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Let's Identify Ourselves or An AIPG Profile

The second title is easier to handle than the first. According to Art Brunton's breakdown of the sub-fields of geology and the employers, percentage distribution of AIPG membership in January 1, 1974 looked like this:

Modes of Employment

Area of Specialization	Consultant				Total
	Corporate	Independent	Gov't.	Academic	
Petroleum	24.4	25.3	3.5	2.7	55.9
Minerals	10.3	5.8	4.1	3.3	23.5
Engineering	2.7	2.8	4.1	2.0	11.6
Geohydrology	1.1	1.6	2.6	1.0	6.3
General	**	**	**	2.0	2.0
TOTALS	38.5	35.5	14.3	11.0	99.3

Admittedly, these boxes may not be as sharply defined as they appear, because a consultant may deal in both engineering and geohydrology — but they are probably significant statistically since they are based on approximately 2200 members.

Do we know who the others are in our sub-field of geology? For example, who are the mining geologists? "Who wants to know?" you may ask. Well, perhaps your ExCom wants to put the finger on all who profess an interest in mining so that they can form a task group on a particular issue, or so they can identify possible testifiers for the Reg & Leg Committee before the Congress.

If the new Directory were to be computerized, this information could easily be retrieved. However, even if it is a hand-labor job, it seems to us that this information would be of immense potential use to AIPG as it attempts to involve every member in its work.

This we visualize that the Directory would contain alphabetical lists of names of members under the titles of the five areas of specialization that are provided for in the matrix. We know that the ExCom will use these lists; why don't you, too? Let's identify ourselves!

CORRECTIONS

Boy, did we flub one! And we heard about it, too. In our September TPG editorial we said that no Representative or Senator in the present Congress is a geologist. Beginning with Don E. Brown on October 3, then A. L. Repecka on October 11 and Patty Mercer on October 25 told us, nicely but firmly, that Senator Dewey Bartlett of Oklahoma is a geologist. Suzanne Takken buttonholed us at the Annual Meeting to say that we blew it but, since she knew that we must have already heard from a large number of the Oklahoma Section, she would be kind to us and not add to our burden.

Our excuse — if indeed we have one — is lame indeed. Our reference, the January 6, 1973 Congressional Quarterly Weekly Report, lists Senator Bartlett as having the following occupations:

Public service/politics; agriculture, business/banking and veteran.

What we should have done was to consult the Congressional Directory, because it tells that the Senator received a degree in geological engineering from Princeton University in 1942.

* * * * *

And, while we're at it, we think that we've found the lost G. T. Smith. Remember him? Well, in passing out accolades to AIPG members who have served on panels for cooperative evaluation of departments of geology, we listed one G. T. Smith. Since no G. T. Smith is included in the 1974 Directory, we noted that he is no longer an AIPG member.

On October 9 he was found. Clay T. Smith, who served in January, 1972 with Don Van Sickle and Les Brown on a visit to the University of Texas, El Paso, volunteered that he was probably the typo victim. We agreed, and are pleased to set the record straight herewith. We rejoice that this slip-up cannot be charged to us, because we didn't type it, thus holding our percentage to .500; however, we'd hate to admit that it just could have been caused by the less-than-clear handwriting that we have been accused of.

* * * * *

We're glad that you read our stuff. Keep the comments coming — they're adrenalin for the editor.

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PROFESSIONAL PARAGRAPHS

In August we learned that **Richard E. Gray** of General Analytics, Inc., Consulting Engineers of Monroeville, Pennsylvania, has been elected to the ExCom of the ASTM Committee D-18 Soils and Rock for Engineering Purposes. His 6-year term runs through 1980.

In September we heard that **Robert E. King**, of Mamaroneck, New York is a candidate for president-elect of the American Association of Petroleum Geologists. King, with degrees from the University of Iowa and Yale University, has held positions with several oil companies and is currently a consultant and Chairman of the Board of Comoro Exploration, Ltd.

Also, Lee H. Meltzer is one of the two candidates for AAPG Vice President. A graduate of the University of Chicago, Meltzer worked as a geologist for Union Producing Company from 1936 until 1956, when he established his consulting practice in New Orleans.

The Secretary of the AAPG in 1975 will be an AIPG member, because both candidates are. **Robey H. Clark**, Vice President for exploration and production with Diamond Shamrock in Amarillo having come up through Louisiana State University and the University of Chicago to go to work for Mobil Oil in 1946, staying until 1971 when he left to join Diamond Shamrock. His opponent, **Herbert G. Davis**, an Oklahoma City independent and consultant who went from a degree at Oklahoma State University to Amoco; he left to enter consulting work and served four years as vice president and exploration manager for D-N-C Exploration Corporation.

Dean McGee of Kerr-McGee was presented the APPG Public Service Award at the 1974 Annual Meeting, where he was recognized for his active support of numerous educational, scientific, medical, and cultural institutions in the public interest.

Peter T. Flawn, President of the University of Texas at San Antonio, has been elected to the National Academy of Engineering.

AAAS ANNUAL MEETING

The American Association for the Advancement of Science is an organization that professional geologists seem rarely to be involved with. Its Annual Meeting has a section on geology and geography (Section E), whose programs are usually academically oriented and of less interest to professional geologists than competing scientific society meetings.

But the excitement at the AAAS Annual Meeting usually comes in the special symposia and seminars, which are much broader in scope and are often related to policy matters. In fact, when we looked over the program for the coming meeting in late January, in New York City, we found the following list of topics that should be of interest to segments, if not all, of AIPG:

- Jan. 30 — Land Use and Mineral Resources (Arranged by Duane N. Bloom, Earth Sciences, Inc., Golden, CO)
- Jan. 31 — Project Independence: Environmental Bust or Boom? (Arranged by Stephen Gage, Council on Environmental Quality)
- Jan. 29 — Prospects for Increased Professional Responsibility in Science (Arranged by Norman W. Storer of CCNY)
- Jan. 31 — The Use of the Technical Expert in the Justice System (Arranged by Joan E. Jacoby, National Center for Prosecution Management)
- Jan. 31 — Space Observations for Management of World Resources (Arranged by Fredrick J. Doyle USGS, and Robert B. McEwen, American Society of Photogrammetry)
- Jan. 30 — Land Use Policies and Management in Relation to Food Production (Arranged by James R. Anderson, USGS)

We have received a copy of the program for the one on Land Use and Mineral Resources, which reads as follows:

"Oil Shale Development & Colorado Land Use Legislation", by Wilbert Ulman, Colorado Land Use Commission

"Economic Impact of Recent Reclamation Legislation", by G. Richard Dreese, Dept. of Economics, West Virginia University

"Revegetation — An Important Part of Reclaiming Mined Land", by Russell D. Hutnik, Department of Forest Ecology and Guy W. McKee, Dept. of Crop Physiology, the Pennsylvania State University

"The Benefits of Surface Mining", by Lee W. Saperstein, Dept. of Mining, Pennsylvania State University

"A Need to Re-examine Some Traditional Land Use Planning Concepts", by Dale E. Trower, Attorney, AMAX

STATE SECTION NEWS

CALIFORNIA

The program for the Annual Meeting, held on October 5 at UCLA, had as its theme, "The Professional Geologist's Role in Environmental Studies." Under the general chairmanship of **Joe Birman**, the following AIPG members made presentations: **Art Spaulding** on off shore petroleum, **Bill Park** on liquid waste disposal, **John Mann** on hydrogeology, **Jim Weddle** on onshore petroleum, **Don Hallinger** on public utilities, and **Dave Cummings** on education. Non-AIPG presentations dealt with solid waste disposal, environmental impact statements, and seismic safety.

COLORADO

The monthly **Colorado Communicator** told of the September 16 meeting, at which was presented a talk on "The Earth Sciences, Inc. - National Southwire Alunite-Alumina Project." The annual business meeting was held on October 21, with the Section's Executive Committee suggesting the following:

1. More frequent communication between the National and State Section Executive Committee.
2. Continuing education.
3. Draft Act of the Professional Engineers of Colorado, restricting the use of the terms "engineer" and "engineering."
4. Name for the new unified professional organization.

Section members voted unanimously in favor of an amendment to the present Colorado Engineer's Law, which would add to the section's beginning, "This article shall not be construed to affect any of the following," as below:

"(i) Persons working as geologists including engineering geologists. Geologists who work for others (as consultants) may but are not required to register under this article."

At the November meeting, a talk on petroleum data gathering and dissemination was presented.

LOUISIANA

The September 30 Newsletter reported that at the Annual Meeting on October 19 in Lafayette, the program was to include:

1. A number of practicing geologists who would give their views of the trials and tribulations in today's political and economic climate, and
2. Some local geologists who recently had made the trip to Washington, DC to attend hearings on the oil depletion allowance.

It also noted that **Vito Gotautas** was recuperating at home from heart surgery, which followed a slight heart attack last summer. It added (and we join in their sentiments), "We are happy to know that this is only going to slow him down for a few months."

MONTANA

The Annual Meeting was held September 21 in Bozeman, with the topic being Montana's mineral resources. AIPG member **Robert E. Matson** talked on coal resources of eastern Montana, and **Sid Groff** delivered the luncheon address on the role of State Bureau of Mines in future resource development.

OHIO

Stan Norris reported that the featured speaker at the Annual Meeting, on November 6 in Columbus, was State Senator Donald L. Woodland, who discussed the mechanics of legislating a proposed bill for registration of geologists in Ohio, sponsored by the Ohio AIPG Section. Senator Woodland has agreed to sponsor the bill, after details have been worked out by AIPG and other geologic groups in the State. Senator Woodland's talk included the following pertinent remarks:

1. Geologists are to be commended for wanting to set up guidelines to serve the public interest - to legislate themselves so as to establish and maintain high professional standards.
2. The time is ripe to do this for the professional practice of geology, because the energy shortage has underlined the importance of geology, and the geologist is now ready to carry the ball and find better ways to extract our mineral resources. "We are in a crisis, and you geologists are in the public eye," said the Senator.

OKLAHOMA

The August issue of the **Oklahoma Certified Geologist** told of the Annual Meeting, scheduled for September 7 in Norman, which will discuss the formation of a single, broad-based professional geological organization. The Section was exhorted to respond to the proposed Outer Continental Shelf Lands Act regulations amendments, which would require firms that explore off shore to submit geological and geophysical data to the Department of the Interior, for eventual public disclosure.

The Section's Reg and Leg Committee, which had been asked to look into this matter by the Section's ExCom and to recommend specific action for the Section, did just that. First, **Hank Trattner** did extensive research, and the Committee under the chairmanship of **John Erickson** concluded that the Sections should go on record as being opposed in general to the forced release of proprietary geological and geophysical information that was gathered at the expense of the companies and individuals. Such regulations, it was felt, would discourage rather than encourage OCS exploration, because companies would have no incentive to sink millions of dollars into gathering data, while their potential competitors could sit back and get it for nothing. Thus, Section President, **William D. Rose** wrote (an excellent letter - Ed) to the USGS Director on August 20, opposing the proposed

rule changes. (The National ExCom, at its July meeting, had endorsed the principle of proprietary ownership of all geological data, including those from the OCS, and had encouraged individual AIPG members to express their views on this matter to the Interior Department and to their own Senators and Congressmen — Ed.)

The Section submitted a written statement last January to the U.S. House of Representatives' Committee on Ways and Means, for the hearings of the proposed "windfall" or excess profits tax for the petroleum industry. The statement pointed out the fact that the so-called windfall profits are "an illusion created by some politicians to take advantage of a very serious national problem." In addition, it made the following points:

1. The supply-demand gap for oil and gas is real.
2. The average annual growth of the oil industry for the past five years has been less than 50% of that needed to provide the capital investment required to supply our petroleum needs.
3. Only through the so-called windfall profits will the petroleum industry realize enough capital to undertake the expensive exploration programs necessary to solve our current energy dilemma.

Ralph Espach made a successful TV appearance on Oklahoma's Channel 9, concerning this statement, which **Gary McDaniel** had put in his excellent news release about the statement.

Suzanne Takken was interviewed on TV while conducting a course at the University of Oklahoma, and used it to make a fine presentation of facts on the energy crisis. Also, **Dean McGee** and **Charles Mankin** presented lectures as part of the University of Oklahoma's Energy Lecture Series.

The Section's ExCom voted in May to establish a Speakers Expense Fund, to enable the speakers of the Oklahoma City Geological Society and the Tulsa Geological Society to reach a larger geographic audience. Contributions to the fund, which was kicked off by a substantial gift from **Harold Kleen**, are being actively solicited.

TEXAS

The January, June and August newsletter were full of interesting and informative news, and an editorial by President **Ross Shipman**. Local chapters have been formed in Midland and Corpus Christi, so that they can be more effective in (1) dealing with local governments, (2) communicating with their representatives in the State legislatures, (3) expediting the screening of membership applications, and (4) local public relations.

Committee reports, abstracted in August, made the following points:

Environmental — guidelines for professional practice of environmental geology are being prepared.

Special Ad Hoc Registration — laid the ground work for a model registration law, if one should be needed. It concluded that State registration in Texas is not needed presently, so instead, the committee supports national certification.

The Annual Meeting was scheduled for October 16 in Lafayette, Louisiana in conjunction with the Gulf Coast Associated Geological Societies.

The ExCom authorized letters and documents by President **Ross Shipman** in opposition to the Federal government disclosure of proprietary OCS geological or geophysical data.

WEST VIRGINIA

The Annual Meeting was held in New Vienna on September 13, with the naming of the new officers providing the highlight. Commenting on his plans for the Sections in 1975, President **Larry Woodfork** said:

"The economy and environment in West Virginia are more directly related to the extractive energy and mineral industries than in any other area of comparable size in the country. Although the importance of geology to West Virginia is well known among geologists, unfortunately it is not widely appreciated by the general public. During these crucial times which require many critical decisions in the areas of energy and the environment . . . (I pledge) the West Virginia Section of AIPG to the common good of society through our commitment to a high level of professionalism in the practice of the science of geology. Since our efforts are ultimately judged in the public arena, (I) hope to . . . contribute to bringing the importance of geology into its rightful perspective in the eyes of all West Virginians, thereby enhancing the image of all professional geologists who practice in our state."

NEW COMMITTEE

In response to the request of the ExCom at the Annual Meeting that the President appoint immediately an Ad Hoc Committee on External Appointments, the following have been named by President **Conselman** in consultation with 1975 President **Spaulding**:

Raymond C. Robeck, Chairman
James Boyd
Adolph U. Honkala
Kenneth N. Weaver

THREE STATES GET TOGETHER

Larry Woodfork, West Virginia Section president, sent in the following item of December 4, hot off the wire.

On December 18, the State Sections of Pennsylvania, Ohio, and West Virginia were scheduled to have a joint ExCom meeting, in Washington, Pennsylvania. Ringleaders in this unique effort were **Pete Lessing**, (WV); **Bob Bates**, (OH); and **Dana Kelley**, **Earl Tarr**, and **Pete Briggs** (all of PA). The stated purpose of the meeting was to compare and discuss activities in each Section leading toward legislation on registration or licensing of geologists. They hope that this meeting will blossom into future joint get-togethers on other matters where intersectional cooperation is worthwhile.

ENVIRONMENTAL GEOLOGY—A WASTED ASSET

(We are pleased to present the banquet address for the Annual Meeting of the Virginia Section, in Richmond on October 12. Because we feel that some of the things we said there deserve wider dissemination, we are running the risk of abusing your expectation of significant or newsworthy professional geology happenings in the pages of TPG, and are presenting herewith selected parts of our talk—Ed.)

Last year the AIPG produced an excellent brochure entitled "Earth Resources as Foundations for Environmental Planning." This brochure is to be distributed to the State Sections of AIPG, for them to pass along to the State Legislature or Assembly, to planning organizations and firms, to banks and other investment concerns, to environmental organizations, to John Q. and Mary Public — in short, to all who we professional geologists feel have a need to hear the word.

This AIPG Environmental brochure described eight areas wherein the specialized knowledge of the professional geologist could be of help (and should be used), as follows:

- | | |
|-----------------------------|----------------------------------|
| 1. Water resources planning | 5. Mined-land reclamation |
| 2. Geologic hazards | 6. Waste Disposal |
| 3. Energy needs | 7. Mineral resource Conservation |
| 4. Land-use planning | 8. Park and Open Space planning |

But has this brochure been distributed as widely as it should be? Have each of us professional geologists done as much as we can to tell the story of professional geology in the environment? Have each of us actually **thought about it** enough so as to crystallize our own views and thereby understand the magnitude of the **opportunity** that we have — as well as the magnitude of our **responsibility** to society?

The answer to these questions are obvious — with mighty few exceptions, the answers have to be a resounding series of **NO's!** The **private consultant** is more likely to be able to answer "yes" to at least the last of these three questions, for his very survival depends on it. The **government types**, like myself, although blessed with a little more security but certainly less opportunity for reward than the private consultant, have a greater responsibility than the private consultant to do this job of telling our story because we influence policy decisions that affect large segments of society everyday. And the **university professors**, bless them, have an even greater responsibility to lead, for they are supposed to be at the forefront of thinking (and listening), of infusing new brains (students) with new ideas, zeal, and ethics, and of communication with a wide variety of publics through countless educational avenues. But let's not forget the **industry types**, all of whom have the opportunity and the responsibility not only to see that professional geology is involved in environmental matters that are their individual company's concern, but also to assure the high quality of their company's performance which may affect large segments of society.

How do we answer these questions? How can we answer them? Let's turn to a couple of examples of the need for professional geological input to environmental problems. Each of us has our own horror story to tell about the **lack** of use, or the **misuse** of professional geologic help in specific cases — which has cost time through delays, dollars through destruction and reconstruction, and sometimes even injuries and loss of life.

But first, let's philosophize for a moment. The bad results, we are likely to say, were due to Geologic Hazards, whereas many were actually caused by human **error**. The good results we should also relate to geologic hazards, the difference often being caused by human **correct** answers. Since the term "geologic hazards" has a negative connotation to many geologists some would have us drop it from our vocabulary. However, these things are **truly hazards**; what results when the triggering mechanism of the hazard is fired, is governed largely by good advance preparation, by a well constructed and implemented hazard game plan, and by a thorough and systematic recovery or mop-up operation.

And now for two examples. In the July 4 issue of **Engineering News Record** (p. 12) there was a news item entitled "Clay Seam Shift Causes Major Damage to 200 Piles." The report said that "the shift of a clay seam has caused major damage to the pile foundations of a 10-story federal building under construction in Chicago." According to the General Services Administration, which is in charge of construction of the \$40 million building, "recent heavy rains triggered the shifting of the seam." The shift bowed about 200 of the building's 700 steel-encased concrete piles by amounts ranging from 4 to 24 inches. The piles, 75 feet long and 18 inches in diameter, were damaged 25-30 feet below grade, in the middle of a 35-45 foot thick bed of soft blue clay, having a compressive strength of 1-2 tons per square foot, which in turn rested on silt and sand. Above the troublesome soft blue clay at the top, was 6-7 feet of overburden.

The bottom 30 feet of each pile was encased in a smooth steel casing, and the rest of the pile in corrugated steel; the failure occurred in the corrugated steel section, with the smooth steel section staying in place. As a result of bowing, some of the pilings developed hairline cracks, so GSA decided to repair the damage by augering a 38-inch diameter hole "down around the bow in the piles to the unaffected area. New steel casings will be installed and the hole filled with concrete." Who helped the GSA decide? "Soil specialists," according to the news item.

Admittedly, the news report may have been garbled or it may have omitted significant information, but one is nevertheless forced to ask a few questions: Was there a professional geologist on the job? Does the GSA have professional geologists on its staff or attached to its inspection teams? What is the geologist's opinion of the cause of "the shift" and how it could have been avoided and how it might have been solved without another failure?

This is not meant to sound like professional football team's player-owner or player-manager dispute, but, let's face

it, engineering firms **do** do the design and construction and they **do** need specialty teams if they are going to overcome the opponent. But, perhaps the soil specialist was a geologist. All right then, if he is a geologist, he should be called a geologist.

Now let's turn to my other illustration, and this time let's single out a noted geographer as the manager who has selected his team's players. The occasion? Well, this game is a project funded by the National Science Foundation under the RANN program called "Environmental Threats to Man." A University of Colorado team was assembled by Dr. Gilbert F. White, Director of the Institute of Behavioral Sciences, to include the following specialists: economists, engineers, geographers, a lawyer, meteorologists, psychologists, and sociologists; they were assisted by experts in the National Center for Atmospheric Research, Travelers Insurance Company, Colorado State University, several federal departments (Agriculture, Commerce, Defense, Housing and Urban Development, and Interior), plus selected State and municipal agencies across the country.

What is this game? "Assessment of Research on Natural Hazards" is the title, and the first half of the game is to be played in two parts (or quarters): (1) the present and prospective losses from natural hazards, and (2) the alternative feasible ways of reducing their unfavorable economic and social aspects. Following the intermission (or based on the results of these first two quarters), the second half's goal will be to outline the character and magnitude of research efforts needed, together with their short-term and long-term payoffs.

Sounds like a good game plan. But **that team!** It's lacking a very important key player — the geologist.

Here is manager White's book of game plans:

Avalanche	Landslide
Coastal Erosion	Tornado
Drought	Tsunami
Earthquake	Urban snow and ice
Flood	Volcano
Frost	Wind
Hail	
Hurricane	
Lighting — caused forest and range fires	

Manager White calls this his book of "geophysical hazards."

Have you heard enough? Then let's go back to our title: "Environmental Geology — A Wasted Asset."

When we think of wasted assets, we usually think of **misuse** of them — such as scraping off huge areas of ground so as to build a housing complex, with the resulting erosion and stream pollution.

But isn't **nonuse** just as serious as misuse? It certainly can be when you consider the potential geologic hazards that are overlooked or misjudged, the mineral resources that are inadvertently (and many times, deliberately) covered up, the fact that Mother Nature is the world's greatest "polluter," and the environmental overkill in recent years by misguided zealots.

These four items are mostly due to ignorance, but in some cases they are due to deliberate decisions made for nongeologic reasons. It is **our** job, as **professional geologists**, to take care of that ignorance aspect; this will help not only the truly ignorant **ones**, but also will help the decision-makers who feel that geologic concerns are the **least** important ones.

So, what's the solution? **Communication!**

What shall we communicate? Facts and interpretations. We must not hesitate to provide the latter — interpretation — for, after all, we are **professionals** and let us never forget that we must be accurate with our facts.

Communicate with whom? Policy makers at every level in both industry and the government. Oh, yes, in educational institutions and public interest groups, too — for they also have their peck-order, policy-making hierarchies.

How shall we communicate? With every technique we can muster. Formal written reports, of course. But even more important are written and oral statements presented at both formal and informal meetings of committees and commissions, before organized groups and in conversations with individuals.

Remember — the most important (and certainly the most abundant) decision makers are nearly always **nongeologists**. They are the governmental officials (municipal or county or state or federal), they are the company brass, they are the planners, they are the housewives, they are the farmers, and the drugstore owners and other nongeological types.

Therefore, (1) we must speak short and to the point, (2) we must speak without geologic jargon, (3) we must speak with feeling, and (4) we must speak often.

We're all in this together — **all** of us professional geologists. As you may know, I spent my first several professional years in the Wisconsin lead-zinc district. The Cornish (or Cousin Jack) lead miners have a saying that was adopted by others and is most appropriate today for us professional geologists as we think of Environmental Geology being a wasted asset.

Let's get the lead out!!

A POTPOURRI OF ITEMS, OR CLEANING OUT THE OLD EDITOR'S FILES

A State of War

That was the title of the keynote address given by **Bob Vernon** (who died last summer) in April, 1971 at the Forum on Geology of Industrial Minerals. The AAPG Bulletin of November, 1973 reprinted it with modifications under the title, "Man and Environment: Need for a Working Compromise." In castigating environmental protection organizations, Bob said that they "quite sincerely can view with alarm the effects which the search for hydrocarbons, the construction of power plants in warm areas, or the processing or mining of minerals will have on the environment." He continued, "The benefits, however, never are mentioned,

as if they did not exist; data and facts commonly are misstated and misinterpreted or so confused as to be meaningless . . . the result is to stifle progress by delay, by prevarication, by emotionalism, and by sowing confusion until all resource development becomes stagnant."

Then he let the earth scientists have it, right between the eyes, saying, "Obviously, . . . the earth scientists are failing to alert the people to their dependence on resources of raw materials and the need to produce them and to clean up afterward."

He concluded by charging the industrial minerals geologists as follows: "You . . . now may occupy one of your most influential positions since land reclamation was recognized as a necessity. The continued success of our way of life depends on your abilities in both a development and a discovery sense. . . . Your geologic techniques. . . . must be re-examined for clues heretofore hidden to be of significance Assist your training institutions. Tell them what you need in the way of new graduates."

Bob Vernon's words of nearly five years ago ring just as true today.

Comprehensive Plan in Thurston County, Washington

The C. A. S. C. A. D. E. Newsletter of October 25 tells that the key goals and policies of the above plan include:

1. Where severe soil limitations coincide with other limiting factors such as geologic instability or surface flooding, development should be discouraged.
2. Residential or commercial development in the 50-year floodplain should be discouraged.
3. Control measures should be imposed to regulate landfills, dredging, waste discharges, increased storm runoff, upland erosion, water diversions, or activities affecting water quality.
4. Economically significant mineral deposits should be protected from the encroachment of high intensity uses, and should be managed as a non-renewable resource.

Buying Country Land

That is the title of a 1973 book that was reviewed in the November, 1974 issue of **California Geology**. This little handbook is readable and practical, being crammed full of useful information. Author Eugene Boudreau, whose geological experience has dealt mainly with water according to that review, writes principally about applied geology in this book, although it touches on numerous other matters that the prospective landowner should know about. It should be equally useful to the conscientious realtor, for he too needs this information, concludes that review. The author refers specifically to geology when discussing faults, ground water, and slope stability. The 105 page book is published by MacMillan, at \$1.95 paper or \$4.95 bound.

Annual Meetings

Some of us like to look back over history, especially that in which we have participated. Accordingly, historian Art Brunton supplied us with the dates and locales of the eleven Annual Meetings of the national AIPG that have been held to date, as follows:

1963	Golden, Colorado	(Founding Meeting)
1964	Denver, Colorado	
1965	Denver, Colorado	
1966	Denver, Colorado	
1967	Houston, Texas	
1968	San Francisco, California	
1969	St. Louis, Missouri	
1970	Oklahoma City, Oklahoma	
1971	Denver, Colorado	
1972	Pittsburgh, Pennsylvania	
1973	New Orleans, Louisiana	
1974	Golden, Colorado	

How many did you participate in? Well, here's your chance in the next two years; attend the ones in

1975	Tucson, Arizona
1976	Salt Lake City, Utah

Other large and lively State Sections who may wish to host future annual meetings take note — large ones such as New Mexico, Wyoming, Montana, New York, Ohio, Virginia, Illinois, Mississippi, and West Virginia.

Blackjack and Bras

That was the headline in **Time** for November 18, telling of what the voters did in the November elections around the country. What they did in Colorado doesn't apply to blackjack and bras, but it certainly applies to professional geology. **Time** reported that Colorado environmentalists pushed through a measure requiring voter approval for any future nuclear detonations that might be set off to exploit the State's rich energy reserves.

Accelerated Erosion

At the GSA Annual Meeting in November **Don Coates** talked about accelerated erosion. Under the title "Geomorphology in Legal Affairs of the Binghamton, New York metropolitan area," he described the interface between scientists and environmental managers. Four-lane interstate highways have not only altered the Binghamton landscape, but they have led to many litigations. Lands containing gravel deposits were condemned, water supplies of adjacent properties have been affected, and proper environmental impact statements are missing in several design plans. The impact statement clause of NEPA, 1969 was used by a group of preservationists to stop construction of two I-88 projects. "Unfortunately," reports Don, "the work stoppage is causing accelerated erosion of unprotected hillslopes and roadbeds, and greater environmental damage than if the construction had continued." His complete paper should make good reading.

Education for Applied Science

At the same GSA Annual Meeting **Phil Lamoreaux** spoke of the role of a State Geological Survey in educating applied geoscientists as having three major elements: (1) Directed at the high school or elementary school student, leading to his better understanding of the need and the potential of geoscience as a profession; (2) Directed at undergraduate and graduate academic levels, resulting in exchange of information on programs (including their justification and objectives) and information on support of research directed toward solving State government's geoscience problems; and (3) Directed toward the lay public, and the legislative and congressional areas.

Real Estate Brokers and Builders

Did you see the interesting paper of **Christopher C. Mathewson** and **David W. Ruchman** in the November issue of GSA's **Geology**? You should. They discussed "Geologic Needs and Knowledge of Real Estate Brokers and Builders," reporting the results in a questionnaire they had mailed to 285 brokers and 100 builders, chosen at random. They noted that the brokers and builders are aware and interested in the geologist's contribution, but that it must be both informative and intelligible. They concluded that "the geological profession has a ready market for a fast, accurate, understandable and competitively priced land use analysis tool."

Manpower

Bonnie Henderson's article on student enrollment in the November issue of **Geotimes** told the results of her latest survey, made last spring. Seniors are getting multiple offers of employment, she related, and as a result graduate departments will have to recruit many students from other physical sciences in order to keep going. Bachelor degrees granted were up 7% over 1973, master's up 3%, but doctorates were down 17%. Employers say they want people with master's degrees, but can't wait for them, so they are taking many with only bachelor's degrees.

The Fake Geologists or Mining Engineer

At the National Convention last spring, Professor E. F. Shramm strongly urged that the various chapters of Sigma Gamma Epsilon (the honorary geologic fraternity) use all the influence they could bring to bear upon the State legislatures in their respective states, in order to induce them to pass a law restricting or preventing untrained men from passing as geologists or mining engineers. The situation, which is a serious one, has been much discussed by engineering societies, usually without coming to a definite conclusion. Many engineers are opposed to the plan. We should support it. Everyone must compete with the faker and, although his balmy days are nearly over, he should be eliminated. As the

legislature will meet this year in every state in which we have chapters, now is the time to strike. Get in touch with your representative and get him to push the matter, if it is only to get a resolution through.

Sound familiar? Well, it should, in varying degrees, to all of us. That news item is 54 years old, as it appeared in the very first issue of the **Compass** of SGE. Is SGE a potential communication outlet for professional geology on university campuses today? SGE is languishing on many campuses where it still exists, but it has been phased out completely on others — mainly by the students because they didn't see any need for a formal social organization. As a result, informal geology clubs are where the action is — rap sessions in the local tavern at the end of the week, field trips and overnights, etc. Does SGE plan to survive? Could SGE be revitalized as the focus on professional geology for the students, just as it was three quarters of a century ago? Former SGE members (and the few current ones who may be within reading distance of this item), what say you?

Surface Mining Legislation and Geologists

The surface mining bill, S. 425, amended substantially by the Senate and House conferees, was reported out of conference on December 5, and now had only two hurdles left — acceptance by the House and Senate*, and signing by President Ford. (Administrative sources said that he would veto it in its present form, however.) At any rate, as reported out of conference it still contained (Sec 507 b, 14) the requirement that cross-section maps or plans of the land to be affected must be prepared by a registered professional engineer or registered land surveyor and a professional geologist (when specific subsurface information is deemed essential and requested by the regulatory authority). Geology is referred to, also (Sec. 522 a,3,D) under lands that are to be designated unsuitable for certain types of surface coal mining operations if they will affect natural hazard lands, including areas subject to frequent flooding and areas of unstable geology.

*Bill passed the House by voice vote on December 13, and the Senate on December 16.

Geological Magazines and Journals

Do you read **Rock Products**? If you do, you have already seen the two articles in the September issue by AIPG members. **James R. Dunn** and **Olavi Maide** discussed geologic quality control as a guide to planned production of cement. In the other, Nolan B. Aughenbaugh was joined by two mining engineers, in a paper on the conversion from quarrying to underground mining; the end result is two products — the rock removed in mining and then the conversion of this underground mine to valuable industry space.

Geologic Hazards and the State Sections

In February the Geologic Hazards Committee of the Ohio Section, under the chairmanship of **Fred H. Klaer, Jr.**, produced a brief report, which highlighted eleven geologic

hazards: (1) Landslides or earth flow, (2) earth dams, (3) land subsidence, (4) floodplain damage, (5) waste disposal, (6) deep-well disposal of liquid wastes, (7) lagoons for disposal of industrial wastes and oil-field brines, (8) earthquakes, (9 and 10) overpumping of ground water, both physical and chemical hazards, and (11) acid mine drainage. The report noted that these hazards to the public health, safety, and welfare are not the only ones and that many more could be included. It stated that proper solutions to these problems required input of geologic knowledge and approach, combined with the best efforts of many other professional fields.

Have other State Sections made similar reports? Wouldn't it be a good idea?

Gas You Can't Smell

Here's a geologic/chemical hazard we hadn't thought of. At the GSA Annual Meeting in November, a chemist (Sheldon E. Sommer) and a geologist (Henry G. Siegrist) of the University of Maryland gave a paper on "Environmental Factors Leading to a Natural Gas Explosion." They showed the differences in soil texture, clay mineralogy, and pavement cover were apparently involved in events leading to a gas explosion in Bowie, Maryland. These environmental factors, they said, controlled the gas flow from a nearby pipeline break to the explosion site, and **selectively removed the odorant additive** - t-butyl mercaptan. They waved a hazard flag by reporting that recent experiments indicate the "odorant removal may be occurring in a variety of environmental situations where recognition of this problem does not exist, or where the mercaptan dosage is insufficient."*

*The *Washington Post* for December 14 reported that a gas industry study in 1961 had turned up this information, but the National Transportation Safety Board said that "no appreciable action has been taken to use this knowledge." The 1961 report, "Soil Absorption of Odorant Compounds," was not released until December 12. The leak was blamed on a crack in the half-inch plastic pipe used by the Washington Gaslight Company. The June, 1973 explosion killed three members of a Bowie, Maryland family and the fourth, who escaped, told authorities they had not smelled gas before the blast. Montmorillonite clay was blamed by a soil science professor at the University of Maryland. The federal board said that seepage gas had caused at least 9 other explosions around the U.S. recently, resulting in 40 deaths. Maryland put a new set of regulations for detecting odorless gas into effect in October 1974.

Field Technique

Sixteen or more years ago, Sandstone Sam of *Geotimes* fame reported (March 1958) that in an exam in Field Geology, a geology major who had had summer field experience answered the question, "How to measure the height of a cliff with an altimeter" by saying there are four ways:

1. Tie a string to the altimeter and lower it from the top of the cliff to the base; then measure the string.

2. Measure the thickness of the altimeter, then place the instrument against the cliff, mark the top with a pencil, raise the bottom to the pencil mark, and repeat the procedure until the top of the cliff is reached, tally the number of marks and multiply by the measured thickness of the altimeter.
3. Using an accurate stop watch, drop altimeter from top of cliff and time its descent to the base of cliff. Apply the standard formula, $S = \frac{1}{2}gt^2$.
4. (and least accurate) Read elevation from altimeter at base of cliff, and read elevation again at the top of the cliff. The difference between the two readings should equal the approximate height of the cliff.

Science Requirements for a Professional Undergraduate Degree In Geology

Non-AIPG member Ernest H. Carlson of Kent State University sent 125 questionnaires to State-supported university geology departments having both graduate and undergraduate programs. Of the 96 returned (77%), as reported in the March issue of the *Journal of Geological Education*, he found no significant difference in credit hours required in geology or allied sciences between schools that gave a Ph.D. or that gave only a master's.

He compared his results with those of **Chip Prouty** in 1959 (reported in *Geotimes* for March, 1961) and found the following changes in **required** courses:

	1972	1959		1972	1959
Structural geology		+10%	Mineralogy		- 4%
Paleontology		+ 6%	Intro. geology		-10%
Petrology		+ 7%	Stratigraphy		-18%
Optical Mineralogy		+ 5%	Geomorphology		- 3%
Petrography		+13%	Seminar		- 6%
			Sedimentation		- 9%
			Geophysics		- 1%
			Economic geology		-21%!!

Geochemistry showed no change. Thus Carlson concluded that there appears to have been an overall increase in specialty courses and an increase in the more basic requirements, but then he questions the validity of this conclusion by pointing out the differences in format and coverage of the two surveys.

We think that this survey reflects only too well the need for additional attention to **applied** geology in the university and college curriculum. For example, "economic geology" was required in only 7.3% of the departments replying, petroleum geology was not listed, and "environmental geology" garnered only 1%. Although "seminar" was required in 22.9% and "thesis and research" in only 6.3%, were they equally theoretical and applied in orientation? The technique courses "geologic graphics" and "scientific writing," were required in only 2.1% and 1% of the departments, respectively; it would appear that a picture is still better than words - by a factor of 2%.

John Haun's educational perspective, Hal Fotherfill's Committee on Professional and Scientific Standards, and Jim Dunn's Ad Hoc Committee on Guides should have a field day if they decide to look further into this subject.

State Agencies and Solid Waste

The Maine Department of Environmental Protection is making technical assistance teams available to inspect disposal sites for septic sludge and solid waste, according to a news item in the October issue of **Environmental Science and Technology**. Each team will consist of two engineers, an engineering technician, and a geologist. They will be powerful, because after inspecting such sites to determine whether they can be converted **economically** (emphasis supplied — Ed) to meet the MDEP standards, they will advise the municipality on suitable changes or will advise an "economical site shut-down." (Whatever that means — Ed)

One wonders what relationship this will have to the June 4, 1973 Act of the Main Legislature, which provided for "Geologists and Soil Scientists Certification," it requires passage of an examination before a Board of Certification plus three years practice of geology or soil science. It also requires that "all geologic plans, specifications, reports or documents, which shall enter the public record shall be prepared by a certified geologist, or by a subordinate under his direction. In addition, such documents shall be signed by him which shall indicate his responsibility for them." Exempt from certification however, are "officers and employees of the State of Maine and the Government of the United States while engaged within this state in the practice of the profession of geologist or soil scientist for said government."

Our question has to be: What kind of geologist will be on the MDEP team — a state or federal employee or not? If not, we assume he has to be certified.

Registered Geologists, Certified Engineering Geologists, and Registered Geophysicists in California

The November issue of **California Geology** reported that, as of last July, there were 2960, 884 and 290, respectively in those three categories. Of these, out-of-state percentages were 36, 39 and 69 respectively, and out-of-country percentages were 4, 2 and 9. For those who wonder about such things, it may be interesting to see that the largest number of all three groups are not necessarily from the same counties as follows:

Rank	Regist. Geologists	Cert. Engin. Geologists	Regist. Geophysicists
1	Los Angeles	Los Angeles	Los Angeles
2	Orange	Sacramento	Orange
3	Kern	Orange	Kern
4	Santa Cruz	Santa Cruz	Santa Cruz
5	San Mateo	San Mateo	San Diego
6	Sacramento	Contra Costa	San Francisco
7	Contra Costa	San Diego	San Mateo
8	Ventura	Alameda	

The California Department of Health has amended the California Administrative Code regarding "geologic/seismic" reports for new hospital sites, reporting the same issue of **California Geology**. The Code now requires that these reports be prepared by a certified engineering geologist in California; in the past they could be prepared or signed by **either** a certified engineering geologist **or** a registered geologist. Now, do you see the case for specialty certification in addition to registration?

An Engineer in Congress Tells It Like It Is

The **Congressional Record** for October 2 reprinted an interview from a recent issue of **Mechanical Engineering**, with Congressman Victor V. Veysey (Republican, Calif.). With an engineering degree from Cal Tech and a M.A. from Harvard, Cong. Veysey knew whereof he spoke when he said that "by large we have gotten less push in the political arena from the scientific and engineering professors . . . They had better get into representation and help see that everything gets steered in the right direction." Let's see — who could interview Senator Dewey Bartlett?

Engineers and Professional Ethics

The **Washington Post** for November 15 reported that the American Society of Civil Engineers has disciplined five more Maryland engineers whose firms were involved in paying illegal kickbacks to former Baltimore County Executive Dale Anderson. Last month, after hearings in New York, the ASCE board voted to suspend for one year, and to accept "with prejudice" the resignation of a fifth; a sixth engineer was cleared. Earlier, the ASCE had ousted from its membership four other engineers involved in either the Agnew or Anderson scandals, or both.

The ASCE disciplinary action, though professionally damaging, does not bar the engineer from practicing his profession, however. The State Board of Registration for Professional Engineers has yet to hold hearings on whether to take disciplinary action against engineers involved in either the Agnew or Anderson kickback scandals.

The August 22 issue of **Engineering News Record** noted that the National Society of Professional Engineers had expelled five (including two that the ASCE had penalized, plus two more) and that three had resigned (ASCE expelled them). The NSPE action came after an earlier sweep-it-under-the-rug action, according to the **ENR** for July 18; although the NSPE Division of Professional Engineers in Public Practice had recommended to the parent NSPE that a policy statement on ethical conduct be approved and that some of the power to deal with violations be shifted from state societies to the national NSPE or PEPP, NSPE counsel recommended inaction until a competitive bidding suit is settled.

Earlier, in November, 1973, newly elected ASCE President Charles W. Yoder enunciated his strong views on professionalism as he led the ASCE to confront disclosures that consultants are involved in corruption in many states. For further information on the professional conduct matter, readers are referred to **Civil Engineering** for October, 1973.

Competitive Bidding

The competitive issue referred to above was brought about by the resignation of Vice President Agnew and its relationship to architects and engineers on federally financed work. The Department of Justice was pushing its civil anti-trust suit of 13 State affiliates of the NSPE, challenging its ban on competitive bidding by its members. The NSPE was standing alone, however, because consent decrees had been awarded against ASCE and the American Institute of Architects (AIA). (The DOJ Anti-trust case against NSPE, filed on December 5, 1972 was tried in July 1974 and the court decision is expected in December – Ed).

Why is this of import to AIPG members? Well, because the suit charges NSPE and its members with violating anti-trust laws by adopting, publishing, and distributing an ethics code that prohibits competitive bidding. State groups are being asked by DOJ to supply information on fee schedules, and on ethics when they differ from those of the national organization. Although AIPG Code of Ethics says nothing about competitive bidding, we understand that the issue has been raised on more than one AIPG occasion and that many members would urge the establishment of a basic or standard fee schedule as protection against underbidding by other geologists. The danger of such a practice is spelled out graphically in the foregoing paragraphs.

The lawyers are having their troubles with competitive bidding, too. An editorial in the **Washington Post** for October 3, 1974 told of "minimum fee schedules" that bar associations had recommended as "guidelines" for lawyers, as described in a series of articles in the **Post** in January, 1972. In practice, the editorial continued, these schedules become fixed-price floors for legal services; many lawyers who charge less are risking sanctions. In fact, the president of the Arlington, Virginia Bar Association was quoted as saying that "if a lawyer consistently charges low, it's considered unethical and he could be disbarred."

In February, 1972, that fee practice was challenged by a Reston, Virginia couple who were upset over the exorbitant fee charged for title search. Later in 1972 the Alexandria, Virginia and Arlington, Virginia Associations agreed, as a result of the suit, to abolish their minimum fee schedules – doing so without admitting wrongdoing or liability, in return for an out-of-court settlement.

Early in 1973, a U.S. District Judge ruled that fee schedules of the Fairfax, Virginia Bar Association did constitute illegal price fixing, that prevented lawyers from determining the value of their own services, and that it gave the public no idea of whether the fees were reasonable. The Judge's ruling was overturned by a divided U.S. Circuit

Court of Appeals, however, and the plaintiffs petitioned for Supreme Court review. In September, 1974, the Fairfax Bar Association quietly scrapped its fee schedule and asked the Supreme Court to drop the case. (The Court will hear the case in February – Ed)

Similar fee minimums are under DOJ attack in Oregon, and the ABA has abandoned its long-standing support for them. The unmistakable trend in this country is thus toward rescinding the minimum fee schedules, concluded the **Post**.

Public Dissent and Professional Responsibility

In the September, 1973 issue of **Civil Engineering** this issue was examined in depth, as follows: An engineer disagrees with his employer on an engineering matter. He explains why he disagrees, but is unsuccessful in getting the decision changed. Are there any situations in which he should publicly "blow the whistle" or expose his employer? He can always quit, of course, but seldom will quitting lead to a changed decision on a disputed matter. If he does blow the whistle, he could be fired; will his profession support him, or at least investigate whether he should be supported and not fired?

The article does not adequately answer these questions of conscience, but it does discuss them at length. One view is that the employer-employee relationship must be one of mutual trust and respect, with both working toward the same goal, or the viability of the organization may be jeopardized. True, but employees having differing views can sometimes be a most healthy thing in an organization, and a constructive dissenter can sometimes be valuable as an ombudsman for minority views.

Hasta la vista

It has been a rewarding two years for us to serve as editor. We appreciate the input that we have received from the State Sections, the Committee Chairman, and from individual members. But most of all we appreciate the stalwart work of our wife, Frances, and Executive Director Art Brunton and his secretary, for putting down our scribbled thoughts in more readable typescript, the results of which you have seen in the pages of **TPG**. Our successor, Ross Shipman, is well known to you from AGI days, and more especially to the Texas Section where he has just finished a year as president. We hope that you all will favor him with even more paper poundage than you did us.

See you in Tucson? Hasta la vista.

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