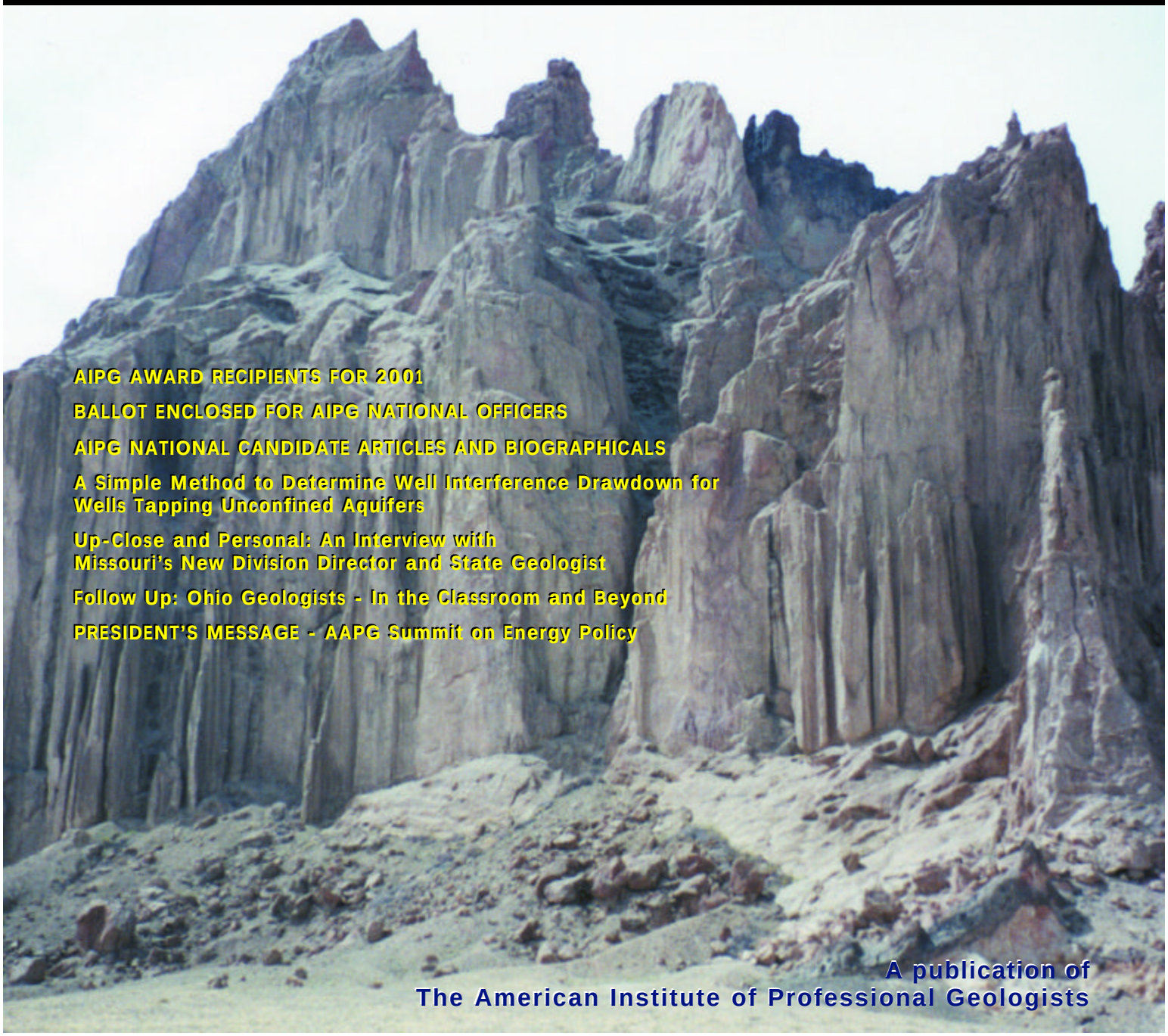
JUNE 2001
Volume 38, Number 6

The Professional GEOLOGIST

BALLOT ENCLOSED for AIPG NATIONAL OFFICERS

This issue includes the AIPG Candidate Articles, Biographicals, and the Ballot to elect AIPG National Officers. Only AIPG Members that have the right to vote will receive a ballot in their issue.

PLEASE REMEMBER TO VOTE!



A publication of
The American Institute of Professional Geologists

The Professional Geologist (USPS 590-810 and ISSN 0279-0521) is published monthly by the American Institute of Professional Geologists, 8703 Yates Drive, Suite 200, Westminster, CO 80031-3681. Periodicals Postage Paid at Arvada, Colorado and additional mailing offices.

POSTMASTER: *The Professional Geologist,* AIPG, 8703 Yates Drive, Suite 200, Westminster, CO 80031-3681.

Subscriptions for all Members and Adjuncts in good standing are included in annual membership dues. Subscription prices are $40.00 a year for Members' additional subscriptions and $60.00 a year for non-members for 12 issues (for postage outside of the U.S. add $12.00 for Canada and $20.00 elsewhere). Single copy price is $4.00 for Members and $6.00 for non-members. Claims for nonreceipt or for damaged copies are honored for three months.

MAY 2001
Volume 38, Number 5

The Professional GEOLOGIST

PEER REVIEWED ARTICLE

DEPARTMENTS

FRONT COVER—Minette Breccia Structure, Shiprock, New Mexico. Photograph by Amy J. Rapacz, MEM-0037.

INSIDE BACK COVER—Photography is provided courtesy of the St. Louis Convention & Visitors Commission.

AAPG SUMMIT ON ENERGY POLICY

Robert H. Fakundiny, CPG-04977

Many of us have jobs or lifestyles that are dependent on a rational national energy policy; and most of us worry about it. The American Association of Petroleum Geologists addressed the issue by holding a Summit on Energy Policy on April 23, 2001 at the Army-Navy Club in Washington D.C. to address energy policy. The conference was co-sponsored by AIPG, the American Association of Landmen, the Society of Independent Professional Earth Scientists, the Society of Exploration Geophysicists, and the Association of American State Geologists. The Presidents of each of these sponsoring institutions made a speech and stood ready for questions from the audience and attending media representatives. The Summit was organized to brief appropriate leaders of the national legislative committees and Executive Department agencies that deal with energy issues. One of the most surprising aspects of the conference was the wide diversity of opinions that were presented about our domestic and international energy situation. Stirring debates ensued. A final report will be issued from the summit, which I hope will be reprinted in *TPG*. My comments during the Society President's panel discussion were as follows.

Presentation at the AAPG Energy Conference

The American Institute of Professional Geologists (AIPG) is an organization of 5,000 professional geologists who have a keen interest in and major role to play in the development of a national energy policy. We believe that the design and execution of any energy-related policies must have the benefit of the perspectives of competent geologists.

AIPG was founded in 1963 by a group of dedicated geologists who believed the profession of geology needed an organization that promoted guidelines for public responsibility, self regulation, and sound business practices. It is a non-profit corporation with a permanent staff located in Westminster, Colorado. The Institute promotes ethical conduct and seeks to protect the public and the geological sciences from unprofessional practice. AIPG establishes qualifications for granting the title "Certified Professional Geologist" and certifies to the public that those geologists who hold this title have undergone rigorous peer review and have been deemed competent practitioners who are worthy of public trust.

As a leading advocate for geology and geologists, AIPG is considering the following position statements that address energy issues or are germane to energy policy. I must emphasize that these statements are only drafts and have not been approved by the membership or the Executive Committee. I present them prematurely to inform the public and decision makers of our general stance on these important issues and to seek advice about them from you. It also should be mentioned that they have not been thoroughly edited and will require some further word crafting. We have received some comments that these statements imply that all members of AIPG agree that current governmental practices are adequate to preserve the environment. Some of our membership do not believe this, and the language will have to be modified to reflect that. (The following position statements were printed on page 21 of the March and April issues of *TPG*).

- Draft AIPG Position on National Energy Policy (January 20, 2001)
- Draft AIPG Position on Access to Public Lands (January 20, 2001)
- Draft AIPG Position on Domestic Mineral Resources (January 20, 2001)
- Draft AIPG Position Statement on Wetlands (October 10, 2000)
- Draft AIPG Position on Aggregate Resources and Land-Use Planning (January 20, 2001)

These positions have an underlying set of principles. Each statement advocates for affordable, yet environmentally responsible approaches that seek a balance between economic and environmental concerns. Each statement allows for the exploration and evaluation of public lands. Each statement recognizes the importance of the geologic framework that controls the natural processes involved in energy-resource management. Each statement advocates for competent, qualified geologists with appropriate credentials, training, and experience to be included in the drafting of legislation, regulations, and policies regarding the mapping of energy resources, the development of conservation and remedial practices, and the construction of facilities. Each statement advocates for recognized professional geologist to be involved with the investigation, design, and operation of energy and mineral-resource development projects.

Talking with the Presidents, Executive Directors, and Committee members of some of the other societies in attendance revealed that much of the work that AIPG is doing as an individual society could be coordinated with them for better results, greater efficiency, and closer communication than we are currently achieving. Coordinating our student-mentoring projects is an example. Coordination and cooperation among the societies would make more services available to the combined memberships and thereby provide more services to each of us. We also would have a larger clientele to market our products. We are already exploring this concept with the Geological Society of America in the production and marketing of publications. In the next few months, we Presidents and our Executive Directors will be developing ways to cooperate more effectively than at present.

Several members of AIPG attended and participated in the Summit (most of the organizing committee in AAPG are also members of AIPG.) It thrills me to see that AIPG members are at the lead of our profession in addressing important issues that face our Nation.

A Simple Method to Determine Well Interference Drawdown for Wells Tapping Unconfined Aquifers

Michael Kasenow, Ph.D., CPG-10324; CGWP-117367 and Paul Pare, M.S.

Drawdown In A Confined Aquifer

The decline in water level measured from any well during an aquifer pumping test is called drawdown. Drawdown increases over time and decreases with distance from the production well. It should be collected meticulously in the field and recorded with the exact time of measurement. Drawdown and the time of drawdown are the most important field data collected during an aquifer test. The total drawdown (s) is the value recorded in the field, but the total drawdown is often the sum of various drawdown components, some of which can be corrected or neglected under various conditions (Kasenow, 2001). The most accurate drawdown measurements occur under confined flow conditions (s'), when observation wells fully penetrate the thickness of homogeneous and isotropic confined aquifer. When this is the case, total drawdown is equal to confined drawdown (s = s').

Drawdown In An Unconfined Aquifer

Drawdown in wells tapping unconfined aquifers is not as intuitive. Ground water drains under the influence of gravity in this type of aquifer; therefore, the aquifer is dewatered near the vicinity of the production well (Fig. 1). The continuous dewatering of the aquifer reduces the saturated thickness, which reduces the observed or apparent transmissivity as drawdown increases and ground water approaches the well screen. Therefore, total drawdown in a well tapping an unconfined aquifer, can be expressed as the sum of drawdown due to confined flow (s') and drawdown due to dewatering (s_d):

$$s = s' + s_d \quad (1)$$

Jacob (1963) developed an expression for that portion of drawdown produced by dewatering (s_d) in an unconfined aquifer:

$$s_d = \frac{s^2}{2b} \quad (2)$$

where

b = aquifer thickness

s = total drawdown during a pumping period.

Jacob (1963) showed how unconfined drawdown can be corrected to simulate confined drawdown under pumping stress (s = s'). This correction allows for ease of aquifer parameter estimation when using transient solution methods and delayed yield is negligible. This correction is made by using equation (3):

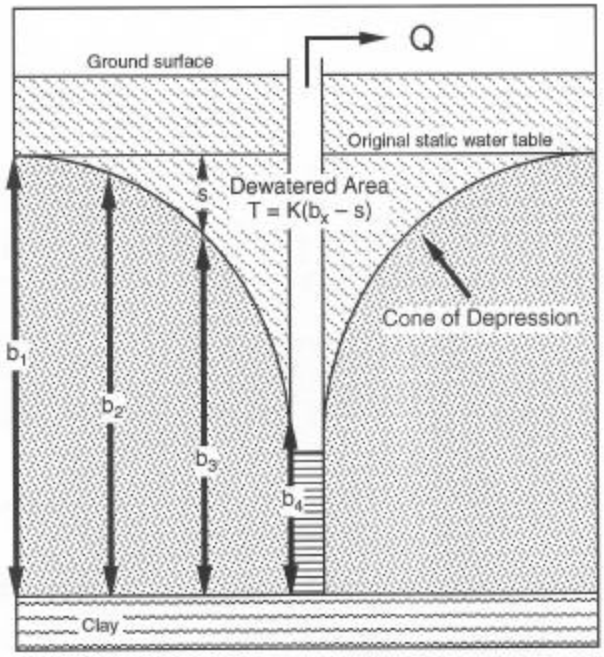


Figure 1. Drawdown in an unconfined aquifer during a pumping test.

$$s' = s - \left[\frac{s^2}{2b}\right] \quad (3)$$

Unfortunately, equation (3) cannot be easily rearranged to isolate and estimate a field-measured drawdown (s). In order to do so, it must be expressed as a quadratic equation, which has two solutions (Lehr, 1964):

$$s^2 - 2bs + 2bs' = 0. \quad (4)$$

Fortunately, quadratic equations can be expressed as

$$s = \frac{-B \pm \sqrt{B^2 - 4ac}}{2a}, \quad (5)$$

where a, B, and c are real numbers. Using this approach, the authors have simplified the solution supplied by equation (4), where s, s', and b are as previously defined:

$$s^2\left[-\frac{1}{2b}\right] + s - s' = 0 \qquad s = \frac{-1 \pm \sqrt{1^2 - 4\left(-\frac{1}{2b}\right)(-s')}}{2\left(-\frac{1}{2b}\right)} \quad (6), (7)$$

$$s = \frac{-1 \pm \sqrt{1 - \left(\frac{2s'}{b}\right)}}{-\frac{1}{b}} \qquad s = -b\left(-1 \pm \sqrt{1 - \left(\frac{2s'}{b}\right)}\right) \qquad (8), (9)$$

$$\boxed{s = b\left(1 - \sqrt{1 - \left(\frac{2s'}{b}\right)}\right)} \qquad (10)$$

Equation (10) is simply another form of equation (1):

$s = s' + s_d$.

Although quadratic equations have two solutions, equation (9) has only one reasonable solution, which is equation (10), because the other solution results in a value larger then the aquifer thickness. In order to estimate total unconfined drawdown using equation (10), the theoretical confined drawdown must be known. This is easily completed when the aquifer's transmissivity (T) and storage coefficient (S) have been determined or can be reasonably estimated.

Table 1 compares unconfined field measured drawdowns to total unconfined drawdowns using equation (10). The model drawdowns in Table 1 were determined from the corrected to confined drawdowns in Table 2, which were used to determine T and S. It is clear by these results that equation (10) can be used to estimate total drawdown in an unconfined aquifer, under the stress of a pumping well, when the theoretical confined drawdown is known.

Table 1. Field measured drawdowns for an unconfined aquifer (including dewatering drawdown) compared to model drawdowns (equation 10). Model drawdowns are in bold type. The field measured drawdowns are from U.S. Department of Interior (USDI, 1981).

Time (min)	r = 30 ft	**30 ft**	60 ft	**60 ft**	120 ft	**120 ft**
4.00	0.19	**0.20**	0.00	**0.00**	0.00	**0.00**
6.00	0.35	**0.36**	0.02	**0.02**	0.00	**0.00**
8.00	0.51	**0.50**	0.04	**0.04**	0.00	**0.00**
10.00	0.63	**0.63**	0.08	**0.08**	0.00	**0.00**
15.00	0.90	**0.90**	0.17	**0.18**	0.00	**0.00**
20.00	1.11	**1.11**	0.27	**0.28**	0.01	**0.01**
25.00	1.28	**1.28**	0.38	**0.37**	0.02	**0.02**
30.00	1.43	**1.43**	0.47	**0.47**	0.04	**0.04**
35.00	1.56	**1.56**	0.55	**0.55**	0.05	**0.06**
40.00	1.67	**1.67**	0.63	**0.63**	0.07	**0.08**
45.00	1.77	**1.77**	0.68	**0.70**	0.10	**0.10**
50.00	1.86	**1.86**	0.76	**0.77**	0.12	**0.12**
55.00	1.94	**1.95**	0.84	**0.84**	0.15	**0.15**
60.00	2.02	**2.02**	0.90	**0.90**	0.18	**0.18**
70.00	2.16	**2.16**	1.00	**1.01**	0.21	**0.23**
80.00	2.28	**2.29**	1.11	**1.11**	0.27	**0.28**
90.00	2.40	**2.40**	1.20	**1.20**	0.32	**0.33**
100.00	2.50	**2.50**	1.28	**1.28**	0.37	**0.37**
110.00	2.59	**2.59**	1.36	**1.36**	0.43	**0.42**
120.00	2.67	**2.67**	1.42	**1.43**	0.47	**0.47**
150.00	2.88	**2.88**	1.61	**1.61**	0.60	**0.59**
180.00	3.06	**3.06**	1.77	**1.77**	0.70	**0.70**
210.00	3.21	**3.21**	1.91	**1.91**	0.81	**0.81**
240.00	3.35	**3.35**	2.02	**2.02**	0.90	**0.90**

Table 2. Corrected drawdowns using equation (3). Aquifer thickness = 26 ft. T = 151,002 gpd / ft; S = 0.249 (USDI, 1981).

Time (min)	r = 30 ft	r = 60 ft	r = 120 ft
4.00	0.19	0.00	0.00
6.00	0.35	0.02	0.00
8.00	0.50	0.04	0.00
10.00	0.62	0.08	0.00
15.00	0.88	0.17	0.00
20.00	1.09	0.27	0.01
25.00	1.25	0.38	0.02
30.00	1.39	0.47	0.04
35.00	1.51	0.54	0.05
40.00	1.62	0.62	0.07
45.00	1.71	0.67	0.10
50.00	1.79	0.75	0.12
55.00	1.87	0.83	0.15
60.00	1.94	0.88	0.18
70.00	2.07	0.98	0.21
80.00	2.18	1.09	0.27
90.00	2.29	1.17	0.32
100.00	2.38	1.25	0.37
110.00	2.46	1.32	0.43
120.00	2.53	1.38	0.47
150.00	2.72	1.56	0.59
180.00	2.88	1.71	0.69
210.00	3.01	1.84	0.80
240.00	3.13	1.94	0.88

When the theoretical confined drawdown is known, that portion of drawdown due to dewatering can also be determined. For example, the total unconfined drawdowns in Table 1, when corrected using equation (3), are transformed into confined drawdowns. At an observation well distance of 30 feet, and a time of 240 minutes, the corrected or confined drawdown is 3.13 feet. Rearranging equation (1) results in $s_d = s - s'$, which can be used as follows:

$$s_d = 3.35 \text{ ft} - 3.13 \text{ ft} = 0.22 \text{ ft}. \qquad (1.1)$$

The predicted drawdown due to dewatering, in this case, is 0.22 ft, and agrees with equation (2).

Predicting Well Interference Drawdown for Wells in Confined Aquifers

Well interference drawdown occurs where cones of depressions from two or more pumping wells intersect at some observation point. For wells tapping confined aquifers, well interference drawdown results from an additive process. The drawdowns for each production well, that would have occurred in isolation at some observation point, are added together to determine the well interference drawdown when the same wells are discharging ground water at the same time (Fig. 2). The following example demonstrates this argument:

1) Production wells 2 and 3 are located at known distances from production well 1. The observed drawdown in production well 1, due to production well 2 pumping at some constant rate, is 10 ft. All other wells are idle. When production well 3 is pumping at some constant rate and all other wells are idle,

the observed drawdown in production well 1 is again 10 ft.

2) Well interference drawdown in production well 1, when both production wells 2 and 3 are pumping at the same time, is the sum of drawdown produced by each well, which is 10 ft + 10 ft = 20 ft.

Predicting Well Interference Drawdown For Wells In Unconfined Aquifers

Total well interference drawdown for wells tapping unconfined aquifers is not so intuitive, because dewatering reduces the aquifer's saturated thickness. When two or more wells are discharging ground water from an unconfined aquifer, the predicted additive drawdown is always an estimate-in-error of the actual drawdown. The quadratic solution must be completed in order to gain a correct value. The solution is quite simple when using equation (10). Only one additional step is required as follows:

i) Determine the confined drawdown or correct the field drawdown to a confined drawdown using equation (3) for each production well pumping ground water in isolation. In either case, you must determine a confined drawdown produced by each well for an observation point (as before).

ii) Determine a resulting sum for these confined drawdowns (as before).

iii) Use this resulting sum with equation (10) to determine total unconfined well interference drawdown at the observation point ($s = s' + s_d$). The aquifer thickness must be known (Fig. 3).

1) Production wells 2 and 3, constructed in an unconfined aquifer, are located at known distances from production well 1. The corrected confined drawdown measured from production well 1, due to production well 2 pumping at a constant rate, is 9.5 ft. All other wells are idle.

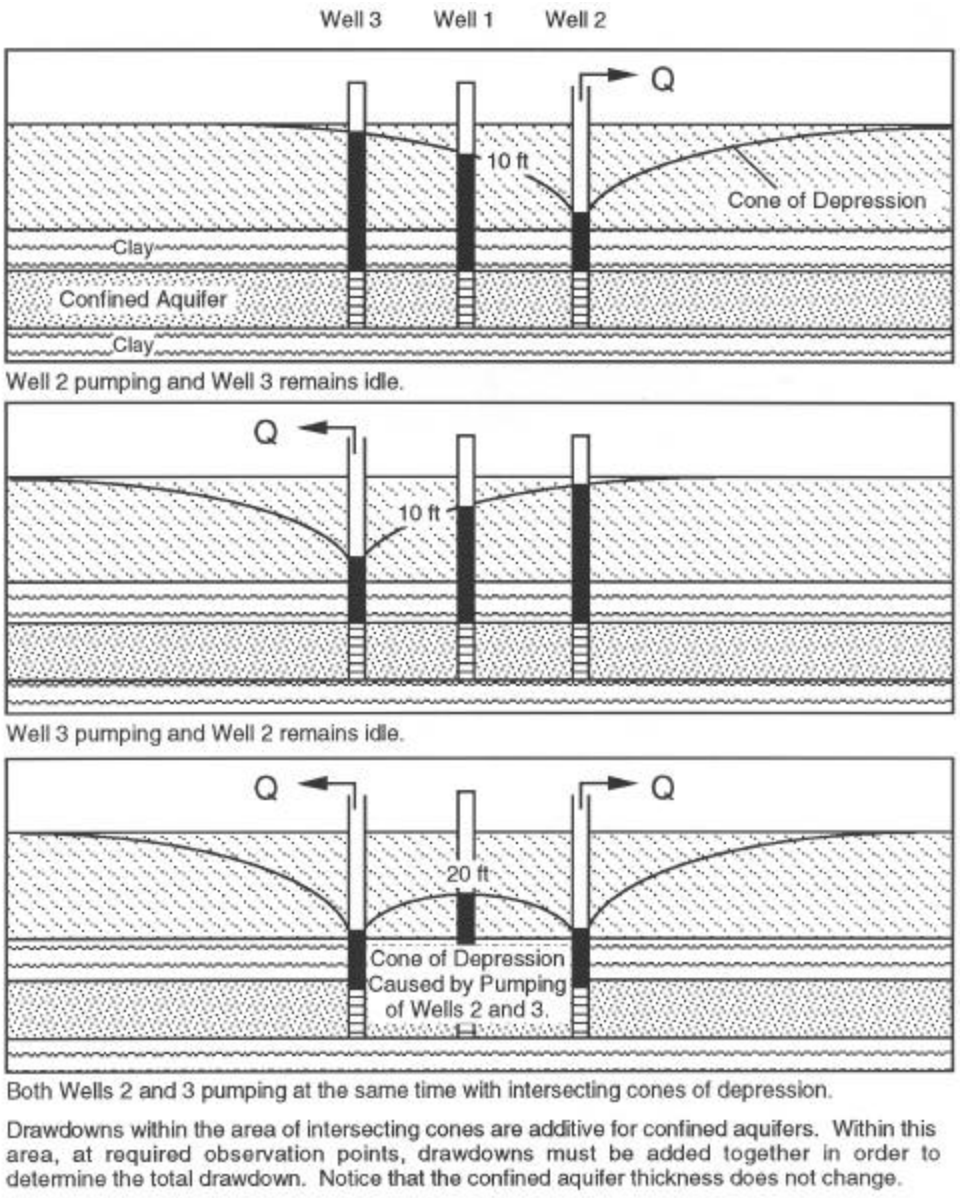


Figure 2. Well interference drawdown in a confined aquifer.

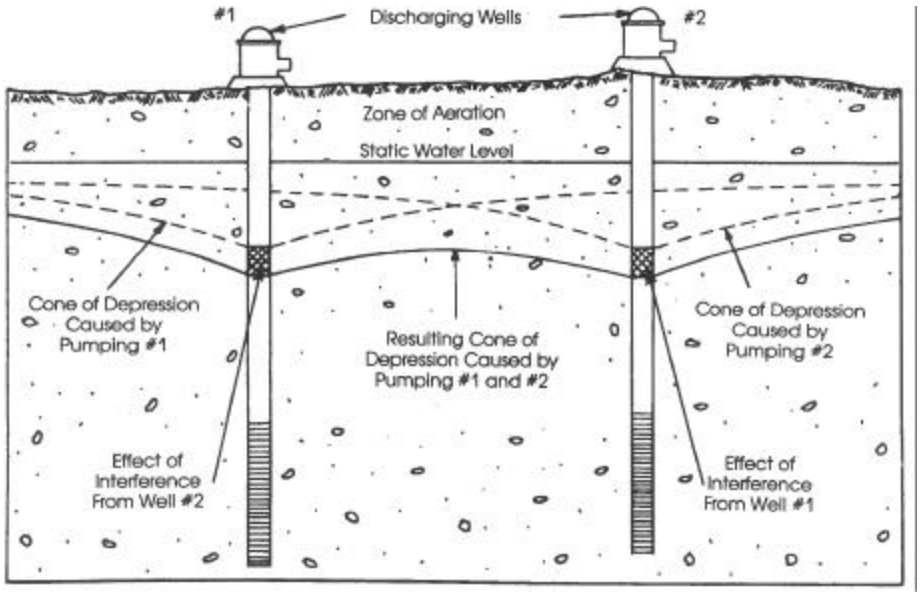


Figure 3. Well interference drawdown in an unconfined aquifer. Although not intuitive, dewatering drawdown must be considered in order to estimate the total drawdown ($s = s' + s_d$). Equation (10) can be used to solve this problem (source : USGS).

When production well 3 is pumping at a constant rate and all other wells are idle, the corrected confined drawdown measured from production well 1 is 25.5 ft.

2) The total theoretical (corrected to confined) well interference drawdown, in production well 1, when production wells 2 and 3 are pumping ground water at the same time, is the sum of 9.5 and 25.5 ft, which is equal to 35 ft.

3) Now use equation (10) to determine total unconfined well interference drawdown. Aquifer thickness = 100 ft.

$$s = b\left(-1 \pm \sqrt{1-\left(\frac{2s'}{b}\right)}\right) = 100\text{ ft}\left(1-\sqrt{1-\left(\frac{2(35\text{ ft})}{100\text{ ft}}\right)}\right) = 45.2 \quad (10)$$

This is the same result as reported by Lehr (1964), only completed in a much simpler fashion.

To determine the dewatering component of drawdown use equation (11)

$$s_d = s - s' = 45.2\text{ ft} - 35.0\text{ ft} = 10.2\text{ ft} \quad (11)$$

To summarize, total unconfined well interference drawdown in production well 1, when production wells 2 and 3 are pumping ground water at some constant discharge, should be 45.2 ft. The drawdown due to dewatering, when considering this well interference problem, is 10.2 ft. This too is the same result as reported by Lehr (1964) (Table 3). If we would have solved unconfined drawdowns for production wells 2 and 3 on an individual basis and then summed up these drawdowns, the total drawdown in production well 1 would have been underestimated at 40 ft. Therefore it is important to note: the theoretical confined drawdowns for each production well must first be added to determine a sum total, before using equation (10), or a large error may result (in this case over 5 feet of drawdown!).

Table 3. Comparing Lehr's and the authors' quadratic solutions. Aquifer thickness = 100 ft.

Well ID: At some distance form PW 1	Drawdown (ft)
PW 2 (corrected using equation (3))	9.5
PW 3 (corrected using equation (3))	25.5
Total Well Interference Drawdown as if the aquifer were confined (s') ---->	35.0
Lehr's Long Quadratic Solution for (s)	45.2
Authors' Simplified Quadratic Solution for (s): Equation (10)	45.2

Assumptions: As previously indicated, unconfined delayed yield drainage must have dissipated or be negligible in order to use equation (10). In addition, because equation (10) is based on Jacob's correction for dewatering, which is dependent upon the Theim solution and the Dupuit assumptions, this equation should not be used to predict drawdown near a seepage face. If used to predict drawdown near a seepage face, realize that the predicted drawdown is less than the actual value (Fig. 4).

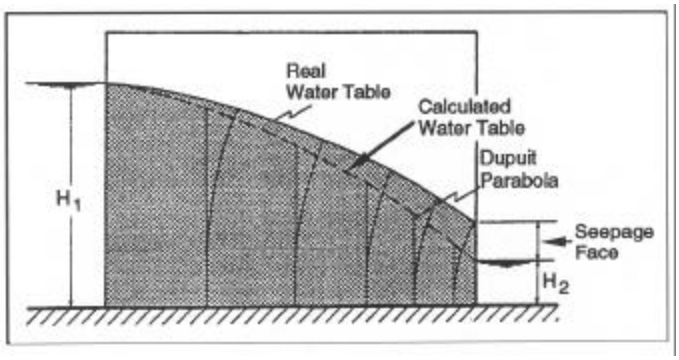


Figure 4. Unconfined ground-water flow and the Dupuit parabola (modified from Vukovic and Soro, 1997).

References

Heath, R. C., 1983, *Basic Ground-Water Hydrology*: United States Geological Survey Water- Supply Paper 2220, p.44.

Jacob, C. E., 1963, Determining the permeability of water table aquifers: *United States Geological Survey Water-Supply Paper* 1536-I, pp. 245-264.

Kasenow, M. C., 2001, *Applied Ground-Water Hydrology And Well Hydraulics 2nd Ed*: Water Resources Publications, LLC, Highlands Ranch, Colorado, 856 p.

Lehr, J. H., 1964, An empirical model study of cones of depression produced by pumping wells: *Ground Water*, Vol. 2, No. 3, pp. 10-15.

U.S. Department of the Interior (USDI), 1981, *Ground Water Manual*: John Wiley and Sons, New York, N.Y., 480 p.

Vukovic, M., and Soro, A., 1997. Ground-Water Dynamics: Steady Flow. Water Resources Publications, LLC, Highlands Ranch, Colorado.

Michael Kasenow, Ph.D., CPG-10324; CGWP-117367, Department Head, Geography and Geology, Eastern Michigan University and Paul Pare, M.S.

AIPG Associate Editors: Robert C. Minning, CPG-02565, Douglas J. Perisutti, CPG-10055, and Raymond W. Talkington, CPG-07935.

Up-Close and Personal:

An Interview with Missouri's New Division Director and State Geologist

Submitted by: Kerry L. Nikolaisen, CPG-10454

In March of this year Ms. Mimi Garstang, CPG-10185, was appointed as Division Director and State Geologist of the Missouri Department of Natural Resources Division of Geology and Land Survey (MDNR - DGLS). The following is a reprint of an interview between Ms. Garstang and AIPG Missouri Section President Kerry L. Nikolaisen, CPG-10454, which appeared as a two-part series in the Missouri Section newsletter, "The Missouri Geologist" (TMG).

TMG: From where and when did you receive your geology degree(s)?:

Garstang: I graduated in 1972 from Southwest Missouri State University with a Comprehensive Bachelor of Science degree in Geology. I have been extremely fortunate in my professional career to have had the privilege to take advantage of an enormous amount of specific on-the-job-training. I have audited classes at the University of Missouri-Rolla and have been certified through EPA and other university programs in land reclamation, landfill design, monitoring well construction, hydrologic site investigations, landfill liner construction, applications of environmental isotopes in ground water studies, and have attended several Missouri Executive Institute programs.

TMG: At what point in your life did you know that you wanted to be a geologist?

Garstang: I have always loved the out of doors and have always been interested in the environment. When I read my first college catalog, I was looking for a study program and career path that combined the pleasures of working outdoors with solving real world problems. My heritage includes family that lived and worked in the Old Lead Belt area near Farmington, Bonne Terre, and Park Hills, Missouri. I grew up observing the influence of lead mining on the economy, the environment, and people's lives. I was driven to better understand how this industry survived and operated and wanted to learn more about the rock, mineral, and water below the ground surface.

TMG: How long have you been working for MDNR/DGLS?

Garstang: I began my career with MDNR/DGLS in 1979. One of my first assignments as a geologic technician was crushing rock core for insoluble residue analysis. My first project after I was promoted to Geologist was creating a surficial materials thickness map of the State of Missouri with existing data from our well log files. I have tackled a wide variety of projects during my career at MDNR. Before I moved into Administration of the Division of Geology and Land Survey, I especially enjoyed my position in the Environmental Geology Section. I was the chief of the unit that dealt with site characterization, remediation and ground water evaluations of RCRA, Superfund, Underground Storage Tank Sites. It was very rewarding to apply my technical experience in geology and hydrogeology to solve problems and issues impacting the people and environment of our state. For the past 2 1/2 years I have been heavily involved in the review of the Missouri River Master Manual, the document that defines the operation of water released from the six mainstem reservoirs in the Missouri River basin. This has been both a technical and interstate relations challenge that I have really enjoyed.

TMG: What are the value and benefits of a State Geology Program?

Garstang: Most Geological Surveys across the nation have been in existence for over a century. They are repositories for a huge amount of basic geologic and hydrologic data. Many, many times the public and private entities could save money, time, and the environment by a phone call to a state geological survey. We employ veteran geologists who have spent the majority of their career learning all they can about Missouri's specific geology. These staff can provide sound technical advice and valuable data about almost any aspect of Missouri's surface and subsurface environment. Our staff are consistent, unbiased, practical, and competent resources for industry, academia, and the general public. Our repository of information often reduces costs and saves exploration or site characterization dollars when referenced in a new project. Our agency also serves Missouri's citizens by representing their interest through accurate oversight, evaluation, and review of all geologic and hydrologic information that is influencing economic, regulatory, and environmental decisions in our state.

TMG: What are your goals as the State Geologist of Missouri?

Garstang: Most people do not realize that Missouri's Division of Geology and Land Survey is one of the largest state organizations of this type in the nation. We also have more responsibilities than most of the geological surveys in other states. We employ approximately 140

people. We operate two regulatory programs through our Dam and Reservoir Safety Program and our Wellhead Protection Section. We also bear the responsibility of maintaining and distributing land survey information as well as the responsibility of assessing both the surface and ground water resources in our state. We are active in all interstate river issues and operate a ground water level monitoring network to evaluate ground water usage in the state. All of these activities are in addition to our more traditional responsibilities of geologic mapping, mineral assessment, geologic hazards, and environmental site assessments.

My primary goals include increasing the visibility of our agency in a positive and professional fashion. I would like for Missourians to be more aware of the work we do and use our expertise to assist in future planning and development in the state. I hope to accomplish this through the following strategies:

1. Cultivate and maintain a competent well-trained and well-respected staff of technical experts. This is key to the success of our agency.
2. Aggressively market our agency, the work we do, the staff we employ and the information that we manage so we are more readily recognized and utilized as technical experts and we better serve the interests of the people in our state.
3. Automate all the information that we have in our files so it can be readily disseminated to industry, other agencies, and the public to integrate into their decision making process. With the new Geographic Information System technologies, we now have the ability to take highly technical information and format it in a manner to allow the public to easily integrate it into their decisions. We will be expanding our capabilities in this area.
4. Elevating our involvement within the Department of Natural Resources to more directly integrate our support into environmental and regulatory decisions. Information from all our programs should be incorporated in our department's fundamental business processes.
5. I want to emphasize the strong connection between geology and our water resources. Water issues are likely to dominate our professional energy in the future. We must understand the basic geology before we can adequately address the specific water concerns ahead of us.

TMG: What is your stance on competition between the public and private sector and does MDNR- DGLS compete with private industry?

Garstang: I believe there should be no competition between the public and private sector. Both groups must work together to best serve the public and the environment. Mutual respect must dominate this relationship to be successful. Technical oversight and technical assistance are major components of our agency responsibilities. Regional studies such as our geologic mapping program require lone-term efforts with consistent standards established to produce the best product for users of geologic or hydrologic information. The consistency, longevity, and broad perspective that government agencies can provide are a valuable resource to the consultant. The functions of both government and private sector are essential in our society. Our agency does assist other government entities with certain types of investigative work or data collection. We also work on environmental sites where a responsible party has not been identified and no one outside of MDNR is willing to fund the work. In these cases, when we reach a point where a responsible party is identified, or clear authority exists, it is time to turn the investigation over to the private sector.

TMG: How can organizations like AIPG advance the interests of geologists at the state level?

Garstang: I believe the AIPG magazine publication, The Professional Geologist, is outstanding. It keeps the profession in touch on a national level, but more state level involvement would increase recruitment into the organization. I would like to see an active committee that tracks legislation in the Missouri Legislature and aggressively discuss ethics, policy, and geologic issues with political leaders. A "geology day" at the capitol could accelerate interest and knowledge within the legislative body and stimulate local professional participation.

TMG: Tell us a little bit about your family life.

Garstang: I am married to a very understanding man that tolerates a spouse who is a geologist! Together we raised three wonderful sons that we are very proud of. My husband is an optometrist by profession. Our oldest son lives in Kansas City and is a medical doctor in the middle of his family practice residency. Our middle son is in Huntsville, Alabama, and is a financial consultant for a contract services company. Our youngest son is a senior engineering student at South Dakota School of Mines and Technology. He is the center for the "Hardrockers" football team at Tech. We all love sports and music. We have a "retreat" at Lake of the Ozarks that has given us much family pleasure.

TMG: What are your hobbies and interests?

Garstang: I am a huge "Hardrocker" football fan and also cheer for the St. Louis Rams and St. Louis Cardinals. Aerobics is my "relief valve" for any workplace stress. I am very fortunate in that my biggest interest and hobby is my profession, geology. My favorite pastime includes reading about geology, water, other earth science issues affecting our state and nation and working to find solutions. I regret that I currently do not have more time to be in the field actually conducting hydrogeologic investigations or working on specific site projects.

Free Posters and Flyers

Thanks to AGI, AIPG has, for distribution, colored 8½ x 11 flyers announcing Earth Science Week 2001. If you are able to use some of these announcements, or know an educator or other interested individual or group who would have an interest, please contact AIPG headquarters for details. The announcements are available at no cost.

Also, AIPG has a beautiful educational poster, created by AGI, entitled “Minerals - Foundations of Society.” The poster has a colorful collage on one side and some mineral picture/word associations on the reverse side. The poster is designed to be an introduction to the wide use of rocks and minerals in basic everyday life. These also are available for educational use and at no cost.

NEW KARST POSTER AVAILABLE!

Please contact headquarters for details (303) 412-6205.

AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS

NATIONAL SCHOLARSHIP PROGRAM

Purpose

To assist students with college education costs and to promote student participation in the American Institute of Professional Geologists (AIPG). Four scholarships will be awarded to declared undergraduate geological sciences majors who are at least sophomores. Details for applying for these scholarships are provided below.

Scholarship Awards

Scholarship awards in the amount of $1,000.00 each will be made to eligible students attending a college or university in the U.S. Scholarships are intended to be used to support tuition and/or room and board.

Eligibility Requirements

Any student who is majoring in geology (or earth science), is at least a sophomore, and is attending a four-year accredited college or university in the U.S. can apply. Also, the student must be either a student member of AIPG or must have applied for student membership at the time the application for the scholarship is submitted.

Each student who is awarded a scholarship agrees, by accepting the scholarship, to prepare a 600 to 800 word article for publication in *TPG*. The subject of the article must be related to a timely professional issue.

Application Process

Applicants must submit a letter of interest with name, address, and telephone number, proof of enrollment in an eligible geological sciences program, transcripts, and an original one-page essay on why she or he wants to become a geologist. The letter and essay should be submitted to the following individual:

American Institute of Professional Geologists
Attn: Education Committee Chr.
8703 Yates Drive, Suite 200
Westminster, CO 80031-3681

Questions regarding the application process can be directed to either William Siok or Cathy O'Keefe by telephone (303) 412-6205 or e-mail: <aipg@aipg.org>.

Application Deadline and Award Date

Applications must be received by August 15, 2001.

Basis of Awards

Awards will be based on the content and creativity of the essays as judged by the Education Committee. The decisions of the Education Committee are final.

Miscellaneous

Application requirements for student membership to AIPG are as follows:

1. Student must be currently enrolled in a geological science degree program (as defined by the American Geological Institute).
2. Sponsorship is required via one letter from a geological science faculty member.
3. The application fee is $5.00.
4. Annual dues are $15.00.

AIPG student membership applications can be obtained from the
American Institute of Professional Geologists
8703 Yates, Drive, Suite 200, Westminster, Colorado 80031-3681
(Application forms also are available on the AIPG website <www.aipg.org>.)

AIPG SCHOLARSHIPS AWARDED FOR 2000

The AIPG Executive Committee is pleased to announce the awardees of the first two AIPG student scholarships. They are Dawn A. Schippe, a junior majoring in Geological Engineering at the Colorado School of Mines in Golden, Colorado, and Alison Culver, a senior major in Geology at Centenary College of Louisiana in Shreveport, Louisiana. AIPG, through the Executive Committee, is proud to be able to assist aspiring geologists in pursuit of their degrees. We wish for their successful careers in an honorable and worthwhile profession.

2001 Executive Committee

FOLLOW UP: OHIO GEOLOGISTS - IN THE CLASSROOM AND BEYOND

Robin E. Roth, CPG-09264

For Earth Science Week 1999, the Education/Outreach Committee of the Ohio Section developed a simple presentation outline on Ohio Geology for their members. This outline appeared in the Section's Fall Newsletter and on their website. The concept caught on, and we received requests for this outline from other AIPG Section members from Pennsylvania, Michigan, and California. A re-print of the outline is provided below for all interested members. It is the simple things that work the best.

OHIO GEOLOGISTS - IN THE CLASSROOM AND BEYOND

Sponsored by AIPG Ohio Section
October 1999

Purpose

To provide a 20 minute informative presentation to elementary school students on Ohio Geologists - In the Classroom and Beyond. This is a voluntary program sponsored by the Ohio Section of the American Institute of Professional Geologists. This public outreach mini program is designed to promote the profession of geology and to increase awareness of the local environment.

Introduction — 2 minutes

Thank you Mr./Ms./Mrs. (Teacher's last name), I am delighted to be able to visit your classroom today and share some information on Ohio Geology. I am an Ohio Geologist specializing in (field, etc....) that means I .... How many of you know that this is Earth Science Week? What is Earth Science? What is Geology? Do you have any evidence of geology around here?

What is a Geologist? — 4 minutes

A Geologist is a scientist who studies

- the earth materials and processes to develop an understanding of the past (dinosaurs and other fossils),
- our natural resources (minerals, ground water, oil, and gas), and
- impacts (geologic hazards like earthquakes and volcanic eruptions, and human environmental pollution).

Have props including fossils, books such as the Geologic Hazards Guide and maps to introduce each facet of geology. Handouts might include a word search sheet and coloring books depending on the age of the students.

Conduct a brief show-and-tell of typical tools used by geologists. Pass around a compass, a hand lens, field book, other special tools, and rocks and fossils to examine.

Ohio Rocks & Minerals — 8 minutes

Open the set provided by the Ohio Department of Natural Resources Division of Geological Survey. Hold up each hand specimen and describe its physical properties, source location, and let them guess what it is. (See the sheets in the kit for additional information.) Show the students examples of products containing the rock or mineral. Pass around each specimen. Present this box of rocks to the classroom teacher.

Where in the world? — 2 minutes

Display the topographic map for the area. Point out the school location and general features. Explain what a topographic line is and provide an example of how these lines are used on the map. Identify any unique features evident on the map. Present this map to the classroom teacher.

Conclusion — 4 minutes

Encourage each child to actively investigate their surroundings by asking questions and exploring. Ask if the students or teacher have any questions and try to answer their questions. Suggest that if they want to learn more about geology, that they visit their school/community library. You may also may direct them to geology websites, including:

- AIPG National website, HYPERLINK "http://www.aipg.org" www.aipg.org
- American Geological Institute website, HYPERLINK "http://www.agiweb.org" www.agiweb.org
- The National Parks website, HYPERLINK "http://www.nps.gov" www.nps.gov

Thank the classroom teacher or group leader for allowing an Ohio Geologist to share his/her love of geology with these students.

Resource

Ohio Department of Natural Resources, Division of Geological Survey, Geologic Records Center at 614-265-6576 from 8:00 a.m.– 4:30 p.m. M-F.

TEXAS BILL PASSED

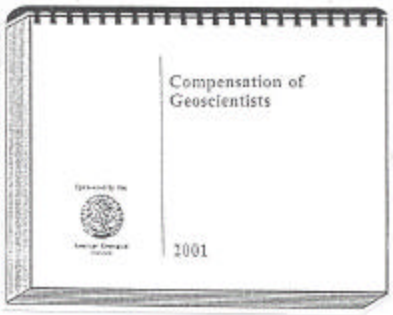
The Texas House of Representatives passed the Geoscientist Licensure bill (SB 405) by a voice vote on April 26th. The bill was filed with the Legislature on January 25th, and was passed by the Senate by a 29-2 vote on February 22nd. The Senate sponsors were Sen. J.E. "Buster" Brown (Lake Jackson) and Sen. Jeff Wentworth (San Antonio). After passage by the Senate, the bill was referred to the House of Representatives, where it was carried by Rep. Tony Goolsby (Dallas). The Licensing and Administrative Procedures Committee of the House reported the bill favorably on March 27th and referred the bill to House Calendars Committee. Members of the Calendars Committee placed SB 405 on the General State Calendar for second reading and debate on April 25th. The bill received a favorable voice vote, and was scheduled for the third reading and final vote on April 26th. The final reading and vote occurred at about 1:55 p.m. Rep. Goolsby said that he will ask Governor Rick Perry to sign the bill in a public ceremony at the State Capitol. Bruce K. Darling, Ph.D., Chairman of AIPG-Texas' Legislative Affairs Committee, will submit an article to *TPG* on the licensure effort, which required five legislative sessions over a period of 10 years.

Bruce K. Darling, CPG-09636

Compensation of Geoscientists - 2001

Sponsored by the ***American Geological Institute*** and numerous geoscience societies, this ***tightly-packed 370-page*** report provides ***the most intensive*** and ***extensive*** information on base salary, fees/bonuses/commission, and total cash compensation of professional geoscientists on the basis of each of the following variables:

New - Just Released



- job title
- region/state/metropolitan area
- years in current position
- length of experience
- level of education
- highest degree earned vs. length of experience
- educational specialty (by degree)
- primary geoscientific specialty
- secondary geoscientific specialty
- age
- gender
- primary objective of occupation
- level of professional responsibility
- industry or service of employer
- size of organization
- state registration/license status
- current occupational geoscientific specialty
- type and level of supervisory managerial responsibility

This is an ***invaluable*** tool for determining the "right" compensation for professional geoscientists.

(AGI 01) ***$275.00***

AIPG Members Price.....$137.50

Abbott, Langer & Associates, Inc., Dept. AIPG, 548 First Street, Crete, IL 60417

In a hurry? Call (708) 672-4200 or fax (708) 672-4674.

Are you interested in learning more about this survey report? Feel free to visit our web site at <http://www.abbott-langer.com>.

Abbott, Langer & Associates, Inc. • ***Dept. AIPG*** • ***548 First Street*** • ***Crete, IL 60417***

Yes! I certainly can use the item checked below in my work. Please rush my copy to me immediately.

☐ ***Compensation of Geoscientists - 2001*** @ $275.00

☐ ***Compensation of Geoscientists - 2001*** **@ AIPG Discounted Member Price - $137.50**

☐ Check No._____ for $_____ is enclosed. (Illinois residents add 6¼% state sales tax or provide proof of exemption.)

☐ Bill my employer, adding a small charge for shipping & handling.

☐ Visa ☐ MC ☐ AmEx Card Number: _____ Expiration Date:_____

Name (please type/print): _____

Signature (required): _____

Title: _____ Phone: (_____) _____ Ext._____

Employer: _____ FAX:_____

Division: _____ Dept./Floor/ Mail Stop:_____

Street Address of Employer: _____
(UPS will not deliver to a P.O. Box number)

City: _____ State: _____ ZIP Code: _____

E-Mail Address: _____

Dept. AIPG

Once Called to Serve . . . Who's Serving Whom?

Ronald E. Alexander, CPG-06372, St. Charles, Missouri

Accepting the nomination as a candidate for 2002 National President-elect was a difficult decision. My first reaction was to graciously decline. But out of respect to the Institute, I opted to give it some thought. Subsequently, my decision to accept the nomination was influenced by my willingness to serve the Institute above and beyond the actual time it requires. As often paraphrased, "It's time to step to the plate." I wish to thank those tested servants of the recent past who offered their advice, opinions, and support.

My first exposure to the affairs of AIPG at the national level began when I was elected as an Advisory Board Representative to the Executive Committee in 1997. At that point, I began to realize what the Institute really represents. From the perspective of "just another shingle to hang out" with which to advertise my services, the Institute was transformed into an invaluable "organization" with benefits much wider in scope than I had previously envisioned. The concept of "professionalism" took on a whole new meaning, especially when attempting to justify our existence and purpose to those who chose other professional career paths. Those early exposures to operations on the National Executive Committee formed the basis for future service to the Institute and I served another term as Advisory Board Representative in 1999. I trust you approved of my efforts, Mr. Rhodes.

The Institute has accomplished much during the last several years. Most activities have targeted two primary charges. The first has been the continuation of efforts to define our profession and its strategic importance to the public as well as regulatory entities. Secondly, the Institute has taken many steps to strengthen its own ability to survive. Almost any individual activity undertaken by the Institute can be categorized into one of the following facets: IDENTITY and EXISTENCE. The list of accomplishments to further these is quite lengthy and includes endeavors such as the creation of additional membership classifications, creation of an internet website, reactivation of the Washington, D.C. Fly-In, restructuring of the publications committee, and formulation of a proposed continuing education or professional development program. However, although much is in progress, continued efforts are needed to reach our mutual goals.

Ideally, we would like to exist and survive solely on the perception of our noble purpose and intrinsic importance to society. However, our ability to be heard and recognized is directly proportional to our strength in numbers. I have heard it reported that there are over 100,000 "geologists" employed in the U.S. It does not appear that we represent a majority of them. How can we expect to be advocates of geologists when we have the support of less than 5% of those identified as such? Our sections must be convinced that this endeavor is the foundation of our continued existence and that they constitute the front line in recruiting potential members. Efforts to influence and support our sections in order to bolster membership demands more than a one-year program. It must be a sincere, dedicated, and undaunted commitment to search for ways to cut through the apathy that many unknowingly perpetuate when considering membership in AIPG.

Following successful enactment of state registration/licensing legislation, I suspect that some AIPG members have often wondered in retrospect, if this decision was a wise one. There are those who now feel that with such legislation in place, the value of AIPG membership has been diminished, therefore efforts at member recruiting are hindered. Often the purpose of such efforts in the various states was to put geologists on a level playing field with non-geologists performing various services considered to be within the realm of geology. Passing the legislation, however, was just the beginning of a much more noble exercise to educate the public on the importance of the profession. The pursuit must be continued in order to reap the benefits of the regulations and to protect as well as maintain the perception of our profession. From what better podium could we hope to pronounce the virtues of our profession than from the legal standing of our state regulations?

It is this same achievement that enables us to successfully lobby for our profession and its policies to our elected and appointed officials in Washington, D.C. and throughout the country. I wholeheartedly support the Institute's coordination of the annual Fly-In. It has often proved to be successful in obtaining support at the Federal level regarding various issues and policies favorable to our profession and also serves as a template for those sections desiring to become active in the legislative and regulatory processes in their own states.

The mention of continuing education REQUIREMENTS seems to stiffen the backs of some our colleagues. Although the concept is often supported openly, I suspect there may be some degree of opposition to it when it comes to filling out those anonymous polls or questionnaires. If we are to be viewed as professionals, as suggested by the name of our organization, then we must strive to remain current in our knowledge base to keep up with the constantly changing technological advances of the specialized fields within which we practice. We are no different than other professions which require such effort of their members. Given my service on the original Task Force for Continuing Professional Development, I am still convinced that we should diligently work toward a monitored program of continuing education and professional development. The aforementioned "Task Force . . ." presented a plan to do just that. Fine tuning of that plan is in process. Although there still seems to be some degree of conflict regarding the final design of the proposed plan, I believe it is supported by a majority of the membership and I will strive to implement it with guidance from all of you.

I have no specific personal agenda or direction in which to steer the Institute. If elected, I offer my energies to serve and work toward the implementation of the above mentioned items as well as many other issues with which I have become acquainted since my original service on the national Executive Committee in 1997. Such issues as non-dues related income sources, Institute financial responsibility, our responsibilities relating to academic education curricula, cooperation with other geological societies, and most important of all - valuable member services - have been and are continually addressed by various national committees and staff, year after year. These issues and many others are being assessed on a continual basis and, with consensus, are implemented. Leading the Institute and the Executive Committee in this process will be my agenda. If assisting is on your agenda, don't hesitate to call, write, fax or e-mail. AIPG is **your** organization. Voice your opinion and you'll be heard.

The Preferred Association
Membership, Education, and Advocacy

Richard M. Powers, CPG-06765, Lakeland, Florida

Upon receiving President Fakundiny's letter notifying me of my nomination for the office of AIPG President-Elect, I was humbled, honored, and reflective. After 25 years of practicing mining and environmental geology, my peers may now offer me an opportunity to contribute to the future success of the Institute and my profession. Very "heady" thoughts for a guy who grew up in Salem, Massachusetts, received his geology degree from Boston University and began his career chasing western uranium roll fronts and coal deposits as a geophysical "logger". I am now at a stage in my career where the concept of "giving back" to my profession and community are extremely important. You have my commitment that if elected I will work tirelessly to promote and improve the Institute.

AIPG is currently going through an evolution to revitalize not only the functions of the Institute, but also the membership. Recently drafted AIPG Vision and Mission Statements have been issued and the Long Range Planning Committee (*TPG* 3/2001) has identified several areas needing immediate attention. To achieve the Institute's vision and mission I believe the following items are most critical to AIPG's future.

MEMBERSHIP

Loss of membership is a problem affecting not only AIPG but most if not all other professional as well as service organizations. The reasons for this are numerous and range from limited time to cost. In addition, the choices a professional has today are far more numerous that ever before.

I have been a Rotarian for over a decade and Rotary has had a membership drive ongoing for years. Recently, my club started a simple new campaign called "Just Ask." We each know people in our profession who are not members of AIPG. When is the last time you "just asked" an associate to join you at an AIPG Section meeting or better yet to apply for CPG status? I'm guilty also. I don't consider this as apathy, but rather a state of mind. The "Just Ask" concept has worked well for Rotary – maybe it can work for us. If just half of us asked one geologist to join AIPG and 25% did – our membership would increase by over 10%.

Increased membership would help AIPG's annual revenue, but in order to attract and retain members we also must develop and deliver additional and better services to our members. AIPG has advanced in this area but there are still many opportunities to be explored.

Lastly, marketing – that nine letter word. I am proud to be a CPG and affiliated with the premier association of our profession. But how do I convey this to a prospective member? In the past I may have handed a prospective member the "application package" – unless the person is ready to apply, that package may leave them cold. AIPG is right on track in planning to develop pertinent marketing brochures to help us attract new members. Bottom line – **it's a state of mind, be prepared to "Just Ask."**

EDUCATION

There are two key issues: AIPG's proposed Continuing Professional Development (CPD) requirement and AIPG's involvement in continuing education. I support a CPD program and commend Tom Fails and the Task Force work in development of the proposed program. Like many of you, at first glance the program looks cumbersome, complicated, and not user friendly. However, if you take the time to review the program details you will determine that the program is not onerous, relatively liberal, and as a practicing professional, generally will not require additional effort other than recording your current activities. The proposed CPD is an important step toward achieving continuing educational equality with other professions. The final form of the CPD is still to be determined, but in whatever form, the program will be beneficial to the membership and AIPG.

AIPG also can play a more active role in offering continuing education to the membership at the section and national level. I believe this will occur as a logical extension of AIPG services once a CPD program is implemented.

ADVOCACY

There is a much larger playing field available to us than we are currently taking advantage of. AIPG functions well at the national and state level (when asked). But what is happening at the local level where most of us are involved daily? Promoting geoscience and becoming involved in local issues is an important aspect of a professional's life. We are the "few" educated and trained that can assist our local decision makers concerning the implications of their decisions to our natural resources. When is the last time you discussed or were involved with a natural resource issue in your community? **Food for thought.**

So, how does one promote and improve the Institute? The key is "one" person can't – **it takes the collective effort of many volunteers to make our Institute strong and vibrant.** We have close to 5,000 members located throughout the US and abroad who are well educated, highly trained and accomplished professionals. Please join with me in moving the Institute forward, attaining the goals of the long range plan and becoming the "… preferred Association…" for geologists.

Seeing Who We Really Are, and Finding Where We Need To Go

Thomas M. Bruns, CPG-04575, Indianapolis, Indiana

On November 14, 1963, the American Institute of Professional Geologists officially came into being and its "headquarters" was housed at the Colorado School of Mines in Golden, Colorado. In those early days, AIPG was led by a remarkable group of geologists who saw the need for furthering the geologic profession and for certifying professional geologists.

In the 22 years that I have been honored to be a member of AIPG, there has been an incredible change in the role of geologists in the United States. In 1979, most members of the Institute were affiliated with the petroleum industry, and it was uncommon for water resource scientists to join AIPG. In the Illinois-Indiana Section twenty years ago, members were some of the leading geologists in their respective fields. In 2001, the Section is challenged by virtue of serving two states with geologist licensing programs. While AIPG had much to do with these licensing programs coming into being, the net result has been a significant challenge convincing young professionals that being an AIPG member provides any significant benefit to them.

AIPG's past is something to be very proud of, but who we were then does not answer the question of who we really are today. Environmental issues throughout the country demand solutions that should often be formulated by professional geologists, and certification is an important way to assure competency of these scientists. Legislation before Congress, and in statehouses across the U.S., must be guided by good science and by good scientists. And, without question, our profession must be continually aware that the public knows dangerously little about geologic processes, and yet their lives are affected daily by geology – often unbeknownst to them.

Early this year, AIPG's Executive Committee began the process of developing a long-range action and business plan. I am convinced that this effort will strengthen the Institute, and believe the Executive Committee's strong commitment to membership growth is the single most important piece of our present and our future. While the number of practicing geologic professionals across the country has grown significantly, those same geologists often are not affiliated with AIPG (or any other geologic organization). The voice of geologists in policy making is muted by our lack of a common voice.

Recent efforts to consider the formation of some kind of advisory board to represent geologists from diverse fields are to be commended. AGI, GSA, AAPG, AEG and AIPG can all be more successful if we can work cooperatively on major issues that affect geologists.

In addition to looking at our own organization, there is a great need for AIPG to step up and express concerns about the status of geology curricula in universities across this nation. To say that some geology programs have been "dummied down" is strong language, but it needs to be said. Many students with a four-year degree do not possess the fundamental scientific skills needed to become a professional geologist. Many of these students end up using short-cuts to solve complex problems – and they often don't know enough about professional ethics to recognize their limitations.

The AIPG Washington, D.C. Fly-In continues to be one of our organization's best ways to keep federal elected officials up-to-date on key issues having geologic implications. The Fly-In must grow larger and geologists need to become more comfortable in the realm of politics. In each of our own states, we also need to communicate regularly with elected officials and to volunteer to serve on appointed boards and commissions. These opportunities offer an extraordinary way to bring geologic expertise to public policy decision-making.

Today, some 26 states have geologist registration statutes, and reciprocity between the states is often lacking or exceedingly complicated. AIPG has a long history of promoting certification of geologic professionals, and we must play a role in making it simpler for geologists to practice in multiple states without needing multiple registrations.

AIPG is an organization that can not function well without a strong foundation of members. These members must be active, engaged in public policy issues, and mindful of the importance of the geologic profession in the day-to-day lives of the public.

Building a stronger, more vibrant AIPG begins with each of us being committed to our profession and taking the time to personally bring in new members and to tell the AIPG story.

Advocacy for the Profession

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

I am very excited about my nomination for National AIPG Vice President because the position is so important to the proper functions of the Institute. Section 5.3.2 of the AIPG By-laws prescribes the duties of the Vice President and stipulates that "the Vice President shall maintain liaison between the Executive Committee and the Section Presidents and shall contact each Section President at least once annually to determine the status, condition, problems, and concerns of each Section and to inform the Sections of Executive Committee requests, initiatives, questions and concerns." Also in the By-laws "the Vice-President shall undertake special projects requested by the President and report periodically thereon."

If the Membership were to bestow the honor of the position of Vice President upon me, I would fulfill the required duties as prescribed in the Bylaws, but would also endeavor, with the concurrence of the President, to use the Vice Presidential platform for the advocacy of the geologic profession. As we all know, 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 a vitally important activity. Since AIPG is the only geologic professional organization that has our diversity of membership, we should work to create a model with which to promote the profession.

AIPG's message, clearly stated in our Policy Statements, will be better communicated if we have unity, speak for the individual geologist and learn how to use the leverage of our organization "to work the system" on behalf of the profession. I have served on the National Affairs Committee (NAC) for five years, and have Chaired the Committee for four of those years. I was the Chair of the National Affairs Committee during three of the four years the NAC hosted the AIPG Annual Washington DC Fly-In. The Fly-In's overriding purpose is to provide a national venue for AIPG to promote the profession. We have engaged the United States Geological Survey (USGS) in a dialog on such issues as governmental competition with private sector geologists and we have provided the USGS with comments on their Strategic Plan for the next 10 years. We also have participated in the first external review of the USGS - Water Resources Division (WRD) Federal-State Cooperative Water Program. Our visibility in Washington, D.C. 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.

The role of the Vice President is to be a liaison between AIPG National and the various State Sections. If elected to the position of Vice President, I would work with the State Sections to become more involved in the D.C. Fly-In and to help carry the AIPG message to the various State Legislatures. I would work to elevate the discussion 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. Additionally, I think *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. I would focus my efforts on the areas that the State Sections have identified as important. Issues such as interprofessional relations, national energy issues, state registration, and government competition with the private sector could be the areas of concentration. The individual AIPG State Sections should be afforded a broader forum in which to voice local and state legislative and regulatory initiatives as they affect the profession.

In summary, I would work to use the position of Vice President as an opportunity to unite geologists on issues that have a direct impact on the profession. The goal would be to work among the State Sections for a unified voice on several of the more important issues before them. In recent years, AIPG has been migrating to this goal with the publication of the Government Affairs Manual, the Executive Committee's creation of four Subcommittees under the National Affairs Committee and the recent series of Washington, D.C. Fly-Ins. With a unified approach, AIPG can be an even more effective voice within our profession to face the many challenges that will be presented to us in the coming years. I appreciate your support for AIPG National Vice President.

Enhancing AIPG Certification

Stephen H. Hall, CPG-04643, Kennewick, Washington

There is amazing diversity in the profession of geology, and it is reflected in the attitude, mode of practice, and professional "tool kit" of individual geologists. This fact was driven home for me when I was a candidate for AIPG certification in 1979. At the time, I was working as a geochemist stationed in Casper, Wyoming, doing chemical *in situ* redox manipulation for the purposes of extracting uranium from roll front deposits via well fields, and of eventual aquifer restoration. This job, like my career in general, was interdisciplinary, and comprised ore-body mineralogy, aqueous geochemistry, a lot of analytical chemistry, and a smattering of practical chemical engineering.

The AIPG certification procedure included an interview with two or three gentlemen from the Wyoming Section, but only one of them stands out in memory. When this fellow discovered that I was spending much of my time in a laboratory using baking soda and hydrogen peroxide trying to wrest uranium from dirt, and then using spectrophotometry to measure my success, he suggested that perhaps I should seek certification from the American Institute of Chemists or a similar outfit rather than from an organization of actual geologists.

Naturally, I inquired as to his field, and he explained that he was a conodont specialist in the petroleum business. I pointed out that my brand of geochemistry was no farther removed from traditional rock pick-and-Brunton compass geology than his brand of micropaleontology. So I was certified.

It is disquieting that one practitioner can have difficulty recognizing that another's work lies within the boundaries of same profession, but that just reflects the nature of the geosciences. That is, geology is a derivative science, where the bond between practitioners relates to the object of study - the earth and its subsystems - rather than to any particular technical discipline. And nowadays we can add to our purview the study of the moon, other planets in our solar system, and their moons.

The AIPG's charter has always been to certify the competence and integrity of individual geologists. Judging competence, at least, would be vastly simplified if we were a much more narrowly defined institute, such as some of our companion societies. But we are not. We embrace the whole of the geosciences, within which some fields of work are rapidly evolving and highly interdisciplinary and some others are neither.

A few years ago, it was with this context in mind that I first read of and considered the work of the Task Force for Continuing Professional Development, led by Tom Fails. The task force's job was (and still is) to increase the credibility of AIPG certification by renovating procedures and criteria, probably to include a comprehensive examination for initial certification, followed by a requirement for periodic re-certification based on specific factors such as continuing education, participation in professional societies, authorship of journal articles, continuing professional practice, and the like.

I volunteered to work on the task force because I saw its work not as evolutionary, but - if adopted by the membership - as a profound change in AIPG's approach to certification. After all, if in 1979 I possessed the educational background and sufficient professional experience to warrant certification, has more than a fifth of a century of additional experience not added to my credibility? AIPG's historical approach to certification includes the presumption that the additional experience reflects enhanced competence. A program of re-certification, on the other hand, seems to presume the contrary. Also, I wondered if it was practical or even possible to establish a reasonable, fair, and workable set of criteria for re-certification in a profession as diverse as ours. It proved to be difficult, but feasible.

Do we need more stringent certification requirements? Realistically, neither periodic re-certification nor a comprehensive examination for initial certification can provide certainty of professional competence or integrity, but either may enhance the prestige of AIPG credentials. What is certain is that more and more states are regulating the practice of geology, and that each new set of regulations has required an examination.

In one of the states in which I have been admitted to practice, AIPG certification alone was sufficient for "grandfathering", but I personally know of no state that grants reciprocity based on AIPG certification after the grandfather period has elapsed. Enhancing the prestige of AIPG certification by adopting the task force's recommendations may help us gain professional recognition and acceptance from many of the states that currently regulate geology or that choose to do so in the future. The task force's work is nearing completion. The job before us is to begin winning states.

Statement of Purpose

Lynn M. Kantner, CPG-06205, Groveport, Ohio

Right on target, the Executive Committee identified four critical issues in their first meeting of 2001; (1) direct services to members, (2) new revenue sources, (3) marketing within the Institute as well as the greater geologic community, and (4) advocacy of the geologic profession. Well, it's what we need and I couldn't agree more.

In the best of times these would not be easy issues but look at what we are facing these days. In a shrinking economy geologists are always the first to go. A lot of the techniques and methods to resolve environmental problems have been developed (thanks mostly to geologists) and are being turned over to the technicians, and good causes like membership drives and public relations work seem not as paramount as just keeping food on the table.

So how do I perceive AIPG accomplishing these goals? Direct services to members have always been a high priority with National and I want to continue these services. In fact, Executive Committee Members have managed over the years to somehow tailor their presence and their efforts in just the manner needed to support members and sections in critical times. Other important services to members are *THE PROFESSIONAL GEOLOGIST* and AIPG's website. These two tools are in my opinion the best source of relevant, professional and political information and communication for geologists available. I should probably say "domestic geologists", but that is changing too. There are AIPG's educational and outreach programs, the standing committees, awards and recognition, and the annual Fly-in. Personally, I want to insure that the kind and quality of existing services continues to be a high priority and that the Executive Committee continues to pursue all sides of the many that have potential to affect geologists' ability to work.

Item two of the critical issues—developing new sources of revenue--is basic to AIPG's ability to survive. Even if we manage to increase our membership, it is evident that we are going to need far more resources to keep up with the expanding costs of conducting business. What I see happening in the universities and the workplace is a blending of talents and skills. Working with folks of differing educational disciplines and contrasting backgrounds with similar goals has its own rewards. It is more interesting and more fun and it gets results. It is the exponential effect. Ideas and resources are compounded and the task at hand that loomed large and overwhelming falls into place with stunning success. I think we need to draw from the greater scientific community and, yes, the engineers, as our allies and for our resources. It may or may not be possible to increase our membership but I believe we can increase our base of support.

The last two critical issues, selling ourselves, our profession and our Institute are part and parcel to issues one and two. As we continue to provide an ever-widening framework of services and support to our membership we are doing it for the profession. As we broaden our base of contacts and resources, we are elevating our visibility and ability to see. What I see happening here in the next few years is a change in venue. We have watched the progress and failure of attempts to get registration, continuing professional education, legislation that protects the public from fraudulent misrepresentation of geology, and legislative attempts to take work away from geologists or restrict their ability to work in other states or countries. If you have been keeping up with *TPG* articles, you will notice that more and more there are alternative ideas turning up on how to deal with these problems. There is the concept of the Qualified Person from Canada and the replacement of state licensure in Australia with national professional institutes. International reciprocity agreements among professional geological societies have been a long time goal of AIPG and it seems this is definitely the current trend. Michigan turned an almost disaster around nicely. Michigan's Solid Waste Act contained a statement that work related to solid waste had to be done by an engineer. The geologists in Michigan aligned themselves with the Certified Ground Water Professionals (NGWA) and got the statement changed to Certified Engineers, Certified Ground Water Professionals and Certified Geologists. The clause includes a statement about having the appropriate educational background. It may not be registration but it is certainly a better than average substitute. And it is a great example of broadening ones numbers (and funds) by alignment. To quote Lisa Boettcher, Michigan's past president, "You can catch a lot more flies with honey. . .". Imagine how AIPG membership would jump if all states had this little clause.

CANDIDATE FOR AIPG NATIONAL PRESIDENT ELECT

RONALD E. ALEXANDER

CPG-06372

St. Charles, Missouri

Statement of purpose or goals you have for AIPG:
To lead the Institute in endeavors to strengthen itself while striving to serve our membership in its professional aspirations. Self improvement and subsequent actualization will be an attainable goal as long as we are willing to actively communicate our values and ideas and sincerely espouse our shared identity.

Universities Attended:	Degrees Granted:	Dates:
University of Kentucky	B.S., Geology	1976
Webster University, St. Louis	M.B.A., Business	1994
Employment History:	**Title:**	**Dates:**
Reynolds, Inc., Louisville, KY	Staff Geologist to District Operations Manager	1976-1999
Reynolds, Inc., St. Louis, MO	District Manager	1999-Present
AIPG Activities:		
Kentucky Section	Legislative/Regulatory Comm., Chr.	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 Prof. Develop.	1998-2000
AIPG National	Liaison to Academic Educ. Comm.	1997/1999
AIPG National	Advisory Board Representative	1999
AIPG National	Institute Finances Task Force	1999
AIPG National	Presidential Certificate of Merit	1999

RICHARD M. POWERS

CPG-06765

Lakeland, Florida

Statement of purpose or goals you have for AIPG:
Revitalize and strengthen the membership by offering additional services and implementing a Continuing Professional Development Program. Develop AIPG Position Statements and become the premier advocate organization for our profession on the local, state, and national levels.

Universities Attended:	Degrees Granted:	Dates:
Boston University	B.A., Geology	1974
Company:	**Title:**	**Dates:**
Century Geophysical Corp.	Supervisor-Geologist	1975-77
Mullen Engineering	Project Geologist	1977-79
Tennessee Valley Authority	Project Geologist	1979-80
Bromwell & Carrier, Inc.	Senior Geologist	1981-84
	Vice President	1989-94
	President	1994-96
BCI Engineers & Scientists, Inc.	President and CEO	1996-Present
AIPG Activities:		
Florida Section	Screening Board	1987-89
Florida Section	Vice President, Programs	1990
Florida Section	President	1991
Florida Section	"Hero of Industry Award"	1991
AIPG National	Advisory Board Representative	1991
AIPG National	Screening Board Member	1993-95
AIPG National	AGI-Environmental Comm. Repres.	1993-95
AIPG National	Intersociety Liaison Comm., Chr.	1998-2000
AIPG National	National State Affairs Subcommittee on Competition Between Gov't. and Private Sector	1998-Present

CANDIDATE FOR AIPG NATIONAL SECRETARY

STEPHEN H. HALL

CPG-04643

Kennewick, Washington

Statement of purpose or goals you have for AIPG:
My goal is to enhance the desirability of AIPG certification. The Task Force for Continuing Professional Development has developed proposals to increase the credibility of AIPG certification. A comprehensive examination prior to initial certification would be required, followed by periodic re-certification. Instituting the proposals will not be painless, but will be worthwhile if the more stringent certification criteria can be used as a lever to gain recognition of AIPG credentials for the purpose of reciprocity from state licensing boards.

Universities Attended:	Degrees Granted:	Dates:
University of Wisconsin	B.S., Chemistry	1967
University of Wisconsin	M.S., Geology	1974
Employment History:	**Title:**	**Dates:**
Eastman Kodak	Photographic Engineer	1967-68
U.S. Army	Medic	1968-70
Phelps-Dodge	Analytical Chemist	1970-71
NL Industries	Research Chemist	1973-74
Wisconsin DNR	Hydrogeologist	1975-76
Earth Resources Co.	Chief Chemist	1976-79
UNC Teton Exploration	Geochemist	1979-81
Gila Mines Corp.	Process Manager	1981-82
Barrick Mercur Mines	Chief Chemist	1982-85
Westinghouse Hanford Co.	Principal Scientist	1985-88
Pacific Northwest Nat'l. Laboratory	Senior Research Scientist	1988-95
Independent Consultant		1995-96
Instrumentation Northwest	Scientist	1997-Present
AIPG Activities:		
AIPG National	Task Force for Continuing Prof. Develop.	1998-Present

LYNN M. KANTNER

CPG-06205

Groveport, Ohio

Statement of purpose or goals you have for AIPG:
To strengthen the services and support AIPG provides to the membership. Also, to increase our influence and our resources through affiliation with other scientific societies and associations.

Universities Attended:	Degrees Granted:	Dates:
Ohio State University	B.S., Geology	1964
Ohio University	M.S., Economic Geology	1979
Employment History:	**Title:**	**Dates:**
U.S. Dept. of Agriculture/Forest Serv.	Zone Geologist	1979-89
U.S. Dept. of Defense	Environmental Compliance Auditor	1989-94
U.S. Dept. of Energy	Environmental Scientist	1994-98
Podia Environmental	Project Manager	2000-01
AIPG Activities:		
Ohio Section	Vice President and Delegate	1998
Ohio Section	President	1999
AIPG National	Advisory Board Representative	1999
Ohio Section	Executive Board Member at Large	2001
AIPG National	Liaison to AGI Earth Science Outreach Committee	2000-01

CANDIDATE FOR AIPG NATIONAL VICE PRESIDENT

THOMAS M. BRUNS

CPG-04575

Indianapolis, Indiana

Statement of purpose or goals you have for AIPG:
To grow our membership, both in numbers and involvement, so that AIPG becomes the one organization that best represents geologists, and one that is our recognized voice at the state and national levels on geologic issues.

Universities Attended:	Degrees Granted:	Dates:
Ball State University	B.S., Earth Science	1974
Indiana University	M.A.T., Earth Science	1979

Employment History:	Title:	Dates:
Indiana Dept. of Natural Resources	Engineering Geologist	1974-84
IDNR-Division of Water	Assistant Director	1984-86
Indiana Dept. of Natural Resources	Deputy Director - Water & Minerals	1986-89
Indianapolis Water Company	Principal Hydrologist	1989-96
Indianapolis Water Company	Vice President-Development Services	1996-Present

AIPG Activities:		
Illinois-Indiana Section	President Elect	1991
Illinois-Indiana Section	President	1992
Illinois-Indiana Section	President	1996
Illinois-Indiana Section	Screening Board Chr.	1997-Present

JAMES D. SHOTWELL

CPG-08290

Austin, Texas

Statement of purpose or goals you have for AIPG:
To work to facilitate the evolution of AIPG toward the premier forum for advocacy of the profession of the geological sciences to the public, governmental and private sectors on the local, state, and national levels.

Universities Attended:	Degrees Granted:	Dates:
Brooklyn College, CUNY	B.S., Geology	1972
Brooklyn College, CUNY	M.A., Geology	1977
University of Tulsa	M.B.A., Finance	1983

Employment History:	Title:	Dates:
Phillips Petroleum Company	Computer Appl. Geologist	1977-80
Northern Natural Gas Company	Exploration Geologist	1980-81
Hawkins Oil and Gas Co.	Sr. Exploration Geologist	1981-83
Enron Oil and Gas Company	District Geologist	1983-90
ONEOK Exploration Company	Exploration Geologist	1990-91
RMT, Inc.	Senior Hydrogeologist	1991-96
RMT, Inc.	Team Leader, Hydrogeology	1996-00
RMT, Inc.	Senior Consultant	2000-01

AIPG Activities:		
AIPG National	National Affairs Comm., Member	1995
AIPG National	National Affairs Comm., Chair	1996-99
AIPG National	Annual Washington D.C. Fly-In	1997-99
AIPG National	Presidential Certificate of Merit	1997
AIPG National	Presidential Certificate of Merit	1999
Texas Section	President-Elect	2000
Texas Section	President	2001

CONGRATULATIONS!

The American Institute of Professional Geologists Announces the Award Recipients for 2001

The American Institute of Professional Geologists is pleased to announce that the following individuals have been named the recipients of this year's Honors and Awards.

BEN H. PARKER MEMORIAL MEDAL
Susan M. Landon, CPG-04591

MARTIN VAN COUVERING MEMORIAL AWARD
Thomas G. Fails, CPG-03174

JOHN T. GALEY, SR. MEMORIAL PUBLIC SERVICE AWARD
John J. Dragonetti, CPG-02779

AWARD OF HONORARY MEMBERSHIP
William V. Knight, CPG-0153

Awards will be given to recipients at the AIPG~AEG Annual Meeting in St. Louis, Missouri. The Awards Banquet will be held on October 4, 2001.

LAW GONE LOCO

In the Hands of Environmental Extremists and Elitist Bureaucrats, the Well-Intended Endangered Species Act has Gone Loco

Don Fife, CPG-04735

San Bernardino, CA.—In 1960, this country had 30,000 federal laws and regulations on the books, and we called America "The land of the free and home of the brave." By 1990, we had more than 200,000 federal laws and regulations. We have become "the land of the regulated and the home of litigation." There are so many laws that, if you obey one, you may be breaking another. If a person clears a firebreak around his home, he may be found guilty of "murdering" endangered weeds, and he may have to pay the government a mitigation fee to buy a weed sanctuary. Of course, it is illegal not to clear firebreaks around one's home, ranch or business.

Environmental Extortion

One can usually "take" (kill) as many Endangered Species Act (ESA)-listed species as he can pay for in cash or land to environmentalists or government agencies to buy preserves for the species. In Mexico, they call this mordida, the "little bite," or payoff. In the United States, being more politically correct, we call it environmental mitigation. It is never little.

Even though the U.S. Constitution forbids the quartering of troops on one's property, except during time of war, under the ESA a person can be forced to host "endangered" beetles, cockroaches, flies, rats, spiders, birds, and weeds on his property indefinitely.

Riverside County, CA, is the home of an ESA-listed subspecies of rat, the Stephens Kangaroo Rat. If one wanted to build on private property designated rat habitat, one had to pay the government amounts that have run up to $1,900 an acre, so it could buy "rat homes" somewhere else. These rats carry diseases: rabies, hanta virus, and bubonic and pneumonic plagues that are fatal to humans. Secretary of the Interior Bruce Babbitt's U.S. Fish and Wildlife Service (USFWS) reportedly will spend more than $100 million buying rat homes. The homeless humans, who live under freeway bridges in Riverside County should be so lucky!

Neighboring San Bernardino County has the endangered Delhi Sand Fly. The new county medical center there was required by USFWS to pay $10 million in environmental mitigation to purchase a fly sanctuary for one to eight flies! This is equivalent to the cost of more than 150,000 human visits to the emergency room! The scientist paid to study the fly reported, "During 43 hours of observation, I sighted eight flies, but I can't be sure if it was eight different flies, or the same fly seen eight times."

San Bernardino County sued the USFWS, and discovered that the agency's own internal reports predicted the fly could not be saved, and would be extinct by the year 2000. Yet it is still a federal felony to swat this fly, punishable by five years in a federal penitentiary and up to a $100,000 fine. The county lost in court, and now the USFWS is demanding $220 million for additional "fly sanctuaries" to "mitigate" new community projects!

Endangered Weeds

In 1996, the San Bernardino National Forest (SBNF) spent 300,000 tax dollars protecting allegedly endangered weeds. In 1998 Interior Secretary Babbitt's USFWS proposed spending $780,000 tax dollars to save these "endangered" weeds. These weeds tend to thrive in areas cleared of brush or forest, such as firebreaks, roads, quarries, timber harvest, or in areas subjected to wild land fire. However the USFWS will not let miners plant the same weeds in their reclaimed quarries to "save the species." Of course, if there were too many of these weeds and they were delisted, some USFWS employees would be out of a job. This may have some bearing on the reason for the government personnel's clubbing to death of listed endangered salmon from hatcheries in Oregon.

Under San Bernardino National Forest Supervisor Gene Zimmerman, USFWS botanists may have unintentionally reduced the weed habitat by failing to maintain firebreaks, failing to keep brush cleared, and by suspending lumber harvesting for decades, thus reducing open space available for weeds.

In September 1999, this policy of allowing uncontrolled fuel buildup resulted in the 65,000 acre Willow Fire, the largest wildland fire in the history of the SBNF. This fire destroyed 50 homes, and tens or even hundreds of millions dollars in timber and threatened the lives of 70,000 local residents. Forest Service botanists Scott Eliason and Robin Butler arrived at the fire lines telling the firemen they should stop dragging fire hoses or bulldozing fire breaks in the "endangered weeds." Eliason is quoted in the L.A. Times (Sept. 2, p. A25), "Three different endangered plant species, found only in these mountains, may be jeopardized - not by the fire itself, but by being crushed by the fire fighters' hoses and bulldozers."

Supervisor Zimmerman has proposed a 41,000 acre weed and toad sanctuary which threatens to shut down the regional source of limestone for cement, construction materials, plastics, paints, chemical, pharmaceuticals, and food processing. This is a potential $2 billion per year impact on the California economy. Such sanctuaries typically result in road and campground closures and even the denial of public access resulting in a human exclusion zone.

To add insult to injury, the USFWS has just declared another 500,000 acres of prime southern California real estate as critical habitat for the San Diego fairy shrimp and California gnatchcatcher (sometimes known as the "California jobsnatcher"). According to a study funded by California toll road builders and others, the cost of this listing could exceed $5.5 billion.

Locoweed

Several years ago, my family cleared some property we own in the SBNF of brush and a few small trees. The cleared area was invaded by weeds, one of which has the cute name, milkvetch, the scientific name Astragalus albens, and which has now been placed on the E.S.A. list. In reviewing the sci-

entific literature I found that it is really a poisonous, noxious weed called locoweed. It is hazardous to browsing animals and even to humans. If eaten, it can make one delusional, blind, and cause birth defects or even death. These weeds are alleged to be restricted to the SBNF, although the scientific literature suggests some may be found all over western North America; and birds who eat the weed seeds have spread these species up and down the Pacific and Rocky Mountain flyways from Mexico to Canada.

The U. S. Bureau of Land Management recently incensed the local off-road community by closing another 48,000 acres of Southern California's premier off-road vehicle park at the Alogones Sand Dunes near Glamis in Imperial County. This was done in order to "protect" another allegedly endangered locoweed, astragalus magdalenae var. piersonii (peirson's milkvetch).

Locoweeds, A. albens and A. magdalenae, are both noxious weeds which ranchers, farmers, and local farm bureaus have been trying to eradicate for the last century. In many localities, it is against the law to knowingly propagate locoweed on one's property; now it is a federal crime to remove it.

Enforcement of the ESA has gone loco, and the country's elitist, "biocentric" bureaucrats have added new meaning to the old saying, "The inmates are in charge of the asylum."

DON FIFE is a Southern California-based, natural science/resource consultant who holds B.S. and M.S. degrees in paleontology-stratigraphy and geology from San Diego State University. He has been an environmental geologist working in academia, government, and private practice for more than 20 years. From 1981 to 1989, Fife served four secretaries of the interior as appointee/advisor for geology, energy and minerals for the 25 million-acre California Desert Conservation Area. Contact: Don Fife at donfife@earthlink.net.

Media Release: National Association of Mining Districts, 508 First Street, S.E., Washington, D.C. 20003

Temperature of Earth's Highest Polar Clouds Measured for the First Time

WASHINGTON - Scientists have for the first time obtained measurements of upper atmosphere temperatures, iron densities, and mesospheric clouds over the North and South Poles. As reported in the April 1 issue of Geophysical Research Letters, published by the American Geophysical Union, they used a sensitive lidar (radar-like laser) system, which was first deployed over Okinawa, Japan, to observe meteor trails during the 1998 Leonid meteor shower. University of Illinois researchers have now used it to probe temperatures in the upper atmosphere over both geographic poles.

"Measuring temperature profiles over the poles is essential for validating global circulation models and for providing a baseline for assessing the impact of global warming over the coming decades," said team leader Chester Gardner, a professor of electrical and computer engineering. "Until now, we were limited to measurements taken with balloon-borne sensors to altitudes of less than 20 mi (32 km)."

In collaboration with scientists at The Aerospace Corporation and the National Center for Atmospheric Research (NCAR), Gardner and his UI colleagues—Professor George Papen, research scientist Xinzhao Chu, and graduate student Weilin Pan—developed a more robust lidar system for measuring temperature profiles from the middle of the stratosphere (about 32 km or 20 mi up) to the lower thermosphere at the edge of space (about 110 km or 70 mi above Earth). The system uses two powerful lasers operating in the near ultraviolet region of the spectrum and two telescopes to detect the laser pulses reflected from the atmosphere.

The researchers use two techniques for determining temperature. For altitudes up to 80 km [50 mi], they measure the amount of laser light reflected from air molecules to derive the temperature profile. For higher altitudes, they measure the scattering of the laser beams from iron atoms deposited in the upper atmosphere by vaporized meteors.

In June 1999, the scientists flew the lidar system over the North Pole aboard an NCAR research plane to obtain temperature and iron density measurements during the Arctic Mesopause Temperature Study. Six months later, they took the instrument to the Amundsen-Scott South Pole Station where it is now measuring the atmospheric temperature structure throughout the year. The National Science Foundation provided funding for the two measurement campaigns.

"Temperature profiles obtained in the thermosphere over the North Pole on June 21, 1999, and in the mesopause region over the South Pole on January 27, 2000, agreed closely with model predictions," Gardner said. "Significant departures from the model were observed during the austral fall, however. On May 8, 2000, for example, the lower mesosphere was about 20 degrees (Celsius; 36 degrees Fahrenheit) warmer and the upper mesosphere was about 20 degrees (Celsius; 36 degrees Fahrenheit) cooler than predicted." The mesosphere extends from the upper limit of the stratosphere, around 80 km (50 mi) above sea level to the mesopause, its upper boundary. The thermosphere begins beyond the mesopause.

Gardner and his colleagues also measured the heights of polar mesospheric clouds that formed over each of the poles during mid-summer. Unlike the lower atmosphere, the upper atmosphere is colder during summer than in winter. Polar mesospheric clouds form over the summertime polar caps when temperatures fall below minus 125 degrees Celsius (-193 degrees Fahrenheit).

These clouds are the highest on Earth, forming at an altitude of about 84 km (52 mi). Their brightness and geographic extent have been increasing during the past four decades. Scientists believe that these changes may be related to increasing levels of atmospheric carbon dioxide and methane, which in the upper atmosphere lead to cooler temperatures and increasing levels of water vapor.

Surprisingly, the altitudes of the polar mesospheric clouds over the South Pole were consistently 2-3 km (1-2 mi) higher than those over the North Pole. "Higher polar mesospheric clouds may be an indication of stronger upwelling in the summer mesosphere over Antarctica compared with the North polar cap," Gardner said. "Stronger upwelling would result in a cooler mesopause region."

AGU Release No. 01-8
(202) 244-1073

Vote! Ballot Enclosed

William J. Siok, CPG-04773

The June *The Professional Geologist* is a most important issue. It includes biographies of AIPG members who have accepted nominations as candidates for the 2002 National Executive Committee offices of President-Elect, Vice-President, and Secretary. This issue of *TPG* includes the ballot for these candidates. Please spend a little time to review the qualifications of your colleagues and vote for those whom you feel are best equipped to represent your professional perspective.

Many demands are placed upon your time and AIPG must compete for it along with your family, your career, and job, and all your other obligations. If your ability to be active in AIPG is limited, at least take the time to vote for your representatives once a year. These CPG candidates offer you the opportunity to have an impact upon the direction AIPG takes in the coming years. Though you may not be personally acquainted with any of the candidates, you may be confident that they are all very qualified and eager to do their best on behalf of you and your chosen profession.

One of the most common issues voiced by AIPG members (and not incidentally by members of our sister societies) is that increasing demands from employers are making volunteer commitments to one's profession increasingly difficult. This may be a factor in the overall reduction in volunteerism, but it doesn't adequately account for the indifference from some who don't even express an opinion to their elected and appointed leaders and representatives.

Headquarters and various individuals on the Executive Committee do receive messages from some members who take issue with an action taken or not taken by the Executive Committee. This is a valid way to voice an opinion, it's a member's prerogative to speak up.

You may be surprised to know (and you probably can relate similar anecdotes) that most issues considered by the Executive Committee elicit only limited input from AIPG members. This applies to all issues. For example, the recent poll of membership regarding the subject of continuing professional development (CPD) produced a total of less than 60 responses! Less than 60!! Incidentally, even some who make the effort of responding don't always take the time to understand the issue. In the case of CPD, a number of CPGs incorrectly understood that if enacted by the Executive Committee, CPD would be mandatory for existing CPGs. It would, in fact, only be mandated for those who receive certification subsequent to enactment of a new requirement.

So you're able to appreciate the dilemma posed for the Executive Committee in its decision making deliberations, particularly when serious issues are under consideration. Those who do express an opinion, particularly if the opinion is accompanied by a constructive recommendation, more often than not find their suggestion has a direct impact upon the decisions arrived at by the Executive Committee.

Please review the biographies in this *TPG* and vote!

Free Posters and Flyers

Thanks to AGI, AIPG has, for distribution, colored 8½ x 11 flyers announcing Earth Science Week 2001. If you are able to use some of these announcements, or know an educator or other interested individual or group who would have an interest, please contact AIPG headquarters for details. The announcements are available at no cost.

Also, AIPG has a beautiful educational poster, created by AGI, entitled "Minerals - Foundations of Society." The poster has a colorful collage on one side and some mineral picture/word associations on the reverse side. The poster is designed to be an introduction to the wide use of rocks and minerals in basic everyday life. These also are available for educational use and at no cost. NEW KARST POSTER AVAILABLE! Please contact headquarters for details.

THE PRESIDENT'S BUDGET DECREASES TARGET SCIENCE PROGRAMS

Submitted by John J. Dragonetti, CPG-02779

The President's proposed budget for the 2002 Fiscal Year clearly reflects his campaign promises to significantly reduce taxes and increase funding for defense, education, and biomedical research. In his February address to Congress, the President voiced his concern that government spending in the 2001 Fiscal Year was up 8%—greater than the rate of inflation or economic growth. By contrast, his budget limits the increase to 4%, virtually all of it going to the Department of Defense, the Department of Education, and the National Institutes of Health. That means all other federal programs would face level or decreased budgets in the president's request.

The proposed reductions would fall within the one-third of the federal budget, known as discretionary spending, that is subject to annual appropriations decisions by Congress and the President. This also is the part of the budget that funds almost all federal research and development.

THE DEPARTMENT OF THE INTERIOR

The Fiscal Year 2002 budget for the USGS, $813.4 million, matches the Survey's funding for the 2000 Fiscal Year, but it is nearly $70 million below the amount provided for 2001. Almost half of the proposed reduction involves two water quality programs: the National Water Quality Assessment Program (NAWQA) and the Toxic Substances Hydrology Program. The former is slated for a $20 million cut while the latter is slated for elimination. Both were designed to furnish critical data and information to federal and state regulatory agencies. For these and other external customers, the budget suggests collaborative partnerships within which the receiving agency would compensate the USGS for any provided services. Substantial decreases also are proposed for geologic mapping, international mineral information, biological research, the water resources research institutes, and streamgaging activities.

Of particular concern is the proposed reduction for the National Cooperative Geologic Mapping Program. This action sharply conflicts with the suggested funding levels set by the National Geologic Mapping Act of 1999. This program represents the very successful partnership between the USGS, state geological surveys, and universities to provide the nation with necessary information to address natural hazard mitigation, environmental remediation, land-use planning, and resource development.

Elsewhere in Interior, the Bureau of Land Management and Office of Surface Mining would be funded at lower levels while the Bureau of Reclamation would remain at the 2001 fiscal year level. The Minerals Management Service would receive a slight boost to handle an expected increase in offshore oil and gas leasing. Only the National Park Service would receive a significant increase in funding, primarily for much-needed repairs to its facilities. Geoscience programs within the Park Service were level funded.

OTHER AGENCIES

Department of Energy programs received some significant increases and some sharp decreases. Completion of the Yucca Mountain site recommendation, final environmental impact statement, and initiation of the license application process are all part of the president's request for the high-level nuclear waste disposal program, which would be increased 14% to $445 million. This action anticipates recommendation of the site for presidential decision in 2002.

Fossil Energy Research and Development at DOE would be cut 17% to $449 million. Within that total, the president proposes a $150 million Clean Coal Power Initiative to explore the barriers and technologies required to make current and future coal-fired generators cleaner and more efficient. The initiative is offset by cuts in existing coal programs. The Sequestration Research and Development program, which addresses greenhouse gas emission mitigation, would increase by over 10%. The president's budget calls for reductions of over 50% to the Petroleum and Natural Gas Research and Development programs. Cooperative Research and Development activities received no funding.

The Department of Agriculture and the National Oceanic and Atmospheric Administration both would experience small overall reductions. The National Science Foundation's Geoscience Directorate is slated for a small cut, and no funding is provided for EarthScope. The National Aeronautics and Space Administration would receive a 2% increase, but there would be a $200 million decrease in the earth science programs.

The request for the U.S. Environmental Protection Agency (EPA) is down 6% to $7.3 billion. Funding for clean air programs would drop 4%, clean and safe drinking water programs would decrease 12.6%, and waste management programs are flat funded with a 5% increase for the Brownfields program. Science programs at EPA are down 8%.

CONGRESS

Within the coming months, Congress will act on the 2002 budget to determine its fiscal priorities. In late March, the House of Representatives passed a budget resolution generally in accordance with the President's proposals for tax cuts and discretionary spending. In contrast, the Senate reduced the size of the president's tax cut from $1.6 trillion to $1.2 trillion over 10 years, arguing that the $0.4 trillion difference from the President's proposal was needed for general science and other areas. It is anticipated that the Appropriations Committees in both houses would like to increase discretionary spending and will develop spending bills to reflect that desire. The congressional increases combined with the Administration's commitment to stand firm on the level of the proposed tax cut could provide an interesting battle when final budget negotiations take place between the White House and Capitol Hill this fall. Also in the equation is the forecasted economic slowdown, which would certainly affect the outcome.

Now that the budget is in Congress, it is the appropriate time for individuals within the geoscience community to communicate with their elected representatives to stress the importance of maintaining investment in science.

This column is a bimonthly feature written by John J. Dragonetti, CPG-02779, who is Senior Advisor to the American Geological Institute's Government Affairs Program. Additional information on the president's budget request and congressional action on funding for geoscience-related programs can be found at http://www.agiweb.org/gap.

Monthly review prepared by Margaret Baker, David Applegate, MEM-0002, AGI Government Affairs Program, and AGI/AAPG Geoscience Policy Intern Mary Patterson

MARCH 2001

Regula, Lieberman Receive AASG Pick & Gavel Awards

On March 20th, the Association of American State Geologists (AASG) presented its third annual Pick and Gavel Awards to Rep. Ralph Regula (R-OH) and Sen. Joe Lieberman (D-CT). Hill staff and federal agency leaders joined over half of the state geologists for the banquet ceremony in Washington at the Cosmos Club, founded by John Wesley Powell. Ohio State Geologist Tom Berg cited Regula — who recently stepped down from his position as chairman of the House Interior Appropriations Subcommittee — for his enduring support of good geoscience and geologic mapping. He lauded Regula's understanding of "the many-faceted responsibilities of the (U.S. Geological Survey) in today's world, and…the close interaction of the USGS with the state surveys…. Through Mr. Regula's efforts last year, the USGS received the largest budget in its history, and the National Cooperative Geologic Mapping Program received a major increase."

Connecticut State Geologist Ralph Lewis cited Lieberman for enthusiastic support of the Congressional Science Fellows program. Eleven fellows have served on Lieberman's staff, nearly half of them geoscientists (starting with Murray Hitzman, currently chair of the AGI Government Affairs Advisory Committee). Lewis also noted Lieberman's role as a founder of the Senate Science and Technology Caucus and sponsor of Senate-passed legislation to double federal research funding in the next decade. For more about the Pick and Gavel award, including photographs and the text of citations and Senator Lieberman's response, see http://www.kgs.ukans.edu/-AASG/pick.html. (This summary is adapted and condensed from a Society Page item by Christina Reed that appeared in the May 2001 issue of *Geotimes*.)

AAPG Testifies at Two Energy Policy Hearings

With energy policy a top priority on Capitol Hill, leaders of the American Association of Petroleum Geologists (AAPG) was asked twice this month to provide testimony on future hydrocarbon resources. On March 15th, AAPG President Marlan Downey testified before the House Subcommittee on Energy and Mineral Resources at a hearing to examine the impact of access restrictions on public lands and the Outer Continental Shelf for domestic natural gas development. In his testimony, Downey argued that growing demand for natural gas — particularly for gas-fired power plants — would outstrip supply not because the resource base was inadequate, but because of access restrictions.

Appearing before the same subcommittee on March 22nd, Naresh Kumar testified at a hearing on oil and gas resource assessments. Kumar is vice-chair of AAPG's Committee on Resource Evaluation, which reviews the methodology of federal agencies conducting hydrocarbon resource assessments, in particular the USGS and Minerals Management Service (MMS). Kumar testified that "the techniques and scientific methods used by both the MMS and USGS are sound and provide a good basis for discussion of a national energy policy." But he also noted that the agencies' estimates were conservative and that it could reasonably be expected that considerably more hydrocarbon resources would be discovered as the result of future exploration. The AAPG testimony is available on the subcommittee's web site at http://resourcescommittee.house.gov/energy/index.htm. (A longer version of this summary will appear in the May 2001 issue of *Geotimes*.)

USGS Appraises Energy Resources in National Monuments

In response to a request by the House Resources Committee, the USGS prepared a preliminary appraisal of oil, gas, coal, and coal-bed methane resources in the 21 national monuments that were either established or expanded during the Clinton Administration. The report used existing USGS data from its 1995 National Oil and Gas Assessment and the National Coal Assessment. The report classified the monuments as either having no potential, very low or low probability of occurrence, or moderate to high probability for each resource. Although few of the monuments had high to moderate probabilities for either oil or gas, the Carrizo Plain National Monument in California has a high probability of large oil and gas reserves. The Upper Missouri Rivers Breaks National Monument in Montana has a high probability of a large natural gas reserve. The Grand Staircase-Escalante National Monument in Utah has a high probability of both coal and coalbed methane reserves. As Congress and the Administration review several actions taken in the last months of the Clinton Administration, the issue of resource potential on federal public lands is likely to remain in the spotlight. The assessment is available at http://www.house.gov/resources/107cong/energy/2001mar22/2001_0322agenda.htm.

Democrats Introduce Comprehensive Energy Legislation

Senate Minority Leader Tom Daschle (R-SD) and Sen. Jeff Bingaman (D-NM) introduced the Comprehensive and

Balanced Energy Policy Act of 2001 (S.596 and S.597) on March 22nd. The bill was introduced as a counter-measure to the energy legislation introduced by Sen. Frank Murkowski (R-AK) on February 27th. Like Murkowski's energy package, Daschle and Bingaman introduced the initiative as two parts. S.596 contains tax incentives while S.597 contains a variety of other measures. Bingaman said at the introduction that although he and many other Democrats support elements of the Republican bill, the provisions of that bill focus too heavily on the supply side of the energy equation. Specifically, climate change should be taken into account in any energy policy. In his legislation, energy efficiency and emissions reductions are encouraged through tax incentives and regulations that reduce the input of greenhouse gases to the atmosphere. The bill also bolsters the efforts of the federal government to get "clean energy technology" into developing countries that are expected to increase their greenhouse gas emissions in the next decade. Other measures in the bill aim to streamline pipeline and dam permitting, and maximize oil and gas production on state and private lands. No action is expected to take place on either Murkowski's or Daschle's proposal until the President's task force on energy releases its plan in early April. More at http://www.agiweb.org/gap/legis.html#energy

Evolution Under Fire in Arkansas, Michigan

On March 23, the Arkansas legislature defeated a bill (HB2548) that would outlaw state agencies from purchasing materials that contain "information that has been proven false or fraudulent." Under the bill, if teachers come across such information they are required to instruct students to make marginal notes that the information is fraudulent or is a theory that could later be proven false. Section (c) of HB2548 lists examples of information that would be affected by this legislation, which include the theory of the age of the earth, the theory of the origin of life, the geologic column, and radiometric dating. The bill failed in the House, falling six votes shy of the number needed for passage. The bill's sponsor has vowed to revise and reintroduce the bill, but the House Speaker has indicated that he does not expect any of the votes to change.

In Michigan, a bill that would change the science curriculum standards was referred to the Education Committee on February 28. HR4382 would require that students be exposed to the "competing theories of evolution and natural selection based on random mutation and the theory that life is the result of the purposeful, intelligent design of a creator." The bill states that references to "evolution" and "natural selection" in science standards at all grade levels will be changed to show that these are unproven theories and also add the sentence: "Describe how life may be the result of the purposeful, intelligent design of a creator." The text of the bill and bill status are available on the Michigan legislature website. More at http://www.agiweb.org/gap/legis107/evolution.html.

Hearing Held on Nisqually Quake

The House Research Subcommittee held its first hearing on March 21st to discuss the effects of the Nisqually earthquake that struck the Seattle area on February 28th. Subcommittee Chair Nick Smith (R-MI) called this hearing "to analyze the earthquake assessments performed by or with funding from various federal agencies, assess the behavior of buildings and land in response to the quake, examine how to improve building codes and earthquake preparations in the Pacific Northwest, and to get ideas where to focus future research efforts." Witnesses included Dr. John Filson of the USGS, Dr. Priscilla Nelson from NSF, Dr. Stephen Palmer of the Washington State Department of Natural Resources, and Dr. M. Meghan Miller of the Central Washington University geology department. The discussion focused on earthquake hazards in the Pacific Northwest, but the panel identified some general earthquake research priorities as well as potential hazards in other parts of the country. The proposed NSF Earthscope initiative was given special attention as an important tool for understanding earthquake physics and determining the seismic potential of different areas. The USGS-supported Advanced National Seismic System (ANSS) also was discussed at length. Rep. Brian Baird (D-WA), whose district was hit by the quake, asked what effect proposed budget cuts would have on the survey's earthquake program and also asked about the survey's morale. Testimony and background information on the hearing is available at http://www.house.gov/science/reshearings.htm.

Climate Change Hearing Looks at Research Agenda

On March 14th, the House Science Committee held a hearing to discuss gaps in current knowledge and future needs for a comprehensive research agenda related to climate change. In his opening statement, Chairman Sherwood Boehlert (R-NY) called the Bush Administration's reversal earlier that day of a campaign pledge to regulate carbon dioxide emissions "misguided and unjustified." He stated that the president should have waited to hear from scientists before making such an announcement. The committee heard from Dr. Daniel Albritton from the National Oceanic and Atmospheric Administration (NOAA), who testified on the Intergovernmental Panel on Climate Change (IPCC) Working Group I report; Dr. Berrian Moore from the University of New Hampshire and lead author on the National Research council report, "Global Environmental Change: Research Pathways for the Next Decade" (http://www.nap.edu/catalog/5992.html), who outlined areas that need further study in order to understand and predict climate change phenomena; and Dr. Charles Kennel of Scripps Institution of Oceanography, who made policy recommendations based on the NRC report, "The Science of Regional and Global Change: Putting Knowledge to Work" (http://books.nap.edu/books/0309073278/html/index.html). Boehlert's opening remarks and statements made by other committee members made clear that most of them support continued research into the still unresolved questions surrounding climate change. But the representatives, not strictly along party lines, disagreed on what current science is telling us, and what if anything should be done about it. Witnesses' testimony is available at http://www.house.gov/science/reshearings.html.

S&T Groups Urge Higher Science Funding in Budget

AGI joined 59 other scientific and professional organizations on a letter sent to Congress on March 6th urging the House and Senate Budget Committees to increase the Function 250 allocation in the fiscal year (FY) 2002 budget resolution. Function 250 is the budget category for funding of general science, space, and technology. It includes activities within the National Science Foundation, NASA, and the Department of Energy. While Congress waits for President

Bush's budget request, both chambers are busy preparing their budget resolutions — Congress's own blueprint that sets the spending limits for each of the 13 appropriation bills. The letter states that "no other federal investment generates a greater long-term return to the economy and society than does basics research." More information on the budget process at http://www.agiweb.org/gap/legis.html#approps.

They've Got Mail — More Than They Can Handle

Wondering what is the best way to communicate with your elected representatives? The Washington Post reported on March 19th that congressional offices are being inundated by e-mails, overwhelming an office structure that was designed for a lesser volume of letters. In a report released by the Congressional Management Foundation and George Washington University, the increase was attributed to "the indiscriminate practices of grass-roots lobbying organizations and companies that are 'spamming' congressional offices with millions of e-mails that they cannot possibly respond to." At the same time that e-mails are increasing, congressional offices are not using technology to their advantage that could categorize incoming e-mails by subject and separate out e-mails from individuals from those sent by special-interest groups. The report also noted that it is common practice for congressional offices to disregard e-mails from non-constituents as well as respond to e-mails via postal mail. Taking all this into account, it looks like the old-fashioned method of letter writing is still the best mode of communication with your congressional delegation.

Schedule of Upcoming GAP Activities

- June 2-5, AAPG Convention, Denver CO
- June 11, Utah Geological Society, Salt Lake City UT
- June 13, CNSF Congressional Exhibition, Washington DC
- June 24-28, GSA/GSL Meeting, Edinburgh UK

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 since the last monthly update:

- Challenges to the Teaching of Evolution Update (3-28-01)
- Climate Change Policy Update (3-28-01)
- Energy Policy Update (3-26-01)
- House Research Subcommittee Hearing on Nisqually Earthquake (3-21-01)
- High-Level Nuclear Waste Disposal Update (3-19-01)
- Participants Needed for Congressional Visits Day, May 1-2 (Posted: 3-17-01)
- Intergovernmental Panel on Climate Change Third Assessment Report Update (3-13-01)
- Summary of Hearings on Energy Policy (3-12-01)
- Clean Water Act Update (3-8-01)
- National Energy Security Act of 2001 Update (3-5-01)
- Spending Outer Continental Shelf Royalties — the Conservation and Reinvestment Act (3-5-01)

Sources: American Geophysical Union, American Institute of Physics, Association of American State Geologists, EENews, Greenwire, Library of Congress, USGS, U.S. House and Senate, Washington Post.

This monthly review 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, ext. 212.

UPDATE
AIPG Web Site

The AIPG web site has a new look <www.aipg.org>. Check it out! The site now includes a new feature called "Geology In The News" which is changed daily and links to current news items. Also added are links to rental car agencies, travel arrangements, insurance, and maps. The new drop down menu has links to members web sites, member resumes, section web sites, 2001 Annual Meeting information, and more. If you have any comments or suggestions for improving the web site please contact the National Headquarters office at <aipg@aipg.org> or (303) 412-6205.

PROFESSIONAL ETHICS & PRACTICES - COLUMN 65

Compiled by David M. Abbott, Jr., CPG-04570, Ethics Committee Chairman, 2266 Forest Street, Denver, CO 80207-3831, 303-394-0321, fax 303-394-0543, DMAgeol@aol.com

Advertising Positions That Haven't Been Funded, Etc.,
(column 63, April '01)

George D. Klein, CPG, wrote, " You probably know this and may have experienced this yourself, but it is not that unusual in the consulting business, at least in the oil and gas end, to be called about a possible consulting assignment and then find out later that either they decided not to do the work, or it got reassigned internally to existing staff (often overworked as it is). This is a problem particularly with micro-managed companies.

"As for the accepting a job and quitting routine, how about 'being offered a job, accepting it, and then having the offer retracted?' This happens now and then also. You may or may not know that before becoming a full-time consultant, I taught in universities. In 1960, I was offered a faculty appointment at a university in the southeast, and accepted it. In those days, these jobs were never advertised. I indicated to the department head I needed about $1,000, for some equipment to get started. He then felt I was 'too pushy' (I heard later), and yanked the offer.

"Time does strange things though. Six years later, a friend was offered and accepted the headship of that department. When he found out about the retracted offer internally, he called me up to apologize, but because there was a sea-change in the administration and the state, inquired if I would like to be considered for an appointment. I explained I was happy where I was. Seven years later, after that particular head moved up in that University's administration, they had hired someone who I recommended very highly, and that individual became department head. Not knowing the earlier history, he picked up the phone and asked what it would take to get me to leave Illinois and move to their department. I went for an interview, but concluded it would not work. It shows how things can change for some of us!"

Tom Rich wrote, "I read with interest your editorial in the latest edition of *The Professional Geologist* about new hires quitting shortly after being hired. You noted that in doing so they result in considerable expense to their employer. Your point is well noted, but as you suggest yourself there can be two sides to a story.

"Ten years ago I went to work for a consulting firm. On my second day the firm lost a major job with the client I had been hired to work with. I was nevertheless put through 40 hour OSHA training, but for two months I was repeatedly informed that we could receive our pink slips on any day. My new wife also had informed me that she was pregnant. My inquiry as to whether I would be put to work with a different client if and when our active client let us go was met with a blank stare. I did not want to leave, but really had no alternative when I was offered another position."

I always appreciate hearing of instances where someone acted in an ethically desired manner like the two subsequent department heads described by Klein and the company that didn't immediately fire Rich. Please send in positive as well as negative examples of ethical situations.

AusIMM Safety Beliefs and Principles

The Australasian Institute of Mining & Metallurgy recently published (AusIMM Bulletin, March 2001) the set beliefs and principles regarding safe working conditions quoted below.

Safety Beliefs and Principles

The Institute [AusIMM], along with all other stakeholders, considers that the number of fatalities and serious injuries occurring in the mining and metallurgical industries is unacceptable by current community standards. Though inherently greater risk exists in the mining and metallurgical sectors than most other business, appropriate management of these risks will deliver safety outcomes that provide a workplace free from all incidents.

Accordingly The Institute [AusIMM] believes that:

1. *It is an employee's right to work in an environment, which will not jeopardise his well being, health or safety.*
2. *Accidents don't just happen, they are evidence of failures in operating safety systems and behaviours.*
3. *All fatalities can be avoided by the proper engineering of controls, the application of operational safety systems, and appropriate safety behaviour.*
4. *Appropriate measures should be adopted to minimise the risk of catastrophic events resulting in multiple fatalities or major plant loss.*
5. *Industry professionals, as key stakeholders in the mining and metallurgical industries, have a professional and personal obligation and responsibility to ensure that employees rights are protected and respected, and to ensure that workplaces under their control adopt and implement best practice occupational health and safety standards.*
6. *The Institute [AusIMM], as the major professional body representing professionals in the mining and metallurgical industries, has a core responsibility to provide occupational health and safety leadership to members of the Institute [AusIMM] and other industry professionals.*

More information on AusIMM's health and safety efforts can be found at www.ausimm.com.au/ohs/ohs.asp.

Health and safety issues are not addressed in most geoscience ethics codes. The AGI Guidelines for Ethical Professional Conduct (column 38, Jan '99; www.agiweb.org) includes the phrase, "provide an acceptably safe and congenial working environment," in the section on Employees. Nevertheless, the general principle of Canon 2 of the AIPG Ethics Code obliging us to "uphold the public health, safety, and welfare in the performance of professional services" could arguably cover employee and colleague safety. Now that more AIPG members and their employees and colleagues are working to identify and remediate some pretty hazardous sites, it

may be appropriate to consider the issue. Should AIPG adopt a policy statement similar to AusIMM's? Should one or more of these principles be added to a new Standard 2.5 to the AIPG Ethics Code? Do health and safety issues for which geoscientists ought to be responsible extend beyond those listed in the AusIMM statement? Does consideration of such issues fall, at least in part, outside the scope of a geoscientist's professional expertise? If so where is the boundary? If so, should a statement on safe working conditions be included in the AIPG Code of Ethics? Comments and suggestions are welcome.

Reporting Ethical Violations: Standards 5.5 and 3.5

Robert A. Larson, CPG, has been working on developing a professional conduct code for geologists and geophysicists in California. He asked me if there could or should be a conduct rule for failure to report an ethical violation. Standard 5.5 of the AIPG Code of Ethics is such a rule; it states, "Members having knowledge of a violation of these Rules by another Member should bring substantiated evidence of such violation to the attention of the Institute." Larson also asked if and how it would be possible to prove someone violated such a rule.

Proving a violation of Standard 5.5 would require providing evidence that the accused possessed "substantiated evidence" of the violation and failed to bring that evidence to the Institute's attention. Although a difficult standard of proof, I don't believe it would be impossible. Someone who can be shown to have been at a meeting or who received a memo, etc. in which an unethical conduct was discussed or described and who failed to report it could possibly be found to have violated Standard 5.5.

Recently an MD friend was faced with an interesting example of professional malpractice reporting. She had been contacted by an attorney representing a doctor facing a malpractice action as a possible expert witness for the defense. She received copies of the records needed for her to form an expert opinion regarding the case. Her review indicated that malpractice did occur and she informed the defending attorney of her opinion and the fact that she considered the problem sufficiently serious that she was considering reporting the problem to the licensing board. However, she was concerned about whether her access to the data that underlay her opinion was protected and whether she would be acting unethically by reporting the problem and her opinion of it. She consulted with her own attorney, with an attorney for her malpractice insurance carrier, and the licensing board about her dilemma. All told her that protection of the public's health, safety, and welfare overrode all other considerations and that the malpractice should be reported. Her malpractice insurance carrier told her that if she were sued for making the report, they would defend her.

What do you think? Is it possible to violate Standard 5.5? How? Do you have any examples?

Standard 3.5 of the AIPG Code of Ethics addresses a closely related issue; it states, "Members who find that obligations to an employer or client conflict with professional or ethical standards should have such objectionable conditions corrected or resign." If an ethical problem is identified, when does one report the problem versus working towards its correction? If someone is being investigated for failure to report an ethical violation, would demonstrable effort to correct the situation be a mitigating to exculpatory factor? While the answers will have to be determined on a case by case basis, I believe that the decision to correct rather than resign or report depends in part on the immediacy of harm resulting from the perceived unethical conflict. If the problem will not result in immediate harm (which includes economic harm), then there may well be time to work towards correction. But actions towards correction should be demonstrable. There also are violations that are so egregious that correction may not be the appropriate remedy. What do you think?

Professional Conduct Codes Versus Professional Ethics Codes

The difference between a professional conduct code and professional ethics codes, such as AIPG's, is that conduct codes are written specifically to provide the basis for disciplinary actions while ethics codes can be drafted to be strictly aspirational, *e.g.*, the AGI's Guidelines for Ethical Professional Conduct (column 38, Jan '99), or to be both aspirational and disciplinary, *e.g.*, AIPG's and AAPG's Codes of Ethics.

There can be a good deal of overlap and similarity between conduct codes and even purely aspirational ethics codes. For example, a code of conduct will prohibit deception, while an ethics code will advocate honesty in all professional dealings. Such provisions are two sides of the same coin. Professionals covered by either code are expected to be honest or to not deceive at all times in the course of their professional activities. However, those professionals subject to a conduct code are explicitly subject to discipline for violating the code. Those professionals subject to a code of professional ethics may or may not be subject to discipline for violating the code; it depends on the organization promulgating the code. AIPG does discipline members for violations of its Code of Ethics. There are not formal sanctions for violating the AGI Guidelines, which does advocate honesty. (Indeed, the use of "Guidelines" in the title is intended as a flag that the AGI principles are not designed as an enforceable code.)

Because of the disciplinary basis of professional conduct codes, they will not cover the aspirational topics included in some ethical codes and guidelines like AIPG's. Standard 5.3 of the AIPG Code of Ethics is an example of an aspirational statement and states, "Members should work toward the improvement of standards of geological education, research, training, and practice." None of us works full-time on such efforts, nor are we viewed as acting unethically because we do not. Standard 5.3 is an example of a moral ideal, something we strive to accomplish to the degree we are able. Unless some minimum performance standard is set, one cannot violate this Standard unless one is viewed as actively working against the recommended improvements. Standard 5.1, which states, "Members should strive to improve their professional knowledge and skills" is an example of a currently aspirational statement that will be changed into one for which a minimum standard of performance is expected if the proposal for a continuing professional development rule is adopted. A CPD requirement may be part of a code of professional conduct because a minimum standard of performance has been set.

Martian ice streams, not floods, may have shaped channels

WASHINGTON - Some channels visible on the surface of Mars may have been gouged by ice, rather than by catastrophic flooding, as is generally believed. That is the view of Dr. Baerbel K. Lucchitta of the U.S. Geological Survey in Flagstaff, Arizona, who compared the Martian features with strikingly similar ones on the Antarctic sea floor. Her findings are reported in the February 1 issue of Geophysical Research Letters, a publication of the American Geophysical Union.

Outflow channels on Mars may be tens of kilometers (miles) wide and hundreds of kilometers (miles) long, as are some that Lucchitta studied in Antarctica. Ice flows in streams within Antarctica's ice sheets before merging with ice shelves in the surrounding ocean; the ones she studied flow from West Antarctica into the Ross and Ronne Ice Shelves. The martian channels arise suddenly from chaotic terrains or fractures and terminate in the northern plains, where there may once have been an ocean.

Both the Antarctic ice streams and some martian channels are based below sea level, which on Mars is defined as the average surface elevation of the hypothetical ancient northern plains ocean. The Antarctic channels were mapped using recently available sonar imagery.

Lucchitta demonstrates that martian channels, especially one known as Kasei Valles, display similar characteristics to those of Antarctic channels known to have been carved by ice streams. She compares the Rutford Ice Stream at its confluence with the Ronne Ice Shelf, where it diverges around an ice rise, formed of more stable ice than the adjacent flow, with Ares Vallis. The latter diverges around an island and displays similar curved flow lines where it enters the hypothetical ocean. The configuration of these two streams is identical, she writes.

Lucchitta infers that Ares Vallis was filled by material that had the characteristics of flowing ice that entered an ice covered body of water. She believes that dust-covered ice may persist in Ares Vallis or that rocky material left an expression of the flow forms after the ice evaporated. "The observations strongly support the notion that an ocean once existed in the northern plains of Mars," she says.

Another similarity between Antarctica and Mars noted in the study is that some streams and channels rise in altitude in the downstream direction. On Earth, uphill flow at the base of ice is common, because the surface gradient drives the ice, whereas water does not flow uphill for extended distances.

There are differences between Antarctica and Mars regarding the origin of ice in ice streams. On Earth, the streams flow from ice sheets, while on Mars, it derived from fluids erupting from below the surface. Also, on Earth, the ice flows between ice walls, while on Mars it flowed between rock walls, but the width to depth ratio on Mars is more like that of ice streams than of mountain glaciers on Earth, Lucchitta notes.

The study was funded by NASA's Planetary Geology and Geophysics Program.

AGU RELEASE NO. 01-2
(202) 777-7507

LETTERS TO THE EDITOR

Dear Editor,

In my vast travellings of our little "professional" world, I continue to hear stories of younger geologists who's attitude seems to be that their bachelor's degree in geology gave them all the technical preparation required for them to strike forth essentially on their own, or at the very least to make them very highly valued employees. They seem to see their school chums who went the dot.com route making lots of money (until recently) and can't understand why geologists aren't making 55-65K right out of the box. Again and again, I hear them say of meeting and seminar attendance "Who's gonna pay for that"? And they aren't just talking about the cost of the dinner. I've actually heard where younger geologists are asking to be paid for their (very valuable) TIME to attend the meeting.

For at least the two decades that I have been practicing, geologists have been struggling with the question of why they aren't treated with more respect. Why are we always treated like second fiddle to engineers? Why is our compensation/liability ratio so low? Why have we repeatedly been compelled to justify licensure since before licensure was a reality?

We call ourselves a profession, but what is it that separates a profession from an occupation, and on what side of that line do most geologists really fall? My Webster's is a little dated at this point, but under the definition of profession (3c) it includes "loosely, any occupation". In that sense, I suppose we are a profession. But how long would a doctor stay a doctor if he approached his profession in the same manner that many geologists approach theirs. With an attitude that asks "Who's gonna pay for my meetings?" How many geologists do you know who:

- Have bothered to obtain advanced degrees or any additional formal education beyond their bachelor's degree.
- Attend dinner meetings, annual meetings, seminars, etc. regardless of who pays for it.
- Participate in dinner meetings, annual meetings, seminars, etc. regardless of who pays for their efforts.
- Maintain a personal professional library.
- Prepare technical papers.
- Devote personal time to expand their knowledge and abilities.
- Spend their own resources to expand their professional "toolbox" beyond the basics that might be supplied by an employer.
- Volunteer their time in professional organizations.

Now, I know you are going to say that you know geologists who do many of these things. I do too. No question. I know very few who do ALL of them (myself included), and fewer still who do all of them well. I know a good number who treat their job like a 9 to 5 occupation. That is why I find the "who's gonna pay for that" trend so disturbing.

Geologic organizations are hurting. They cannot function without membership dues and volunteers. Membership is down and volunteerism is down because professionalism is down even from the rather low levels that have existed in the past. Participation in organizations is an obvious first step toward professionalism. When professionalism begins to slip, we see it first as a drop in meeting attendance, and then in membership. The organization's value to the membership then begins to slip because dues are down and volunteerism is down. The burden of providing a quality organization falls on fewer and fewer shoulders, and when the burden becomes too great, the whole thing collapses.

One might argue that if the organization provided "better value" for the time and money invested, individuals might be more inclined to participate. The problem is that it can't work that way. Providing value takes effort and more importantly, imagination and a sense of pride on the part of the volunteers who are working to provide that value. You know too well that all the dues in the world won't buy these things. In a word, you need professionals who are enthusiastic about their profession. In addition, there needs to be greater reward than simple personal satisfaction in volunteering. There needs to be some professional value. I'm reminded of the old saw: "Working hard around here is like peeing your pants in a dark suit. It gives you a warm feeling, but nobody notices." The problem is that if the level of professionalism is low overall, it drastically limits the professional value of volunteering.

To sum up (because I sense that it is about time I do), all this hand-wringing about BHAG, declining membership and maybe even the legislative issues, while important, is in my view, putting the cart before the horse. Foster professionalism. The rest will follow.

Christopher J. Sexton, CPG-09198

Dear Editor,

This letter is in response to the article “Instant Wilderness: When A Road is not a Road” (The Professional Geologist, March 2001). I believe this article should have been presented as an opinion of the authors, rather than an unbiased article. I would thus like to add another side of this issue.

I worked for the U.S. Forest Service in Gunnison, Colorado, during the summer of 1978, while still a student at the Colorado School of Mines. At the time, the Forest Service was conducting, as directed by the Federal government, the RARE II project, or Roadless Area Re-Evaluation (this was a while ago, so this is based on my best recollection of that time!). I was not directly involved in the project, but did learn enough to provide some additional information to what was provided in the aforementioned article. The Forest Service was given the task of evaluating/mapping existing National Forest lands for areas that did not have ‘roads, with the ultimate goal of mapping areas which could ‘potentially’ be designated as Wilderness Areas at some future date. The issue of what is a ‘road’ certainly became a focal point to the project. And it became a rather daunting task. One of the concerns brought up was, that, some dirt trail created by over-zealous 4-wheel drivers illegally taking vehicles into the backcountry would be classified as a ‘road’, thereby preventing an otherwise pristine, undisturbed area to be forever removed from any consideration as future wilderness land. It was certainly a question worthy of evaluation, at the very least. Some of these illegally created ‘roads’ even managed to make it to Forest Service and USGS maps, leading some to tout that they were thus ‘valid’ roads. Many people involved in the process also felt that former, old access roads, created who knows when and no longer used at all, should perhaps not solely be used as a reason to remove an area from consideration.

LETTERS TO THE EDITOR

I for one am glad that these questions have been raised. And while I have not read the Wilderness Act, I suspect it does not specify that its purpose was to "isolate a few mountain tops and a few million acres". Further, it was not "pro-wilderness bureaucrats and their radical environmental allies" who were redefining the term road. I think that perhaps some of this 'redefining' comes from both pro- and anti-wilderness groups, as they each try to influence the process. I do remember at the time, that the project also allowed for considerable public input, as well as input from the private sector. A concern of some private sector groups is that Wilderness Areas become totally removed or severely limited from mineral exploration or development. Even beyond the Forest Service's task, and the roadless issue itself, is the fact that both the U.S. Bureau of Mines, and the USGS, have conducted extensive mineral sampling and mapping efforts related to possible mineral resources within these 'RARE II' areas, so that this information also could be included in any future wilderness determination.

I hope that I have added another piece of information concerning this topic, or at least some food for thought. Please feel free to contact me with your comments to my letter. I can be contacted at 814 Orchard Drive, Wallkill, New York 12589 or e-mail Lsparrow@hydroqual.com.

Leslie Sparrow, CPG-09871

MEMBERS IN THE NEWS

AIPG Member Advises Russian Bioremediation Firm

Since 1990, Citizens Democracy Corps, CDC, a non-profit economic development organization based in Washington, D.C., has been sending American business executives, entrepreneurs, and professionals in the scientific and environmental fields as volunteers overseas through its program to help small and medium-size enterprises compete in emerging free-market economies.

Claudia Stone, CPG-06048, a certified professional geologist and principal of Bay Environmental Corporation in Salisbury, Maryland, recently served as a CDC Volunteer Advisor in St. Petersburg, Russia. Ms. Stone worked with a bioremediation firm in St. Petersburg that has developed technologies to clean contaminated soil and water. During the two-week assignment, she evaluated the company's operations and assessed its ability to compete in the international market.

"The mission was extremely successful both to myself and the client company in terms of exchanging technical information and developing a relationship that will permit us to continue collaborating on bioremediation technology and its global applications. This type of collaboration would have been unlikely without the support of CDC," Ms. Stone says of her assignment. Like many returned CDC advisors, she is in regular contact with the company.

Through its work in Russia, Ukraine, Central Asia, Central and Eastern Europe, Azerbaijan, Kosovo, Guatemala, and Thailand, CDC Volunteer Advisors provide valuable expertise to local firms in all fields and disciplines of business and industry. The rewards of CDC assignments are mutual as both the foreign firms and the American advisor significantly benefit from the exchange on all levels: professionally, culturally, as well as personally.

CDC and its overseas staff match companies seeking specific expertise with volunteers from CDC's database of resumes. Volunteers contribute their time and knowledge for two weeks up to two months while host companies or organizations provide housing, local transportation, and interpreter services. CDC covers international airfare and other daily expenses. CDC's programs are funded through U.S. Agency for International Development and the private sector.

If interested in a CDC assignment, please send a resume to: Brian Kroneman, Citizens Democracy Corps, 1400 I St., NW, Suite 1125, Washington, D.C. 20005; Phone: 800-394-1945; Email: HYPERLINK "mailto:info@cdc.org" info@cdc.org; Web site: HYPERLINK "http://www.cdc.org" http://www.cdc.org.

Robert D. Cowdery, CPG-00517, of Wichita, Kansas will received SIPES Honorary Membership at the annual awards banquet in Galveston, Texas on April 25, 2001.

Lewis S. (Stan) Pittman, CPG-01652, of Dallas, Texas received AAPG's Honorary Membership Award at the association's awards ceremony of June 3, 2001 in Denver, Colorado.

PROFESSIONAL SERVICES DIRECTORY

This service is open to AIPG Members as well as non-members. The Professional Services Directory is a 12-month listing offering experience and expertise in all phases of geology. Prepayment required. Advertising rates are based on a 3 3/8" x 1 3/4" space.

12-MONTH LISTING FOR ONLY:

AIPG Member	**$200.00**
Non-member	**$300.00**

Space can be increased vertically by doubling or tripling the size and also the rate.

RHODES INCORPORATED
Engineers • Geologists • Drilling

LARRY R. RHODES, P.G.
President

Mailing Address:
P.O. Box 24080
Lexington, KY 40524

Ph: 859-887-5700
FAX: 859-887-5703
e-mail: rhodes@kih.net
www.rhodes-inc.com

Bluegrass Industrial Park
115 Eisenhower Court
Nicholasville, KY 40356

Hager GeoScience Inc.
174 Lexington Street Waltham, MA 02453
Tel 781-893-9700 Fax 781-893-8455
http:// www.hagergeoscience.com
WBE CERTIFIED IN 6 STATES

Consulting in Geology and Geophysics

- UST, Utility, Rebar, and Void Detection
- Fill and Contaminant Plume Delineation
- Stratigraphy and Bedrock Mapping
- Blast and Vibration Monitoring/Analysis

David M. Abbott, Jr.
Consulting Geologist, AIPG CPG-4570

evaluating natural resources, disclosures about them, reserve estimates, and geological ethics & practices

2266 Forest Street
Denver, CO 80207-3831

PH.: (303) 394-0321
Fax: (303) 394-0543
DMAgeol@aol.com

BEAVER ENGINEERING, INC.

- Geotechnical Engineering
- Soils Laboratory
- Wetlands Studies
- Permeability Tests

7378 COCKRILL BEND BLVD. • NASHVILLE, TN 37209
(615) 350-8124 • FAX (615) 350-8149
E-MAIL: beengineering@msn.com

PLACE YOUR BUSINESS CARD HERE FOR ONE YEAR

AIPG Member Price - $200
Non-Member Price - $300

Call (303) 412-6205

Dennis Pennington, P.G.
President

National Environmental Technologies Corporation
P.O. Box 204 • 2840 West Clymer Avenue • Telford, PA 18969
Tel: (215) 723-9300 • Fax: (215) 723-9344
Internet: www.enter.net/~netc

OFFICES IN PITTSBURGH, PA AND HURRICANE, WV
Ground Water & Environmental Consulting Services

FAST-TEK
Engineering Support Services

- *Remediation Injection Process for PCE, TCE, TPH/BETEX, MTBE, Metals*
- *Geoprobe sampling and site investigation*
- *GPS/GIS site mapping*
- *Services nationwide*

James Jacobs, CPG-07760
Point Richmond, California **(510) 2332-2728**

Robert G. Font, Ph.D.
CERTIFIED PROFESSIONAL GEOLOGIST

Petroleum; Data Management
Geohazards; Courses & Seminars
(CDs available)

P. O. Box 864424, Plano, TX 75086

English/Spanish/French

Ph./Fax (972) 516-4725 • Pager: (972) 585-5234
e-mail: rgfont@compuserve.com

Leaky Lake? We fix them!

Specialists in the Evaluation, Location and Termination of Leakage related to Lakes, Dams, Spillways and Outflow Structures.

"The Pressure Grouting Specialist"

STRATA SERVICES

Contact: Dave Taylor
636-398-5858
E-Mail stratainc@mindspring.com

TPG ARTICLES NEEDED

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 include: mining, petroleum, hydrogeology, environmental geology, and geophysical/engineering . Articles containing news of importance to professional geologists also will be considered. Deadline date for submissions is the fifteenth of the month two months before date of issue. For example, the deadline for the November issue is September 15. Articles are reviewed by at least three associate editors before they are approved for printing.

Manuscripts should have the following sections: title, author(s) with CPG number and address, key words, text, tables if included, figures with captions if included, appendix(es) if included, acknowledgments, references cited, and a brief biography.

One original and three copies of each manuscript should be submitted. Whenever possible, text also should be submitted on diskette. Headquarters uses WordPerfect 9 for Windows '98, which is preferred, but Word, ASCII, RTF, or translatable files are acceptable. Articles also can be transmitted by e-mail.

Graphics should be clear, camera-ready, line drawings whenever possible. Photographs (color or black and white) also are encouraged.

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.

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

AIPG
8703 Yates Dr., #200
Westminster, CO 80031-3681
(303) 412-6205 • Fax (303) 412-6219
aipg@aipg.org or wjd@aipg.org

AIPG SPONSORSHIP PROGRAM CONTRIBUTORS

The following individuals and corporations have made generous contributions to AIPG through our Sponsorship Program for the enhancement of AIPG's professional image and to allow improvements in the efficiency of service delivery to all Members.

Thank you for your support:

Individuals

Frank W. Harrison, Jr., CPG-02500
Dennis I. Pennington, CPG-04401
Dawn H. Garcia, CPG-08313
Thomas G. Fails, CPG-03174
Robert G. Font, CPG-03953
Douglas E. Connell, CPG-08014

Corporations

IT Corporation

For further information on the AIPG Sponsorship Program contact AIPG National Headquarters at (303) 412-6205

CALENDAR

2001

Jun. 3-6. *AAPG Annual Convention and Exhibition*, Tulsa, OK. Contact: AAPG, 1444 S. Boulder Ave., P.O. Box 979, Tulsa, OK 74101; (800) 364-2274.

Jun. 4-7. *The 6th Int'l. Symposium on In Situ and On-Site Bioremediation*, San Diego, CA, by the Battelle. The Conference Group, 1989 West Fifth Ave. #5, Columbus, OH 43212; (800) 783-6338; e-mail: <conferencegroup@compuserve.com>)

Jun. 4-8. *4th International Symposium on Remote Sensing in Glaciology*, University of Maryland Conference Center, College Park, MD, by the International Glaciological Society and EOS/Icesate. Contact: Simon Ommanney, International Glaciological Society, Lensfield Rd., Cambridge CB2 1ER U.K.; +44 1223 355974, e-mail: <Int_Glaciol_Soc@compuserve.com>, <http://www.spri.cam.ac.uk/igs/home.htm>

Jun. 9-13. *A Geo-Odyssey*, Virginia Tech, Blacksburg, VA. A Geo-Institute conference on foundations and ground improvement. Contact: Professor J. Michael Duncan, CEE Dept., 200 Patton Hall, Virginia Tech, Blacksburg, VA 24061; (540) 231-5103, e-mail: <jmd@vit.edu> or <http://cgpr.ce.vt.edu/geo2001/>.

Jun. 10-15. *5th International Conference on Diffuse Pollution*, Milwaukee, WI. Contact: <mburkart@nsti.gov>.

Jun. 11-13. 2001 *International Containment & Remediation Technology Conference and Exhibition*, Orlando, FL. Contact: Skip Chamberlain, U.S. Dept. of Energy, Cloverlead Bldg., EM-53, 19901 Germantown Rd., Germantown, MD 20874; (301) 903-7248.

Jun. 19-22. *17th International Mining Congress and Exhibition of Turkey*, Ankara, Turkey. Contact: Bahtiyar Unver, Co-Chr., Organizing Comm., Dept. of Mining Engineering, Hacettepe Univ., Beytepe Ankara, 06532 Turkey; 90-312-297-7696.

Jun. 24-28. A global meeting presented by the Geological Society of America and the Geological Society of London, *Earth System Processes*, Edinburgh, Scotland. For further details see the web page at <www.geosociety.org/meetings/edinburgh>.

Jul. 7-10. *American Rock Mechanics Association's DC Rocks 2001, 38th U.S. Rock Mechanics Symposium*, Washington, DC. Contact: John Tinucci, Technical Program Chr., PanTechnica Corp.; (952) 937-5879.

Aug. 7-10. *International Tsunami Symposium 2001*, Seattle, WA. Contact: E.N. Bernard, NOAA/PMEL, 7600 Sand Point Way NE, Seattle, WA 98115; (206) 526-6800; e-mail: <bernard@pmel.noaa.gov>; >http://www.pmel.noaa.gov/its2001>.

Sep. 9-14. *SEG International Exposition & 71st Annual Meeting*, San Antonio, TX, by the Society of Exploration Geophysicists. Contact: Dibbi Hyer, 8801 S. Yale, Tulsa, OK 74137; (918) 497-5500, e-mail: <dhyer@seg.org>; <http://meeting.seg.org>

Sep. 23-26. The Society of Organic Petrology (TSOP), 18th Annual Meeting, *Geochemistry of the Deep-Water Gulf of Mexico*, Houston, TX. Contact: Dr. Coleman Robison, Texaco Group, Inc., E&P Technology Div., 3901 Briarpark Dr., Houston, TX 77042, (713) 432-6828, <robiscr@texaco.com>, <www.tsop.org>.

Sep. 29-Oct. 7. *AEG/AIPG 2001 Annual Meeting*, St. Louis, Missouri. **CALL FOR SYMPOSIUM TOPICS** If you would like to suggest a topic and/or chair a symposium, please contact Paul Santi, Symposia Committee Chair, at <psanti@umr.edu>, (573) 341-4927, or by mail at Dept. of Geological Engineering, Univ. of Missouri-Rolla, 129 McNutt Hall, Rolla, MO 65409.

Nov. 5-8. *Geological Society of America Annual Meeting,* Boston, MA. Contact: GSA Meetings, Boulder, CO 80201; (303) 447-2020; <http://www.geosociety.org>.

Send notices of meetings of general interest, in format above, to Editor, *TPG*, 8703 Yates Drive, Suite 200, Westminster, CO 80031-3681 or e-mail: <aipg@aipg.org>.

AIPG ANNUAL MEETINGS

AIPG/AEG
Sept. 29 - Oct. 7, 2001
St. Louis, Missouri

Sept. 22-28, 2002
Reno, Nevada

AIPG Membership Totals

	As of 04/25/00	As of 05/04/01
CPG - Active	3,982	3,899
CPG - Retired	526	509
Cand. for Cert.	45	0
Member	39	64
Registered Memb.	18	18
Associate Memb.	5	7
Student Adjunct	72	90
Honorary	19	20
TOTALS	4,706	4,607

Moving? — Changing Jobs?

...don't forget to send AIPG your new address!

Name_____AIPG No.____

Address_____

Address_____

City/State/Zip_____

New phone numbers: Office_____Home_____

Fax_____E-mail_____

Only one change notification is necessary for all AIPG publications.

AIPG, 8703 Yates Drive, Suite 200, Westminster, CO 80031-3681
(303) 412-6205 • fax (303) 412-6219 • aipg@aipg.org

ADVERTISERS INDEX

NEW APPLICANTS AND NEW MEMBERS - (03/27/01) - (05/03/01)

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 Geologists

TX-Mark A. Brotherton
7103 Bristol Ridge Dr., Houston TX 77095. Sponsors: Gary Henderson, Erik Aspelin, Rob Pettigrew

MA-Thomas A. Davidson
267 Concord Rd., Wayland MA 01778. Sponsors: Ray Talkington, Larry Picking, Steve Brandon, Dick Gillespie.

MI-Ned Rick Dunkin
Harding ESE, Inc., 46850 Magellan Dr., Novi MI 48377. Sponsors: Lisa Boettcher, Joseph Sarnecki, Steve Murray, Scott Green.

LA-Alan F. Edwards
114 Somerset, La Place LA 70068. Sponsors: Dave Flint, Rod Ikola, Steve Van Nort.

TX-Bruce H. Fly
P.O. Box 388, Boerne TX 78006. Sponsors: Allen Tamura, Todd Schmidt, Brian Keneghan.

NV-William T. Gehlen
4195 Primavera Ave., Reno NV 89502. Sponsors: Debra Struhsacker, Steven Ristorcelli, Jeff Parshley.

MA-Michael S. Healey
4 Pineview Terrace, Mansfield MA 02048. Sponsors: George Gardner, Dorothy Richter, Charles Race.

VA-William J. Mikalik
Applied Envir., Inc., 11800 Sunrise Valley Dr. #1200, Reston VA 20191. Sponsors: Robert Vargo, Jerry Kashatus, Gerald LeFevre, Carl Bastian.

MI-Michael J. Zack
7136 Glacier Pointe Dr., Ypsilanti MI 48197. Sponsors: Stephen Townsend, Steven Murray, Andrew Lonergan.

Applicants for Member

MI-Beth A. Harrington
1029 Island Drive Ct., #104, Ann Arbor MI 48105. Sponsors: Drew Diefendorf, Joe Aldern.

MN-Robert H. Heimbach
DPRA Inc., 332 Minnesota St., Ste. E-1500, St. Paul MN 55101. Sponsors: Jennifer Wolff, Robert Wahlstrom.

MI-Kristopher J. Nolan
5555 Glenwood Hills Pkwy SE, P.O. Box 874, Grand Rapids MI 49588. Sponsors: Steve Townsend, Andrew Lonergan.

MN-Matthew R. Schemmel
332 Minnesota St., Suite E1500, St. Paul MN 55101. Sponsors: Robert Wahlstrom, Jennifer Wolf.

New Members

TX-Brandon P. Reynolds MEM-0098
Cirrus Associates, LLC, 608 North 14th Street, LaPorte, TX 77571, (281) 470-2948

CA-James R. Ollerton MEM-0100
631 Commerce Dr., Suite 100, Roseville, CA 95678-6431, (916) 786-8883 x211

New Student Adjuncts

VA-Aaron B. Garrod SA-0197
1466 Devon Ln., Harrisonburg VA 22801, (540) 438-2810

VA-Russell B. Pace III SA-0198
614 Deerfield Pond Ct., Great Falls VA 22066, (540) 435-4681

VA-Mary K. Sutherland SA-0199
1441 Devon Ln., Apt. K, Harrisonburg VA 22801

VA-David J. Scarpato SA-0200
507 Fairfax St., #4, Radford VA 24141, (540) 831-6710

IN MEMORY

William J. Barker,
CPG-04830, March 2000,
Massanutten Village, Virginia.

A. Gordon Everett,
CPG-02387, Scottsdale, Arizona.

Request for an Application and/or Additional Information

Name _____

Employer _____

Street _____

City _____ State ____ Zip _____ Country _____

Daytime Phone _____

E-mail: _____

Please send:

- ❑ Application Packet
- ❑ Publications List
- ❑ Advertising Rates

Mail, fax, e-mail, or call (forms are available online):

AIPG, 8703 Yates Dr., Suite 200, Westminster, CO 80031-3681
(303) 412-6205 • fax (303) 412-6219 • e-mail: aipg@aipg.org
website: http://www.aipg.org

KEEP US UPDATED

AIPG Members: please be sure to notify AIPG headquarters when you change your address, including your e-mail address. Check your address as posted in the annual directory or on the AIPG website <www.aipg.org>. National as well as the Sections rely on this information to keep you updated on current events. The AIPG National headquarters supplies the Sections with labels and e-mail listings, so contact AIPG headquarters with your changes at (303) 412-6205 or e-mail: <aipg@aipg.org>.