timely fashion, we will be in a position to assist the Sections in opposing proposed reductions in their respective states.

Geology Students, Please Submit Articles for TPG

AIPG has received an application from students of the Colorado School of Mines (CSM), under the guidance and sponsorship of Geology Professor Graham Closs, CPG-07288, for the formation of a student chapter. This is a welcome development. Upon the approval of the Executive Committee, the Student Chapter at CSM will be chartered as our third such chapter. Although the formation of any new student chapter is good news for all AIPG Members, I particularly direct my remarks here to geology students at all institutions of higher learning. If you are a student Member of AIPG you probably notice that with few exceptions, most articles, letters, and notices in TPG are not directly aimed at students. We who are engaged, or attempting to stay engaged, in the practice of geology have a tendency to become preoccupied with our daily tasks and challenges. We don’t necessarily focus on career opportunities and needs for graduates. By way of this paragraph, I encourage all students of geology to consider taking action to create AIPG student chapters at your respective schools. More importantly, I request that you avail yourselves of the opportunity to communicate with all AIPG Members, by means of TPG. From time to time, Members or students recommend that TPG should contain a Student Column or page containing news of import to geology students. This idea is sound, but the truth is that unless the information contained there comes directly from students, it will probably have minor impact upon the very audience it is designed to aid. The catch here is that AIPG wants your input. Whether or not the reader of this column is an AIPG Student Member should not discourage the reader from contributing a letter, an essay, questions, news pertaining to career concerns, recommendations, anything which the reader considers of interest to other students. (The information will also assist AIPG headquarters and the Sections to better understand the issues confronting geology students.) AIPG would very much like one of our student readers to put a monthly column together. Headquarters will provide support; will you consider it? Contact headquarters at [aipg@aipg.org] if you have the time and inclination. AIPG wishes to provide a greater amount of professional support to geology students. But, we must have your thoughts on the pertinent issues as you see them!

National Conference of State Legislators

The National Conference of State Legislators (NCSL) is scheduled to take place in Indianapolis July 26, 27, and 28. This annual event provides an opportunity for geologists to mingle with legislators from most of the fifty states. This year AIPG will again be represented at the NCSL and will in fact share an exhibit with the Association of American State Geologists (AASG). (Many State Geologists are also AIPG CPGs.) This conference is an excellent example of an event which provides a high profile for our profession. It also allows AIPG to represent geologists as an advocate of the profession. There will be more about this conference in subsequent TPGs. The NCSL is mentioned here to alert all Members and to advise those, particularly in the Illinois-Indiana, Michigan, Ohio, and Kentucky Sections, of an opportunity to meet your congressmen and tell them about geology and its role in protection of the public health and welfare. AIPG President Tom Fails, CPG-03174, has alerted the Presidents of the referenced sections via e-mail. Headquarters will provide more detail to the Sections. If you have an interest in attending, and perhaps assisting in staffing the AASG/AIPG exhibit, please contact your Section Presidents for details regarding accommodations, etc. As with all such advocacy endeavors, the larger the AIPG contingent, the more credible is our advocacy effort.

Odds and Ends

Please note again that as of June 21, 1999, AIPG headquarters will be in a new location. The Membership Directory, which you received in mid-May, contains the new address and telephone numbers. Our e-mail addresses will remain unchanged.

Regarding the relocation, AIPG headquarters would like to create a display of exceptional rock, mineral, and fossil specimens for all visitors to enjoy. Member Kel Buchanan, CPG-06058, published a request for specimens in the April TPG. Please contact him at (775) 786-4515 or [summitcrk@aol.com] if you’d like to loan or donate specimens.

AIPG web-site: Please review the new AIPG web site, [http://www.aipg.org]. Your comments and recommendations are solicited. Members wishing to access the directory and other features for Members only should contact headquarters for an ID Number and Password.
Congress is at work on legislation to reauthorize the National Earthquake Hazards Reduction Program (NEHRP) and expand federal efforts to reduce losses from earthquakes. As both population and wealth continue to flow into earthquake-prone areas of the United States, the costs of major earthquakes have skyrocketed in recent years. The higher those costs rise, the greater the potential value of geoscience data and research to save lives and protect infrastructure. As one witness put it at a hearing on the new NEHRP legislation: “If research can reduce the loss from a single future earthquake by as little as 10 percent, the payoff on the research investment will be as much as a thousand times the annual research budget for earthquake research in this country.”

Background

Since 1884, the United States has experienced over 30 major earthquakes resulting in significant financial losses and considerable loss of life. The damages associated with the 1971 San Fernando earthquake inspired the President’s Office of Science and Technology Policy to establish a committee to assess seismic hazards in southern California. The committee’s charge was later expanded to appraise earthquake potential and consequences nationwide. The committee’s recommendations led to the development of the Earthquake Hazards Reduction Act, passed by Congress on October 7, 1977 as Public Law 95-124. The Act instituted NEHRP and assigned specific research and development responsibilities to the following federal agencies: the U.S. Geological Survey (USGS), the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST), and the Federal Emergency Management Agency (FEMA), which serves as the lead agency.

Earthquakes cause damages in four ways: ground shaking, surface rupture, ground failure, and tsunamis. Even though we have learned much about each of these mechanisms, every event seems to add to our experience. The October, 1989, Loma Prieta event taught us the dangers of building on unconsolidated fill as was done in the Marina District of San Francisco. The Northridge earthquake in January, 1994, exposed weaknesses in the knowledge of the consequences of strong ground shaking. The Northridge experience forced scientists, engineers, and policy makers to rethink building and infrastructure design in earthquake-prone areas.

Congressional Hearing

Because the current authorization for NEHRP expires on October 1 of this year, the House Science Subcommittee on Basic Research held a hearing concerning reauthorization of the program on February 23. Representatives of the four NEHRP member agencies and two scientists from earthquake research centers presented testimony before subcommittee chair Nick Smith (R-MI). FEMA Associate Director for Mitigation Michael Armstrong spoke of implementing earthquake loss–reduction practices and policies. He set the tone for the hearing by stating: “Earthquakes represent the largest single potential for casualties and damages from a natural hazard facing this country.” USGS Chief Geologist Pat Leahy mentioned earthquake notification information and the need for funding a “real-time seismic warning system.” Acting NSF Deputy Director Joe Bordogna

Legislation Takes Shape

Following the hearing, Rep. Smith introduced H.R. 1184, entitled the Earthquake Hazards Reduction Authorization Act of 1999. The bill authorizes $469.6 million for earthquake readiness programs. In addition to a two-year authorization for Fiscal Years 2000 and 2001 for the four members, the bill includes five-year authorizations for two new projects: the Advanced Seismic Research and Monitoring System and the Network for Earthquake Engineering Simulation. For the advanced seismic system, approximately $33.5 million per year for five years is authorized for the USGS to expand and modernize seismic and strong motion instrumentation and operation of the network. The USGS Director is also required to submit a five-year management plan for the system to Congress. The bill also authorizes NSF to establish a Network for Earthquake Engineering Simulation to upgrade, link, and integrate a system of geographically distributed experimental facilities for earthquake engineering testing of full-sized structures and their components and partial-scale physical models.

The bill was reported out of the House Science Committee on March 25 with bipartisan support from Chairman James Sensenbrenner (R-WI) and ranking member George Brown (D-CA), who sponsored the original 1977 bill and has championed the effort throughout its history. It passed the full House on April 21 by a vote of 414 to 3 and was sent over to the Senate for its consideration.

Although science enjoys full committee status in the House, that is not the case in the Senate where science is relegated to the Science, Technology, and Space Subcommittee of the Senate.
Both the Seismological Society of America and the American Geophysical Union have alerted their memberships urging communication with their political representatives to support H.R. 1184. Those efforts should be concentrated on the Senate in the near term, but the ultimate fate of the new spending proposed in this bill rests in the hands of the House and Senate Appropriations Committees. Even if H.R. 1184 is enacted into law, it only authorizes spending on earthquake research, and subsequent appropriations bills will determine what actually gets spent.

### Conclusion

Although people dating back to the early Chinese have been studying earthquakes for thousands of years, we still have no scientifically verifiable method for predicting earthquakes. If there are early warning signs, society has not yet discovered them. But if we cannot predict these events, we can still do a great deal to reduce losses from them. The advanced seismic network proposed in H.R. 1184 would make it possible to send out electronic warnings as an earthquake begins. Because electrons move faster than shock waves, computerized systems will have precious seconds in which to shut down gas lines, stop trains, secure hazardous materials, and power down generating stations. Long before an earthquake strikes, data from detailed geologic maps can be used to determine the ground-shaking potential at any given spot, information that can then be used to develop improved building codes, land-use zoning, and engineering design.

The Government Affairs column is a bimonthly feature written by John Dragone, who is Senior Advisor to the American Geological Institute’s Government Affairs Program.
Monthly update prepared by Kasey Shewey White and David Applegate, Kristina Barlett, and Christi Snedegar

- North Carolina Geological Survey Threatened
- Earthquake Bill Passes House
- New Climate Legislation Introduced in Senate by Murkowski
- Geologic Mapping Bill Makes Progress
- Geotimes Special Issue: Geoscience Policy At Home and Abroad
- AGI Selects Next Congressional Science Fellow
- New Material on Web Site

**North Carolina Geological Survey Threatened**

When the state general assembly in North Carolina was considering the elimination of the state’s geological survey as part of efforts to trim the state budget, AGI Executive Director Marcus Milling wrote a letter to state legislators urging them to support this historic (founded in 1823) agency that provides unbiased geoscience information in support of land-use planning, natural hazard mitigation, and the wise use of the state’s resources. The survey has also played an important role in environmental education. The North Carolina Geological Survey works on critical state issues, including disposal of nuclear waste, beach nourishment studies, and protection of public water supplies. The survey also enforces North Carolina’s oil and gas regulations. Geoscientists in North Carolina contacted their state representatives in large numbers, and the threat was withdrawn.

**Earthquake Bill Passes House**

On April 21st, the House of Representatives passed H.R. 1184, the Earthquake Hazards Reduction Authorization Act of 1999, by a nearly unanimous vote of 414-3. The bill authorizes a total of $469.6 million over five years for the National Earthquake Hazard Reduction Program (NEHRP), which includes earthquake-preparedness projects at four participating agencies: U.S. Geological Survey, National Science Foundation, Federal Emergency Management Agency, and National Institute of Standards and Technology. The bill also includes $170 million over five years for the USGS to modernize its earthquake monitoring systems. A similar bill is expected to be introduced in the Senate in the near future. Although passage of the bill is good news, Science Committee sources warn that the tight budget climate may make it difficult for this authorization to translate into actual funding. More on the bill is available at http://www.agiweb.org/gap/legis106/nehrp.html.

**New Climate Legislation Introduced in Senate by Murkowski**

On April 27th, Senator Frank Murkowski (R-AK) joined with nine cosponsors — many of whom are leading opponents of the Kyoto Protocol — to introduce S. 882, the Energy and Climate Policy Act of 1999. The bill has three main purposes. First, it would authorize $2 billion for research and development on new technologies to stabilize greenhouse gases. Second, it would expand provisions in the Energy Policy Act of 1992 and the Federal Nonnuclear Energy Research and Development Act of 1974 regarding voluntary greenhouse gas reduction programs. Finally, it would establish a global climate change office within the Department of Energy. In his introductory remarks, Murkowski commented that the bill sets the stage for “a long-term, technology-based, global effort.” This bill joins another voluntary reduction bill introduced by Environment and Publics Work Committee Chair John Chafee (R-RI) — S. 547, the Credit for Voluntary Reductions Act of 1999. More information is available on the AGI site at http://www.agiweb.org/gap/legis106/climate.html.

**Geologic Mapping Bill Makes Progress**

The Senate Subcommittee on Forests and Public Land Management held a hearing April 28th on S. 607, the National Geologic Mapping Reauthorization Act of 1999. Witnesses included U.S. Geological Survey Chief Geologist P. Patrick Leahy and West Virginia State Geologist Larry Woodfork, current president of the Association of American State Geologists. Both witnesses expressed their support for the bill and for the partnership that it represents among the USGS, state surveys, and universities. Subcommittee chairman and bill sponsor Sen. Larry Craig (R-ID) spoke of the fundamental importance of geologic mapping for natural hazard mitigation, wise resource development, and sensible land-use planning. Oregon’s two senators — Ron Wyden (D) and Gordon Smith (R) — also spoke in favor of the bill. Wyden emphasized the growing awareness in his state of its vulnerability to earthquakes. The previous week, Rep. Barbara Cubin (R-WY) introduced companion legislation in the House (H.R. 1528). Introducing the bill on Earth Day, Cubin remarked that “geologists like to say that for them ‘every day is Earth Day.’ What better day than today to introduce the bill to keep the benefits of this important cooperative program flowing?” Both S. 607 and H.R. 1528 authorize a doubling of funding for the program over seven years. For more information on these bills, see http://www.agiweb.org/gap/legis106/geomap99.html.

**Geotimes Special Issue: Geoscience Policy At Home and Abroad**

The fourth annual Geotimes special issue (April 1999) focuses on the interactions between geoscience and public policy both in the US and around the world. Guest-edited by GAP staff, the issue starts off with a Comment by Senator Kay Bailey Hutchison (R-TX) on the domestic petroleum industry. An article by former Geological Survey of Canada chief scientist Jim Franklin describes the rebuilding process that took place after the survey experienced major budget reductions. Former British Geological Survey director Peter Cook challenges geoscientists to play more active and cooperative roles in addressing critical societal issues such as nuclear-waste disposal, greenhouse-gas emissions, and water shortages. USGS Chief Hydrologist Bob Hirsch reports on the state of the USGS streamgaging network, laying out the case for investing in an improved infrastructure. Dan Sarewitz and others review the results of a symposium on the use and misuse of scientific predictions by policymakers.

**AGI Selects Congressional Science Fellow**

AGI is pleased to announce the selection of Dr. Eileen McLellan as the 1999-2000 AGI Congressional Science Fellow. She will succeed current fellow Dr. David Wunsch, who is serv-
The Professional Geologist - JUNE 1999

Project President S. Fred Singer, a noted global warming skeptic on policy issues, included Science and Environmental Policy on the issue of climate change. Speakers at the forum, which focused its annual government affairs forum on climate-related legislative initiatives in Congress. At the American Association of Petroleum Geologists (AAPG) Annual Convention in San Antonio, the AAPG Division of Professional Affairs focused its annual government affairs forum on the issue of climate change. Speakers at the forum, which provides an opportunity for AAPG members to share their views on policy issues, included Science and Environmental Policy Project President S. Fred Singer, a noted global warming skeptic, and Kansas State Geologist Lee Gerhard, who co-chairs an AAPG ad hoc committee on the climate change issue. AGI Government Affairs Director David Applegate spoke on development of AGI’s climate change statement, and AGI Congressional Science Fellow David Wunsch discussed current climate-related legislative initiatives in Congress.

Geoscientists Active on Capitol Hill

On April 21-22, 14 geoscientists joined with approximately 200 other scientists and engineers for two days on Capitol Hill as part of the fourth annual Science, Engineering, and Technology Congressional Visits Day. The event consisted of a day of briefings by key Administration and congressional officials followed by a day of meetings with members of Congress and their staffs. Geoscientists participated in more than 20 meetings spanning 10 states and various committee staffs. The main messages of the visits are that federal investment in science, engineering, and technology is vital to the future of our Nation’s people and economy and that partnerships between government, universities, and industry bring progress, economic growth, and jobs. A more complete description of the event is available from the American Geophysical Union at http://www.agu.org/cgi-bin/asla/asla-list?read=1999-12.msg.

The following week, the American Institute of Professional Geologists (AIPG) held its annual Washington Fly-In, during which approximately a dozen AIPG members came to Washington for three days of meetings with agency officials, members of Congress, and professional societies. AGI commends AIPG for this effort and is happy to help with logistics for similar events for other societies.

AGI Testifies on USGS and DOE Appropriations

On April 14th, the American Geological Institute (AGI) provided both oral and written testimony to the House Appropriations Subcommittee on Interior and Related Agencies. AGI testified in support of geoscience programs within the subcommittee’s jurisdiction, including the U.S. Geological Survey and the Department of Energy’s Fossil Energy Research and Development program. The subcommittee provides annual funding for the Department of the Interior, U.S. Forest Service, DOE Fossil Energy and Energy Conservation programs, Smithsonian Institution, National Endowment for the Arts, and a range of other agencies and programs. AGI argued for the value of federal investments in the geosciences that address a wide range of important environmental, resource, and natural hazard challenges facing this nation. The testimony drew on previous AGI testimony before this subcommittee with amendments suggested by the AGI Government Affairs Program Advisory Committee, comprised of representatives from AGI’s member societies. The testimony was sent out as a special update, which is available on the web at http://www.agiweb.org/gap/legis106/interiorupdate.html.

Climate Forum at AAPG Annual Convention

At the American Association of Petroleum Geologists (AAPG) Annual Convention in San Antonio, the AAPG Division of Professional Affairs focused its annual government affairs forum on the issue of climate change. Speakers at the forum, which provides an opportunity for AAPG members to share their views on policy issues, included Science and Environmental Policy Project President S. Fred Singer, a noted global warming skeptic, and Kansas State Geologist Lee Gerhard, who co-chairs an AGI fellowship supported by a generous grant from the AGI Foundation.

New Material on Web Site

The following updates and reports were added to the Government Affairs portion of AGI’s web site (http://www.agiweb.org/gap/gaphome.html) since the last monthly update:

- Geologic Mapping Act Reauthorization Update (4-29-99)
- Electricity Deregulation Update (4-26-99)
- High-Level Nuclear Waste Update (4-26-99)
- National Earthquake Hazard Reduction Program Reauthorization (4-26-99)
- Science Education Policy Update (4-26-99)
- Domestic Oil and Gas Incentives Legislation Update (4-17-99)
- Database Protection Legislation Update (4-17-99)
- Special Update: AGI Testifies on USGS and DOE Appropriations (4-14-99)
- Superfund Update (4-9-99)
- Geotimes Political Scene: The President’s Budget Request for the Geosciences (4/99)
- Geotimes News Note: AGU Tackles Climate Change (4/99)
- Endangered Species Act Update (4-3-99)

This monthly update goes out to members of the AGI Government Affairs Program (GAP) Advisory Committee, the leadership of AGI’s member societies, and other interested geoscientists as part of a continuing effort to improve communications between GAP and the geoscience community that it serves. Prior updates can be found on the AGI web site under “Government Affairs” <http://www.agiweb.org>. For additional information on specific policy issues, please visit the web site or contact us at <govt@agiweb.org> or (703) 379-2480.

Tentative Schedule of Upcoming GAP Activities

The Government Affairs Advisory Committee met at AGI headquarters in Alexandria, Virginia, on April 23rd. A report from that meeting, including action items, will be available on the committee’s website in the near future. The next meeting will be held at AGI headquarters in September:

- May 4-6, Seismological Soc. of America Mtg., Seattle, WA
- May 19, CSNF Exhibition, Washington, DC
- May 30-June 2, AGU Spring Meeting, Boston, MA
- June 6-9, AAGS Annual Meeting, Fairbanks, AK
- June 20-23, CESSE Annual Meeting, Cleveland, OH

This monthly update goes out to members of the AGI Government Affairs Program (GAP) Advisory Committee, the leadership of AGI’s member societies, and other interested geoscientists as part of a continuing effort to improve communications between GAP and the geoscience community that it serves. Prior updates can be found on the AGI web site under “Government Affairs” <http://www.agiweb.org>. For additional information on specific policy issues, please visit the web site or contact us at <govt@agiweb.org> or (703) 379-2480.
Practicing Within the Scope of One's Professional Knowledge

I'd like to pick up on a point made in last month's column in my comments on the contribution by Martin J. Andrejko, CPG-08512, namely, that there is a limit to our professional knowledge. Rule 3.3.1 of AIPG's Code of Ethics states, "A Member shall perform professional services or issue professional advice which is only within the scope of the education and experience of the Member and the Member's professional associates, consultants, or employees, and shall advise the employer or client if any professional advice is outside of the Member's personal expertise." The following three cases are examples of practicing beyond the scope of professional knowledge.

Although sexual harassment, ethnic discrimination, accounting fraud, etc. do occur in the work environment and therefore are within the scope of professional practice, these are not areas in which we as professional geologists claim particular expertise. Therefore, when an AIPG member is accused of violating the law for such actions, AIPG is not in a position to take direct action. AIPG can urge that the matter be referred to the appropriate authorities and, following conclusion of a matter, can consider whether sanctions pursuant to AIPG's Code of Ethics are warranted based on the conclusions. This is an example of recognizing our collective as well as personal limits of professional knowledge.

Some of you have heard of Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S.Ct. 2786, 2795, 125 L.Ed.2d 469 (1993), the Supreme Court case allowing the opposing side in a legal action to challenge proposed expert testimony as lacking appropriate scientific foundation. The Daubert decision, as it is commonly known, has gone a long way towards eliminating some of the worst of "junk" science claims in court.

In a Daubert challenge earlier this year, my client challenged the valuation of a mineral deposit made by the other side's expert. My declaration in the case pointed out that any mineral deposit valuation requires information on the three-dimensional geology of the deposit, details on the distribution and concentration of the mineral of interest, and details regarding the extraction and processing, including costs and recovery losses, operational and capital costs, etc. I concluded the declaration by noting that the other side's expert had little or no information on these topics, but merely had assumed various values. The other side's "expert" in this case claims no formal training in geology or mining engineering; he is one of the type sometimes called the "practical miner." Challenging this type of "expert" opinion can be fairly straightforward. There is, however, a reported case in which a geologist's expert opinion on the value of a kaolin deposit was successfully challenged.

In McLendon, et al. v. Georgia Kaolin Co., 841 F.Supp. 415 (1994), the Court found that although the plaintiff's expert had bachelors and masters degrees in geology from the University of Georgia, he "did not attend a course on clay mineralogy or otherwise study the mineral kaolin in any depth. ... Hence, [his] training and education alone do not qualify him to testify as an expert on kaolin." The Court noted that the geologist had some slight industry experience with kaolin deposits, but stated, "Despite this slight experience with kaolin, [the geologist] lacks sufficient knowledge of kaolin, the processes used to make the mineral commercially usable, and its market value to testify as an expert." The Court concluded, "At best, [the geologist] is capable of estimating the quantity of kaolin on the [subject] property, ... [and] is not sufficiently qualified in the field of kaolin exploration and valuation to offer testimony concerning the quantity, quality, commercial uses, and value of the [subject] property kaolin deposit in the late 60s and early 70s or in today's market. Therefore, the court finds [the geologist] not qualified under Rule 702." Rule 702 is the Rule of Federal Civil Procedure covering expert witnesses and testimony—get a copy if you are asked to be an expert witness.

Here is a case where the geologist exceeded the scope of his education and experience. Had the geologist in question been a member of AIPG, the Court's decision could have been used as the basis for a disciplinary proceeding based on Rule 3.3.1.

Assume that the geologist is a member of AIPG. What would you recommend as an appropriate sanction? Should the geologist be suspended or expelled? If suspended, for how long?

The geologist whose expertise was challenged in this case is still consulting. Assuming he were to apply today for AIPG certification, should his application be accepted in view of the fact that this case is now more than 5 years old? Section 6.3 of AIPG's Disciplinary Procedures provides that a member whose application or membership has been terminated for disciplinary reasons may not reapply for membership for a period of three years. Further, the Executive Committee can defer re-admission to membership for an additional period not to exceed three years. Section 6.3 concludes, "Thereafter, in the absence of a showing of subsequent additional violations, prior disciplinary action shall not be considered." The maximum period of suspension is six years. Would you recommend delaying action until the end of six years? Would you ask for some sort of evidence of reformation prior to admission?

Such questions are periodically faced by the Section and National Screen Committees. Problem applications do not have simple answers. I know some members have been upset that applicants they know have been accepted and wondered how could AIPG let this happen. Although mistakes can be made, concluding that a mistake has been made requires analysis of all the information made available to the Screening Committees. Although not a scope of professional knowledge issue in the strict sense, this is a scope of knowledge issue as well. The scope of knowledge must be complete prior to reaching a conclusion.

Respect: the Key to Ethical Treatment of Colleagues and Students

I recently attended a continuing education seminar and one of the topics discussed concerned the question, "What makes a good teacher." While knowledge about and experience with the
subject being taught are important, enthusiasm for the subject and respect for the students were two vital keys to good teaching. Many of us became geologists in part because a professor’s enthusiasm was infectious. But in that enthusiasm was respect, a desire to share with us something exciting and interesting, something the teacher genuinely wanted to share with us. The teaching became a gift to us. And in the gift is respect.

Respect recognizes individuality. Respect listens. There may not be agreement with a proposition, but the proposition is truly listened to and considered. Even if the proposition is then cut to shreds, it is the proposition and not the individual expounding it which is shredded.

I took a class this past spring term and so had an opportunity to interact with students in a way I haven’t had a chance to do in years. I wasn’t some guest lecturer in for the day. I was around campus more than once. I had to do the homework, etc. The most rewarding part of the experience was the chance to engage in some corridor discussions that were respectful, intimate, and rewarding. Clearly I was not a typical student. My hair is white. When I wear a ball cap, both it and I face in the same direction. Nevertheless there was the chance to talk, to engage in mutually respectful exchanges.

Respectful behavior is not limited to school. The best interactions at professional meetings or even with my colleagues involves respect. Listening, hearing, and considering are marks of respect before responding. These are people with something to say, something to share. Let them. Respect them.

The tragedy at Columbine High School hit the nation and the world hard. It hit the Denver area particularly hard, and, of course, it hit hardest those with family members involved. This tragedy was due more to lack of respect than anything else. The students understand this and their solutions are calls for reaching out to each other, for recognizing rejecting behaviors within themselves and stopping them. I’ve been listening and trying to learn from them; my nephew is one of them.

Computing Tip of the Month: Upgrade your Acrobat Reader

The last few columns have had some general computing advice, and this month continues the trend. I don’t plan to have it be a regular feature, but given the importance of computing to doing our work, I believe appropriate tips contribute to professional practice. This month’s tip: Adobe has released Acrobat Reader version 4. The PDF or public document format is a very useful format for publishing electronic documents that can be read by any computing platform without having the program in which the document was created. One of the reasons PDF has been accepted over competing formats is that Adobe makes the Acrobat Reader available for free.

Various AIPG documents, including membership application forms and TPG, are published in PDF format. However, your version of the Acrobat Reader must be at least as recent as the version in which the document was created. I recently distributed copies of the SME’s 1999 version of A Guide for Reporting Exploration Information, Mineral Resources, and Mineral Reserves in PDF format, and some recipients were unable to read the file because they had older versions of Acrobat. So log on to www.Adobe.com and download the new version of Acrobat Reader. Look for the yellow and red box on the left-hand side of the opening screen. PS: if you want a copy of the new SME Guide, it is available on the SME’s web site, www.smenet.org.

Proposed AIPG Policy Statement on “Competition between the Government and the Private Sector”

Published for comment by the Members

The following policy was adopted by the Executive Committee on April 24, subject to publication in TPG for comment by the membership and possible further amendment before final adoption. It is subject to review by AIPG’s lawyer as well. Members are invited to address their comments, via mail, fax, or e-mail to the Executive Committee at AIPG Headquarters, 8703 Yates Drive, Suite 200, Westminster, CO 80030 (Fax: 303-412-6219, e-mail: excom@aipg.org). Comments must be received prior to August 20, 1999.

The separate roles of government and the private sector were once well-defined in the United States. In recent years, the balance between services provided by government agencies and the private sector has changed dramatically. Competition between government and the private sector has increased. The efficiency, growth, and strength of our economy are affected detrimentally by competition between government and the private sector, and the livelihoods of geoscientists are threatened. Such activities divert the focus and attention of government agencies away from their traditional basic missions. Current policies have failed to adequately address problems of government competition with private sector professional geoscientists. AIPG recognizes and accepts that useful and valuable roles exist for both the government and private sectors, and supports appropriate governmental functions. As a representative of the geoscience profession, AIPG will monitor activities of those agencies that appear to compete with the private sector, challenge activities that lead to such competition, and strive to mediate the resulting conflicts. Additionally, AIPG supports legislative and policy reform that will promote a return of government agencies to their basic mission(s) and reduce the instances of competition with the private sector.

QUALITY SPECIMENS NEEDED FOR HEADQUARTERS

Top quality specimens of minerals, rocks, and fossils are needed for a new display case for the reception area of the AIPG national office. Specimens should be hand specimen size. Members having specimens they’d like to donate should contact Kel Buchanan, CPG-06058, who is heading up this effort. Donors will be recognized. The national office will be moving in June and we would like to have a nice display in the reception area. Kel can be reached at (775) 786-4515 or e-mail: summitcrk@aol.com.
LETTERS TO THE EDITOR

Dear Editor:

Ray Bisque effectively used a very simple dramatization (February, 1999 TPG) to illustrate a serious conflict that affects all expert witnesses who have to testify regarding scientific application to legal matters. It at first strikes one as humorous but the example is not that far-fetched.

I was disappointed that he did not quote one of his earlier statements regarding this matter. In addressing Montanians, he summarized, “Scientific truth is a goal. Legal truth is an oxymoron.”

James K. Wagner, Geologist

Dear Editor:

I read with interest Shlemon’s article in the April TPG. What a difference a generation makes!

Contrary to Shlemon’s suggestion, thirty-some years ago the geologist was not necessarily generally perceived to be “the good guy.” Far from it. Due, at least in part, to the relatively large number of ill-qualified “geologists” around the fringes of the oil and mining industries, the public’s experience with our profession was often unsatisfactory from the point of both competence and ethics. Indeed, on the screen and in print the geologist was, with embarrassing regularity, portrayed as the “heavy” or at best a scheming co-conspirator.

It was precisely because of this that in the Sixties the Illinois Geological Society began its “QPG” (Qualified Professional Geologist) program and that, soon thereafter, the AIPG was founded, both with the intention of identifying to the public the “good guys,” those whose competence and performance could be relied upon. It was also largely this that lead Martin Van Couvering to organize the Geologic Hazards Committee within the AIPG, to focus the public’s attention not only on geologic hazards themselves but also on the beneficial role of geology in the public interest.

Times do change and, while I am now too far removed from the scene to judge for myself, I have no reason to question Shlemon’s basic conclusions. But I do want to set the historical record straight since it has so much to do with the Institute’s raison d’etre.

Neilson Rudd, CPG-00131, AIPG President 1973, nmhrudd@aol.com

MEMBERS IN THE NEWS

State Geologist Selected for Distinguished Achievement Medal

Vicki J. Cowart, CPG-10294, the State Geologist and Director of the Colorado Geological Survey, has been selected by the Colorado School of Mines (CSM) Board of Trustees for the alumni Distinguished Achievement Medal. According to the CSM President, Theodore A. Bickart, Vicki Cowart’s “record of exemplary accomplishments has contributed to the prestige of our institution.”

The Distinguished Achievement Medal will be presented to Cowart as part of the CSM Commencement exercises on Friday, May 7. A formal citation will be read at the ceremony and then preserved in the permanent record of medalists kept in the CSM Library. Cowart received her M.S. degree in Geophysics from the Colorado School of Mines in 1977. She served as a director and officer of the CSM Alumni Association from 1987 until 1991. Cowart was chosen CSMAA Young Alumnus in 1988. Most recently, she served on the organizing committee for the Florence Caldwell Celebration, marking 100 years of women at the Colorado School of Mines.

Cowart’s professional activities include serving on the Editorial Board of Geotimes, a popular geology magazine published by the American Geologic Institute. In addition, Cowart has been active in the Denver Geophysical Society, serving as both editor and treasurer, and the Society of Exploration Geophysicists, in which she has served on or chaired several committees. She founded the Denver Chapter of the Association for Women Geoscientists (AWG) and served as the AWG’s first nationally elected president. She was treasurer of the AWG Foundation for four years and is currently an Advisor to the Foundation’s Board of Directors.

Richard E. Gray, CPG-01257, Senior Vice President of GAI Consultants, Inc., in Monroeville, Pennsylvania, has been invited by the U.S. Geological Survey to serve as a practitioner representative for a National Initiative for Landslide Hazard Mitigation.

Workshops are planned to draw together creative minds in the science and engineering of landslides to design a five-year mission to improve the nation’s capability of dealing with landslides.

Stephanie Hrabar, CPG-04485, to oil and gas exploration and is prospecting in Texas Railroad Commission District 2. She will continue independent consulting for special projects involving environmental geophysics and remediation fraud for GEMS2 in Houston, Texas.

Robert Lamonica, CPG-05149, promoted to President and Chief Executive Officer of Leggette, Brashears & Graham, Inc. Russell G. Slayback, CPG-02305, will continue as Chairman of the Board.

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WANTED - TPG ARTICLES

Instructions to Authors

TPG accepts articles of modest length for publication. Submittals should be no more than approximately 1600 words, or six typed pages, double spaced. Longer articles may be divided into parts (e.g., part 1 and part 2), but this is not encouraged. Articles may be technical or professional in nature. General topics are listed below. Articles containing news of importance to professional geologists will also be considered. Except for news articles, or articles containing dated materials, submittals should be sent to AIPG headquarters twelve weeks in advance of expected publication. Some technical topic issues are planned up to one year before printing, therefore early submittals will be preferred.

Manuscripts should have the following sections:

Title
Author(s) with CPG number and address
Text
Tables if included
Figures with captions if included
Appendix(es) if included
Acknowledgments
References Cited

One original and two copies of each manuscript should be submitted. Whenever possible, text should also be submitted on diskette. Headquarters uses WordPerfect 7 for Windows ‘95, which is preferred, but Word, ASCII, RTF, or translatable files are acceptable. The program or format of the text should be clearly marked on the diskette. Articles can also be transmitted by e-mail.

Graphics should be clear, camera-ready, line drawings whenever possible. Photographs (color or black and white) are also encouraged. Whenever possible, drawings may be submitted on diskette in .pcx, .bmp, .tiff, .gif, or other standard formats.

TPG wants color slides and photographs. Slides and photographs alone may be submitted for the cover. They should have a geologic theme and an informational caption.

General Topics:

**Technical**
- Mining (January)
- Petroleum Geology (March)
- Hydrogeology (July)
- Environmental Geology (September)
- Geophysical/Engineering (November)

**Professional (any issue)**
- Government and the Geologist
- Ethics and Standards of Practice
- Public Perception of Geology and Geologists
- Definition, Certification, and Licensing
- Practicing Geology Internationally

Other suggestions: Forensic Geology, History of Practice in a given field, Book Reviews, Geology and the Military, and Unusual Applications of Geology.

Authors are encouraged to communicate with Headquarters via mail, fax, or Internet. Send your article and/or photographs, or communicate questions to:

The American Institute of Professional Geologists
Wendy Davidson, Publications Manager
8703 Yates Drive, Suite 200
Westminster, CO 80030
Voice (303) 412-6205
Fax (303) 412-6219
E-mail: aipg@aipg.org or wjd@aipg.org
Web Site: http://www.aipg.org

Myrna M. Killey, Editor
Old Cables to Monitor Sea Quakes

Retired undersea telecommunications cables are being given a new role helping to monitor earthquakes. In a cooperative project by IRIS (the Incorporated Research Institution for Seismology), the University of Hawaii and the Woods Hole Oceanographic Institution have established the Hawaii-2 Observatory (H2O). This will eventually form a hub for numerous instruments taking the pulse of the floor of the Pacific Ocean.

The project began as a collaboration between IRIS and AT&T, who were retiring thousands of miles of old undersea cables. Some were no longer working; others were being superseded by fibre-optic technology. Rhett Butler, IRIS program manager, realized that these retired cables could be used to connect seismometers, take the power to them, and transmit data back.

The observatory is now connected to an old cable 16,000 feet down at the bottom of the Pacific, linking Hawaii with California. It works like a long extension cord into which as many as eight instruments can be plugged (using an ocean floor rover). The observatory will gather seismic data from hitherto inaccessible areas of the ocean floor. This should help discover whether other faults, further offshore, west of the San Andreas Fault. This will eventually form a hub for numerous instruments taking the pulse of the floor of the Pacific Ocean.

The observatory will gather seismic data from hitherto inaccessible areas west of the San Andreas Fault. This should help discover whether other faults, further offshore, are also involved in movement.

AIPG Office to Move

David M. Abbott, Jr., Chairman, Office Lease Task Force

The AIPG headquarters office will move June 21st to 8703 Yates Drive, Suite 200, Westminster, CO 80030, telephone (303) 412-6205 and fax (303) 412-6219. The move was prompted by the need to make better use of the space rented, the need to keep operating costs down, and the need to provide our staff with a pleasant working environment. All these goals will be met by the new location. If you ask, the staff will tell you they’re pleased with the new space. If pressed, they’ll admit to being really excited!

Headquarters has been at its current location since 1982. Recognizing the lease would expire in June 1999, 1998 President Steve Testa asked me to chair a Task Force to identify space needs, examine ways to reduce space costs, and locate a new office if appropriate. Joining me on the Task Force were Gary Mitchell, Bill Bellis, and John Ivey of the Colorado Section, Executive Director Bill Knight, and incoming Executive Director Bill Sisk. National Treasurers Bob Colpitts and Kel Buchanan served as the Executive Committee liaisons. Karen Spaulding was not officially a member of the Task Force, but she has been a big help.

The new location is not too far from the current location. It will be easier to get to as it is close to both a freeway and to the hotel where the Executive Committee stays when they meet in Denver. Most members, even those in the Denver area, never visit headquarters. Nor is there any particular reason that they should. But the effective operation of AIPG depends on the staff and their having a good environment in which to work and the space needed to do their jobs. The new office location will provide that environment and will save money as well.

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Postdoctoral Positions

The Geologic Division of the U.S. Geological Survey is conducting a national competition to find outstanding scientists, who have recently completed doctorate-level research, to fill contractual positions as Guest Research Associates in the following areas of research: Sediment Transport Modeling, Coastal and Near-Shore Erosion; Marine Environmental Geochemistry, Integrated Information Management, Interdisciplinary-Statistical Analysis; Economics; Carbon Sequestration; Basin History; Economic Geography; Hydrocarbon Generation Modeling; Clastic Sequence Stratigraphy; Geology Impacts on Human Health; Organic Geochemistry/Biogeochemistry; Multi-Spectral Remote Sensing of Earth Surface Materials; Seismic Source Parameters; and Instrumentation and Data Analysis of Building for Seismic Engineering. Possible locations: Denver, CO; Pasadena, CA; Woods Hole, MA; Reston, VA; Newark, DE; and St. Petersburg, FL.

Applicants should be outstanding scientists who have recently completed doctoral-level research and have a record of demonstrated ability or outstanding potential for basic and applied research. Compensation will be in fixed weekly stipends for the geographic area in which they work. Approximate stipend amounts are as follows: Reston, VA, $1,013.00; Denver, CO, $1,026.00; Woods Hole, MA, Pasadena, CA, Newark, DE, and St. Petersburg, FL $995.00. Awardees are offered a services contract initially for 12 months and may be extended for 1-year upon availability of funds and management recommendation. Application Deadline: July 16, 1999.

For more information about the program and the application materials required, complete details are provided in the Guest Research Associateship Program Announcement which is available on the web at http://geology.usgs.gov/postdoc/ or you may call (703) 648-6630 to request a copy.

The U.S. Geological Survey is an equal opportunity employer. Qualified applicants will receive consideration without regard to race, creed, color, age, sex, national origin, political preference, labor-organization affiliation or non-affiliation, marital status, or non-disqualifying handicap.
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**1999**

**Aug. 29-31.** 1999 Mid Continent AAPG Convention, Geoscience for the 21st Century, Wichita, KS. There will be at least 42 technical papers and 25-26 poster sessions on a wide range of subjects. Contact: AAPG, P.O. Box 979, Tulsa, OK 74101, Ph.: (918) 584-2555.

**Sep. 22-25.** American Association of Professional Landmen - Land Practices Review & CPL Exam, Tulsa, OK. Contact: AAPL, 4100 Fossil Creek Blvd., Fort Worth, TX 76137, Ph.: (817) 847-7700, e-mail: aapl@landman.org, www.landman.org.

**Sep. 26-29.** Association of Engineering Geologists’ 42nd Annual Meeting, Salt Lake City, UT. Contact: Jeffrey Keaton, Chair, Ph.: (520) 282-2706 or jkeaton@agraus.com.

**Sep. 26-30.** The Society for Organic Petrology Annual Meeting, Salt Lake City, UT. Contact: Jeff Quick, UT Geological Survey, 1594 W. North Temple, #3110, Salt Lake City, UT. Contact: Jeffrey Keaton, Chair, Ph.: (520) 282-2706 or jkeaton@agraus.com.

**Oct. 2.** American Association of Professional Landmen - WI & NRI Calculation Workshop, Fort Worth, TX. Contact: AAPL, 4100 Fossil Creek Blvd., Fort Worth, TX 76137, Ph.: (817) 847-7700, e-mail: aapl@landman.org, www.landman.org.

**Oct. 5.** Geosynthetics in Waste Containment Systems, Philadelphia, PA. Contact: Marilyn Ashley, Geosynthetic Institute, 475 Kedron Ave., Folsom, PA 19033-1028, Ph.: (610) 522-8440, e-mail: marilyn.ashley@coe.drexel.edu.

**Oct. 6.** QA/QC for Geosynthetics in Waste Containment Systems, Philadelphia, PA. Contact: Marilyn Ashley, Geosynthetic Institute, 475 Kedron Ave., Folsom, PA 19033-1028, Ph.: (610) 522-8440, e-mail: marilyn.ashley@coe.drexel.edu.

**Oct. 12.** Geosynthetics in Transportation/Geotechnical Applications, Philadelphia, PA. Contact: Marilyn Ashley, Geosynthetic Institute, 475 Kedron Ave., Folsom, PA 19033-1028, Ph.: (610) 522-8440, e-mail: marilyn.ashley@coe.drexel.edu.

**Oct. 13.** Geosynthetics in Private Development Applications, Philadelphia, PA. Contact: Marilyn Ashley, Geosynthetic Institute, 475 Kedron Ave., Folsom, PA 19033-1028, Ph.: (610) 522-8440, e-mail: marilyn.ashley@coe.drexel.edu.

**Oct. 25-28.** The AIPG Ethics Committee is sponsoring a session at the Geological Society of America’s Annual Meeting in Denver, CO. The title of the session is “Geoscience ethics Guidelines: A Discussion of their Development, Utility and Implementation.” Abstract deadline is July 12. For more information, contact David Abbott, Ethics Committee Chair, at dmageol@aol.com or (303) 394-0321.


**Dec. 3-6.** The NGWA’s AGWSE & Technical Session Ground Water Supply Issues in the Next Century, Nashville, TN. Contact: NGWA’s web site at: www.ngwa.org and look at What’s New.

**Dec. 14-15.** Geosynthetics in the Next Millenium, Philadelphia, PA. Contact: Marilyn Ashley, Geosynthetic Institute, 475 Kedron Ave., Folsom, PA 19033-1028, Ph.: (610) 522-8440, e-mail: marilyn.ashley@coe.drexel.edu.

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**2000**


**Aug. 3-5.** Conference on the History of Geologic Pioneers, Troy, NY. Call for papers. Contact: Northeastern Science Foundation, Inc., affiliated with Brooklyn College of the City University of New York, P.O. Box 746, Troy, NY 12181, Ph.: (518) 273-3247, e-mail: gmfriedman@juno.com, http://www2.netcom.com/~gmfstt/

**Apr. 9-12.** Amherst 2k: Specialty Conference on Performance Verification of Constructed Geotechnical Facilities, Amherst, MA. Sponsored by Geo-Institute of ASCE. Contact: Dr. Alan J. Lutenegger, Dept. of Civil and Environmental Engineering, 139 Marston Hall, Univ. of MA, Amherst, MA 01003, Ph.: (413) 545-2872, fax: (413) 545-4525, or e-mail: lutenegg@ecs.umass.edu.

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**AIPG ANNUAL MEETINGS**

**October 4-8, 1999**

Anchorage, Alaska

**October 11-15, 2000**

Milwaukee, Wisconsin

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**AIPG Membership Totals**

<table>
<thead>
<tr>
<th></th>
<th>As of 5/11/98</th>
<th>As of 5/26/99</th>
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<tr>
<td>CPG - Active</td>
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<td>CPG - Retired</td>
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<td><strong>4,995</strong></td>
<td><strong>4,877</strong></td>
</tr>
</tbody>
</table>

---

**ADVERTISERS INDEX**

AIPG Annual Meeting BC
Airmag Survey, Inc. 19
Krueger Enterprises, Inc. 27
USGS 20
USGS 27

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### TYPES OF MEMBERSHIP AND REQUIREMENTS

#### CERTIFIED PROFESSIONAL GEOLOGIST

**EDUCATION:** 36 semester or 54 quarter hours in geological sciences* with a baccalaureate or higher degree; certified copy of official transcripts must be sent by each college or university

**EXPERIENCE:** 8 years beyond bachelor's degree, or 7 years beyond master's degree, or 5 years beyond doctorate

**SPONSORS:** 3 required from professional geologists, 2 of whom must be CPG's (see Section 2.3.1.4 of the Bylaws for exceptions)

**CERTIFICATION/REGISTRATION:** None required

**SCREENING:** Section and National

**APPLICATION FEE:** $50 (to upgrade from Registered Member or Member to CPG, the fee is $35)

**ANNUAL DUES:** $110 plus Section dues; both pro-rated for remainder of year when accepted

#### MEMBERS

**EDUCATION:** 30 semester or 45 quarter hours in geological sciences* with a baccalaureate or higher degree; certified copy of official transcripts must be sent by each college or university

**EXPERIENCE:** No proof required

**SPONSORS:** 2 required from professional geologists, one of whom must be CPG, Registered Member, or Member

**CERTIFICATION/REGISTRATION:** Proof of current registration/licensure/certification must be submitted with application and with annual renewals and must include expiration date

**APPLICATION FEE:** $30

**ANNUAL DUES:** $60 plus Section dues; both pro-rated for remainder of year when accepted

#### REGISTERED MEMBER

**EDUCATION:** 30 semester or 45 quarter hours in geological sciences* with a baccalaureate or higher degree; certified copy of official transcripts are required for this application if they are not required by the state for registration/certification/licensure

**EXPERIENCE:** No proof required

**SPONSORS:** 2 required from professional geologists, one of whom must be a CPG, Registered Member, or Member; sponsor letters in state registration application may serve as sponsor statements if approved by Executive Committee

**CERTIFICATION/REGISTRATION:** Proof of current registration/licensure/certification must be submitted with application and with annual renewals and must include expiration date

**APPLICATION FEE:** $30

**ANNUAL DUES:** $60 plus Section dues; both pro-rated for remainder of year when accepted

#### STUDENT

**EDUCATION:** Currently enrolled in a geological science* degree program

**EXPERIENCE:** None required

**SPONSOR:** 1 letter from geological science faculty member

**CERTIFICATION/REGISTRATION:** None required

**APPLICATION FEE:** $5

**ANNUAL DUES:** $5

#### ASSOCIATE

**EDUCATION:** None required

**EXPERIENCE:** None required

**SPONSORS:** 1 CPG, Registered Member, or Member

**CERTIFICATION/REGISTRATION:** None required

**APPLICATION FEE:** $5

**ANNUAL DUES:** $50 plus Section dues; both pro-rated for remainder of year when accepted

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*As defined by the American Geological Institute, a geological science is any of the subdisciplinary specialties that are part of the science of geology, e.g., geophysics, geochemistry, paleontology, petrology, etc.

Note to those who received their degrees from non-U.S./Canadian universities: If you received a degree from a university or college outside the U.S. or Canada, and the school is unable to provide an acceptable transcript, you must submit a copy of your diploma and a list of courses taken. The Screening Committee may ask you to provide additional information or an equivalency evaluation, at your expense.
Applicants for certification must meet AIPG’s standards as set forth in its Bylaws on education, experience, competence, and personal integrity. If any member or board has any factual information as to any applicant’s qualifications in regard to these standards, whether that information might be positive or negative, please mail that information to Headquarters within thirty (30) days. This information will be circulated only so far as necessary to process and make decisions on the applications. Negative information regarding an applicant’s qualifications must be specific and supportable; persons who provide information that leads to an application’s rejection may be called as a witness in any resulting appeal action.

### Applicants for Certified Professional Geologist

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<th>State</th>
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<td>CT</td>
<td>Bell, David L.</td>
<td>Certified Professional Geologist</td>
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<tr>
<td>MA</td>
<td>Bell, Michael J.</td>
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<td>CPG-10407</td>
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<td>OH</td>
<td>Covrett, Thomas R.</td>
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<td>Hultman, John R. Jr.</td>
<td>Certified Professional Geologist</td>
<td>CPG-10410</td>
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### Applicatnts for Member

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<tr>
<td>NH</td>
<td>Estabrook, Maureen A.</td>
<td>Member</td>
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<td>NY</td>
<td>Alexeev, Alexei L.</td>
<td>Member</td>
<td>MEM-0046</td>
</tr>
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</table>

### New Certified Professional Geologists

- **LA**: Zumwalt, Gary S. | CPG-10405 | Dept. of Geosciences, Louisiana Tech Univ., Ruston, LA 71272, (318) 257-4420
- **WI**: Baker, Kevin L. | CPG-10408 | 5513 Dahlen Dr., Madison, WI 53705, (608) 831-4444
- **NV**: Gromny, Jeffrey L. | CPG-10409 | 10324 Pompeii Place, Las Vegas, NV 89134, (702) 295-5634
- **MT**: Pasecznyk, Michael J. | CPG-10410 | 10010 E. 16th St., Tulsa, OK 74128, (918) 665-6575
- **TX**: Spencer, Kevin J. | CPG-10412 | 2609 Albata Ave., Austin, TX 78757, (512) 345-2379

### New Members

- **AZ**: Grivois, Michael R. | MEM-0019 | 3027 S. Extension Ave., Mesa, AZ 85210, (602) 788-7180

### Request for an Application and/or Additional Information

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<thead>
<tr>
<th>Name</th>
<th>Employer</th>
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Through agreements with professional geological societies in other countries (The Geological Society of London, European Federation of Geologists, and Irish Association for Economic Geology), provides access for its Members to professional registration, certification, or chartered status in those countries.