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The purpose of AIPG is to strengthen the geological sciences as a profession with all reasonable actions, to establish professional qualifications, to certify those qualifications to the public, and to evaluate continuously the ethical conduct of its members. Further, the Institute establishes ethical standards to protect the public and geological sciences from nonprofessional practices, monitors governmental and other activities affecting the geological sciences, and communicates with the public.

Prepared under the direction of national AIPG Editor Robert R. Jordan and AIPG Headquarters Publication Specialist Wendy J. Davidson.

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President’s Message

Susan M. Landon

There are occasional events in our lives which reinforce our direction and goals and my commitment to the Institute received such a boost recently. I was at Headquarters working on finalizing the position paper on proposed changes to the 1872 Mining Law and was feeling somewhat "over-worked and under-paid." A professor from Metropolitan State College in Denver came in to the office to purchase a dozen copies of one of the "Issues and Answers" publications. Of course my curiosity demanded an explanation. In response to my question, the professor said that she used this publication as a text in a technical writing course. The Issues and Answers was one of the best examples of good technical writing and effective use of graphics she had found.

Now that my term is more than half complete, I have been examining the results of the year so far, and have questioned what value or impact we may make. In one brief encounter the question was answered with tangible documentation of the value of the services of the Institute to the general public as well as the geological profession. Not only are we producing high quality products, but these products are effective vehicles for disseminating geological information that we feel is important. Each Member who has volunteered to help the Institute should feel that they have received a personal compliment on the work they have done. ●

Mineral Exploration and Development Act of 1990

The American Institute of Professional Geologists prepared the following Position Paper for the hearing on Congressman Rahall’s proposed bill, H. R. 3866, the "Mineral Exploration and Development Act of 1990." The Institute thanks Steve Friberg, CPG 6502, Ernie Lehmann, CPG 583, Phil LaMoreaux, CPG 880, Susan Landon, CPG 4591, and Ted Mullin, CPG 1716, for writing and revising the Position Paper. Fred Beck, CPG 5767 presented the Position Paper as testimony at the hearing on September 6, 1990 and receives a special thanks.

Beck’s report on the hearing is contained in a letter to President Landon:

"The hearing yesterday was long and repetitive, and the viewpoints ran the gamut from no change of 1872 Law to de facto banning of all mining. Included with this note is a list of the speakers. In general, most of the mining company representatives felt that the 1872 Law had worked well, had built up a large body of case law supporting it, and should be retained - with carefully crafted amendments to resolve some of the abuses.

"The environmental groups all felt the 1872 Law is tantamount to a federal give-away of the nation’s land and resources to greedy miners. They also all felt that Congressman Rahall’s bill was not nearly tough enough and lacked a federal royalty provision.

"Several people at the hearing commented that they were happy to see interest and involvement by AIPG and hoped it would continue. My sense of the hearing is that Congressman Rahall will go back to the drawing board and come out next year with a revised bill which may answer many of the concerns that were raised.

"There were some good arguments for staying with the 1872 Law. It may be that most of the issues and changes which AIPG supports could be accommodated as amendments to the 1872 Law rather than starting from scratch with H. R. 3866.

"The record will remain open for ten more days for additional written testimony. Thanks for giving me the opportunity to present the AIPG position. I enjoyed the experience."

The Position Paper and the agenda for the hearing appears on the following pages. ●
Position Statement on the "Mineral Exploration and Development Act of 1990"

The American Institute of Professional Geologists has a membership of 4500 scientists representing all specialties within the profession including water, mining, petroleum, and environmental. The membership believes that the Mining Law of 1872 should be revised to meet the needs of today's world. The Institute also believes that many provisions and principles of the 1872 Mining Law are consistent with the philosophy of multiple use for the vast majority of public lands. Many mechanisms in the law encourage the entrepreneurial exploration climate required to reduce our dependence on imported supplies of strategic and critical minerals.

Several legislative proposals to modernize the Mining Law have been proposed. H. R. 3866 has been introduced in the House by Representative Nick J. Rahall, II. Representative Rahall is to be commended for his concern with this important issue. The Institute believes, however, that his proposal, as it now stands, will also have some significant adverse affects on the welfare of both the Nation and the geological profession. We strongly recommend that certain principles be retained or incorporated in the proposed bill.

(1.) We propose current types of claims - lode, placer, mill, and tunnel site, be combined into one single uniform claim. Each such claim should approximate forty acres and conform to the public land surveys.

(2.) Two-inch square wooden posts or other appropriate environmentally safe markers should be used to mark claim boundaries.

(3.) Discovery requirements should be uniform in all states and should allow geological, geophysical, or geochemical data to be used to validate a discovery.

(4.) A ninety-day period following location should be granted for claim recoradation.

(5.) Annual minimum assessment work, to maintain each claim, should be based on $5.00 per acre. Provision can be made to increase this requirement; for example, the assessment requirements could be increased with the number of claims held by any one claimant at any one location. Twenty claims may be an appropriate threshold. Subsequent increases serve to make exploration prohibitive for the smaller entrepreneurial groups that often are the most capable of making new mineral discoveries.

(6.) Payment in lieu of assessment work, at the rate of one-half of that of the required assessment work, should be implemented. This would be allowed after the first year of staking and should not be allowed for more that three out of every five years the claim is held.

(7.) All work pertaining to the development of the mineral resources, including reclamation, should count towards the required work assessment. Any excess in one year should be applied towards the following years.

(8.) Strong Federal penalties are recommended to prevent false assessment filing.

(9.) There should be free access to appropriate Federal Lands for the purposes of legitimate exploration and mining.

These recommendations will provide a system which will continue the principle of self initiation that has served the Nation effectively in the past for the discovery and development of our mineral resources. They address various environmental issues such as: (a) protecting wildlife by switching to claim posts which would not harm animals, (b) increasing the incentive to reclaim lands by allowing reclamation work to count towards assessment requirements, (c) permitting payment in lieu of assessment work which would lessen the impact of needless assessment work while creating funds that could be used for general land reclamation and restoration, and (d) promoting the appropriation of smaller areas by the economic factor of rewarding claimants who limit their land holdings.

The American Institute of Professional Geologists believes the Mining Law is not the appropriate place to address major environmental concerns. Staking a claim is not a permit to mine. Environmental issues are currently dealt with by existing requirements of various Federal Laws and regulations and comprehensively dealt with by each state.

The Institute believes that these principles address the legislative, land use policy, and economic concerns of the public and the geological profession with the existing Mining Law in the context of the 1990s. We believe that it is critical that the strong points of the 1872 Mining Law be preserved and that the spirit of self initiation and multiple use of public lands be maintained. The individual miner, as well as the large mining companies, should continue to coexist in the search for, and development of, natural resources.

The revisions of the general Mining Law of 1872 should promote the environmentally sound development of the strategic, critical, and necessary raw materials and provide a strong industrial base on which our security depends. The revisions should not attempt to create a "revenue producing bill."

The American Institute of Professional Geologists believes that modification of H. R. 3866, with the recommendations outlined above will promote the proper climate to continue the prudent and effective search for, and development of, our Nation's resources in the twenty-first century. ●
Committee on Interior and Insular Affairs
Subcommittee on Mining and Natural Resources

Nick J. Rahall, Chairman
819 House Annex 1 * U.S. House of Representatives *
Washington, D.C. 20515

HEARING on
H.R. 3866
"MINERAL EXPLORATION AND DEVELOPMENT ACT OF 1990"
9:45 a.m. - 1324 Longworth HOB
Thursday, September 6, 1990

WITNESSES

Panel I
- James Duffus III, Director of Natural Resources Management Issues
  U.S. General Accounting Office
- Cy Jamison, Director
  Bureau of land Management,
  U.S. Department of the Interior accompanied by:
  Ed Hastry, California State Director
- Dean Swickard, Manager - Folsom Resource Area,
  California
- George M. Leonard, Associate Chief Forest Service,
  U.S. Department of Agriculture

Panel II
- Ralph Nader, Consumer Advocate
- John D. Lesky, Professor of Law
  Arizona State University
- Carl J. Mayer, Assistant Professor of Law
  Hofstra University School of Law - New York
- Philip M. Hocker, President
  Mineral Policy Center
- James B. Dougherty, Vice President for
  Wildlife Programs
  Defenders of Wildlife

Panel III
- Putnam Livermore, President
  Public Resources Foundation
- Lynn A. Greenwalt, Vice-President
  National Wildlife Federation
- Hugh J. Matheson, President and CEO
  CoCa Mines, Denver, Colorado

Panel IV
- Buster LaMoure
  Public land Consultants, Inc., Missoula, Montana
- Dave W. Parkhurst, Executive Vice President
  Nevada Miners and Prospectors Association
- John H. Wright, Certified Professional Geologist,
  Grand Junction, Colorado
- Tony Adkins, Geologist
  Libby, Montana

Panel V
- William T. Cohan
  Western Small Miners Association,
  Nucla, Colorado
- M. Dean Webb, President
  Great Basin Exploration Corporation,
  Henderson, Nevada
- David W. Delcour, Chairman,
  Public Lands Committee
  American Mining Congress
- Jack Lyman, Executive Director
  Idaho Mining Association
- Joel Casburn, Chairman - Public Lands Committee
  Nevada Mining Association
- Stephen D. Langley, Executive Director
  Montana Mining Association

Panel VI
- Andy Kerr, Director of Conservation
  Oregon Natural Resources Council
- Mike Medberry, Public Lands Director
  Idaho Conservation League
- Jean Clark, Chairman
  Cottonwood Resource Council
- Debbie Sease, Washington Director -
  Public Lands Program
  Sierra Club

Panel VII
- R. Ray Beebe, Senior Vice President
  Homestake Mining Company
- Brade L. Doorens, Vice President -
  Legal and Regulatory Affairs
  Energy Fuels Nuclear, Inc.
- Emil A. Romagnoli,
  Director of Government Affairs
  ASARCO, Incorporated
- Donald E. Jenkins,
  Administrative Superintendent
  Golden Sunlight Mines, Inc.
- Stefen R. Albury
  Aspen Mountain Mining Corporation

Panel VIII
- Steven C. Borell, P.E., Executive Director
  Alaska Miners Association, Inc.
- Robert A. Sanregret, on behalf of:
  Western Mining Council, Inc.
- John L. Nef, Esquire
  Northwest Mining Association
- M. William Tilden, Chairman,
  Lands and Minerals Committee
  California Mining Association

Panel IX
- Frederick M. Beck, Certified Professional Geologist
  American Institute of Professional Geologists
- Donald L. Fife, Chairman
  National Inholders Mineral Advisory Board
- Ted Wilton, President and Chairman
  Minerals Exploration Coalition
- Clayton J. Parr, Esquire
  Kimball, Parr, Crockett & Waddoups,
  Salt Lake City
- Richard K. Sager, Esquire
  Van Cott, Bagley, Cornwall & McCarthy,
  Salt Lake City, Utah
The American Institute of Professional Geologists will present its 1990 awards at the Annual Meeting at Long Beach, California. Congratulations to all!

Citation for
Grover E. Murray, CPG 94
1990 Recipient of the
BEN H. PARKER MEMORIAL MEDAL

The past recipients of the Ben H. Parker Memorial Medal represent the creme de la creme of the geological profession. This year's medalist, Grover E. Murray, adds yet another star to the Institute's list of illustrious recipients of this honored medal.

A North Carolinian by birth, Grover received his Bachelor of Science in Geology from the University of North Carolina in 1937. He completed his graduate studies at the Louisiana State University, receiving his master's degree in 1939 and his Ph.D. in 1942. He then embarked upon a professional career in geology that, to date, has spanned almost five decades.

While completing his dissertation, Grover joined the Magnolia Petroleum Company where he gained his first experience in applying his academic training to the search for petroleum. That experience served him and his students well in his later academic career.

In 1948, Grover entered an academic career that was to span 40 active years. This career began at his alma mater, Louisiana State University, where he was appointed Professor of Stratigraphic Geology and Director of Research for the Louisiana Geological Survey. During his tenure at LSU, he served as director of geology field courses, chairman of the department, director of the National Science Foundation field studies in the Sierra Madre Oriental and the Parras basin in northeastern Mexico, Vice President and Dean of Academic Affairs, and finally Vice President of the Louisiana State University System. He also found time to serve as Visiting Professor of Geology at the University of Texas and to direct their field courses in East Texas. He maintained a close working relationship with the petroleum industry through his consulting with several domestic and international companies, and his advisory service on petroleum matters with foreign governments.

In 1966, Grover was appointed President of Texas Tech University and Professor of Geology. In 1969, he was given additional responsibility as President of the School of Medicine. He concluded his 40 years of active academic service in 1988 when he was given the titles of President Emeritus and Professor Emeritus at Texas Tech.

During his long and distinguished career, Grover shared his talents with all the major geological societies and organizations. He served as president of the AIPG, AAPG, AGI, and SEPM. He participated in and chaired countless committees, boards, and commissions of national and international organizations concerned with a broad spectrum of scientific and professional matters in the geological sciences. His service in each of these activities was long and substantive. He served on the American Commission on Stratigraphic Nomenclature for a dozen years, the Geological Society of America in various capacities for more than 20 years, the American Association of Petroleum Geologists for more than 45 years, and as a charter member of our Institute from its founding to present.

Grover is equally at home in the boardroom as he is in the classroom. He has served on the boards of several petroleum companies, including Ashland Oil, Inc., where he played an active role in the growth and development of that corporation for more than a decade. His knowledge of the petroleum industry and his management skills were put to good use on several major committees of that board.

During his career, Grover has made numerous important contributions to the scientific literature of geology. His most important contributions have come from his fundamental research on the Gulf Coast basin. These studies culminated in 1961 with the publication of his classic treatise on the Gulf and Atlantic basins, which remains to this day a required reference for anyone conducting geological studies in this region.

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To say that Grover has served the science and profession of geology well is to state the obvious. His dedicated service has been recognized with dozens of honors and awards. He is an honorary member of most of the geological societies, including being named the first honorary member of AIPG in 1984. He received the AAPG's highest honor, the Sidney Powers Medal in 1983, and AGI's highest honor, the Ian Campbell Medal in 1989.

A modest man, Grover is quick to recognize others who have contributed to his success. However, his boundless energy, his skill in communication, and his organizational abilities coupled with his sense of dedication to public service clearly set him apart from his other distinguished geological colleagues.

The Ben H. Parker Memorial Medal is awarded to "individuals who have long records of distinguished and outstanding service to the profession." Grover Murray's career is long and distinguished, although far from being over, and certainly meets the requirements for this prestigious award. The American Institute of Professional Geologists and the profession of geology honor themselves by selecting Dr. Grover E. Murray - educator, scientist, professional geologist, administrator, and genuine human being - as the 21st recipient of the Ben H. Parker Memorial Medal.

Charles J. Mankin, CPG 1415

Citation for
Sam R. Evans, CPG 3349
1990 Recipient of the MARTIN VAN COUVERING MEMORIAL AWARD

The criteria for the Martin Van Couvering Memorial Award stipulate that "...the most important contribution a geologist can make to the Institute is that of his time." Sam Evans was our Institute's Silver Anniversary president, and his presidency was one of the most successful in the history of AIPG. Sam's success resulted both from the knowledge he gained through substantial investment of himself in AIPG over many years and his outstanding qualities as a leader.

His major contributions over 15 years as an AIPG member while serving as President of the Texas Section include direction of the redrafting of the Texas Section Constitution and Bylaws, serving as the 1984 general chairman of the annual meeting of the Texas Section, and three consecutive years on the National Executive Committee as vice-president, president-elect, and president. He has continued his service, most recently as chairman of the Ad Hoc Committee for a Model Registration Law.

Our Institute established the Martin Van Couvering Memorial Award in 1979, in honor of a great leader with CPG Number 1, without whom there would not have been an AIPG. It is indeed fitting that Sam R. Evans, CPG Number 3349, has been selected to receive this award in 1990. Few Members probably realize that without Sam's superb leadership in 1988, there may have been no AIPG today.

Sam's assumption of the presidency was almost coincident with the date when our Institute found itself with a vacant office of the AIPG executive director after several years of a tradition in which major parts of the actual management of the Institute had drifted into reliance on the director. The resignation left an Institute where no one quite knew how to pick up the pieces, or indeed knowing where we could even find some pieces. Being president of any national organization is demanding, but, without benefits of an executive director, the presidency of AIPG was transformed from the part-time demands of a professional society officer to the status of a full-time, high-level management position as a chief executive officer. For Sam, there was no graceful training or warning period; he immediately found himself supported by a Headquarters staffed by two part-time secretaries, both of whom had been kept out of any management role with AIPG. Sam's challenge was quite literally to rebuild AIPG as a serious professional society.

As if the responsibility for actually running the Institute were not enough, Sam's presidency came at the time of peak controversy about registration, and in a period of serious exchanges between petroleum and mining geologists on one hand and environmental and engineering geologists on the other, each group having vastly different ideas about what AIPG should be. Sam found himself captain of a ship that several long-time Members predicted would founder and sink within months. A very few Members, rather than pitching in to resolve problems, expressed their displeasure with a fiery letter and a resignation, thus contributing to the fulfillment of their own prophecies of doom. A few societies even sniped at AIPG in their own publications. During all this, Sam was the individual who had full work of exposure to such elements and he showed the true metal of his character in facing all criticisms, not defensively, but instead with fairness and with an eye toward construction and resolution.

One of his major accomplishments was establishing better communication with other organizations involved in the...
professional aspects of geology, an effort that replaced the sniping with better understanding. This open communication resulted in cooperative drafting of the first model of a registration law for geologists by AIPG and three other geological societies.

In 1984, Thomas Peters and Robert Waterman wrote a best-selling book, "In Search of Excellence," which portrayed the success stories of America's best-run companies. In 1988, those of us who served on the Executive Committee, had the privilege of working, not on a sinking ship, but instead in what was probably one of America's best-run professional organizations. At the root of this success was Sam's ability to manage with caring and confidence. Sam, quite simply, brought out the very best in the people whom he served and depended upon.

He convinced an inexperienced Headquarters staff that they could indeed be solid, effective managers - and they became that. He instituted a Headquarters Committee that ensured support for the Headquarters staff and decisively restored the actual control of AIPG to the Members themselves. The Institute's finances underwent a thorough audit and the first truly complete financial reports in years were compiled. The editor was given the responsibility for production of publications and the freedom and the resources to manage the task. Extra meetings were held with officers and Advisory Board representatives to review the structure of AIPG literally from the ground up - from the very Articles of Incorporation all the way through current membership screening procedures. A study was made of the appropriateness of the AIPG Constitution and Bylaws in view of recent judicial decisions, and it was soon obvious that serious changes were needed. Sam Evans restored the original vision of AIPG wherein the varied professional concerns of diverse types of geologists could be accommodated within one Institute and clarified the need for geologists to unite when dealing with particular professional issues. Under Sam, an AIPG that was ready to serve us in the 21st century truly began to take shape.

Sam and his wife, Billie, whom he met at Wichita State University, have three daughters and five grandchildren. When Sam refers to his wife, children, or grandchildren, the reference is usually followed by a sincere, "Lucky me!" It is our great honor to provide this citation and we are particularly grateful for the time we have spent together in AIPG that allow us to call Sam and Billie our friends. Our two years spent on the Executive Committee with Sam give us clear license to make one statement on behalf of the entire Institute. "Lucky us, lucky us!"

Edward B. Nuhfer, CPG 2808 and
John T. Galey, Jr., CPG 2622

In providing this citation for Richard J. Proctor, I can think of no individual whose professional life better models the ideals on which the Martin Van Couvering Memorial Award is based. Indeed, Dick's recent service to AIPG is an astonishing parallel to the service provided by Martin Van Couvering himself, over twenty-seven years ago.

Richard J. Proctor is one of the nation's best known engineering geologists. I first learned of him through his publications on tunnel boring machines and particularly from a memorable editorial in an American Society of Civil Engineers journal, "Let's Teach Geology to the Civil Engineer Student" that appeared in January of 1981 and which I still reproduce for my civil engineers at Platteville in my first week of classes in the engineering geology course.

Dick provides more than service to his profession; he displays to it a magnitude that all of us would do well to emulate. He has been immensely successful and I have no doubt that the time of anyone with comparable professional reputation carries a market premium. Yet, Dick has probably donated more of that valuable time to his profession than any individual in AIPG and perhaps in the nation. Dick has served AIPG as our vice-president, president-elect, and recent 1989 president. He also served the Association of Engineering Geologists as their president and the American Geological Institute as their secretary-treasurer. In AIPG, Dick has developed and participated in almost countless projects. He has been a major force behind AIPG "Issues and Answers" publications and evidence of his energy and creativity seems to be everywhere within the Institute.

However, I think that beyond those of us who worked on the Executive Committee in 1988 and 1989, few actually know the extent of Dick's lead role in one of the most important contributions made to AIPG since 1963. The essence of that contribution is found on pages 26 through 47 of the 1990 AIPG Directory. Those pages contain the Bylaws and Code of Ethics as well as a set of official policies and membership screening procedures. Those documents of governance did not appear in previous directories because

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they are new. Their production was not based simply on a whim for change; the changes were critical to the very survival of a professional institute for geologists.

Dick was president-elect in 1988, during the difficult period when the Institute operated without an executive director, and then served five months of his own presidential term in 1989 without benefit of a director. The experiences of the Executive Committee in 1988 dictated that every aspect of AIPG required careful study. We were fortunate to have Dick on the Committee at that time because he was the only individual who was truly familiar with recent problems caused for other societies by their traditional constitutions and bylaws. Through Dick's persuasion, the Executive Committee selected Alan Stover, an expert on the relationship of law to professional societies, to review our own governing documents. When Stover's report was completed, it was apparent that our existing documents of governance, which had served as our cornerstone since 1963, were ticking bombs with the potential to destroy the very Institute they were designed to create and preserve. In light of recent judgments, these documents left our Institute in a position so hazardous to litigation that it was something of a wonder that we were still in existence.

The rewriting of documents so basic as the constitution and bylaws of a society is tantamount in labor to laying the foundation of an entire new society. Dick was the lead individual in directing the revisions and the process took almost two years to complete. Without those changes, we might not be meeting here tonight.

Martin Van Couvering, the first AIPG president, was one of the principal authors of the original documents of governance of the Institute. It is indeed fitting that Richard J. Proctor, the principal officer who oversaw the development of new documents of governance and the first president to operate under those documents, receive the Martin Van Couvering Memorial Award.

The honor in writing this citation for you, Dick Proctor, has been my great privilege - as it has been my great pleasure to work with you and to know you these past few years. It feels very good to be an AIPG Member and to be associated with people such as yourself.

In concluding the citation addresses for both Sam R. Evans and Richard J. Proctor, I should like to note that these two individuals, through their presidencies in 1988 and 1989, successfully brought this Institute through a monumental and difficult transition. Because of them we emerged from this trying period with a stronger Institute, an outstanding new executive director, a renewed credibility, and every reason to be appreciative. In view of their service and dedication, there was no way we could possibly give a single Martin Van Couvering memorial Award to one of these individuals and not the other. Martin Van Couvering should be extremely proud of the happy event that took place in his name at this 1990 Annual Meeting.

Edward B. Nuhfer, CPG 2808

Citation for
Linda E. Okland, CPG 7117
1990 Recipient of the
PUBLIC SERVICE AWARD

In recent years, we have heard much about the decline in academic excellence of American students and have witnessed a sharp drop in the number of students seeking and completing degrees in the scientific disciplines, including the earth sciences. The majority of our teachers, particularly at the grade-school level, are only casually trained in the sciences and have no depth of knowledge to pass on to their students. The earth sciences are rarely offered to students, particularly at the high school level.

National programs, such as AAPG's Visiting Petroleum Geologist Program, bring practicing geoscientists into the nation's universities to talk with prospective earth scientists and to provide them with role models. Some people in this room are a part of that rewarding and successful program. At the grade and high school level, many communities have a "Scientist in the Schools" program where local practicing scientists visit the grammar and high schools to work directly with the students.

Such programs are only as good as the scientists who give of their time and energy to support them, however, and Anchorage, Alaska is a fortunate city indeed to have Linda Okland as one of the prime movers in its efforts to bring the sciences to the classroom.

That bringing science to our youngsters is a challenge is graphically illustrated by an anecdote recounted to me by today's honoree. Linda tells of her first "real" teaching experience when she asked her students to write on a 3x5 card what topics in science they were most interested in. "Every single student," says Linda, "wrote some variation on 'Nothing. I hate science.'" As it turned out, Linda continues, there were in fact a lot of science topics the students were interested in, but "...their school experiences with science had been so bad that they wanted nothing to do with anything labeled Science in a classroom."

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I first met Linda in 1978 when we were in Dallas, Texas taking part in the geological training program for what was then the North American Producing Division of the Atlantic Richfield Company, now known as ARCO. At that time, newly graduated from the University of North Dakota with a master's degree in geology, Linda was embarking upon her second career after spending some time as a public school teacher. Armed with a bachelor's degree in biological sciences which she earned in 1970, Linda taught science at schools in Minnesota before returning to school to study geology. But she never really left her interest in science education far behind, as we shall see...

In addition to her membership in AIGP, GSA, SEPM, AAPG, and the Anchorage Geological Society, of which she is president-elect, Linda has retained her membership in the National Science Teachers' Association and the National Association for the Education of Young Children. Her activities in the geological societies are: in AAPG, she is a member of the Ad Hoc Committee on Petroleum Curriculum Development and the Youth Advisory Committee; in SEPM, she serves on the Committee on K-12 Education and co-edited "A Sedimentary Geologist's Guide to Helping K-12 Earth Science Teachers." During 1988-89 she served as chairman of the Community Education Committee for the Alaska Geological Society. Under her leadership, the committee developed a series of Earth Topics classes for local public school teachers. She was also Education Committee Chairman for the Alaska Pacific University Center for Polar Research and Education. For the last four years, she has served as a speaker for the ARCO Alaska Speakers' Bureau and was technical advisor for an "Oil in Alaska" video program created by ARCO for local schools. Last, but not least, since 1986 she has also served on committees for the Anchorage School District: Science Curriculum Advisory Committee, Science Fair Planning Committee, and Scientist-in-the-Schools Program. Many of her ARCO colleagues can recall encounters with Linda and boxes of rocks and/or fossils in the ARCO lobby as she heads out for yet another close encounter with the school children of Anchorage! And then there's the time Linda presented part of the "Sedimentary Geologists Guide for Helping K-12 Earth Science Teachers" at the annual AAPG meeting in San Francisco. Linda states, "I will probably be remembered as the nut who passed out crayons to the audience at the seminar - I figure if you are going to talk about hands-on learning you ought to practice what you preach."

Today, Linda has added yet a third career to her list. That of mother. I am sure that whatever career paths her small son and daughter ultimately choose, they - and their classmates in Anchorage - will have had abundant exposure to the excitement of the sciences due to the efforts of Linda Okland - geologist, mother, educator.

Marcia P. Matthieu
Senior Engineer
Environmental Affairs
ARCO Products Company

Tonight, Mason Lowell Hill will become only the eighth Honorary Member of AIGP in our 27-year history. What a pleasure this is for me to tell you about him!

In 1983, our mutual friend and geologist-historian, Dorothy Steller-Stout, had an extensive interview with Mase. The purpose of her interview was to record for posterity the accomplishments of a few outstanding geologists who have made significant contributions to geology. Specifically, Mason Hill has made vital contributions and pioneering studies in two fields - petroleum exploration and earthquake fault movements.

Mase was born on January 17, 1904 in Pomona, California. He graduated Pomona College in 1926, under the fortunate tutelage of Professor A. O. Woodford, who was just starting a geology program there.

After graduation, he got a job at the Blackhawk gold mine in the San Bernardino Mountains. Professor Woodford visited Mase at the mine site and convinced him to return to college for a master's degree. The professor saw such promise in Mase that he gave his guarantee for a loan at a local bank!

Before returning to school, Mase spent a year working locally for Shell Oil Company. Shell was one of the first companies to organize field reconnaissance geologic teams. He then returned to college and completed a master's degree under Woodford at Claremont Graduate School in 1929. Mase made use of experience gained while working in the area for Shell. His thesis dealt with fault displacement and was titled "Geology of the Western San Gabriel Mountains." Mase contradicted the conventional thinking when he correctly identified the southern boundary of the San Gabriel Mountains as a reverse fault, not typical Basin and Range faulting. His thesis was published in 1930 by the University of California, Berkeley.

Mase then went to the University of Wisconsin where he obtained his Ph. D.  

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in 1932. His dissertation was titled, "A Study of the Mechanics of Faulting." This was a precursor to his landmark paper, "Classification of Faults" which appeared in the 1947 AAPG Bulletin. He expanded on the concept in the same journal in 1959 and introduced the terms "right-lateral" and "left-lateral" strike slip.

In the Depression years, Mase took a job at Coalinga Community College teaching geology, math, and child psychology, as well as coaching the track and basketball teams. When the oil industry began to revive, Mase returned to Shell Oil Company where he worked until 1937. That year Mase was offered a salary increase of $250 a month to join the newly-formed exploration department of Richfield Oil Corporation under Harold Hoots. He accepted and became District Geologist.

His fame in the petroleum industry began in 1947 with the discovery of the Russell Ranch oil field in the Cuyama Valley, a small basin with complex faulting, west of the San Andreas fault. Other oil companies had explored this area and considered it to have no potential for oil production. The Cuyama Valley discovery doubled Richfield's oil reserves.

He also applied his petroleum expertise in Alaska, where, in 1957, Richfield Oil Corporation discovered the Swanson River field on the Kenai Peninsula near Anchorage. This marked the first commercial oil production in Alaska and was one of the inducements to make the territory of Alaska the 50th state in 1959. The North Slope of Alaska had been explored for petroleum during World War II but no commercial deposits were located at that time. After the Swanson River discovery, Richfield geologists mapped on the North Slope with helicopter-supported geologic field parties, followed by seismic surveys. This work led to the location of the Prudhoe Bay structure. Mase was then Atlantic-Richfield Company's Manager of Exploration for the International Division.

Continued studies by Mase resulted in his writing three more landmark papers: In 1965, "San Andreas System, California and Mexico"; in 1966, "Philosophy of Oil Exploration"; and in 1971, "A Test of the New Global Tectonics."

After retiring in 1969, Mase began consulting. But, most importantly, he became reacquainted with Marie, who also had been a geologist at Richfield. This charming lady became his wife in 1974.

Mason's competent status in the petroleum industry led to his involvement in many professional organizations. In 1961 he was elected President of the American Association of Petroleum Geologists. In 1964 he joined the fledgling AIPG with the urging of his good friend Martin Van Couvering. He has served on the Council of the Geological Society of America. In 1981 Mase was presented AAGP's highest award, the Sydney Powers Memorial Medal.

Now, we of AIPG fittingly welcome Mase Hill, CPG Number 20, to join the select few who have earned Honorary Membership in the Institute. Truly, here is a man whose life has proved his dedication to the love of geology.

Richard J. Proctor, CPG 5091

1990 Recipients of the
PRESIDENTIAL CERTIFICATE OF MERIT
Presented by Susan M. Landon, CPG 4591
1990 President of the
American Institute of Professional Geologists

Robert R. Jordan - CPG 1262
For outstanding service as Editor of the Institute, 1989-1990, and continued improvement in The Professional Geologist, including the initiation of advertising.

Norman K. Olson - CPG 1611
For outstanding service to the Institute as Treasurer, 1989-1990, and his gift of good humor to the Executive Committee during the more difficult moments.

William G. Weist, Jr. - CPG 1937
For dedicated service to the Institute as Chairman of the Ethics Committee and the Headquarters Activities Committee during 1990 and continued service to the Colorado Section.
The increase in the price of oil caused by this war will increase the price of natural gas and possibly of coal. The oil price increase, even though temporary, will cause increased demand for petroleum geologists and increased demand for engineering and hydrologic geologists. Common sense has not been repealed by the war; when the price of a commodity goes up and you have some of that commodity you find it and produce it (that truism may be more true in the rest of the world than in the United States). Conversely, when the price of oil goes back down a sufficient amount there will be less demand for petroleum geologists.

In October 1989 I picked the subject for a talk to be given to my geologic study group on June 12, 1990. My topic was: How much oil is left to be found in the Middle East? Where is it? How will it be found? Will it be found?

My answers to those questions follow. The answer to: How much oil is left to be found?, is: A great deal. We cannot accurately make an estimate and it is a waste of time to try until we have much more drilling data. The USGS in 1982 estimated undiscovered conventionally recoverable petroleum resources in the Arabian-Iranian basin at probability levels of 95 percent, 5 percent, and statistical mean are for oil (in billions of barrels): 72, 237, and 174 and for gas (in trillions of cubic feet): 299, 1792, and 849.

In 1982 cumulative production of oil in the Middle East was 108 billion barrels of oil; reserves were estimated to be 415 billion barrels for a total produced and found of 523 billion barrels. At the beginning of 1989 cumulative production of oil was 155 billion barrels; reserves were estimated at 660 billion barrels, for a total produced and found of 810 billion barrels. That equals 47 billion barrels of oil produced in seven years of 6.7 billion bbls per year or 0.6 billion bbls per month or 0.02 billion bbls per day (20 million barrels per day).

The increase in the Middle East reserve estimate from 415 to 660 billion bbls in that same seven years is 245 billion barrels; contrast that 245 found in only seven years with the statistical mean guess by the USGS of 174 billion barrels to be found in all time and you see the futility of believing a statistical mean probability.

In 1990 the amount left to be found is still a very large number.

In Saudi Arabia alone the new Paleozoic shelf play, in a very restricted area in only two years (1989-90), and with only six wildcats in a row, five producers and one dry hole, has found somewhere between fifty million and thirty billion barrels.

My second question: Where is it? The answer: everywhere, from basement to the Miocene; in stratigraphic traps, in unmapped shallow structures, in unmapped and mapped deep structures.

My third question - How will it be found? The answer: by using integrated surface, subsurface, gravity, seismic, and geochemical data. Horizontal drilling will be used to get into and stay in favorable facies or fracture zones. There is a great economic difference between 500 bopd and the 25,000 bopd which may be achievable with horizontal holes.

To achieve finding these vast quantities of oil and gas will require a large number of geologists, more than are now trained and available in both the Middle East and in the rest of the world.

My fourth question: Will it be found? I answered by saying, only some of it. Some will not be found due to wars in the area and due to the lack of competitive free enterprise in large parts of the area. I pointed out that the distance from Jerusalem to Damascus is 135 miles and that the distance from Jerusalem to Baghdad is 532 miles. I pointed out that the Dead Sea area in the Middle East is a good example of "finding risk"; even though petroleum is present at the surface there, no significant oil or gas fields have been found in the Dead Sea structural depression. Dead Sea asphalts have been referred to for over three thousand years, and the first known war for control of a hydrocarbon deposit was in the Dead Sea area in 312 B.C. between the Seleucide Syrians and the Nabatean Arabs who lived around the sea.

September 13, 1990.

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FROM WASHINGTON

E. G. Newton & Associates

FY 1992 - Tempus Fugit For The Feds

Now is the time that all good, bad, and indifferent federal agencies must develop their budget proposals for the forthcoming fiscal year, in this case FY 1992, which begins October 1, 1991. Although the federal budget process is actually continual, there are numerous key milestones, and the first one of the FY 1992 budget cycle has just occurred. Agencies were required to submit initial FY 92 budget proposals to the Office of Management and Budget (OMB) in September 1990. These initial submittals will be the "wish" versions, to be followed, after some OMB "advice," by subsequent "want" versions, "need" versions, and, ultimately, a "reality" version.

The most popular current reading material among fed budgetmeisters is the ever enthralling, Circular A-11, PREPARATION AND SUBMISSION OF BUDGET ESTIMATES. The alluring title of Circular A-11 reveals it all! Circular A-11 is the "how to" document for federal budget preparation. It tells the agencies how to define their program requirements and indicates what budgetary parameters are to be followed. In other words, Circular A-11 is the document that enables a federal budget to be developed.

For FY 1992, there are several Circular A-11 guidelines that should be of interest to the scientific community: Agencies will be required to report environmental cleanup and compliance activities, for federal facilities, in excess of 5 million dollars; Public Law 100-418 will require agencies to report to the Congress on plans for metric system conversion; and the definition of "mandatory spending" has been revised to clarify that it includes, but is not limited to, legal entitlements. Also the FY 92 deficit target has been set at $28 billion, unless altered through budget summit negotiations or by changing current events.

This first phase of the all-critical budget process is, of course, the Administration's call. When the agency budget-proposals are finally compatible with White House policy initiatives, the Administration will then submit its budget to the Congress; and that is when the budget process really gets interesting! Stay tuned! It only gets more complex and more engrossing.

Land Exchange Controversy

The State of Wyoming has asked the U.S. District Court in Wyoming to void an administrative land exchange agreement between the Department of Interior and several private entities. The state contends that the Department of Interior failed to give adequate consideration to the effects of the agreement on state and local economics and thereby violated the Federal Land Policy and Management Act (FLPMA). The state's suit further claims that the estimated 200 million tons of coal involved in the exchange was substantially undervalued. The resource estimate of the coal lands, subject to be exchanged for a 1200-acre scenic easement within the Grand Teton National Park, was valued by the Bureau of Land Management (BLM) at $6.6 million dollars, or about 3 cents per ton. In its suit, Wyoming contends that the BLM administrative record was inadequate to determine the value of the coals, and that the methodology used by BLM to value the scenic easement was flawed.

The governors of western states, where there are large holdings of public lands, are concerned about the impact on their states of the increasingly common Administration practice of offering federal-administered mineral lands in land exchanges to acquire scenic easements or private inholdings. When the federal government offers such mineral lands for exchange purposes, title to the lands is conveyed to the land acquirers. State governments, which receive a share of any exploration and development receipts from federally administered mineral lands, are thereby denied substantial revenues as a result of this type of land exchange.

The Western Governor's Association (WGA) recently issued a resolution expressing its concern. The Association has asked the Department of Interior to work with the WGA to bring about resolution of the issue. The resolution states, "The states are subsidizing, through these foregone shared federal receipts, federal initiatives in protecting important lands." The issues raised by the Wyoming lawsuit serve to illustrate the concerns expressed by the Western Governor's Association.

This particular administrative land exchange, also has been the focus of a recent congressional inquiry by the House Environment, Energy, and Resources Subcommittee. The issues surrounding the exchange were first described by this column in the June 1990 TPG.

Superfund Lender Liability Policy

Congressman Thomas Luken (D-OH), Chairman of the House Subcommittee on Transportation and Hazardous Materials recently held hearings to allow interested parties to address the issues surrounding lender liability assignments within the Superfund program.

In testimony submitted at the hearing, EPA announced its intention to develop regulations to clarify the existing security interest exemption contained in the Superfund legislation. The intent of the new regulations will be to better differentiate lenders that participate in the management of property that requires cleanup, from those lenders that take title to protect loans, but who do not participate in the property management.

In announcing this policy shift, EPA did, however, express caution that any regulatory attempt to clarify the matter should not be so broadly defined that exemptions could be effected for those who should be held accountable.

Banks and other lenders have expressed concern about recent court decisions that have interpreted the scope of Superfund legislative authority in a manner that renders
lenders liable for remediation even in situations where a lender has neither participated in the pollution-causing activities, nor was aware of the problem at the time loans were granted.

The broad interpretation of Superfund legislative authority also concerns those state and federal agencies that have become receivers for insolvent savings and loans associations that have "polluted-properties" among their holdings. Agencies that have become receivers, now have inherited the liability for certain cleanup responsibilities [see From Washington, 890].

Congressman Curt Weldon (R-PA), author of H.R. 2787, the Innocent Landowner Defense Amendment, testified in support of his bill as being a necessary clarification of the due diligence definition contained in the 1986 Superfund Amendments and Reauthorization Act.

Congressman John LaFalce (D-NY), Chairman of the Small Business Committee, whose district includes the Love Canal area, testified on behalf of his bill, H.R. 4494, which would overturn the recent court rulings and protect lenders from costly superfund judgements.

Congressman Luken expressed his endorsement of EPA's willingness to address the issue of lender liability. According to Mr. Luken, EPA's current position is "a clear recognition that a serious problem exists."

Midnight Oil

Senator Frank Murkowski (R-AK) has introduced an amendment to the FY 1991 Defense Department Authorization Bill that, if passed, would require the President to identify federal lands with oil potential and to have a exploration schedule developed for such lands when the U.S. oil imports exceed 50 percent-as is the current situation. The bill, which has 16 co-sponsors, was introduced literally "round midnight" on August 4th. The amendment was adopted almost without debate when it was introduced during the Senate's final session before the summer recess. Senator Murkowski said that he and his fellow oil-state colleagues intended the amendment to target exploration of ANWR and other domestic areas currently off limits to oil and gas development.

New Phosphate Processing Method

The DOE Idaho National Engineering Laboratory has developed a more energy efficient process to produce elemental phosphorus. The process is one that also conserves phosphate ore. The technology, a joint venture between DOE and a French chemical company, uses thermal plasmas which are similar to welding arcs or lightning phenomenon. In the process, argon gas is passed through an electric arc to produce a plasma jet of ionized particles. The phosphate is refined in a cyclone plasma reactor, a container where the ore is exposed to the plasma jet. The technique literally produces a "fireball" that provides the energy to cause the phosphate ore to release phosphorus gas, which can then be captured and drawn off from the top of the reactor vessel. The byproduct slag sinks to the bottom of the container, and can be expelled in a continuous stream. The residual heat supply from the process is then available to be recycled for heating or to produce electricity. The process permits the use of ores that otherwise require labor and energy intensive preliminary preparation if conventional processing methods are used. Because the system can be sealed, contamination is reduced, and product yields can be improved. The technique, which can be scaled to any size, can be used to produce high-purity phosphorus required by food and drug industries. [Minerals Today]

US-USSR Environmental Accord

President Bush and President Gorbachev have issued a joint statement to commit the United States and the Soviet Union to expanded cooperation in the area of environmental protection and for the study of global change. The statement emphasized the need for "practical and effective joint measures on environmental protection." The two leaders offered support for "intensified bilateral cooperation in areas of environmental, ecological, and pollution monitoring, and in related research." A pledge was made "to facilitate contacts and cooperation between the non-government environmental organization" of the two nations. [4MC]

Byrd Burden

Members of the scientific community, as well as those branches in the groves of academe, that routinely do business with executive branch federal agencies may now be obligated to fulfill some burdensome record-keeping and reporting requirements. The "new order" has recently been levied through legislation authored by Senator Robert Byrd (D-WV). The recently enacted law required that all executive branch agencies demand solicitation disclosure reports from every recipient of a federal grant, contract, loan, or loan guarantee exceeding $100,000.

Recipients must now document the effort expended to obtain an award, including any expenditures involved to pursue the award; and certification also must be provided that no federal funds were used to seek an award. The agencies are then required to provide semiannual reports to the Congress on the relevant actions under their respective jurisdictions. The "administrative burden" will be outstanding: in FY 89 (before the new law), more than 65,000 prime contracts of $100,000 or more were awarded by the federal government.

The law, which was designed to limit lobbying efforts associated with major federal grant and contract awards, however, will not affect those large firms who maintain in-house staff to lobby, and who must comply with already established reporting requirements for their lobbying activities.

The real impact and scope of this new requirement on seekers of scientific or technical grants and contracts has yet to be determined. It's a sure bet, however, that neither the feds nor the petitioners will be eager to shoulder the reporting burden. That fact, alone, may be the key for a solution. Just hope that the issue can soon be resolved. Otherwise, a goodly amount of "new" science will consist of completing forms.

Must Read

Scientific American has devoted the September 1990 issue to a single theme, Energy. This special issue is entitled "Energy For Plant Earth," and contains several lengthy essays on various energy sources as well as issues related to energy use and conservation. The periodical is widely available at newsstands, bookstores, and libraries.
Selected Federal Register Notices
8/90

EPA


EPA

Notice of availability report to Congress on special wastes from mineral processing. Contact: Bob Hall (202) 475-8814. 55FR32135.

DOE


FERC


EPA

Proposed rule 48 CFR Part 1536 Acquisition regulation concerning construction contracts with architect-engineer firms; applicability to subcontractors. Contact: Joseph Nemargut (202) 382-5019. 55FR33337.

EPA


EPA


Department Of The Navy


EPA

Notice of availability The Nation's hazardous waste program at a crossroads: The RCRA Implementation Study. Contact: RCRA Hotline (800) 424-9346. 55FR33959.

Department Of Interior

Notice Small business competitiveness demonstration program; plan for expansion in targeted industry categories. Contact: Frank Gisondi (202) 208-4907. 55FR33559.

BLM

Notice of proposed withdrawal and opportunity for public meeting; (RE: Rattler Gulch Limestone Cliffs) Montana. Contact: James Binando (406) 255-2935. 55FR33564.

Nuclear Regulatory Commission

Notice of availability Staff Position SP 60-002 the meaning of the phrase "Performance objectives relating to the isolation of the waste" 10 CFR 60.122[a]. Contact: Robert Neel (301) 492-0448. 55FR33565.

MMS


FEMA

Final rules 44 CFR Part 206 Disaster assistance; hazard mitigation planning and hazard mitigation grant program. Effective date: October 1, 1990. Contact: Patricia Stahlschmidt 9202) 646-3678. 55FR35528.

IRS


Correction

The DOE entry of Federal Register Notices published in the August 1990 TPG (p.11) should have read WASTE ISOLATION PILOT PLANT. ●
A State View of Certification

Charles J. Mankin, CPG 1415

State governments are being encouraged or required to implement an increasing amount of federal legislation that is concerned with the interface between natural resources and the environment. The first of these was the coal Surface Mining and Reclamation Act where detailed regulations concerning the development of coal mining and reclamation plans were written by the Congress. This legislation specified the qualifications of individuals that could be used by the states in implementing the regulations specified under the act.

Other examples include ground-water protection in the National Well-Head Protection program, the disposal of municipal wastes (Title D) in the Resource Recovery and Reclamation Act, and the recent passage of the Financial Institutions Reform, Recovery, and Enforcement Act requiring states to develop regulations for real estate appraisers. In each of these programs qualifications of individuals that could be involved are specified.

The lack of recognition of geologists as an appropriate profession to participate in most of these programs should be a clear message that neither the Congress nor many of the federal agencies have a good understanding of what is embodied in the professional practice of geology. That shortcoming is solely the fault of the geological profession. While becoming pre-occupied with the issues of certification/registration, the geological profession has lost sight of the important role that geologists can and should play in developing and implementing responsible environmental programs that recognize the interplay between environmental protection and resource development.

It should come as no surprise that, in the absence of involvement of professional geologists, other professions are developing these environmentally-focused programs. This is especially true of the profession of civil engineering where their claim to registration is used as a criterion of superior qualification over that of the professional geologist.

Thus, the issue for professional geologists is not certification/registration, but what role, if any, will our profession play in developing and implementing responsible environmental legislation. Furthermore, the petroleum geologists would be well advised not to ignore these issues in the belief that they do not apply to the field of petroleum geology. Increasing involvement in petroleum exploration and development by environmental regulators at both the federal and state level should be a clear message that, absent an active role by petroleum geologists, the professional practice of geology in this important area of resource development will be relegated to a role subordinate to that of other professions in a manner similar to coal, industrial minerals, and other extractive natural resources.

The alternative to an active role in the development and implementation of responsible environmental programs by the professional geologists is the abdication of yet another area to less well-prepared individuals. To assume that a rational third party will recognize the need for geological expertise and will insist that such be included in the process is to ignore the history of such activity to date.

Charles J. Mankin is Director of the Oklahoma Geological Survey and former president of both AIPG and AAGSG. These comments are taken from his presentation to an AAPG/DPA symposium in June.

EXECUTIVE DIRECTOR’S ITINERARY
(subject to change)

The Executive Director is visiting various Sections, agencies, campuses, and other organizations. He is both talking and listening, exchanging information and ideas. Members are encouraged to attend these meetings wherever and whenever possible. His itinerary for the next six months, as presently scheduled, is:

- **October 1-2**: Association of Engineering Geologists, Pittsburgh, PA
- **October 8-13**: Annual Meeting, Long Beach, CA
- **October 18**: Intersociety Registration Conference, Denver, CO
- **October 22**: New Mexico Section and universities.
- **October 27 - November 1**: Geological Society of America, Dallas, TX.
- **November 3-6**: Washington Section, Seattle WA
- **November 16**: Related Societies, Washington, DC
- **November 17**: ASBGOG, Williamsburg, VA
- **January 10-16**: Illinois, Indiana, Ohio, and Kentucky agencies, and universities
- **January 12**: Executive Committee, Bloomington, IN
- **February 22-23**: Oklahoma Section, Edmond, OK
- **February 25-28**: SME, Denver, CO
- **March 4-8**: Alabama, Mississippi, and Louisiana Sections, and universities
WHAT THE STUDENTS TELL ME
William V. Knight

Recently, I reported to you on what I tell the students when I speak on campuses. These discussions are usually two-way affairs. The students ask questions and frequently with their questions they tell me of their concerns. Most center around their futures and where the jobs are, how to find them, what is expected, etc.

Sometimes one or more will stay after the question-and-answer session, or contact me later. Something is bothering them, and they want to talk about it, but not with faculty present. Usually, they are graduate students. I listen, whenever possible, and what I hear frequently disturbs me. Their primary concern is faculty and administration ethics and shortcomings and how these impact the students. It is not new—such things were known when I was in college. But, it is particularly ironic that some of those who are the most critical of the ethics of others are, themselves, sometimes accused of "hazy" ethics. So often these are the youthful, bright, articulate, witty faculty members who attract and influence young students who, in their innocence, may view them as desirable role models. By the time that innocence is lost, serious damage may have been done.

I emphasize that most faculty members I have met are highly ethical and well qualified. Unfortunately, the rare exceptions taint their fellows.

The problems I will address can be classified into three basic categories, in no particular order of frequency.

1. Intellectual dishonesty usually takes one of two forms: misrepresentation or intolerance.

Advisors may insist on being listed as the principal author or, sometimes, the sole author of a paper to which they made very little contribution other than critical review. Sometimes, they use students to do research and prepare technical reports to clients for which the students may or may not be paid. (Term papers may turn up as reports to consulting clients, unbeknownst to either the student or the client.) The faculty member passes this off as his/her own work and collects a full fee. Related to this problem is the "publish or perish" syndrome. On some campuses, the teaching function is severely impacted to the detriment of the students, particularly undergraduates. Instances are reported of the listed instructor appearing infrequently, the class being taught by a teaching assistant whose command of spoken English is marginal. (This seems to be less common in geology than in other sciences.)

The other common form of intellectual dishonesty is most often manifested in the active advocacy of a particular cause or viewpoint, often controversial, and the refusal to tolerate contrary ideas. We see this most frequently on both sides of such things as economic and environmental issues. But, I recall hearing a fellow student belittle in 1950 for questioning the wholesale rejection of the theory of continental drift. I also remember two colleagues who were roundly criticized for daring to question the theory of plate tectonics when it came into vogue. This practice is common throughout society. But, should not those who demand tolerance from others be the most diligent in practicing it themselves? Are not college campuses supposed to be places of intellectual honesty and unending, unbiased examination of all sides of an issue? And, are not faculty members supposed to be seekers of truth? Or, are they supposed to be advocates of a particular point of view?

2. Career planning and management are of great concern to most students, but they seem to be getting little or erroneous guidance from some faculty members. This is thought to derive from a lack of industry experience and contacts. (As a student, I tried to find a faculty member who could tell me something about an oil company that had interviewed me on campus. None could, so I accepted the offer of another company that marketed in our area. I later learned that the unknown company was one of two regional divisions of a major oil company!) Additionally, on some campuses there seems to be a strong feeling of town versus gown, as well as an anti-industry bias. Thus, faculties are often cloistered and isolated, both socially and professionally, from their industry colleagues. This situation needs to be corrected and the responsibility for this is dual. Both the faculty and the practicing geologists need to reach out to each other. I have detected intellectual snobbery in both directions. This must be set aside, because it is damaging to both. Again, this has been a common phenomenon since time immemorial. Concurrent with this problem, perhaps to a degree because of it, is the problem of individual faculty members and departments recruiting and training students without regard to the future market for that training. As with any product, determination of future markets for geologists involves a lot of guesswork, but the guessing might be better informed and less self-serving. Also, we see some departments guiding students into specialization in a "hot" field too early in their academic training, at the expense of some of the core subjects that they

continued on page 19
will need in order to be well-trained geologists. The product, then, is too often a technician highly trained in some specialty, rather than a professional geologist. Our screening committees have seen this increasingly among applicants for certification.

3. Faculty mobility can cause difficulties for graduate students. When a faculty member moves to another campus, the graduate students he/she was advising may be left in limbo. They may have finished their classwork and be well along in their research and writing. Their advisor is gone; the department may have no satisfactory replacement. What is the student to do? Students tell me they have been given a few options. Typically, they are: Wait until the advisor is replaced (frequently more than a year). Change the research area to one that the remaining faculty can handle. Transfer to the advisor's new campus (usually losing credits). Each of these results in a cost to the student of both time and money. Most students cannot afford to wait, to change research areas, or to move. It has been suggested that, when a faculty member leaves, some provision needs to be made to either (1) have the faculty member return to the campus periodically to advise the students left behind, (2) provide for an adjunct to advise these students, or (3) provide for moving expenses, full acceptance of transfer credits, and waiver of tuition differential for those who elect to move. A student comes to a school in good faith that the faculty and facilities will remain intact. When they do not, through some voluntary action of the faculty or the administration, should the student suffer?

I emphasize again that the great majority of faculty members and administration are highly ethical and well qualified. So, this is addressed to them only to encourage them and in the hope that they will work to overcome these problems.

Whether they realize it or not, most college departments market three products, each to a different clientele. Their research is marketed to the funders of grants. Their graduates (students) are marketed to industry, government, and academia. Their instruction is marketed to students. Without students, they cease to be colleges. Therefore, the students are the most important. The college which can honestly assure its prospective students that it constantly works to minimize the problems identified here will certainly have a marketing advantage over those colleges which cannot.

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**Gas Reservoir Geology**

We're focusing a lot of emphasis within my office on improving understanding of the geology of a gas reservoir. And we're learning that a better picture of a gas reservoir's architecture is exceedingly important in making production decisions in the field and policy decisions in Washington. Already, from what we have learned in just the last few years, there appear to be gas fields abandoned or assumed to be near total depletion that, in reality, are holding up to 25 percent more gas than originally estimated. In some reservoirs, the figure could be more. And nationwide, that missed or bypassed gas could total more than 100 trillion cubic feet.

Robert H. Gentile, Assistant Secretary for Fossil Energy, before the Appalachian Energy Group in Pittsburgh, PA.

*From DOE This Month.*

**New Forms for Delaware Registration**

The Delaware State Board of Registration of Geologists revised its application materials in July of this year. Effective October 31, 1990, only the new forms will be accepted from applicants by the Board.

**Robeck Autobiography**

Raymond O. Robeck, CPG 13, has published his "true story" as a book titled *Adventures of a Field Geologist.* Persons interested in this new book by a Charter Member of AIPG should contact Robeck at 1993 S. Kihei Road 400, Kihei, Maui, Hawaii 96753. The price of his autobiography is $25.

"Finding Gold Seminar"

Recently I wrote a paper for a colloquium. I didn't write it to challenge anybody. I wrote it to find out what I think. Interestingly enough, every time I worked on it I found out more. I found out that I am not in favor of the concept of registration.

I realized that although registration is a legal issue, professional status is an ethical one. And whereas registration must be defined by law, ethics cannot be defined by law. Ethics, in fact, often conflicts with the law and when it does, it defines bad law. Because ethics is never wrong. On the other hand, making a thing legal does not necessarily make it right.

There are any number of definitions of ethics. Real ethics, the kind I'm talking about, springs from basic truths. Quite simply (and accurately), it's represented by the Golden Rule and the dignity of the individual. Any assault on that dignity is unethical, immoral, and unacceptable. An any definition of ethics not founded in this principle is unacceptable.

Registration is founded in existing law, which has "developed" far beyond what probably were ethical underpinnings. Laws represent rules laid down by society, and often represent needs of special interest groups. This is, in fact, the basis of registration.

We kid ourselves when we say that our only purpose for registration is to protect the public health, safety, and welfare. This simply is not so. The central purpose for any registration is, purely and simply, control (dare I say power?). The public's principal mission is to establish responsibility. Our mission (with respect to registration) is to exercise it.

The other reasons (recognition, protection, etc., often denied by proponents of registration) represent needs of a few - privileges. Ethical people recognize this intuitively - they know that they're somehow lacking, that they have no real substance beyond ourselves. An that's why many of us deny that these other reasons exist. But they do exist. And they have no ethical basis.

It is a basic ethical principle that one does not deserve privileges that infringe on the freedom of others. That's what has happened in those cases where PEs have assumed responsibility for our work.

Somebody once said that a people that values its privileges above its principles will soon lose both. I believe it, and I believe that it highlights a world-class problem. I also believe that a registration based on privilege rather than on principle has no real substance, and I really reject it on that basis. Of course, if it's necessary to practice, then I'm forced to "go along with the crowd." But I still reject the concept.

The problem goes much deeper than registration. It's endemic to our society. We are so caught up in the First Amendment (indeed, the whole of the Bill of Rights, which provides certain privileges), that we forget that it is an amendment. It's not free-standing, but relies on the parent document which sets forth the principles on which these privileges are based. The privileges bestowed by the amendments are granted in terms of the principles of the Constitution. If we continue to venerate the amendments at the expense of the Constitution, we are letting the tail wag the dog. We're putting privilege ahead of principle, and it's only a matter of time until we lose it all. We are, in fact, doing just that.

Reduced to the basics, the problem assumes a rather charming simplicity. However, it defies resolution in terms of the existing situation, and we find ourselves debating side-issues which only confound us. If we continue to be preoccupied by the CYA syndrome and definitions, references, precedent, leaving a paper trail, lining up support, and locking ourselves into existing law, we will never resolve the conflict. Reacting to the existing system keeps us from getting at the heart of the matter.

Like so many other things, it begs a return to the basics. How do we do it? How do we save society from itself? Your comments will be gratefully acknowledged!
Colorado

In July, the Colorado Section hosted the Executive Committee and Headquarters staff at a picnic at Susan Landon's home in the mountains. Laura Wray, CPG 7291, with the assistance of her husband, Bob Lamarre, CPG 7220, was the Chairman of the event and Steve Sonnenberg, CPG 6201, was the official barbecue chef. About 60 Members, spouses, and guests ate, talked, and enjoyed a beautiful mountain afternoon. After a long meeting on the day before, the Executive Committee was prepared for a relaxing afternoon and the opportunity to meet Members of the local Section.

Photo provided by Susan M. Landon

Colorado Section Members
Laura Wray and Bob Lamarre

Members In The News

Robert R. Jordan, CPG 1262, received the George V. Cohee Public Service Award of the Eastern Section of AAPG.

Joseph Minster, CPG 6483, has joined Geraghty & Miller Inc. as Senior Project Advisor.

Now Available!

AIPG Information Packets On Student Affiliate And Candidate for Certification

Fill out the form below or call Headquarters for more information

Return This Form for Application Information

NAME__________________________ (Please Print)
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ZIP_________TELEPHONE___________

Please send me information on:

☐ Certification - (degree and minimum of five years of experience).
☐ Candidate for Certification - (degree and less than five years of experience).
☐ Student - (major in geology and minimum of eighteen semester hours of geology coursework).

American Institute of Professional Geologists
National Headquarters
7828 Vance Drive, Suite 103
Arvada, CO 80003
(303) 431-0831

October 1990
Applications Received

(as of September 30, 1990)

Applicants for certification must meet AIPG's standards as set forth in its Bylaws on education, experience and competence, and personal integrity. If any member 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.

ADKISON, David W., 9102 North Wind Drive, Houston, TX 77064. Sponsors: Jarrette L. Ireland, Wayne D. Turney, Paul C. Moore.

BAKKE, Arne, P.O. Box 83183, Fairbanks, AK 99708. Sponsors: Thomas E. Smith, Mark Robinson, Jeff Burton.


LAWRENCE, William F., Jr., 733 Baileybrook Circle, Birmingham, AL 35244. Sponsors: Garry L. Sides, John W. Tremaine, Hamilton Mantooth, III.


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Weiss, Garrett D., Rt. 2, Box 504, Oak Drive, Powell, TN 37849. Sponsors: Edwin Morse, Jerry Archer, Ron McComb.

New Members

(as of September 30, 1990)

Ash, John M., CPG 7991, New Hope, PA
Brandenburg, Michael P., CPG 7992, Versailles, KY
Dailey, J. Scott, CPG 7993, Columbus, OH
Hicks, Mark C., III, CPG 7994, Oak Ridge, TN
Kirk, Ken E., CPG 7995, Lexington, KY
Newcomb, Jerry S., CPG 7996, Owensboro, KY
Young, Chris R., CPG 7997, Lansdale, PA

IN MEMORIAM

William Henry Cardwell, CPG 2872, 74, Houston, Texas, July 6, 1990
LeRoy Gallin, CPG 566, 64, Oklahoma City, Oklahoma, July 25, 1990.
Brooks Hall, CPG 3098, 68, Oklahoma City, Oklahoma, July 5, 1990.
Miller Hansen, CPG 83.
Congratulations to:

1991 VICE PRESIDENT
R. Stephen Friberg, CPG 6502

1991-92 TREASURER
Dale O. Reese, CPG 2381

1991-92 EDITOR
Thomas Z. Jones, CPG 3441

They will join the incumbent officers for 1991:

PRESIDENT - Haydn H. Murray, CPG 2795  SECRETARY - Larry R. Rhodes, CPG 2250