PROFESSIONAL GEOLOGIC EDUCATION PROBLEMS

By R. R. Berg, CPGS 35, Texas A&M University

It is obvious that the oil industry is the major employer of geologists in the United States. It may not be so apparent that problems of geological employment in industry directly affect those institutions that train professional geologists. The problems of professional education may have a future effect on geologic practice. I would like to explain what some of these problems are and what their future impact might be.

The most visible problem is that of increased enrollments in Geology departments across the country. During the period 1971-1981 the total Geology enrollment has increased from 25,000 to 42,000, an increase of 68%. Most of this increase has taken place, of course, since the oil embargo of 1973. The fastest rates of growth, however, have been experienced during the past few years.

Affect of enrollment increases can be seen by focusing on a single department like that of Texas A&M University (Fig. 1). Our growth may have been somewhat greater than many other departments but our problems are the same.

![Graph showing enrollment trends](image)

**Figure 1.** Student enrollment in the Geology Department, Texas A&M University, for the period 1970-81. FTE (full-time equivalent) faculty numbers refer to faculty time available for teaching.

At Texas A&M, Geology enrollments in the period 1979-1981 increased from 118 to 590, an increase of 400%. Part of this growth is due to the phenomenal growth of the University itself, from an enrollment of 14,000 to 35,000 in the same period, an increase of 150%. Therefore, the growth of Geology at Texas A&M University has been about twice the growth of the University and about 5 times that of the national average growth.

Accelerated growth rates cause problems in teaching and space. During the increase in enrollments, the number of full-time-equivalent (FTE) faculty members has increased only slightly from about 10 FTE to 14 FTE in 1981. The FTE figure does

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**LAST CALL FOR WASHINGTON GOVERNMENTAL AFFAIRS MEETING**

AIPG will hold its Third Annual Governmental Affairs Conference in Washington, D.C., Monday, April 19th. The event will start at 8:30 A.M. with a morning session at the Washington Marriott, 1221 22nd Street, N.W. A panel of Tannehill, Everett, Hamersley and Wayland will make a presentation on ways member geologists can effectively present their views to elected and appointed Federal officials.

Members attending will have the opportunity to comment, ask questions, and share experiences. Several top government officials will also participate, including Assistant Secretary of the Interior-Energy and Minerals and AIPG Member Dr. Daniel N. Miller, Jr.

We will have lunch. Featured speaker will be Robert Burford, Director of the Federal Bureau of Land Management (BLM). Then we’ll move out to “The Hill” for group visits and expression of our positions on specific issues with Congressional Committees and staffs, Representatives, Senators, and/or key Federal Agency people.

That evening, from 6:00 to 8:00 P.M., we’ll hold a cocktail party/reception at the International Club, 1800 K. Street, N.W., for Conference Participants, Members and invited guests.

Your attendance is needed! It is essential that we make a strong showing. A large turnout on your part will impress key government people with our interest, knowledge, sincere desire to be of service, and with our views on specific legislation and regulation.

Your participation is crucial. A registration form has been mailed. Or call Headquarters to make your reservation.
POSITION PAPERS UNDERWAY

President M. O. Turner has asked President-Elect Larry Woodfork to form ad hoc committees to prepare proposed AIPG position papers on several national issues of concern.

Woodfork reports that Benton M. Wilmoth has agreed to chair the "task force" putting together a possible Institute position on Hazardous Waste Disposal. Wilmoth, who is with the U.S.E.P.A. in Wheeling, West Virginia, is now forming a group of experts from our membership to continue the work begun last year on this subject.

In addition, Woodfork advises that George H. Davis will head the ad hoc Committee to develop an AIPG position paper on Ground Water. Davis is a consulting geologist-hydrologist in Silver Spring, Maryland. He is likewise now in the process of adding qualified members to his group.

Also, in a recent letter to Headquarters Woodfork said: "I have read the AEG’s policy statement on disposal of high level radioactive waste and have given it considerable thought. I believe that the problems associated with rad-waste will be one of the most critical issues of the 80’s and, therefore, merits our most careful and best efforts in arriving at an official Institute position. I think the topic deserves thorough treatment. I feel we should develop our own “position paper” covering rad-waste (both high- and low-level). We should go ahead and appoint a task force under an appropriately qualified chairman or chairwoman to begin work."

ANNUAL MEETING WORKSHOPS

Workshops will be a key part of the professional educational offerings at the Institute’s 1982 Annual Meeting in Pasadena November 10th through the 12th.

Four workshops on four different subjects of interest to AIPG members in general will be held concurrently Friday, November 12th, 8:30-10:30 A.M., and repeated 10:30 A.M.-Noon, in one of the Wentworth Rooms at the Huntington Sheraton Hotel, site for the Annual Meeting.

For one of the workshops, President-Elect Larry Woodfork will chair a panel discussion tentatively titled: "Geologists and the New Federalism."

Executive Director Vic Tannehill is in the process of lining up subjects and speakers for the other three workshops to be offered. Suggestions on topics and/or presentors are being sought by Vic.

ADVISORY BOARD TO MEET APRIL 18TH

As was agreed at its last gathering in Williamsburg, Advisory Board Chairman and AIPG President-Elect Larry Woodfork has called a meeting of the Board for 1:00 P.M., Sunday, April 18th, at The Ramada Renaissance Hotel, Washington, D.C.

It is hoped that all Delegates, who are usually current Institute Section Presidents, will be able to attend. An announcement and reservation form has been sent from Headquarters.

Chairman Woodfork has firmed up the meeting agenda. Recommendations to the Executive Committee will be discussed.

SPEAKERS BUREAU REVIVED

The Institute’s reconstituted Public Relations Committee is again considering the establishment of an AIPG Speakers Bureau at the national level. A roster would be kept of volunteer members with expertise on subjects of concern. Headquarters would recommend them to national or regional organizations seeking speakers.

While it is important for geologists to address audiences of their peers, it is equally as important in today’s world to speak about geology before “outside” groups. Typical of these may be legal societies, general business groups, public service societies, government bodies and medical associations.

Speaking dates might be arranged with grade schools, high schools and universities, Chambers of Commerce, American Legion Posts, church organizations and fraternal organizations.

Willing speakers will hopefully come from Sections, which are asked to provide National Headquarters with a list of their members who are qualified — and willing — to speak on geologic matters. These individuals would be listed in an AIPG National Speakers Bureau publicaiton.

Headquarters is also starting a program library for use by the Sections and the National Speakers Bureau. Executive Director Vic Tannehill would appreciate it very much if Sections would provide Headquarters with copies of appropriate programs for this purpose.

NEWTON REPLACES WHITE

Dr. George W. White, CPGS 238, Research Professor Emeritus University of Illinois at Urbana-Champaign and consultant, has requested relief from his long-time position as official AIPG Historian. His action has been accepted with regret.

In a letter to Dr. White, Institute President M. O. Turner said: "On behalf of AIPG I want to express our most sincere appreciation to you for your devoted service in this post for these many years. You’ll be pleased to know, I’m sure, that an old friend of yours, Bill Newton, CPGS 8, who is now retired in Littleton, Colorado, has agreed to continue your efforts as Historian. As a founding member and prime mover of AIPG from its creation, Bill will do an outstanding job I’m sure."

SECTION VISITS SCHEDULED

Institute President M. O. Turner and Executive Director Vic Tannehill are scheduled to speak at a luncheon of the Pennsylvania Section, Wednesday noon, April 14th, in Pittsburgh.

Members of AIPG’s West Virginia Section have also been invited to attend this special meeting.

Tannehill will also be the featured speaker at a luncheon of the Institute’s Oklahoma Section in Oklahoma City, May 11th.

EXECUTIVE COMMITTEE MEETING

The AIPG Executive Committee will hold its Second Quarter meeting at the Ramada Renaissance Hotel in Washington, D.C., Saturday, April 17th.

All twelve Executive Committee members are expected to attend this regular Institute business meeting. National Committee Chairmen will also be there to give their reports.
GROUP LIABILITY INSURANCE

The AIPG Member Services Committee, chaired by Randy Chew, reports some progress in the feasibility study underway since first of the year on group professional liability insurance.

Risk coverage is becoming an increasingly important function of associations. It is a service that many Institute members need today as never before, but one that they find difficult, if not impossible, to obtain for themselves on an individual basis.

The application of risk-management concepts to the professions is relatively recent. Perhaps what delayed this approach was the false notion that loss prevention could be applied successfully only to routine physical activities such as those found in manufacturing industries.

Then, too, professionals tended to ignore their potential liability exposure and the need for better insurance purchasing decisions.

Because of the medical malpractice insurance crisis, the medical profession emerged as the leader in recognizing the need for risk management for professionals.

By developing a more accurate understanding of their professional liability risk, health-care providers were able to interest commercial insurers in the market. They were also able to form self-insurance vehicles.

EDUCATIONAL AFFAIRS MEETS

A meeting of this Committee is scheduled for Thursday evening, April 15th, 7:00 p.m. at the United Air Lines Red Carpet Room, O'Hare Field, Chicago, Illinois. The meeting will continue Friday morning at the Dames & Moore offices in nearby Park Ridge, Illinois.

Richard M. Winar is Committee Chairman, assisted by Ed Nuhfer. Members are Allen O. Perry and Paul H. Moser. Alternate Member and Advisors (Ad Hoc) are Paul L. Hilpman, John W. Rold, R. R. Berg, and Vic Tannehill. Travis Hughes is Executive Committee Liaison.

STATE AFFAIRS AND REGISTRATION

Chairman John Gustavson has scheduled the first Subcommittee Meeting for the Ramada Renaissance Hotel, in Washington, D.C., Sunday, April 18, 1982, 3:30 P.M.

According to Gustavson: "The Subcommittee session will be a working meeting where we expect to make substantial progress, particularly with regard to the urgent matter of state registration. I have prepared an agenda for our meeting. Additional business may come to our attention."

GEOLOGICAL ENGINEER SALARIES UP

Geological engineers with bachelor degrees in hand Sept. 1981-Jan. 1982 were being offered industry jobs at $2,346 a month, an increase of 10.6% over July 1981—according to a report of the Scientific Manpower Commission, using figures from the College Placement Council. Geologists were among graduates in "other physical and earth sciences" who got top offers of $1,886 a month. Among those with masters degrees, chemical engineers were getting average offers of $2,402 and geologists $2,313.

SITE SECURITY STANDARDS

The Commission on Fiscal Accountability of the Nation's Energy Resources has presented Department of the Interior Secretary James G. Watt with its final report. The Commission at Secretary Watt's request, conducted a thorough investigation into a number of serious allegations, including those relating to the theft of crude oil from Federal and Indian oil and gas leases.

The Commission concluded that the potential for oil theft is so significant that it warrants the serious and immediate attention of industry and the Interior Department. The Commission's view is that the ability to limit the prospect for oil theft is directly related to the quality of the site security provided. In the Commission's judgment the primary responsibility for providing adequate site security is industry's.

A notice was recently sent to all lessees and operators of Federal and Indian oil and gas leases. The notice advises lessees and operators that they will be held primarily responsible for site security.

The notice also solicits their participation in developing these requirements by the submission of comments and recommendations in response to a Federal Register notice that will be published in the near future.

Since members of AIPG include many who operate on Federal and Indian oil and gas leases, the Department of Interior is asking our assistance in developing new minimum site security requirements.

MINERAL RESOURCE EVALUATION

The National Research Council has organized a Committee on Mineral Resource Evaluation funded by a contract with the Bureau of Land Management (BLM). The task of the Committee is to provide guidance to BLM on collecting, organizing, and evaluating information needed for assessing the relative mineral resource potential of each of the 163 resource areas subject to BLM land use planning and management.

Of the ten Committee members, six are members of AIPG. They are the Chairman, Frank E. Kotlowski, Allen F. Agnew, John D. Haun, James R. Muhm, Paul D. Proctor, and Russell G. Wayland.

The Committee met recently in Denver and planned a symposium for late April or early May. Speakers for the symposium are being selected to elaborate on BLM's minerals assessment program, to discuss geologic risk and geologic hazards, to review earlier studies on evaluating mineral potential, and to discuss daily requirements and specific procedures for estimating the relative resources' potential of oil and gas, coal, uranium, geothermal resources, metallics, and non-metallics. Spokesmen for the Geological Survey, the Bureau of Mines, the new Minerals Management Service, and State Surveys will discuss their possible roles as sources.

CODE OF ETHICS AVAILABLE

A copy of AIPG's Code of Ethics is your's for the asking. Just contact Headquarters. The code has been printed on heavy 8½" x 14" parchment stock. Very suitable for framing, it is hoped that members will obtain and proudly display this set of principles under which Institute members work . . . and live.
DENVER OIL PIONEERS
(Excerpted from "The Oil Daily")

Members of the Rocky Mountain Petroleum Pioneers, founded in 1952 by the Goodin brothers who also founded Petroleum Information Corp., must have at least 20 years in the region’s oil business.

A recent conversation with several Charter Members brought out some interesting points.

When a reporter asked about a particular pioneer by saying, “Is he retired or still active?” he was answered with a short silence and polite smiles. The point: to be retired and inactive are not the same thing.

Did the pioneers ever think oil prices would get so high? Dick Holt, 76, CPGS 412, a consulting geologist working part-time, commented: “Prices are where they should have been,” he said. “Now we’re beginning to pay what it’s worth.”

Holt, who was with the USGS fuels branch during World War II, came to Wyoming in 1945 to work for Carter Oil Co., which became part of Standard Oil of New Jersey (Exxon). He later worked for Humble Oil Co. for 21 years in field exploration.

Recalled Holt of the Humble experience: “They told me 15 years ago when I was 61 that I was too old to work for them, so I went out and joined the competition by becoming a consultant.”

Holt has been Petroleum Pioneers president. New president is Bill Newton, 69, CPGS 8. He also worked for Carter Oil in Denver starting in 1940, then became a consulting geologist in 1949. He got into the oil business by starring—you guessed it—in the mail room.

This particular mail room was at the Illinois Geological Survey. Newton worked there in the early 1930s and became interested in geology, which he pursued at the University of Illinois.

Newton’s first professional salary with Carter Oil in 1940 was $140 per month. Asked if that didn’t seem like a lot of money at the time, Newton said: “No, it didn’t.” But he stayed on because Carter offered excellent across-the-board training.

Newton recalled that his most significant find was a 10-million barrel oil field in 1954. He feels today’s geologists are very highly paid but believes this to be a small expense compared to exploration drilling.

“The realistic situation is that certain geologists are oil finders. But we need a lot who accumulate data to do the basic work. A geologist seldom finds something all alone. We’re all sort of dependent on each other,” said Newton.

NEWTON CHAIRS WOMEN’S GROUP


ILLINOIS NAMES BERGSTROM

Robert E. Bergstrom, CPGS 3984, has been appointed Chief of the Illinois Geological Survey by the Illinois Board of Natural Resources and Conservation. The State Geological Survey is a Division of the Illinois Department of Energy and Natural Resources, Michael B Witte, Director.

Bergstrom succeeds Jack A. Simon, CPGS 1725, who was Chief since 1974 and was on medical leave during most of 1981. Simon retired from the Geological Survey on March 1, 1982, but will continue part-time service in a research capacity as Principal Scientist and Chief Emeritus.

Bergstrom has been a member of the Geological Survey staff since 1953. He was head of the Ground Water Geology Section of the Survey from 1963 until 1974 when he became head of the Geological Group. In 1979 he was also appointed Assistant Chief and in 1981 he became Acting Chief.

During 1961 to 1963 he was on leave to direct groundwater studies in Kuwait for the Ralph M. Parsons Company of Los Angeles.

CANDIDATES FOR NAS/AMS BOARD

The Geological Sciences Board (GSB) of the National Academy of Sciences’ Assembly of Mathematical and Physical Sciences was established in 1980 to provide a review of research and public activities in the geological sciences to assess the health of the disciplines, to identify the research opportunities, and to coordinate geological activities in the structure of the National Research Council.

To establish continuity, rotating membership terms were set through June 30, 1984. The first vacancies will occur in June 1982. Membership is limited to fifteen (15) chosen from academica, government, and industry. Appointments are on the strength of professional qualifications; they do not serve as representatives of any agency, group, or institution unless so designated upon appointment, and must be approved by the Chairman of the National Research Council.

If you are interested in participating in Geological Sciences Board activities, or if you wish to suggest someone, contact Dr. Joseph W. Berg, Jr., Executive Secretary of the Office of Earth Sciences, Assembly of Mathematical and Physical Sciences, National Research Council, 2101 Constitution Avenue, N.W., Washington, DC 20550, (202) 389-6204. Deadline for receipt of applications is April 30, 1982.

EARTHQUAKE HAZARD REDUCTION

The Science, Technology & Space Subcommittee (Senate Commerce, Science & Transportation Committee) and the Science Research and Technology Subcommittee (House Science and Technology Committee) have held a joint authorization hearing on a bill covering proposed earthquake hazard reduction programs. Louis Blare, professional staff member of the Senate Subcommittee, and Carry Brown, Research Assistant for the House Committee, have invited AIPG members to submit written comments for the Committees’ printed record. Such comments should be submitted quickly.

Mr. Blare and Ms. Brown also say they are interested in talking with members of AIPG about concerns and recommendations for earthquake hazard reduction programs before the proposed bill goes to the Subcommittee for mark-up.
AIPG BACKGROUND, OBJECTIVES AND SERVICES RENDERED

AIPG was created in 1963 at the request of the American Geological Institute to meet two essential needs of the earth science professions. Neither of these important objectives could then be fulfilled by any of the 17 technical associations affiliated with AGI. The first requirement was to create a nationwide organization to certify the professional competence and ethical conduct of geological scientists in all earth science disciplines.

And secondly, AGI wanted to structure AIPG so that this new national Institute of “Certified Professional Geological Scientists,” as an IRS 501(c)6 organization, could become actively involved in the legislative, rule making and political processes at state and national levels. Thus, AIPG is the only affiliated AGI organization that is wholly composed of “certified” professional geological scientists from all earth science specialties, each of whom is also a member of one or more of AGI’s 17 “technical” associations. These include AAPG, SEEG, AEG, AASSG, GSA, SEPM, SME, AEE, GS, GIS, MSA, MAGT, PS, SSA, SEG and SVP.

Within this specialized diversity of the geological sciences, members of AIPG pursue their professional careers in near equal percentages as either independent, corporate, academic, governmental or industrial earth scientists. Of the other two excellent organizations certifying geological scientists, the highly recognized Department of Professional Affairs of AAPG certifies the professional competence and ethics of petroleum geologists only and the world wide Society of Independent Professional Earth Scientists certifies the integrity and expertise of the independent earth scientist.

Along with DPA of AAPG and SIEPES, AIPG members maintain an uncompromising code of ethics, high professional and educational standards and each constantly strives to present the highest examples of the professional application of the geological sciences. AIPG now has over 4,100 members, many of whom serve on either national committees or within well organized sections in each state throughout the U.S. At local, state and national levels, members of AIPG are often found either proposing their own ideas of sound, responsible legislation or monitoring and challenging the unending stream of mischievous legislation, rules and regulations inevitably flowing out of Washington and each state capitol.

In all matters, AIPG strives to protect and advance the public interest as well as that of earth scientists on each mineral or energy resource issue whether it surfaces in Washington, D.C. or Austin, Texas.

This degree of awareness is important to AIPG because regardless of one’s discipline, specialty or employment status in geology, the unfettered practice of a successful career is often subjected to and sometimes directly threatened by the political interests and activities of others. For example, there is usually a continuing interest by many engineering geologists, some hydrologists and various others to “register” geologists in Texas. But petroleum geologists, who compromise a majority of geologists in Texas, seem to be generally opposed to state regulation.

AIPG nationally takes no position for or against “registration”, leaving this decision to each state section. The Institute’s Governmental Affairs Committee in Washington carefully monitors matters like these to prevent burdensome or unwarranted restrictions on the practice of earth scientists. Additionally, it’s long been recognized that many consulting, independent and corporate geologists conducting business with private or public participants practice at the unpredictable pleasure of the SEC. Enforcement of existing regulations by the SEC would likely subject those preparing certain prospectuses and evaluations for these purposes to felony prosecution. These can indeed become quite serious adventures, however, AIPG remains in constant communication with federal authorities in order to anticipate adverse actions by government.

AIPG’s strong network of state sections is also supported by an excellent staff in our Denver Headquarters, headed by Vic Tannehill as Executive Director. The highly talented Governmental Affairs Committee in Washington is chaired by Dr. Gordon Everett who is President of his own consulting firm. His 11 member committee efforts are strengthened by Dr. Russell Wayland, former Deputy Director of the USGS who is now AIPG’s Washington Representative (on retainer). Attorney James Hamersley (also on retainer) is AIPG’s Legislative Counsel in Washington.

AIPG Members have testified as expert witnesses on countless occasions in Washington as well as in Austin and other state capitals, usually in opposition to legislation or a new regulation that is considered onerous and unwarranted. Though AIPG lays no claim to specific legislation that is particularly beneficial to earth scientists, the unfettered right of petroleum geologists, geophysicists, engineering geologists and other geological scientists to seek employment and practice responsibly in an orderly political and economical environment is in part due to the continuing efforts of AIPG members speaking out in state houses across the country.

The decision to support or oppose any given issue is determined by the level of AIPG leadership involved. Positions on state issues are naturally determined by state sections, but matters of regional and national importance of geologists and earth scientists in general are acted on by the 12 member national Executive Committee. Realizing the great strength of the opposition, AIPG also maintains an active “Public Relations” Committee nationally as well as in each state section in order to “educate” the public and enlighten legislators on the important issues.

With regard to AIPG Publications, in addition to the monthly national newsletter “The Professional Geologist” each state section also publishes its own monthly “bulletin” or newsletter. These monthly journals inform members of the status of (continued on page 8)
not represent the number of faculty members, which has grown, but represents the time available for teaching in the classroom. It is obvious that classes are larger and that faculty members are working harder to satisfy teaching requirements.

Space is also a problem. Students and faculty are occupying the same amount of space which we had in 1971. A new wing of the Geology building is planned but it will be at least three years until this space can be occupied.

Everyone would agree that the energy crisis and the search for additional supplies of energy fuels has stimulated the enrollment of students in Geology. However, there are other stimuli which have been acting quietly for at least ten years. The teaching of earth science has been introduced widely in the secondary schools and today there are many more people who have some understanding of geology and therefore of geologists. Television has given wide publicity to geologic hazards such as earthquakes, tsunamis, landslides, and volcanoes. The space program, especially moon exploration, brought forth many geologic commentators on television. Also widely publicized is the story that the employment of explorationists is at an all-time high.

Faculty shortages are also caused by industry. Master’s degree graduates go to work at salaries that equal or exceed what can be paid an assistant professor. Most Ph.D. graduates and some younger faculty members are also going to industry at high salaries. There are still young Ph.D.’ s to teach mineralogy, igneous and metamorphic petrology, as well as more esoteric subjects, but many soft rock graduates are lost from the universities. This situation has ominous consequences for professional education.

University teaching positions are being filled by non-applied, geologic specialists. Let me give only one example. I know a smaller university with an undergraduate enrollment of 40 students but with a Ph.D. enrollment of 35 students. I am told that the major subject of research, teaching, seminars, and bull sessions are plate tectonics. Now the plate hypothesis has been stimulating to the science of geology and may even be required for global exploration, but global tectonics does not provide the practical knowledge required to make well locations. These young plate specialists, as well as others, will shortly fill the available teaching positions. When industry employment declines, there will be numerous Ph.D.’ s with applied geologic backgrounds who will want to return to teaching, but the universities will be faced with decreasing enrollments and filled positions. Therefore, I see both short- and long-term trends towards fewer applied geologists as teachers. This situation affects not only the petroleum industry, but will also affect the exploration for metals, engineering geology, and exploration for other resources.

The demand for well-trained geologists has also raised questions about curriculum. Former students may question the adequacy of the present curriculum simply because it seems to have changed since they were in school. Other graduates think that students should have more engineering, or economics, or other such “broadening” courses.

An old but interesting story on this subject has often been told. A college president polled the alumni on the appropriateness of the education they had received and asked for suggestions on improvement of the curriculum. The replies he received were readily categorized according to age and experience of the respondents. Those under the age of 30 years who had most recently entered the business world replied, “Give your students more training in practical subjects.” Those between the ages of 30 and 40 who had gained more experience said, “Give the students more training in the fundamentals of their science so they can solve future problems.” Those between the ages of 40 and 50 who had reached the management level said, “Give your students a better background in business and economics.” Those above the age of 50 years who had reached a more comfortable stage said, “Give your students more courses in humanities so they can better appreciate the arts and literature.”

It is obvious that a limited number of years of formal education cannot satisfy all the needs of a lifetime. I am inclined towards the attitude of the 30 and 40 year olds, although I am no longer a member of that group. The future professional must be taught the basic principles of geology and other physical science. If his knowledge of fundamentals is sound, he will not have to rely on old solutions to old problems but will be better prepared to find his own solutions to new problems.

In fact, there appears to be agreement between academics and industry about the courses which should be taught in order to prepare geologists for petroleum exploration. Several years ago the AAPG University Liaison Committee held a meeting of university and industry representatives. Prior to the meeting they circulated a questionnaire which asked the respondents to rank courses according to their value in professional practice. Rankings were made by well qualified people, that is, academics who had some industry background and by industry people who recruited young geologists and observed their early years of practice.

Surprisingly, there was little difference in the ranking of courses (Table 1). From these results, it may be concluded that both universities and industry agree on the requirements of training for professional practice.

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Table 1. Ranking of Geology courses according to their value for professional practice in petroleum exploration. Figures provided by Robert E. Boyer, University of Texas.
There is a problem, however, in how many courses a student can be expected to complete during his training. There are 16 courses ranked as most desirable, that is, as categories 4 or 5. Assuming these courses each carry 3 semester hours of credit, the total requirement would be 48 hours. The normal range of 36 to 44 hours is now required at many schools for the B.S. degree. All would agree that other courses listed, although not as highly desired for practice, form necessary background for proper understanding of the more desired courses. Therefore, the courses which must be taught exceed by a large number the requirements for a B.S. degree. Consequently I conclude that both academics and industry agree that the M.S. is most desirable for professional practice because of the larger number of courses which can be taken.

During past years, many companies required the M.S. degree for employment, but the pressures of hiring have changed this situation drastically within the last year or two. More B.S. graduates are now being hired than ever before. This must mean that some future professionals will be more poorly trained as compared with their peers.

A critical question which faces all of us, both in industry and in the universities, is the future supply and demand for professional geologists. There is no accurate way to predict this but some estimates for the future can be made by considering what might be the future-oil production in the United States.

In 1974 (Fig. 2) the peak of U.S. oil production had been reached at an annual rate of slightly more than three billion barrels per year. According to King Hubbert (1971) ultimate recovery of petroleum in the United States could be estimated at about 200 billion barrels. This total consisted of about 100 billion barrels which had already been produced, 38 billion barrels of proved reserves, and 62 billion barrels still to be discovered. Basic assumptions in Hubbert's estimate were that producible oil is a finite resource and that economic conditions remain unchanged.

In 1974 I attempted to illustrate that accelerated exploration might postpone the period of acute oil shortages but could not alleviate the "energy crisis" for long. For example, the ultimate recovery of oil might be as much as twice that estimated by Hubbert if economic conditions were changed drastically as, say, by price increases and relaxation of federal regulations and taxes. If the total resource were 400 billion barrels, it would still require nearly ten years to achieve a substantial increase in oil production, and the inevitable decline would only be delayed.

Despite increased prices and some relaxation of regulations, oil exploration has not succeeded in greatly improving the annual production of oil in the United States. The decline has been postponed but only for a few years. What, then, does this mean for the future employment of geologists?

The best measure of geological employment in the oil industry is probably the annual membership of the American Association of Petroleum Geologists. From figures available in 1974, Aapg membership represented about 40% of total professional employment. In 1981, Aapg membership may represent about 60% of all industry employment. Nevertheless, trends in Aapg membership may reflect future opportunities.

During the 1960's Aapg membership reached a stable number of about 15,000 (Fig. 3). After 1974, increased employment raised this number dramatically to a total worldwide membership of 25,000. Of this total, about 22,000 are employed in the United States. The rate of growth in Aapg membership, and therefore of employment, cannot continue at its present rate. A leveling and decline must occur some years hence.

The membership of the 1960's had a median age that indicated retirement about 1990. Since that time the age distribution has become strongly bimodal with the older mode having an age identical to my own and the younger mode an estimated age of about 30 years.

These facts suggest that within the next ten years there will be large-scale retirements within the present working population, a rather abrupt increase in the median age of geologists, and continued opportunities for new geologists to fill the ranks. Soon, however, the inevitable decline in production may begin to be felt.

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It can be anticipated that exploration efforts will result in smaller discoveries and fewer additions to reserves. Geological effort will change in emphasis from exploration to increased production of known reserves, the so-called “enhanced oil recovery.” A large number of geologists will be needed in these efforts, but as annual production declines there may also be a decreasing number required. Natural attrition rates will prevail, and new employment opportunities will decline.

Please note the peak of employment, estimated here at about 1990, is only an approximation and that the eventual decline in employment could be at a slower, or faster, rate than can be predicted now.

The bright side of the picture is that large numbers of geologists will continue to be employed in the oil industry during the next twenty years. After that time, there may still be a demand for a steady supply of new recruits to learn how to extract the many billions of barrels which are not now recoverable and to aid in the development of other energy resources. The eventual decline in employment opportunities may again result in some personal hardships and social adjustments, but there will still remain great opportunities for those who are properly trained. These are not dire predictions but only the facts of life. Whether the maximum figure for employment in the oil industry is 30,000 or 50,000, the decline will ultimately come.

The message to those who train geologists is clear. Although there may be fewer geologists to train after 1990, those who are dedicated to applied geology must be better and more broadly trained.

They must know not only rocks but understand fluid behavior in the rocks. They must be trained quantitatively to apply both new and improved geophysical methods for the prediction of reservoir character and limits. An increasing number must also be trained in exploration for metals, as well as other energy resources. My hope is that there will be enough applied geologists remaining in the universities to recognize the needs and to maintain the quality of training.

LETTER TO SECTIONS
By Luke Fournier, AIPG Membership Chairman

This letter is addressed to all AIPG members who serve with the Membership Committees of the various State Sections. My purpose is several-fold. A personal introduction is in order; suggestions will be given on where, when and how to approach prospective members; and I will urge your continual commitment to the job.

For myself, I have been a member of the Institute since the mid-Sixties. Because I have attended two National and two State Section meetings, finances permitting, I suspect that I have reached a certain dedication. Up to 1979, my career was largely International and my efforts were mostly limited to talking-up AIPG to many a geologist acquaintance at overseas locations. During 1981 I served on the membership committee for the Texas section, more specifically, by coordinating the efforts of the five member Houston sub-committee. Collectively, we do not claim outstanding success—we do claim a certain visibility on behalf of AIPG. It is the first step—visibility that I want to stress. To that waiting prospect a visible membership committee says: We (AIPG) exist—we are here to talk to you—yes, I carry application forms.

To begin this discourse between us membership committee people I want to mention—Support! The committee person needs material such as a brochure, and this is provided by Victor Tannehill’s headquarters people. That brochure contains an introductory letter, an application form; a Constitution, By-Laws and a code of Ethics pamphlet; and a copy of our periodical THE PROFESSIONAL GEOLOGIST. In addition, I have asked Vic to include Directory Listings of AIPG members pertinent to the State Section I operate in; plus John Rold’s fine article “Why All These Geological Societies” (December 1981). These brochures are available in two membership categories; Members and Associate Members. A telephone call to Vic will return 20 (a good initial start) brochures of each.

The Where of—So how does a visible committee begin to function but to attend local geological society meetings. In our case it is simple—the local geological society meets formally at a luncheon and a dinner meeting each month. At each meeting some 400 geologists attend—the prospective members are in abundance. Additionally, there are alumni meetings to attend and University geological society meetings to search out Associate prospects among graduating seniors. Also talk-up AIPG at business luncheons with those out-of-town geologists. Another ideal location to catch a crowd of geologists is at the Federal OCS (Offshore Gulf) Sales usually held at the New Orleans Superdome. Get there at 9AM; set-up a card table in the lobby; stack 25 brochures of each: Members and Associate, and distribute to all interested within the next hour. Next sale likely in October 1982 and three sales scheduled during 1983. An AIPG booth was in service at the recent AAPG national convention; the same should apply for the Calgary convention in 1982. The question will arise about competition from the Department of Professional Affairs of the AAPG. Yet it is perhaps awkward to prosleye new members at meetings of geological affiliates of the AAPG, but on the other hand, are not many of us also members of AAPG. You need not address, for instance, the RMAG or GCAGS: you need to talk to individuals.

The When of—Get to Society meetings early, even prior to (continued on page 14)

THE PROFESSIONAL GEOLOGIST

PRESIDENT . . . from page 5

all earth science legislation, commentary on current issues, workshops and programs and other general membership information. AIPG also publishes an annual membership directory which includes each member’s professional specialties.

We also offer the popular “Suggested Guides and Practices” for the practicing geologist; we have distributed AIPG position papers on critical issues such as the importance of gaining access for responsible exploration and development on “Alaska Lands”, the crisis developing in “U. S. Mineral Resources”, another on the strategic importance of “Metals, Minerals and Mining.” This year AIPG will publish papers on “Ground Water” and a second on High and Low RAD and chemical “Hazardous Waste Disposal”. These publications are distributed free of charge to each Senator and Representative, staff member, federal committees, agencies, etc., to state and local officials as well as throughout the academic and industrial sectors.
3. Does the applicant's experience show appropriate professional development with expanding responsibility? Perhaps more than any other test, this is indicative of the applicant's true professional caliber. Particularly in the early years of geological employment, the absence of increasing professional responsibility constitutes grounds for questioning of competence and proficiency.

4. If the applicant is not currently engaged directly in geology, is his or her present position attributable to an earlier successful practice? In many areas of endeavor, successful application of geology will result in promotion to positions which are not directly geologically related. Often these jobs involve at least indirect supervision of geologic activities. On the other hand, employer's requirements, personal preference, or professional inability may result in lateral transfers to positions whose geologic involvement is only incidental (as for example, into the land department of a petroleum company). While evaluation of such changes will always be difficult, a useful test is the "upward and onward/sidewise and out" rule. If an applicant has been promoted above direct geologic involvement as a result of his successful function as a geologist, subsequent experience should be acceptable. If, on the other hand, the change in position is not traceable to geological performance, subsequent experience may not be credited.

5. Is the applicant's experience overspecialized? An applicant may have developed a very high level of professional proficiency within an area of study so narrow as to exclude the field of geology as a whole. While such instances are rare, they have occurred, usually in connection with an applicant with a bare minimum of experience, most of which has been gained in graduate and post-doctoral studies. If subsequent investigation should show that the applicant has in fact spent his whole professional career in "laboratory investigations of conodonts" or the "mathematical synthesis of Love waves" without concern for their geologic significance and contact with other aspects of geology, then there is legitimate question as to whether the geologic experience meets the intent of our Bylaws.

6. Is the applicant's occupation truly geology? This question often arises with scientists whose early training was not exclusively geological and whose initial experience was outside the geological field but whose investigations in the fields of chemistry, physics, biology, etc., have led them into a real and lasting involvement with geology. Where there is evidence that such applicant's interest and involvement in geology is more than a tangential result of some other field of study, it seems an unrealistic and unnecessarily narrow outlook to rule that his experience is not geological solely because he did not earlier call himself a geologist.

The purpose of the experience requirement in the Bylaws is twofold: first, it is an extension of the training requirement, providing a period during which the future applicant acquires greater breadth and depth of geologic knowledge; second, it provides a period of "testing through practice" upon which the applicant's competence and proficiency can be judged. Therefore, experience which does not indicate enrichment of the applicant's geologic knowledge or demonstrate an increasing level of competency and proficiency should not be credited towards meeting the experience requirement.

B. Personal Integrity. The evaluation of personal integrity presents the Screening Board with perhaps its most difficult problem. It is particularly important here that the Board recall its threefold obligation, to the Institute, the public, and the applicant. The Bylaws give great latitude to the Screening Boards in assessing personal integrity, and thereby impose the responsibility for careful and sincere judgment. The Bylaws do require a sustained record of adherence to the highest professional and ethical standards. The clear implication is that, in this case at least, any reasonable doubt shall accrue to the benefit of the Institute and the public, and that evidence of questionable business or ethical conduct shall be disqualifying. The Screening Board should further note that the requirement for a "sustained" record leaves little room for the consideration of mitigating circumstances or evidence of recent reform. In short, the Bylaws demand that the applicant be a person of unquestioned integrity in his community and his profession.

But what is "good business practice"? Standards are so variable from industry to industry and throughout the country that a good business man in one area may be considered a "sucker" in another and a "sharpie" in a third. In many professions, and in some aspects of our own, it is considered unforgivable to have a beneficial interest in a business or property upon which one is writing a public report. While it may be unwise to cloud the objectivity and independence of a professional engagement by personal involvement in the enterprise itself, is such a disengagement required by the injunction of our Bylaws to adhere to the "highest" level of business practice? To do so would be to automatically reject a large portion of the geologic profession.

Perhaps at some future date the Institute will formulate a comprehensive "Canons of Ethics." In the meantime, "highest professional and ethical standards" should be construed to mean absolute honesty and integrity, the subjugation of salesmanship to objectivity, adherence to the spirit as well as the letter of our Code of Ethics and of its every obligation.

Because of the great difficulty in establishing "rights and wrongs," the Screening Board is called upon to make conscientious use of the authority and latitude granted them by the Bylaws in considering and making recommendations based on business practices. They may, and should, recommend a rejection of applicants who have a general reputation of "sharp" or dependable business practices, even though there is no firm supporting evidence. To admit an applicant who has an unfavorable reputation is to stain the Institute, its present members, and other applicants with the same doubts and criticisms borne by the applicant under consideration.

C. Personal Ethical Standards. How broadly should a Screening Board evaluate the ethics of the individual? Should it extend its investigation to the applicant's personal life? Should it accept or reject an application on the basis of chronic drunkenness or a history of unpleasant marital notoriety? Once again, the Screening Board must rely on its own judgment and use the latitude and authority granted it by the Bylaws.

It is possible that defects of personality are so severe as to render an applicant unfit for membership in the Institute.

(to be continued)
SECOND IN A SERIES ON YOUR 1982 NATIONAL INSTITUTE COMMITTEES

EDUCATIONAL AFFAIRS

Richard M. Winar, Chairman

Dick is a partner of Dames & Moore and is currently managing the firm’s participation in the radioactive decontamination of the West Valley Nuclear Service Center in West Valley, New York. He has been Staff Geologist, Environmental Planning Staff, of Commonwealth Edison Company; Consulting Geologist and Manager of Underground Disposal Operation for Earth Science Laboratories; Consultant, Grand Rapids, Michigan; and, Petroleum Geologist, Humble Oil Company, Illinois and Michigan Basin areas. Chairman of this committee in 1981, Dick has long been active in serving AIPG at both Section and National levels. He holds B.S. and M.S. degrees in geology from the University of Illinois.

Charge

1. Act as a liaison between AIPG and the educational and academic community.
2. Review and report on matters affecting professionalism or professional geologists in the academic community with respect to relations with government, industry and professionals in consulting practice.
3. Review and report on employment levels and standards of geologists in the academic community, including job qualifications, compensation and working conditions.
4. Where requested, assist in the evaluation of geological education in the secondary schools, colleges and universities.

Members

Shall consist of five members appointed for staggered three-year terms; at least two members shall be employed as faculty at the college or university level.

Present members are: Allen O. Perry, Edward B. Nuhfer, and Paul H. Mosher.

1982 Goals

1. Complete and publish a summary of the results of AIPG’s 1981 survey of educational institutions.
2. Consider and report on a plan for providing an evaluation service for geological departments. Such consideration shall include a reevaluation of the procedures of the 1973 Institute booklet “Cooperative Evaluation.”
3. Consider and report on the possibility of conducting a wage and salary survey of educational institutions, possibly in conjunction with NAGT or AGI.
4. Report on the procedure for preparing and maintaining a list of AIPG-approved geology departments.

ETHICS COMMITTEE

William H. Park, Chairman

Bill is President, Environmental Protection Corporation, Bakersfield, California, a firm involved with liquid waste disposal. He also has his own geological consulting company. His other experience includes: Administrative Assistant to California Congressman Bob Mathias in Washington, D.C. from 1967-70. Bill is a past member of the Institute’s Executive Committee, a Past President of AIPG’s California Section, and a former Member of the Executive Board of the American Association of Petroleum Geologists. He is also Past President, California State Board of Registration for Geologists and Geophysicists.

Bill graduated from California State University, Fresno, with a bachelor of Arts Degree in Geology in 1953. He has done post graduate work in Petroleum Reservoir Engineering at the University of Southern California.

Charge

1. In accordance with Article IX of the Institute’s Bylaws and with the Code of Ethics, the committee shall consider charges of misconduct by a member which are officially submitted to it. The committee shall examine and investigate such charges and make its recommendation, in writing, to the Executive Committee.
2. To consider and report to the Executive Committee on general questions regarding ethical or unethical conduct, whether such questions arise from its own deliberations or from inquiries by other AIPG members or non-members.

Members

Five persons appointed for staggered three-year terms. No two members of this committee shall be from the same State Section.

Present members are: Linda Dutcher, Ralph H. Fellows, Frank Jacobeen, Jr., and Rudolph K. Hoagberg.

1982 Goals

The committee shall, in cooperation with the Constitution and Bylaws Committee, review the wording of the Code of Ethics to clarify its meaning and intent and shall, if necessary, submit suggested revisions to the Executive Committee.
STATE AFFAIRS AND REGISTRATION
SUBCOMMITTEE

John B. Gustavson, Chairman

John was educated in Denmark where he received his Master's degree in chemical engineering, specializing in petroleum engineering and hydrocarbon chemistry. He continued his education at the University of California at Berkeley in fluid dynamics from 1957 through 1958 and in the mid-seventies obtained his Master's degree in geology. He is the principal of Gustavson Associates, Inc., Boulder, Colorado. His firm performs consulting services for industrial, financial and governmental clients. John has been active in AIPG having served as vice president of the Tennessee Section, and the Colorado Section. He is now president of the latter.

Charge

1. Monitor and report to the full Governmental Affairs Committee attempts by States to certify or register geologists or to register other professions in such a manner as to inhibit the free and orderly practice of geology.
2. Monitor, report on and advise on positions taken by AIPG Sections on State legislation or regulation affecting the geological profession.

Members

The membership of the subcommittee shall consist of fifteen members who shall be appointed for staggered three-year terms and who at the time of their appointments are officers of State Sections. No two members shall be from the same State. At least one member shall be a member of the full Committee. Present members: Norm Tilford, Derek Tatlock, Don McClelland, Tom Dowell, Charles A. Rich, Bruce Barron, Don E. Cardinal, Earl G. Hoover, M. Warner, Wm. J. Wayne, Geo. H. Gallup, Frank Stanonis, Bill J. McGrew, and Graham R. Ford.

1982 Goals

In 1982, the committee shall organize to fulfill its functions and shall present to the full committee for its approval a draft plan for carrying out the subcommittee functions.

1. Analyze the Statutes and prepare a "spread sheet" summary of the major provisions of present existing State legislation regulating the registration/certification of geologists.
2. Prepare a revised "model law" regulating the practice of geology that AIPG could and would endorse and recommend.
3. Assist AIPG Sections in their efforts, either for or against registration proposals in their States.

SUBCOMMITTEE ON EXTERNAL APPOINTMENTS

Kenneth N. Weaver, Chairman

Currently the Director and State Geologist, Maryland Geological Survey, Ken graduated in 1950 from Franklin & Marshall College with a B.S. in Geology. He received an M.A. in Geology from the Johns Hopkins University in 1952 and was awarded a Ph.D from that school in 1954. Following two years' service in the U.S. Army, Ken worked as a professional geologist for Medusa Corporation, Cleveland, until joining the Maryland Survey in 1963. He is CPGS 1064.

Charge

1. Seek out, collect and monitor information on political appointive positions of interest to the geological profession on Federal, state and local levels, which might appropriately be filled by geologists because of their professional competence.
2. Collect and submit to the Editor of the TPG a list of such positions of interest, on a regular monthly basis if possible.
3. Suggest means by which professional geologists may be appointed to such positions and follow through in support.

Members

Five members appointed for staggered three-year terms, at least one of whom shall be a member of the Governmental Affairs Committee. No two members shall be from the same State. Members presently are: Don C. Long, Don Carr, Leon Ditzell, and Rudy Ford.

1982 Goals

1. Continue to publish notices of vacant governmental appointive positions.
2. Through the State Sections and through Federal regulatory agencies, compile a list of all appointed positions for which professional geologists may be qualified.
CALIFORNIA SECTION ITEMS

This Section has started a bi-monthly Newsletter. Editor Jack Sheehan says, "Through it we hope to establish a forum for AIPG news and views and provide a means of communication with the California Section membership. This is your newsletter, so send in your thoughts, questions and comments and we will do our best to 'em in.'"

California Section will host the AIPG Annual Meeting November 10-13 at the Huntington Sheraton Hotel in Pasadena. All California Section members should make plans to attend.

The Section Executive and National Convention Committees were scheduled to meet Thursday morning, April 15, 1982, 9:00 A.M., at the Disneyland Hotel, Olympic Room, Sierra Tower, during the AAPG Convention.

The following have agreed to serve as California Section Area Representatives:

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<td>Mort Polugar</td>
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<td>Ed Stinemeyer</td>
<td>San Joaquin</td>
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<td>C. K. Ham</td>
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<td>Bob Elliot &amp; Bob Sydnor</td>
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WYOMING SECTION MEETS

The Wyoming Section held their monthly meeting March 10, 1982, at the Casper Petroleum Club. Jim Hill, Chairman of the Platte River Parkway Steering Committee, spoke. His topic was the Platte River Parkway that is to be developed through Casper.

Wallace Stewart reported for the Public Issues Committee. He stated that the Forest Service problem that limits mineral resource exploration outside of Rare II and Wilderness areas might not be as serious as thought earlier.

Don Cardinal reported for the Public Hazards Committee. He advised that the Casper Board of Public Utilities accepted the Section's proposal to help them find sources of water for the city.

The Section's next meeting will be at 11:00 A.M., April 19th, at the Casper Hilton Inn. Dave Love will be the speaker and his topic will be "Natural and Manmade Geologic Hazards." This will be a joint meeting with the Wyoming Geological Association.

MINNESOTA-WISCONSIN SECTION

Twin Cities Area members are invited to a regular meeting on the first Monday of each month. The recent switch from a breakfast-to-a-lunch-time meeting has met with approval from members, if the many-fold increase in attendance is any indication. The meetings begin at 12:00 noon at Viking Village Smorgasbord, on Snelling Avenue in St. Paul, just north of University Avenue.

Many members have proposed changing the location of the meeting as the all-you-can-eat format at the Viking Village is distressing to many budgets, digestions, and diets. So far, only the Quality Cafeteria on Snelling has been suggested as a new meeting place, but the management there cannot guarantee a group's area. Any reader with a suggestion for an appropriate new venue is urged to contact Rudy Ford.

GEORGIA STARTS NEWSLETTER

The Georgia Section is starting a Newsletter to bring to the attention of members information about the Section and matters of professional interest and concern to all Georgia geologists.

Present plans are to publish on a quarterly basis. Articles for the next Newsletter should be in the hands of the editor by April 30th.

Examples of subject matter:

—News from other professional organizations of interest to AIPG members.

—Professional job changes, promotions, transfers and new ventures.

—Membership activities. Applications approved or submitted. Address changes. Prospective members.

—Field trips, seminars, symposiums and meetings of interest.

—Actions or proposed actions by the Georgia Legislature which could affect geologists and the work they do.

—Public relations news items about geologists and their public image.

Send Newsletter items to the Editor:
Ralph D. Loughman
140 Laurel Mill Court
Roswell, Georgia 30076
Telephone 404-992-4627

UTAH SECTION NEWS

Officers of the Utah Section Section for 1982 are:

President: Roger F. Holland
Vice-President: Larry Trimble
Secretary-Treasurer: Richard S. Kopp

Of major concern to Section members is a proposal by the engineering geologists of the State for registration of geologists. A poll of the membership indicates that most members prefer a law modeled after the one in Indiana. A bill proposing registration will likely be submitted at the next session of the legislature in January 1983. To prepare for that possibility, the Section plans to produce a membership directory by October, 1982.

On March 25, Roland Robison, Utah State Director of the Bureau of Land Management was featured speaker at a Section meeting. His talk was on Bureau of Land Management Policies Covering Energy and Mineral Development.

In April, Verne Mortensen, President of the Utah Coal Operators Association, will address the members concerning the Coal Severance Tax. At the May meeting Richard S. Kopp, Vice President of Natural Resource Banking at Valley Bank and Trust Company, will speak on Financing Natural Resource Development Projects.

Recently the section received a donation of $500 from O. J. Gatten, President of North American Exploration, Kaysville, Utah, to aid the Section in publishing a membership directory, obtaining visual aids, and establishing a fund to send representatives to National AIPG meetings.
APPLICATIONS RECEIVED

If any member has any recommendations, positive or negative, regarding the qualifications of any of these applicants, please mail your comments to Headquarters within 30 days. Your remarks will be held confidential within the Executive Committee and Screening Board of the Section. An asterisk indicates Associate.

ANDERSON, Robert W., 633 No. Franklin St., Washington, PA 14301. Sponsors: Donald Haney, Derek B. Tatlock, Lester Lafortune, Daniel Clark, Albert Richnasfsky.


CHALUPA, Stephen C., Route 2, Box 727, Ashland, KY 41101. Sponsors: John Philley, David Hylbert, Gene Brandenburg, John Beam, Larry Rhodes.


CORDRY, Kent E., 4373 Selwyn, Bridgeton, MO 63044. Sponsors: Donald Ramsey, David Taylor, Marlin Veesaert, Duane Winegardner, John Morse.


DRIGGS, Michael F., P.O. Box 17772, Denver, CO 80217. Sponsors: Richard Rush, Marshall Shurnas, Alan Dreher, Bryan Archer, Derek Whitehouse.

EIDELBACH, Mark, P.O. Box 13411, San Antonio, TX 78213. Sponsors: Ham Menger, Dr. Roy, Walter Coppinger, M. O. Turner, Don McGregor.


HOFFER, Ron N., 6638 Hillandale Rd., Chevy Chase, MD 20815. Sponsors: David Stephenson, Charles Baskerville, Hugo Thomas, David Rosen, Spence Gustav.

HUMPHREY, John T., 195 West Street, Reading, MA 01867. Sponsors: Brian Fowler, Steven Alsup, David Woodhouse, Donald Reed, Allen Hatheway.


MANNING, Kenneth H., P.O. Box 3130, Anchorage, AK 99510. Sponsors: Ross Schaff, Mike Mitchell, Tony Vanderpoole, Larry Acomb, Bjarne Holm.

PARKS, James M., 4674 Steven Lane, Walnutport, PA 18088. Sponsors: James Noel, Perry Roehl, Cortez Hoskins, Lane Schultz, Lowell Redwine.


RAPPMUND, Ronnie A., 5814 W. Mary Jane Lane, Glendale, AZ 85306. Sponsors: Theodore Small, Aubrey Sanders, Jr., Paul Pedone.


RICKTER, Henry R., P.O. Box 4051, Laramie, WY 82071. Sponsors: Peter Huntoon, Paul Rechard, D. L. Blackstone.


SWEKAWA, Harry S., 130 East 5000 South, Ogden, UT 84403. Sponsors: Roger Holland, Robert Cohenour, O. Jay Gatten, William Daffron, George Lindenburg.


(continued on page 14)
WHAT STATE SECTIONS SHOULD DO TO CARRY OUT AIPG'S PURPOSES

1. Maintain an active and viable State Section.
   a. Continuous recruitment program, for new members.
   b. Keep membership informed by newsletter and sectional meetings.
   c. Maintain and pursue, through active committees, positive goals for Section.
   d. Coordinate State activities and goals for National Organization.
   e. Promote public relations (speakers: television, radio, and newspaper coverage).

2. Provide professional guidelines, standards and employment data for membership, employers and public.
   a. Employee-employer obligations and guidelines.
   b. Professional fees.
   c. Experience and educational standards and requirements.
   d. Convey AIPG ethics to colleges and universities through departmental, teacher and student communication.
   e. Coordinate professional guidelines and data with all other geology disciplines (petroleum, mining, etc.)

3. Maintain positive political involvement at local state and national levels.
   a. Committee and membership monitoring of all governmental and legislative actions.
   b. Provide accurate professional and scientific data as necessary.
   c. Correct misinformation.
   d. Oppose poor legislation.
   e. Support positive legislation, if necessary.
   f. Involve State Section in all environmental legislation dealing with the geological sciences.
   g. Encourage and suggest appointments from AIPG membership for Governor’s appointments or any type appointment which requires experience in geological sciences.
   h. Encourage government officials to call on AIPG members whenever testimony is needed in any of the earth science fields.

4. Support the National Organization.
   a. Encourage national representation in Washington, D.C. via lobbyist or otherwise, even if such representation requires a dues’ increase.
   b. Provide information for and support The Professional Geologist (national newsletter).

A useful tactic, I discovered inadvertently, is to hold a copy of John McPhee’s BASIN AND RANGE among your hand carried brochures. This allows you to interrupt your pitch and proclaim his novel as the best, popular, geology based story (which it is) of present times. You would be surprised at the

(continued on page 15)
NEW MEMBERS
An asterisk indicates Associate. Take a minute to call and welcome these new members into the Institute. Invite those from your state to become active in Section affairs.

AINSCOUGH, Harlen R., #5169, Englewood, CO
ARDEN, Michael P., #5127, Tomball, TX
BAIN, George L., #5177, Asheboro, NC
*BEAM, John B., Jr., A-158, Lexington, KY
BELL, Rex R., #5142, Exton, PA
BENNETT, David A., #5143, Dover, OH
BENTZ, Felix P., #5172, Dallas, TX
BRADSHAW, Robert D., #5128, Tulsa, OK
BRAZIE, Mike E., #5164, Golden, CO
BURKETT, David H., #5144, Southport, CT
BUSCH, John D., #5129, Thornton, CO
BUYCE, M. Raymond, #5130, Lakewood, CO
BUZEA, Dan C., #5157, Fairfield, CT
CATHCART, Robert S., #5146, Chardon, OH
*CHRISTOPHER, Michael T., A-153, Springfield, VA
DERSCH, John S., #5166, Lakewood, CO
DYER, Russell M., #5156, Lakewood, OH
*EPP, Kathryn A-159, Columbus, OH
GALLOWAY, Michael J., #5131, Aurora, CO
GEORGE, Lois D., #5147, Northport, AL
GOODWIN, Jonathan H., #5173, Champaign, IL
GRISWOLD, Daniel H., #5159, Portland, OR
GROMER, James M., #5178, Las Vegas, NV
HARRISON, Gary C., #5132, Littleton, CO
HAWLEY, C. C., #5160, Anchorage, AK
HEINDEL, Craig D., #5148, Shrewsbury, VT
HORNE, Mary E., #5175, Rock Hall, MD
HUI, Stephen S. F., #5151, Hong Kong
KENT, Mavis, D., #5133, West Linn, OR
KENNEDY, Dennis C., #5179, Lakeland, FL
KOECHLHEIN, Harold D., #5145, Oklahoma City, OK
LAMONICA, Robert, #5149, Monroe, CT
LEAMER, Richard J., #5174, Denver, CO
McNEIL, Mary, #5134, Lakeland, FL
MILICI, Robert C., #5135, Charlottesville, VA
MORGAN, Jefferfson D., #5150, Edmond, OK
MORILLA, Alberto G., #5168, Golden, CO
MOTT, Charles J., #5136, Clearwater, FL
MULICA, Walter S., #5161, Wayland, MA
OROS, Robert, #5170, Lakewood, CO
OTTO, Ernest P., #5137, Englewood, CO
OWEN, Gary M., #5152, Tuscaloosa, AL
PALMER, John E., #5176, Summit, NC
PAYNE, James L., #5165, Parker, CO
*POWERS, J. Kevin, A-151, Wilton, CT
QUERY, Quentin R., #5167, Littleton, CO
RIDGLEY, Neil H., #5138, Arvada, CO
SEVER, Charles L., #5180, Denver, CO
*SHANKS, T. Jefferson, A-152, Indianapolis, IN
*SHIGLEY, Phillips, V., A-157, Glen Burnie, MD
SKINNEN, William V., #5153, Vineland, NJ
SLAVIN, Eric J., #5154, Middleton, PA
SMITH, M. O., #5139, Cookeville, TN
SPYDELL, D. Randall, #5158, Denver, CO
*STEINBACH, Michael H., A-155, Stamford, CT
STICKNEY, Roger B., #5155, Anchorage, AK
*STONE, Timothy S., A-156, Edison, NJ
*TAYLOR, Marsha L., A-154, Owensboro, KY
WARFEL, Michael R., #5140, Huntington, NY
WOOD, Leonard A., #5162, Rockville, MD
YARUS, Jeffrey M., #5151, Denver, CO
YOUNG, Larry L., #5163, Edmond, OK

SECTION 1982 DUES BY STATE

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MEMBERSHIP... from page 14

quick acceptance your prospect will give you, because you have established a rapport in things geologic. I am sure that the reader can improve on the foregoing suggestions, as well as, initiate talk-up AIPG campaigns of substantive impact.

In closing, it remains to say that a membership drive is an on-going endeavor. It matters little who the current national chairman is, or the members of his supervising committee; because we will achieve mediocre results only without those on-the-spot geologists assuming responsibility for a membership drive within the State Sections and within sub-sections on a city by city basis. AIPG needs growth today, during 1983, and thereafter, so take a long term perspective. The organization and procedures we adopt must merit attractiveness well into the future.

I am particularly fond of telling prospects, "All organizations need bodies;" preferably dedicated bodies, and, as experience teaches us, individual dedication spurs and wanes—do your share and pass the mantle on. AIPG is a professional Institute, we are political, we maintain a Legislative Counsel in Washington, we will advance ideas for the public good, we will take a stand on public resource issues. On the rock of professionalism AIPG seeks to be the representative of all geologists comprising the many geology and geophysical disciplines incorporated under the umbrella of the American Geological Institute.

Once again, "All organizations need bodies" and "Membership Committees need to be visible."

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QUARTERLY MEMBERSHIP REPORT

As of March 31st, end of the First Quarter of 1982, AIPG had
received 98 Member applications and 16 Associate applications.
This total of 112, although slightly behind our projected
125 applications per quarter, represents an all-time record
number (aside from "grandfathering" intervals) for that
period of time. It puts us well ahead of last year's pace.

On the other side of the coin, losses of Members or
Associates due to all causes are at an all-time low. AIPG is some-
what unique among geologic organizations for its enviable
history of very high membership renewal percentages.

This year of 1982 has been no exception. Of the 4,131 total
membership 2-28-82, 4,035 paid their annual dues by March
31st. That's a renewal rate of 97.7%. Much higher than at the
same point in time in '81. And it will go even higher as some of
the remainder pay follow-up notices.

SME/AIME HONORS SIMON

Jack A. Simon, CPGS 1725, principal scientist and former
chief of the Illinois State Geological Survey was awarded the
Percy W. Nichols Award of the Society of Mining Engineers of
the American Institute of Mining, Metallurgical, and Pet-
roleum engineers at the recent annual meeting of that society
in Dallas.

The award is made annually to an individual for "notable
scientific or industrial achievement in the field of solid fuels;"
and recognizes Simon's nearly 40 years of coal research.

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IN MEMORIAM . . .

RICHARD D. STEWART, CPGS 4473
Rio de Janeiro, Brazil

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