REQUESTING ARTICLES

AIPG needs quality articles for future issues of The Professional Geologist (TPG). Members are encouraged to submit articles or call Headquarters and recommend individuals who should be asked to submit articles. Submissions should be 800 to 1600 words in length. Articles submitted on diskette along with a hard copy are appreciated. Headquarters uses DOS, WordPerfect 5.1, and can utilize 3 1/2 or 5 1/4 diskettes. Photographs, figures, tables, etc. are welcome. Photographs enhance articles and make great TPG covers. Be sure to send photographs when possible with your articles OR send your favorite photograph for consideration as the cover for a future TPG issue. Submission deadline is twelve weeks preceding month of issue.

EDITORIAL EMPHASIS

TECHNICAL TOPICS
- Mining Geology
- Petroleum
- Hydrogeology
- Environmental Geology
- Geophysical/Engineering

ISSUE
- January
- March
- July
- September
- November

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- Government and the Geologist
- Ethics and Standards of Practice
- Public Perception of Geology and Geologists
- Definition, Certification, and Licensing
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Environmental Geology

From Kirkstone Pass, with Windermere in the distance, Lake District, England. Outcropping rocks are Silurian slates, grits and flags, and Ordovician carbonates and volcanics. Photograph by William V. Knight, CPG-153.
Is There Life After Superfund

T. E. Kelly, CPG-3903

It is hard to imagine a profession that is more cyclic than Earth Science—or Geology as it was once known. Following World War II, universities around the world expanded their Department of Geology to meet the tremendous demand for geologists. Many universities established a Department of Geology at that time. Virtually all of the graduates were hired by the petroleum industry. But within about ten years there was a glut on the marketplace, and geologists by the thousands were out of work. New graduates became salesmen. In Oklahoma City Sears became the largest employer of geologists!

Fortunately industry began to diversify, giving geologists more opportunities. The mining industry boomed in the post-war era. Literally thousands of geology graduates went into uranium exploration, only to have that industry killed by Australian imports and Three Mile Island.

Enter the environment and the latest boom in the cycle. Mankind has always buried its waste. "out of sight, out of mind," as long as we had an inexhaustible supply of ground water and didn't know the cause of cancer. But the Love Canal disaster made the environment a national issue and therefore a political issue. According to Dr. Ernest Angino of the University of Kansas, "Eco-Politics" became the buzzword in Washington, and money was available if the ecology was involved. "Petroleum" was no longer a career, it was a carcinogen. Departments of Geology suddenly became Departments of Earth Science, and everybody wanted to study hydrogeology. That has become the earth scientist's route to environment studies, jobs, and federal dollars.

As the federal dollars became available, hydrogeology changed to take advantage of the funding. In Volume 1, Number 1 of Ground Water published in January 1963 each of the ten articles pertained to the development of ground water and/or ground-water geology. Also there were nine advertisements from consulting firms, all of which touted their experience in geology, hydrology, and water-resource planning. In the current issue (v. 32, no. 1), fully half of the articles pertain to ground-water contamination and remediation. There are now 50 advertisers, most of which are singing the praises of their environmental skills.

Are we gearing up for another bust as graduates enter the environmental field? Are the graduates putting too much emphasis on environmental studies? Can industry absorb these earth scientists or are the universities creating another glut as in the past?

The Superfund has pumped hundreds of millions of dollars into environmental projects, yet 76 cents on the dollar has been paid to lawyers! The other 24 cents has been divided among a variety of disciplines, but certainly not all has gone to earth scientists.

The problem lies with the designation that the polluter be held liable for reclamation of a site. While that certainly is logical, it has been a gold mine for the legal profession. Polluters quickly learned that it was cheaper to hire lawyers than it was to clean up a site. Large areas of contamination can cost millions to reclaim. Also, by accepting responsibility for reclamation, the company was admitting fault and facing other possible litigation as well.

It is not always possible to prove liability. In large industrial areas, such as the Houston ship channel, it is virtually impossible to determine the source of contaminants that have been in the ground for decades. These are the kinds of problems that have made lawyers rich while the environmentalists fumed. And earth scientists sat on the sideline waiting for something to happen.

The legislation that created the Superfund is now being rewritten in the hopes that these problems can be corrected. Specifically the goal is to put more money into reclamation and less into the legal profession. But the damage may already be done. Since most legal settlements are based on precedence, there are now numerous cases which support the position that the polluter is liable for remediation. So even if the revised Superfund legislation provides more money for remediation, it cannot change the case law that has been established in the past.
20 years. Since most contamination does not meet superfund criteria, the legal profession—with case law for support—stands to be the big winner in the future.

Funding is also likely to become a problem. "Green" is no longer as powerful as it once was. Membership in most environmental organizations has declined in recent years, and Eco-Politics is not as strong in a weak economy. Likewise the Clinton administration is focused much more on health care and job growth than on environmental issues, so the amount of federal funding for environmental projects has declined.

The cost of remediation has also become prohibitive in many cases. Few service-station sites can be remediated for less the $100,000, and what is the value of that particular piece of real estate after it has been cleaned up? The Resolution Trust Corporation has dropped most of the property in which there is ground-water contamination. The RTC can't afford to clean up the site and there are no buyers for contaminated land. It has been estimated that there are more than 200,000 property owners who are in default of real estate and/or business loans, and the banks refuse to foreclose! It is cheaper for the banks to write off the loans than to foreclose on the property and assume the liability.

So is there a future for the earth scientists in the environmental field?

Certainly, but it may not be as robust as many persons believe. It is time for universities to begin telling students that the job opportunities are not unlimited, and the pay does not compare with the salaries once paid by the petroleum industry. There will always be environmental work, but with each new graduate we are cutting the pie into more pieces. Sooner or later the environmental boom is going to bust, and it may be sooner than many people think.

T. E. (Tim) Kelly, CPG-3903, has a B.S. from the University of Dayton and an M.S. from the University of Kansas. After working for Chevron, he spent 13 years with the Water Resources Division of the U.S. Geological Survey. In 1975 he established Geohydrology Associates, Inc. in Albuquerque, New Mexico and is now President of the firm. His firm has performed water-resource evaluations and environmental studies throughout the country. •

MEMBERS IN THE NEWS

Dan C. Buzea, CPG-5157, a vice president and director of Leggette, Brashears & Graham, Inc., is heading LBG's new office in White Plains, New York. Mr. Buzea has been with LBG for over 15 years.

William L. Fisher, CPG-2398, past president of AIPG, director of the Bureau of Economic Geology, University of Texas at Austin, has been honored with the 1994 Sidney Powers Award by the American Association of Petroleum Geologists.

Hugh W. Hardy, CPG-3178, was awarded Life Membership in the Society of Exploration Geophysicists. This honor is in recognition of meritorious service to the Society. Official recognition of this honor will take place during SEG’s 1994 Annual Meeting in Los Angeles, October 23-27.

Robert R. Jordan, CPG-1262, past national editor of AIPG, was reappointed for a three-year term to the U.S. National Committee on Geology, National Research Council; re-elected chairman of the Delaware State Boundary Commission; certificate of appreciation from the National Research Council for service in evaluating Alaskan environmental information.

Thomas M. Missimer, CPG-4549, and W. Ktk Martin, CPG-7423, have joined with others to form a new company, Missimer International, Inc. to provide consulting services in groundwater supply, injection well technology, reverse osmosis supply, and RCRA assessment and remediation. The new firm is headquartered in Fort Myers, Florida (813) 432-9494.

Mark R. Rowland, CPG-4490, was appointed to Director of the Environmental Division of Burgess & Niple, Columbus, Ohio. Mark joined B&N in 1969, focusing his experience in the areas of soil and groundwater contamination investigations, hazardous waste management and landfill design. Elected an Associate of the firm in 1981 and a Member in 1989, Rowland currently serves on the B&N Board of Managers. Mark serves on the steering committee of "Priorities '95," the City of Columbus' Comparative Risk Project, and is a member of the Ohio Geology Advisory Council for the Ohio Department of Natural Resources.

Edward T. Ruppel, CPG-6066, received the first Tobacco Root Geological Society Award for excellence in geological field work. Edward, state geologist and director of the Montana Bureau of Mines and Geology, was noted for his dedication to excellence in field mapping and his contributions to the geologic understanding of the Northern Rocky Mountains.

Sherman A. Wengler, CPG-0108, Charter Member of AIPG, Independent Exploration Geologist and Past President of The American Association of Petroleum Geologists, retired in 1976 as Emeritus Professor of Geology at the University of New Mexico after teaching there for 29 years. He has been appointed a Director of The Capitan Oil and Gas Company of Dallas, Texas, as announced by Robert Paul Cresson, CEO and Chairman of the Board of the Company. Dr. Wengler, a graduate of The College of Wooster and Harvard University, is widely known in the oil and gas industry through his publications, lectures, and oil exploration in the Four Corners region of the American West as well as foreign work in Mexico, Spain, Portugal, and Africa. He was made an Honorary Member of AAPG in 1977 and was awarded that organization's Sydney Powers Gold Medal in 1992.
UPDATE - European Federation Of Geologists

C. J. Dixon, Chairman, Fellowship and Validation Committee

Under its Royal Charter (a State-constituted document) of 1825, members of the Geological Society, known as Fellows, were elected by existing Fellows at General Meetings. This Charter also gave the Society the power to make by-laws and it used this power in 1990 to create a two-tier Fellowship. Since that date, an applicant for Fellowship is normally expected to have a degree and a period of relevant experience varying from two years to six years for someone with no degree.

A Fellow who wishes to use the title of Chartered Geologist undergoes a rigorous validation procedure. The applicant must produce an attested report of his/her career and be sponsored by two Chartered Geologists. The applicant must also supply copies of reports, maps and other relevant documents, and a list of publications if appropriate. The Society then appoints two Chartered Geologists working in a related field to scrutinize the report and documents, together with any log book kept by the applicant during his or her career. The scrutineers may recommend acceptance or rejection of the application, but in most cases they will only do so after a professional interview. There is a right of appeal against rejection.

There are two exceptions to this procedure. Firstly, if a Fellow has more than 15 years experience, he or she may submit a full CV in place of the professional report and documents. This is then scrutinized by a sub-committee of senior Chartered Geologists. Secondly, an applicant who is a registered member of the AIPG may submit a copy of their AIPG dossier in place of the documents required for validation. As only Fellows of the Society may become Chartered Geologists, an AIPG member must also apply for Fellowship in the normal way and complete the required application form. However, the requirement for sponsorship is waived and the Society’s Fellowship and Validation Committee sponsor such applications.

At present about 1400 Fellows are chartered and these mainly work alongside other professionals such as engineers, chemists, physicists and accountants who hold chartered status from their own institutions.

The subscriptions for Chartered Geologists resident outside the UK is £64.00 (approximately $96), plus an application fee of £30.00 (approximately $45).

Once an applicant has been elected as a Chartered Geologist, they may apply to the European Federation of Geologists (EFG) to become a European Geologist. This organization is made up of representatives from many European countries and administers the title of European Geologist which has been introduced this year. Chartered Geologists wishing to apply for this title must complete a separate application form available from the Geological Society and pay an initial fee equivalent to £145.00 (approximately $217) to cover their subscription to the EFG for the first three years. After three years, the subscription to maintain the title of European Geologist will be collected annually and will be in the region of £30.00 (approximately $45).

Members of the AIPG who have submitted applications under the reciprocal agreement and who have been elected as Fellows and Chartered Geologists:

ANDREJKO, Martin Joseph
BARNES, Sydney Urbane
BOOTHBY, Donald
CUSHING, Bruce Read
FONT, Robert Geoseph
GABRIEL, William Joseph
GERATH, Robert Francis
GWILYM, Robert David
HORE, Timir
KNIGHT, William Victor
LARSON, Robert
McDANIEL, Thornton
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SEPTEMBER 1994 • The Professional Geologist • 7
Some Thoughts On The Environmental Industry

David L. Miller, CPG-7938

As an environmental consultant with responsibilities that include the hiring of professionals into the environmental industry, I have developed a unique perspective on how my fellow geologists are marketing themselves and their skills in these competitive times. It is clear that the environmental industry will be one of the key areas of practice for geologists in the future, but I also see numerous misconceptions of what the industry is all about. I’d like to share my perspective with those of you who are considering getting into the environmental business.

An all-too-common thread in many of the job inquiries I receive is a lack of understanding of the employer’s needs in the industry. While we were all taught to put our best foot forward and explain how our credentials and expertise would benefit a potential employer, the introductory phrases in many cover letters I receive often indicates that the candidate really has no clue as to the typical staffing needs of the industry or my firm. Consider the two following approaches which exemplify the typical range of expectations evident in the many job inquiries I receive:

"...my fifteen years petroleum production experience has given me the specific management skills required to make a significant contribution in a key managerial position in your firm, as demonstrated by achievements in the following areas..." (followed by an impressive list of accomplishments, none of which I could sell to a client desiring environmental services).

"...even though I have twelve years experience and a proven track record in underground mining, I realize that only my professional maturity and broad management skills will transfer to the environmental consulting business. I seek a position where I can learn the industry from the ground up and I am willing to travel, undertake field work and do whatever is required..." (followed by a discussion of how motivated he is and that he has realistic salary expectations).

Perhaps it is only my personal preference, but the first inquiry went straight to the “tactful flush letter” pile and I tried to set up an interview with the second candidate (he had already accepted another position). A common misconception I have encountered is that being a good scientist will automatically make one a good environmental consultant. Actually, I have found that there are many good scientists that make poor consultants because they don’t understand that we make money but not by “doing” science, but by using science, within the legal and regulatory context, to cost-effectively managing environmental liabilities. As with any specialized area of practice, good technical and management skills are not enough, an in-depth perspective of the industry and a healthy appreciation of the pitfalls (i.e., paying dues) are essential.

It cannot be over-emphasized that the service we are selling is environmental management, not environmental science. I recall a critical learning experience I had years ago when I had completed my first consulting project (a hydrogeologic investigation at a leaking gas station), and had submitted what I considered to be a first-rate technical report to my supervisor for review prior to release to the client. He leaped through it while I stood there beaming and took out a thick red marker and wrote the words “SO WHAT?” across the cover and told me to “Fix it and have
it on my desk in the morning." Indeed, I had followed the letter of our contract by delineating the contamination plume and defining the hydrogeology of the site, but I had not addressed the underlying need of the client - to place the scientific facts in perspective with the client's needs and help him solve his problem.

My supervisor's follow-up advice has served me well over the years - "most clients don't give a damn about ground-water flow direction or parts per million benzene. Just state, in plain English, what he has to do to stay out of jail, what he would be smart to do to manage this problem just like he manages any other part of his business, throw in some justification and cost estimates for additional work, and lose the pompous attitude in the technical write-ups!" Excellent advice on consulting, but pretty humbling to a budding scientist to learn that my years of technical schooling were a distant second to common-sense business management.

I often ask interviewees what they think their primary obligation to the Company would be if I hired them. Common responses usually involve summaries of past accomplishment or constant vigilance on the quality of their work, but only one candidate has ever given me the answer I was looking for - "I will help your company make money by..." (I hired him). Technical ideology aside, most decisions in an environmental consulting office are driven by the elusive quest for profitability. If a candidate finds himself on the bubble, anything he can do to demonstrate how he can contribute to immediate profitability of the office might make the difference. Paying a part of one's own interviewing, moving or recruiter expenses has become more and more common recently.

Another major problem I often encounter is that of salary expectations. While it is every person's right to negotiate for the highest salary he or she can achieve, there are often unrealistic salary expectations from those outside the industry trying to get in. In reality, the amount an employer can pay an individual has a direct correlation to what his clients are willing to pay for that person's demonstrated ability to solve their environmental problems. Until one has proven that he or she can make money for a firm by cost-effectively managing their client's environmental liabilities and bringing in work, inappropriate salary requests are often a signal to employers that one really doesn't understand the business.

In summary, making a major career change is much like any other part of life, there are no guarantees and many risks. But for those of you who are contemplating a possible change to an environmental vocation, consider the words of an eastern philosopher who once said, "When the winds of change blow, build not windbreak but a windmill." Good luck.

David L. Miller, CPG-7938, Manager, Site Characterization/Hydrogeology, RUST Environmental & Infrastructure, Naperville, Illinois.

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Getting Beyond Compliance: I


Thomas F. P. Sullivan, Editor, Government Institutes, Rockville, MD
Reviewed by Leslie E. Wildesen, Ph.D., Denver, CO 1993

Are you confused by the over 80,000 environmental regulations and standards issued just since 1981? Are you tired of getting hammered by environmental regulators every time you turn around? Are you looking for a way to make what you have to do seem more like what you want to do?

Many businesses are now reeling from their first - or most recent - encounter with environmental requirements. Some business people find it difficult to understand, let alone embrace, what seems like an alien and dogmatic point of view. Yet as Robert Baum (Edison Electric Institute) emphasizes on the jacket of this excellent anthology, "it is essential that business men and women fully understand and adapt to the fact that in the 1990's their customers consider environmental protection to be a core value." How companies adopt this core value, and adapt it to their ongoing business activities, is a vital concern.

An urgent question, therefore, is - Are you ready to get beyond compliance and take charge of your world?

The Greening Of American Business describes how some businesses are taking charge of their world by developing overall corporate environmental strategies - or analyzing and fine-tuning their existing strategies.

These businesses are finding that continuously reacting to regulators through an abatement-type, "end-of-smokestack" approach is expensive, unpredictable, and inefficient.

And, although such approaches may avoid some of the fines and legal costs now, they provide no mechanism for getting out ahead of the regulators over the long term. Nor do reactive approaches help companies identify opportunities to capitalize on environmental issues, from waste minimization to "green" products.

The business professionals, lawyers, consultants, and researchers who wrote this book make the case that continued success in the business world will be based on embracing a proactive approach to environmental protection, rather than just continuing to react to regulation.

On page 131, David R. Chittick (AT & T) relates effective environmental strategizing to Total Quality Management (TQM): "TQM is the application of continuous improvement to business processes. Any environmental crisis - air, water, or land, is a clear manifestation of a non-quality approach." On page 145, Joel Hirschhorn (Hirschhorn & Associates) asks the key question: "Would you like to take environmental accounts payable and turn them into accounts receivable?" This book contains much useful information, on topics ranging from "The Effect of the Green Movement on Worldwide Competitiveness of American Business" to "Tax Consequences of Environmental Cleanups".

The broad coverage and clear expertise of the authors make this a very useful volume for any business expecting to stay in business through the 1990's. It also raises many questions for the conscientious business owner. Ask yourself, "How do I want my business to be, with respect to environmental issues, in 5 years?" "Do I still want to be reacting to sudden regulatory changes, and paying an army of lawyers to try to keep up with penalties and litigation?" "Will I still be using funds for abatement-type compliances that could have been invested on new product development or marketing instead?" "How can I not only stay in business, but enhance my business, by finding and applying more cost-effective, process-efficient, and environment-friendly systems in my company?"

Thomas F.P. Sullivan, the editor, sums it up best in his introduction: "Worldwide, the momentum of the environmental movement is creating a permanent shift in the way businesses operates. What began as grassroots effort identified largely with the liberal agenda is quickly becoming a mainstream issue of concern to consumers, investors, politicians, and business people alike. This evolution results from the growing awareness of elements of both crisis and opportunity inherent in the global environmental situations."
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Mining Law Reform: Where Are the Geologists?

L. Courtland Lee, CPG-4838 and Paul K. Driessen

It may be the single most important congressional debate to face the geologic community in decades. And yet, geologists and the special insights only they can provide have been all but invisible on Capitol Hill, as Congress grapples with amendments to the 1872 Mining Law.

It should thus come as no surprise that issues critical to the future of our profession are rarely discussed, or are being dealt with in ways that will almost certainly affirm the validity of what George Mason University economics professor Walter Williams calls “the law of unintended consequences.” That law states that the unintended impacts of a law almost always dwarf its intended effects – and the pending mining law reform legislation is a cluster bomb of good intentions ready to explode in our midst.

Among the impacts are increasing lack of access to public lands and minerals, and hardrock mineral royalties that will penalize future exploration efforts and impair the economic viability of new mining ventures. The vast bulk of current legislative proposals are new environmental laws and misguided revenue-raising initiatives. None of the proposals currently offers what is truly needed: informed land tenure and exploration language.

The unintended consequences of a law almost always dwarf its intended effects – and the pending mining law reform bill is a cluster bomb of good intentions ready to explode in the midst of the geologic community.

Their net result is that some of the heaviest burdens of mining law reform will fall on geologists. The need for AIPG and its members to take an active role in America’s legislative process has never been greater.

Two measures – a House-passed bill and a “chairman’s mark” by Senate Energy Committee Chairman J. Bennett Johnston – are the current vehicles before a conference committee. A Senate-passed bill has been set aside and replaced by the chairman’s mark.

Few would disagree that certain provisions of this century-old law are much in need of reform. For example, allowing claimants to use their patents for non-mining purposes, and retain title to the surface even after a mine has been exhausted, is simply out of touch with today’s land-use philosophies. It is likewise time to update the price paid for patents, to bring them in line with the fair market value of such lands.

However, many other provisions of the conference bills reflect serious misconceptions about geology, exploration, mining operations, and the economic benefits the industry provides, particularly in the form of jobs and taxes. These misconceptions need to be brought to Congress’ attention, before new mining law is chiseled in stone.

Access to Public Lands

As our August 1994 American Mining Congress Journal article points out, over 218 million acres of our nation’s public land base (an area larger than California, Oregon and Washington combined) have already been designated as wilderness, park, preserve and refuge areas. All together, more than 410 million acres – 62 percent of all our public lands – are virtually unavailable for mineral exploration and development (see Figure 1).

Nearly all these public lands and minerals are in the 11 contiguous western states and Alaska, where the federal government owns 30 to 85 percent of all the land in each state. It also controls activities on millions of additional acres that are surrounded by public lands or regulated by wetland, air quality, endangered species, scenic and other rules.

Two-thirds of all the most likely mineralized areas owned by the federal government are unavailable for mineral entry, severely restricted or available only with a variety of restrictions.

Even more critical, the federal government owns nearly 60 percent of the nation’s lands that have known metallic mineral deposits or are favorable for hardrock mineralization. And two-thirds of these areas are already unavailable for mineral entry, severely restricted or available only with a variety of significant restrictions. Quite clearly, little effort was made in most instances to exclude high-potential mineral areas from land withdrawals.

Compounding these access and exploration problems (both within and outside of mining law reform) are proposals to set lands aside to promote “biodiversity” ... evaluate all areas not already closed to mineral entry, to determine which ones are “unsuitable” for mining ...
Figure 1. Public lands excluded from mineral exploration and development under the Mining Law, as of May 1994. The simplified list of unavailable or severely restricted lands summarizes the effects of over 40 land use categories. Chart prepared by Paul Driessen, Courtland Lee, Rafy Levy and The Creative Machine. Reprinted with permission of the American Mining Congress.
establish 3 to 5 mile wide “protective buffer zones” around park, wilderness and other “sensitive” areas ... and allow any citizen to sue or petition to stop a mining operation at any stage during exploration or development.

While some may view these measures as desirable or even necessary, despite the clear applicability of numerous environmental laws to mineral activities of every kind, the proposals’ cumulative impact cannot be denied. Moreover, except for one minor withdrawal review provision in Congressman Rahall’s bill, there have been no serious proposals to open currently withdrawn lands to exploration, following passage of a new mining law regime.

This is a vital step, because exploration is a nonexclusive use, and even mining affects only small areas, in most cases. In fact, the total acreage affected by all the hardrock mining operations ever conducted in the United States, since colonial days, is less than the amount of land now utilized by airports (Johnson, 1982) – suggesting that the presumed need to withdraw areas from economic activities is greatly overstated.

The bottom line? Even with the kind of sophisticated new geophysical software that has revolutionized exploration and is driving a mining boom in Australia – if there is no access to the lands, there will be no prospecting, no boom and no jobs for geologists in the United States.

Extralateral Rights

The extralateral rights issue has likewise not been addressed by the current debate. Unlike other property laws, mining law provides for ownership of the down-dip or fault with the patent title. Title thus follows the geologic structure from the apex or discovery, all the way to its terminus, even off the sidelines of the claim. Most patented claims retain these rights, and some can go on for miles.

The burden of proving ownership is very complex. Previously, the government has not needed to know who owned which mineral rights; courts intervened, when necessary. However, the royalty system envisioned by the conference proposals puts the government in the business of continually sorting out ownership claims for nearly 100 minerals, many of which have complex pricing mechanisms in the highly competitive and volatile international marketplace.

Hardrock Mineral Royalties

Unlike oil, gas and coal, hardrock mineral production historically has not been subject to the payment of federal royalties. Consequently, a perception exists that mining companies have been “getting a free ride” and depriving the U.S. Treasury of billions of dollars in potential revenue.

The fact is, hardrock mineral producers pay hundreds of millions of dollars annually in the form of private or state royalties and a variety of taxes on mining activities and products: corporate income taxes, employee income taxes, and various state property, severance, mineral, sales and unemployment taxes. Indeed, an estimated 37 cents out of every dollar in mining commerce goes to the benefit of federal, state and local government.

By contrast, in a given year, many mines earn no profit or after tax profits of only a few percent of gross revenue. Over the past 15 years, the industry’s average annual rate of return on equity has been only 3-5 percent. And the odds of finding a large copper deposit are between 1 in 1,000 and 1 in 10,000. So the claim that mining companies are making a windfall at taxpayer expense simply does not withstand scrutiny.

However, the Sierra Club’s Mineral Policy Institute continues to assert that the value of hardrock minerals extracted from public lands in 1991 was nearly $4 billion – and the federal government is thus losing hundreds of millions of dollars a year in prospective royalties. Taking these claims as fact, the two conference bills call for either (a) overriding royalties of 2-33 percent on gross receipts for gold and silver production or (b) 8 percent on net smelter return for the minerals. This royalty is to come off the top – before taxes, payroll and expenses are calculated – and is actually equal to or far greater than the average profit at most mines.

Unfortunately, these anticipated financial returns are illusory – a pot of gold at end of the royalty rainbow. If these provisions become law, the taxpaying public will soon discover that Uncle Sam has become a King Midas in reverse: every ounce of gold and silver he touches will turn to lead.

As Figure 2 demonstrates, the Mineral Policy Institute’s estimates vastly exaggerate both the value of mineral production on public lands and the amount of revenue likely to be generated by any hardrock royalty system. They are based on the common mistakes of confusing resources and reserves, assuming mineral production from public lands in a state is proportional to its percentage of public versus private lands, and failing to recognize that mining claims on public lands become privately owned at the time of patent.

Under the proposed mining legislation, America’s taxpayers would have to PAY $70 million a year to COLLECT a mere $13-$50 million in royalties!

The more realistic calculations by the Department of the Interior do not make these mistakes. Interior Department analysts calculate that the $33 million in projected 1994 royalty revenues under the proposed legislation would reduce total federal income tax revenues "by an estimated $10 million, because of the 'expensing' of gross royalty in computing taxable income." Federal administrative costs, mined land reclamation oversight costs and land-use planning requirements called for by the proposed legislation "could be as high as $34 million annually." Overall, estimated federal royalty receipts under the legislation "may actually be negative," warns Interior.

Our own calculations strongly suggest that federal receipts will definitely be negative. Extrapolating from
other federal royalty programs, we project that just the administrative costs associated with collecting, auditing and disbursing hardrock mineral royalties will actually be closer to $70 million a year. By contrast, 2 and 8 percent royalties to DOI's estimates for 1995 and 1998 hardrock mineral production result in average annual royalty revenues of only $13-50 million.

In other words, under the proposed legislation, America's taxpayers would have to pay $70 million a year to collect a mere $13-50 million in royalties! And this analysis does not factor in the various provisions in the conference bills that will likely reduce production – and thus royalty revenues – by increasing costs at many mines. Add in the $200 million to $1.6 billion required to conduct the proposed "unsuitability" studies, and the Mining Law Reform Act could cause a massive hemorrhage on the federal treasury.

It is true that production at mines with currently patented claims will generally be exempt from the bills' proposed royalties and various other provisions. While this will reduce the near-term impact on existing mines, it also means the conference bills will impose significant penalties on future exploration, impede discovery of new deposits, require that future deposits be of far superior quality to justify mining, and distort the economics of current prospects.

As existing mines play out, the bills will thus result in major layoffs, lost corporate and personal income taxes, large unemployment payments, valuable minerals left in the ground, protracted litigation to resolve numerous land and mineral ownership disputes, and major expenditures by both the government and private property owners over regulatory takings of private property declared unsuitable for mining. These significant costs, summarized in column 4 of Figure 2, have likewise not been considered in the unduly optimistic projections by the Mineral Policy Institute and Congressional Budget Office. And of course, lands placed off limits to mining will produce no jobs, royalties or taxes whatsoever.

This controversial royalty provision won by only a single vote (21-20) at the House Natural Resource Committee markup. Those still convinced that hardrock mineral royalties are the answer should consider that Mexico eliminated its royalty on mining in 1991, to stimulate exploration, production, jobs and revenues – and that Title VIII of Senator Johnston's chairman's mark promotes royalty reductions to encourage deepwater offshore oil and gas drilling.

Conclusions

The Mining Law Reform Act of 1994 continues to move toward final passage, guided by misconceptions, strong feelings and a recognition that certain provisions in the 1872 law must clearly be modernized. But as Supreme Court Justice Louis Brandeis warned in Olmstead v. United States: "The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding."

His wisdom should serve as a guide, not only for members of Congress, but also for members of APIG, whose responsibility it is to help foster that necessary understanding.

Selected References


Jamison, C, Director of Bureau of Land Management, statement during October 10, 1991 hearings before the Forestry Subcommittee of the House Agriculture Committee.


Mineral Policy Institute (a Sierra Club affiliate), 1993, Information Nuggets about the 1872 Mining Law: as reiterated by institute director Phil Hocker at United States Senate staff debate, September 15, 1993.

J. Courtland Lee, CPG-4838, is a consulting geologist with 25 years experience in mining and public land management. Paul Driesen has a geology and environmental law background, and is legal and government affairs director for the Creative Machine, a Falls Church, Virginia communications company.**
The Illusion of Financial Impact of Proposed Mining

**Estimated Hardrock Mineral Production Value**

- **A.** Mineral Policy Center (Sierra Club)—"smoke and mirrors" estimate of value of hardrock minerals on federal lands in 1991
- **B.** 1992 General Accounting Office estimate of value of hardrock minerals extracted from federal (non-private) lands in 1990
- **C.** 1993 Interior Department estimate for 1995 mineral production, reflecting deductions for issuance of patents
- **D.** 1993 Interior Department estimate for 1998 mineral production, reflecting deductions for issuance of patents

**Projected Mineral Income**

- **I.** 8% gross royalty royalty base (ave)
- **II.** Department of Interior 8% gross royalty
- **III.** 2% gross royalty royalty base (ave)
Financial Return from Mining Law Reform*

Figure 2. The illusion of financial return from mining law reform. When unsupported projections by the Minerals Policy Institute are discounted, projected federal royalty receipts from hardrock mineral production are actually negative, due to the high costs of administering the royalties collection program, the costs of "unsuitability" determinations, adverse affects on jobs and tax receipts, and other factors.

Chart prepared by Paul Driessen, Courtland Lee, Rafy Levy and The Creative Machine.

Administrative Costs:
Projected Revenue Losses Due to Mineral Royalty Collection and Unsuitability Decisionmaking

1. BLM Director's 1991 estimated cost of declaring lands unsuitable for mining under HR 918

2. Interior Secretary Babbitt's estimate of cost of declaring lands unsuitable for mining under HR 322

3. USFS, BLM and MMS costs to collect onshore oil, gas, coal and other mineral royalties (1993)

4. BLM inspection, product verification, royalty collection costs; miscellaneous costs to U.S. Treasury (estimated)

$33 $13

II III

$630 million estimated age of C and D) prior 1994 estimate for
$630 million estimated age of C and D)

1 2 3 4

-$200* -$140

Administrative Costs

Other Costs:
- Lost mineral production
- Lost jobs
- Lost corporate income taxes
- Ownership rights resolution
- Compensation for property "takings"

-$1,600*

*All revenue and cost projections are on an annual basis except #1 and #2, land unsuitability planning costs, which are cumulative.
Applicant Screening Procedures

Stephanie E. Trott, Membership Records and Services, AIPG Headquarters

The American Institute of Professional Geologists has, as its unifying purpose, the goal to strengthen geology as a profession. Each member of the Institute must qualify for membership on the basis of sound education and a record of experience performed in accord with high standards of competence and integrity. The Institute certifies to the public that those geologists who hold the title, "Certified Professional Geologist," have undergone peer review and have been deemed competent practitioners who are worthy of public trust.

Because the Institute is making a pledge to the profession as well as to the public that its members have met the requirements of competence, integrity, and ethical practice, the application process that one must endure to become a member is taken very seriously.

Headquarters receives many calls concerning the length of the application process. Although the process may seem quite lengthy as you are going through it, the steps that each application must go through are necessary for a complete review. The formal screening policy for applicants is included in every application packet that is sent out. It would be beneficial to every applicant to read this policy and understand that the process is thorough and will take some time.

The application process begins the moment an application is received at Headquarters. The application goes through a basic initial screening by a member of the Headquarters staff. This is simply to confirm that the applicant has included all of the necessary information to begin the process. In order for a file to be opened on behalf of an applicant, he/she must have completely filled out the application. The application must indicate that the applicant meets the requirements of the Institute. Registration/Licensing verifications must be included in the application, as well as a check to cover the processing fee and first year of annual dues. If the applicant has submitted all of the required information a file will be opened.

The next step of the application process is where most applicants seem to encounter most of their frustrations. The application remains at Headquarters until all of the supporting documentation has been received. A postcard is sent out on a bi-monthly basis to inform the applicant of his/her status as well as list any documentation that might be lacking.

As soon as all supporting documentation has been received the application goes through another basic screening by a member of Headquarters staff. The staff member is only checking to make sure all of the information that has been listed on the application has been documented. The application is then Microfilmed as a precautionary measure in case an application would be lost.

Once the application has been copied onto microfilm, it is ready to begin through the screening process. The application is sent to the Section Screening Committee determined by his/her geographic location. The Section Screening Committee Chairman is appointed by the Section President. Committee Members are usually recruited by the chairman. The members of the Committee are given 60 days to do any investigations or confirmation that they see necessary. If the application has not been returned within the sixty days, and the chairman has not contacted Headquarters to request additional time, the application is copied from microfilm and sent to the National Screening Committee without a recommendation from the Section.

The application must be reviewed by three members of the National Screening Committee. This Committee has an indefinite amount of time to review each application. However, this part of the application generally takes about three months. The National Screening Committee submits its recommendation along with the application to Headquarters. If the decision of the National Screening Committee is unanimous, the applicant is informed of acceptance or rejection at this time. If there is some disagreement among the members of the National Screening Committee, the application is referred to the AIPG Executive Committee.

The AIPG Executive Committee meets quarterly. The Committee reviews any application that did not have a unanimous decision. At this time they make a decision of acceptance or rejection. Applicants who are rejected, either by the National Screening Committee or the Executive Committee, have the right to file an appeal.

Throughout the process, the applicant is informed each time the application moves from one stage to the next. We realize that the screening process can become quite lengthy. However, applicants should keep in mind that each person reviewing your application is a volunteer. The members of each Screening Committee have full-time positions in addition to acting as a reviewer for the Institute. The application process is the heart and soul of our organization. We know Geologists who apply to be Certified by AIPG want to be a member of a respectable organization. This application process is your insurance that this is exactly the type of organization that AIPG is. If the applicant is very clear and concise on the application, and keeps in mind that each participant in the screening process is working to make this experience as smooth as possible, the time will go much faster.
Monday, October 10
8:00 am - 9:00 am  Short Course registration
9:00 am - 4:00 pm  Premeeting Short Course #1: Appraisal of Industrial Minerals

Tuesday, October 11
8:00 am - 9:00 pm  Short Course registration
9:00 am - 4:00 pm  Premeeting Short Course #1: Appraisal of Industrial Minerals (continued)
1:00 pm - 5:00 pm  Premeeting Short Course #2: ASBOG Workshop on Geological Registration

Wednesday, October 12
7:00 am - 6:00 pm  Registration
8:00 am - 5:00 pm  1994 Executive Committee Meeting
                   (Closed Executive Session 8-9 am; Members welcome after Executive Session)
8:00 am - 5:00 pm  94-95 National Committees
8:00 am - 5:00 pm  Exhibits setup
8:00 am - 5:00 pm  Hospitality Room
8:00 am - 4:00 pm  Field Trip #1 to Grand Canyon National Park
1:00 pm - 4:00 pm  Field Trip #2 (guest) to Sunset Crater/Wupatki National Monument
3:30 pm - 5:00 pm  Foundation Trustees meeting
5:00 pm - 7:00 pm  Icebreaker; exhibits open
7:00 pm - 10:00 pm  Dinner at Black Barts (no host)

Thursday, October 13
8:00 am - 6:00 pm  Registration
8:00 am - 10:30 pm  94 Advisory Board Meeting (continental breakfast)
8:00 am - 4:00 pm  Field Trip #3 (guest) to Oak Creek Canyon, Sedona and Jerome
10:30 am - 11:00 am  Coffee/juice break
11:00 am - 12:00 pm  General Session - Welcome & Keynote
12:00 pm - 2:00 pm  Annual Awards Luncheon
2:00 pm - 5:00 pm  Presentations - Geologic Mapping In Land Use and Exploration; Professional
                   Ethics Challenges for Geologists; The Role of Geologists in Water Adjudication
                   Coffee/soft drinks
8:00 am - 5:00 pm  Hospitality Room
8:00 am - 5:00 pm  Exhibits
5:00 pm - 10:00 pm  Dinner at Mormon Lake Lodge

Friday, October 14
7:00 am - 9:00 am  Registration
7:00 am - 9:00 am  95 Advisory Board Meeting (continental breakfast)
7:30 am - 9:00 am  Past Presidents Breakfast
8:00 am - 6:00 pm  Exhibits
9:30 am - 11:30 am  94-95 Executive Committee Meeting
9:00 am - 4:00 pm  Field Trip #4 (guest) to Navajo & Hopi Indian Reservations
9:00 am - 11:30 am  Presentations - Legal Issues & Mining; Changing Roles of Geologists in
                   The New Age of Environmental Management; Environmental Quality Issues
12:00 pm - 2:30 pm  Annual Business Meeting Luncheon
3:00 pm - 5:00 pm  Presentation - Professional Lobbying & The Geologic Community
4:00 pm - 5:00 pm  Annual Meeting Committee
5:00 pm - 6:00 pm  Reception
6:00 pm - 9:00 pm  Annual Banquet & entertainment by Earl Kingston

Saturday, October 15
8:00 am - 4:00 pm  Field Trip #5 to Grand Canyon National Park
8:00 am - 4:00 pm  Field Trip #6 to Verde Valley & Jerome
8:00 am - 4:00 pm  Field Trip #7 to Meteor Crater, Petrified Forest & Painted Desert
8:00 am - 12:00 pm  Exhibit removal
The AIPG 31ST Annual Meeting

FLAGSTAFF, ARIZONA

OCTOBER 12-15, 1994
Pre-Registration Form
AIPG 31st Annual Meeting
Flagstaff, Arizona - October 12-15

**Meeting Registration** (includes exhibits, continental breakfasts, coffee breaks, receptions and sponsored social activities, geological road log from Phoenix to Flagstaff):
- Member Registration: $150
- Nonmember Registration: $175
- Spouse (includes banquet): $40
- Student: $10

**Events:**
- Awards Luncheon: Oct. 13, 12-2 PM: $15
- Business Meeting Luncheon: Oct. 14, 12-2:30 PM: $15
- Banquet & Entertainment: Oct. 14, 6-9 PM: $35
- Dinner at Mormon Lake Lodge: $25

**Short Course on Industrial Minerals Appraisal:** Oct. 10-11, 9 AM-4 PM: $200
Space is limited so be sure to register early.

**Short Course on Professional Registration:** Oct. 11; 1 PM-5 PM: FREE

**AIPG Book: Citizen's Guide to Geologic Hazards** (pick up at Registration)
Member price $16, Nonmember $20

**Field Trips** (fees include transportation, guide, lunch & drinks):
- Grand Canyon N.P.: Wednesday, October 12: $50
- Sedona & Jerome: Thursday, October 13: $50
- Navajo & Hopi Reservations; Friday, October 14: $50
- Grand Canyon N.P.: Saturday, October 15: $50
- Petrified Forest N.P. & Meteor Crater; Saturday, October 15: $50

**Total Remitted**

RETURN THIS FORM WITH PAYMENT to Erick Weiland, 5531 E. Kelso Street, Tucson, AZ 85712; FAX 602-721-7431. Make checks or money orders payable to Arizona Section - AIPG. Sorry, no credit cards.

Name_________________________ CFG No._________________________
First name for badge_________________________
Spouse/Guest Name_________________________
Company/Institution_________________________
Address_________________________
City_________________________, State_________________________, Zip_________________________
Telephone_________________________, FAX_________________________

**REFUND POLICY**
Refunds of 85% of registration fees will be given upon written request if received by 5 PM on Friday, September 16, 1994. No refunds will be given after that date. Notification and full refund of field trip or social activity fees will be given by that date also, in cases of cancellation of activities due to insufficient registration.
UNITED STATES SCR 72
AUTHOR: Gregg
ALSO: US HR 268
SUMMARY: Expresses the sense of the Congress that the President should refrain from signing the seabed mining agreement relating to the convention on the Law of the Sea.
STATUS: 07/19/94 INTRODUCED

UNITED STATES H 4734
AUTHOR: Studds
SUMMARY: Requires consultant, assessments, and monitoring of the effects of major trade actions on the environment generally, including fish, wildlife, endangered species, and other natural resources.
STATUS: INTRODUCED 07/13/94

UNITED STATES H 4750
AUTHOR: Sharp
SUMMARY: Amends the Energy Policy and Conservation Act to manage the Strategic Petroleum Reserve more effectively, and for other purposes.
STATUS: 07/13/94 INTRODUCED

UNITED STATES 32204
AGENCY: Dept. of the Int./Office of Surface Mining Reclam. and Enforcement
TOPIC: RESOURCE MANAGEMENT AND PRESERVATION — 18
SUMMARY: Provides incentives for the remaining and reclamation of lands eligible for expenditures under section 402 or 404 of the Surface Mining Control and Reclamation Act.
AGENCY CONTACT: Douglas Growitz, Office of Surface Mining Reclamation and Enforcement, 1951 Constitution Ave. NW, Washington, DC 20204, (202)343-1507
CITATION: 30 CFR 701, 773, 786, 816, and 817
PROPOSAL DATE: 06/02/94
COMMENT DEADLINE: 08/01/94

UNITED STATES 32186
AGENCY: Environmental Protection Agency
TOPIC: ENVIRON. PROTECTION AND POLLUTION CONTROL — 8
SUMMARY: Adds 42 new sites to the National Priorities List, 18 to the General Superfund Section and 24 to the Federal Facilities Section. The identification of a site for the NPL is intended to guide the EPA in determining which sites warrant further investigation to assess the nature and extent of public health and environmental risks associated with the site.
AGENCY CONTACT: Terry Keldan, Hazardous Site Evaluation Division, US EPA, 401 N Street SW, Washington, DC 20460, (800)424-9436
CITATION: 40 CFR 300
ADOPTION DATE: 05/31/94
EFFECTIVE DATE: 06/09/94

UNITED STATES 32052
AGENCY: Federal Emergency Management Agency
TOPIC: RESOURCE MANAGEMENT AND PRESERVATION — 18
SUMMARY: Proposes base (100-year) flood elevations and proposed base (100-year) flood elevation modifications for specific communities.
AGENCY CONTACT: Michael K. Buckley, P.E. Chief, Hazard Identification Branch, Mitigation Directorate, 500 C Street SW, Washington, DC 20472; (202)646-2756
CITATION: 44 CFR 67
PROPOSAL DATE: 05/19/94
COMMENT DEADLINE: 08/19/94

CALIFORNIA A 2874
AUTHOR: Snyder
LAST AMEND: 07/07/94
SUMMARY: Exempts a surface mining operation from the California Endangered Species Act if it has been issued a permit pursuant to the act, is in compliance with any memorandum of understanding with the Department of Fish and Game, from criminal prosecution pursuant to the Fish and Game Code for any take of a threatened or endangered plant species that is incidental to the surface mining operation.
STATUS: 07/07/94

COLORADO 3384
AGENCY: Department of Regulatory Agencies/Bo of Registration for Professional Engineers and Land Surveyors
TOPIC: POLITICS AND GOVERNMENT — 15
SUMMARY: Revises the rules procedure pertaining to applications and reapplication, applicants with degrees from foreign schools, retention of applications, references, educational credit for engineering and surveying applicants, sealing of documents, physical standards for monumentation, standards for property boundary surveys, minimum standards for improvement location certificates, and construction supervision. Revises the rules of professional conduct pertaining to registrants who shall perform services only in the areas of their competence.
AGENCY CONTACT: Susan Miller, Program Administrator, Board of Registration for Professional Engineers and Professional Land Surveyors, 1560 Broadway, Ste. 1370, Denver, CO 80202, (303)894-7788.
PROPOSAL DATE: 06/10/94
HEARING DATE: 07/11/94

IOWA 4705
AGENCY: Engineering and Land Surveying Examining Board
TOPIC: BUSINESS AND CORPORATIONS — 2
SUMMARY: Concerns discipline and professional conduct of registrants; authorizes professional licensing boards to charge a registrant fee and certain costs incurred in disciplinary proceedings resulting in disciplinary action against the registrant; defines terms used, describes the fees and costs which may be charged; provides that fees and costs collected shall be delivered to the Professional Licensing and Regulation Division.
AGENCY CONTACT: Patricia Peters, Iowa Engineering and Land Surveying Examining Board, 1918 S.E. Hulsizer, Ankeny, Iowa 50021
CITATION: 152 IAC 4.28 Discipline and Professional Conduct of Registrants
PROPOSAL DATE: 03/30/94
COMMENT DEADLINE: 04/19/94
ADOPTION DATE: 06/03/94
EFFECTIVE DATE: 07/27/94

KENTUCKY 9713
AGENCY: General Gov't. Cabinet/Board of Registration for Prof. Geologists
TOPIC: BUSINESS AND CORPORATIONS — 2
SUMMARY: Establishes the requirements for the granting of temporary permission to engage in the practice of geology.
AGENCY CONTACT: David L. Nicholas, Dir., Division of Occupations and Professions, P.O. Box 456, Frankfort, Kentucky 40602, (502)564-3296.
CITATION: 201 KAR 31 030 Temporary Permission to Practice
PROPOSAL DATE: 06/01/94

KENTUCKY 9714
AGENCY: General Gov't. Cabinet/Board of Registration for Prof. Geologists
TOPIC: BUSINESS AND CORPORATIONS — 2
SUMMARY: Outlines requirements concerning examinations for geologists.
AGENCY CONTACT: David L. Nicholas, Dir., Div. of Occupations and Professions, P.O. Box 456, Frankfort, Kentucky 40602, (502)564-3296.

LOUISIANA 4552
AGENCY CONTACT: Dept. of Transportation & Development/Board of Registration for Professional Engineers & Surveyors
TOPIC: TRANSPORTATION — 20
SUMMARY: Relates to the general provisions of the Board of Registration for Professional Engineers and Land Surveyors; includes definitions.
AGENCY CONTACT: Board of Registration for Professional Engineers and Land Surveyors, Department of Transportation and Development, 1055 St. Charles Ave., Ste. 415, New Orleans, LA 70130.
CITATION: LAC 4LX.1L.105 Definitions
PROPOSAL DATE: 05/20/94
COMMENT DEADLINE: 07/15/94
HEARING DATE: 07/01/94, 07/25/94

MICHIGAN 1821
AGENCY: Department of Public Health/Division of Water Supply
TOPIC: ENERGY — 7
SUMMARY: Compares the well construction code and establishes criteria for the registration of well drilling contractors, pump installers, well-drilling machines and service vehicles.
AGENCY CONTACT: Division of Water Supply, Department of Public Health, P.O. Box 30195, Lansing, MI 48909, (517)335-8790.
CITATION: R 325.1601, 1602, 1603, 1604, 1605, 1606, 1607, .1610, .1611, 1612, 1613, 1621, to 1722.
PROPOSAL DATE: 06/20/94
COMMENT DEADLINE: 07/30/94
HEARING DATE: 08/13/94
ADOPTION DATE: 04/05/94
EFFECTIVE DATE: 04/20/94

NEVADA 1060
AGENCY: Board of Professional Engineers and Land Surveyors
TOPIC: BUSINESS AND CORPORATIONS — 2
SUMMARY: Amends rules for the Board of Professional Engineers and Land Surveyors' advisory committee procedures; outlines the purposes and procedures of committees, rules for officers and participants, and complaint proceedings.
AGENCY CONTACT: Hal Taylor, Esq., Robinson, Belaustegui, Robb and Sharp, Board of Professional Engineers and Land Surveyors, 71 Washington Street, Reno, NV 89503.
CITATION: NAC 625 Sections 2 through 6 Advisory Committee Procedures.
ADOPTION DATE: 05/12/94
EFFECTIVE DATE: 05/12/94

NEW YORK 5 8751
AUTHOR: Connor
SAME AS: A 1080
SUMMARY: Creates the Reduce and Recycle First Act to prohibit issuing solid waste incinerator permits for new facilities or the modification of existing facilities without a Waste Reduction and Recycling Certificate of Compliance.
STATUS: 06/27/94 INTRODUCED.
F. B. "Ted" Mullin, CPG-1716

Here we are in Fall already. With the elections coming up, all of the politicos are jockeying for position, trying to say all of the right words to appease the voters, and generally doing everything they can to get re-elected. The best part of Fall is the weather - it's starting to get cool again. And as the world seems to be burning up in the west, things are heating up in Washington. Times are changing a little. Even the two legislative bodies are beginning to voice differences of opinion with the President and his proposals.

The progress on the mining law reform is slow - thank heavens. Congressman Miller has a new draft which comes closer to Senator Johnston's version. Miller wants a higher royalty for gold and copper (5%) whereas Johnston would begin at 2%. Johnston has rewritten his draft to give the western states more power in the reclamation of operations in response to the western Senators complaints. It is my understanding that there is still some sort of an unsuitability may have been removed to make that portion of the proposal more palatable. Senator Johnston's oil and gas royalty provision remains and the administration has stated that it can live with it.

On the legal front, the 11th Circuit Court has upheld an injunction issued by the District Court that prohibited the Fish and Wildlife Service from using, or relying upon a report prepared by scientists that operated in a manner that violated the Federal Advisory Committee Act (FACA). The court repeated the District Courts ruling that "a simple 'excuse' cannot be sufficient". (In Alabama-Tombigbee Rivers Coalition v. Department of Interior-Fish and Wildlife Service).

And now to let you know of some of the wonderful tidbits found in the Federal Registers this month.

For your reading enjoyment—

Vol. 59, No. 122, 6-27-94.
Qualified Separate Lines of Business.
IRS-Treasury.

Here the IRS Clarifies safe harbors, unsafe harbors, gateways, highly compensated employees, employee plans and rules covering plan disaggregation and aggregation — here are some examples.

(C) Plan Maintained by more than one employer.
—If the plan of one employer (or, in the case of a plan maintained by more than one employer, then the current accruals attributable to that compensation or service are treated as provided to an employee of the first employer under the plan of the first employer (or the portion of a plan maintained by more than one employer benefiting employees of the first employer), and the provisions of paragraph — of this section do not apply to those accruals.

Separate employee workforce

***A line of business has its own separate workforce only if at least 90 percent of the employees who provide services to the line of business, and who are not substantial-service employees with respect to any other line of business, are substantial-service employees with respect to the line of business***

It's all this bad. Heaven help the small business because that old devil IRS sure knows how to muddle up the regs.

Department of Interior,
Review of Existing Regulations,
Office of the Secretary.

I previously reported on the opportunity to review and comment on all of the Department of Interior Regulations. This is a summary of those comments. Apparently only regulations from the BLM, OSM, MMS, BIA, and the Bureau of Reclamation were worthy of comment. No other responses were received. The offer still stands. Further comments are being received until 10-13-94. Send them to Bill Vincent, Deputy Director, Office of Regulatory Affairs Department of Interior, Mail Stop MIB 6214, 1849 C Street, NW, Washington, DC 20240.

Here are some names from the Fish and Wildlife Service regarding T and E species — how about the following mussels — fat three ridge, shiny-rayed pocketbook, oval pigtoe and the purple bankclimber? I guess we really need to protect them. Then there is notice about the Grimes vetchling in Vol. 59, No. 131, 7-11-94 issue. This little plant may be listed as endangered and if so, will endanger the gold mines in the Independence Range in Nevada. The following statement appears in the announcement on page 35305 — "The available information suggests that the species' restricted range and small population size increase the chance of extirpation resulting from stochastic (i.e. random) or localized events such as rock slides, erosion, disease, toxic effects of contaminant spills, or predation."

They will try to stop the mining any way they can. We have met the enemy and he is us. •
Registration And The “Real World”: What Do We Really Want?

William V. Knight, CPG-153

The issue of whether or not AIPG should support “registration” of geologists seems to be more or less settled. The present National policy, in essence, takes the position that it is a state issue and should be resolved in each state by the geologists who live in that state. If an AIPG Section wants to seek or support “registration” in a state, National will support it in all feasible ways, provided the proposed legislation is compatible with National policy. National will not aggressively promote “registration” as a nationwide policy. However, National does promote uniform standards and easy and economical reciprocity between states.

These policies are currently under review. So, it seems appropriate to review their evolution and the present status of “registration”. It also seems appropriate to step back occasionally and do a bit of philosophizing and “why not” brainstorming.

The AIPG policies and practices evolved gradually over a period of years as AIPG Members and other geologists reluctantly came to realize that, for many, “registration” was a necessity if they were to practice alongside members of other professions who do have such statutory regulation.

Because of the close professional relationship, most of the “registration” efforts have been directed toward seeking legislation that is compatible with the states’ engineering laws. This includes all of the “bells and whistles” of engineering “registration”, even though they may not be entirely appropriate for “scientists” as contrasted with “engineers”. A large majority of the geologists in some states and a small minority in others adopted this as the pragmatic solution to their problem, whether they philosophically agreed with it or not. (Read on the table is a powerful incentive.)

The result has been a hodgepodge of legislation with each state legislature responding to the lobbying efforts of its geologists and other citizens, as well as the traditions and established practices of its licensing administration agency. There have been many attempts to write “model” legislation. Most of this has consisted of modifying engineering statutes from various states and combining them all into one document. Of course, there are the usual self-serving inter- and intra-professional power struggles. All of this is then repeated as each state tries to adapt the “model” legislation to its own political and physical situation. The ancestry of the result is sometimes barely recognizable.

 Naturally, there have been misgivings and complaints. Some geologists have suggested that we ought to take a whole new approach. Others have pointed out, quite correctly, that we must stay on good terms with the other professions with whom we work and who also have statutes already in place. Our regulation must at least have the appearance of being no less rigorous than theirs. (There have been some questions raised as to whether this rigor is to protect turf or the public, with the implication that protection of turf is the primary concern.)

With all of this in mind, I have been watching and listening as I have attended various sessions of ASBOG (National Association of State Boards

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**Executive Director’s Itinerary**

(subject to change)

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

- Sep. 2: Univ. of Arkansas, Fayetteville, AR
- Sep. 9: Univ. of Texas, Austin, TX
- Sep. 17: Geoenvironmental Forum, Austin, TX
- Sep. 30-Oct. 1: Wisconsin Section, Madison, WI
- Oct. 7: Utah Section, Salt Lake City, UT (tentative)
- Oct. 12: Executive Committee, Flagstaff, AZ
- Oct. 18: Colorado Section, Denver, CO
- Oct. 22-28: Geological Soc. of Amer. Convention, Seattle, WA
- Nov. 1-3: Petroleum & Hydrocarbons Conf. & Expo., Houston, TX
- Nov. 3: Texas A&M, College Station, TX (tentative)
- Nov. 9-14: Assoc. of State Boards of Geology, Chapel Hill, NC
- Nov. 18: Colorado Section, Denver, CO
- Nov. 30-Dec. 3: North West Mining Assoc. Convention, Spokane, WA
- Jan. 21, 1995: Executive Committee, Arvada, CO (tentative date)
of Geology), its examination review workshops, and other gatherings where the subject is discussed. Herewith, a few of the observations and thoughts that have come to my ears and my mind. I have shared them with your Executive Committee, of whom some have urged me to pass them on to you. To some who read them, they will be heresy, while others will say "amen!" They are presented in the spirit of encouraging thought and discussion among us. I hope it does so, and in the process generates significantly more light than heat; then, in the end, leads to good will all around (probably a forlorn hope in any honest discussion).

1. "The various state boards seem to be trying to march almost in lockstep with the engineers as to requirements and procedures. Is this absolutely unavoidable?"

2. "This applies especially to examinations and administration, which is state by state under the control of a number of state boards which must be administered at considerable expense. This is highly inefficient. Added to this expense is that of preparing and administering examinations.

3. "In the minds of some, examinations seem to have attained nearly a divine status and to be regarded as the ultimate evidence of a person’s knowledge and ability, when we know that they actually are not. More accurately, they test a person’s test-taking, memorization, and recall ability. Peer review of actual work performed (as conducted by AIPG, The Geological Society, AGWSE and at least one state board) may be a much more accurate mechanism, though admittedly more subjective. Why are geologists not questioning the value of "graded" examinations instead of rushing pell mell to blindly accept their concept out of hand?"

4. "Geologists are outnumbered by engineers something on the order of 25:1. Thus, engineers have a much broader base from which to draw the financial support needed for all of this. It also gives them a much broader base from which to solicit public understanding and political support.

5. "The legislatures of several states not currently "registering" geologists have been resisting the creation of new licensing programs, while some have been trying to move in the direction of privatization of the regulatory process. Does this suggest that legislative enthusiasm for state-administered professional regulation actually may be declining and such regulation may eventually wither away?"

6. "The present state of reciprocity between boards is chaotic and unpredictable. True full, or even general, reciprocity between state boards seems years away at the present rate of progress. (In most professions, it has never been achieved even after several decades of trying.) The only reciprocity actually fixed by statute, and therefore more or less permanent, is that between Alaska and Indiana via AIPG certification. (Yet, Indiana seems bent on giving this up) Why are geologists so willing to surrender this without a fight instead of expanding and strengthening it and extending it to other states?"

7. "Geologists seem to tend to follow others rather than lead in all endeavors except exploration. Except for the fact that they outnumber us and have developed considerable political clout in some states (admittedly a very big "except"), why must we always follow the engineers’ precedents and do precisely what they dictate? Can we not develop an alternative way that might actually be superior and adaptable by them to their situation, as well? (It should be noted that not all engineers are enamored of “registration” and the ABET exam.)"

8. "This might be an opportune time for geologists to take the lead in innovation, for a change. This could entail AIPG developing anew a concerted effort to have its certification recognized in lieu of "registration" in those states which fit the pattern described in 5, above. Some method will be needed to overcome the instinctive desire of those who are more oriented toward engineering and finite numbers to require a graded examination. We have already seen the barest hint of an indication of interest in this approach in some of the less populous or smaller states. Based on the veto letters of the Governor of Illinois, there may be an opening for this approach in that state, as well.

9. "Perhaps more effort should be made to further develop model legislation for recognition of self regulation (ala Alberta and the United Kingdom) based on existing definition statutes. This may seem unrealistic, but is it any less realistic than trying to reconcile all of the different legislation that now exists?"

What is the "real world"? What do we really want?•

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The Political Privilege

Lynn Graf, AIPG Legislative Affairs Advisor

Important decisions about who will be our government officials will be made in the upcoming elections. Geologists have an opportunity to influence these decisions. This is accomplished through registering to vote, supporting the candidate of choice, and voting for that candidate. Remember, your elected official represents your vote in several areas that affect you and the geologic profession. Geologists need people in office whose philosophy of government is compatible with sound, scientific policies on geologic issues.

Election Involvement

Election time is the ideal time to meet your legislators because this is when they reach out to the voters in their district. Candidates generally invest a lot of effort in gathering constituent views and learning about supporters they can trust.

Call your candidates and ask for a meeting to share information. This is an important phone call because your personal relationship with your public official is important to the success of our political system. The American system of politics encourages people to contact their representatives, and all responsible public servants expect it. Some legislators may have staff that assist in forming policy positions, so be sure to include them in your contacts.

When you talk with your candidates, please remember that most elected officials are dedicated to their political profession and endure long hours for little recognition or compensation. Be sure to express your appreciation for their efforts, community work, and leadership.

Grassroots Networks

Grassroots lobbying works. It is the best return on an investment of Member time and money. It involves organizing a network of AIPG Members in each state to work with local and state officials on legislative and regulatory issues affecting geologists. Election time is a good opportunity to organize and test your network.

The network can involve a telephone tree that spreads the word about a community debate between legislative candidates, or a mailing that provides information on geologic issues the candidate could be asked to vote on if they win the election. The Members in turn contact their state legislators with their input on issues concerning the geologic community. Members should be encouraged to report back to a network coordinator to ensure the most effective use of this process.

The network focuses the views of individual voters in AIPG into a unified important message. If the network is strong enough, it will be consulted about decisions that affect geologists. This strength comes from AIPG Members who have made frequent, constructive contact with policy makers. Thus, the importance of developing and maintaining contacts cannot be overemphasized.

When forming networks, recruit members who understand the importance of AIPG participation in policy decisions and who can be counted on to follow through. Develop a policy for using the network that ensures respect for individual opinions of AIPG members. The focus of network messages should be informational, not argumentative or confrontational, in content.

Tactics And Tips

Most people, including legislators, don’t believe in “free lunches.” If you ask someone for help, be prepared to repay in kind. Working in a campaign helps to form a partnership of mutual benefit. Candidates need your vote and, after the election, your expertise to develop scientifically-based policy decisions. Geologists potentially gain respectful attention to issues of geologic importance by someone in a position of influence.

Some general guidelines to follow when discussing natural resource and environmental issues include:

• Know that your topic is important to the future of the nation and geologic community. Believe in yourself and your contribution to the government process (this might become vague at times).
• Know your topic by preparing your position using facts and scientific research. Show both sides of an issue and your understanding of them. This will make your position more credible.
• Be brief.
• Know your compromise position or bottom line, but don’t advertise it. Avoid going to extremes without careful consideration of all positions.
• Know the government process in your state.
• Use personal stories when making points. Say how an issue will affect you and, if possible, the other voters of the candidate’s district.
• Ask a lot of questions. Listen more than you talk so that you can provide relevant feedback to candidates.
• Ask for support from candidates, but don’t expect to agree on every issue. Follow up in a positive manner, no matter how they respond to your request for support. Try not to burn your bridges because there is a good chance you will agree on issues in the future.
• Your input to the government process improves the quality of life in your state and country and is not just for personal gain.
• Use humor, dinosaurs, valuable stones, and other positive areas
in geology. Have fun to assist with times when serious issues are in front of you. Stress benefits. Show how you can help candidates and legislators.

- Be honest. Never exaggerate even if the truth hurts your position. If you don’t know the answer to a question, say you will find out. Make sure you follow through so people can continue to rely on your word.
- Never give up. Regroup and try another angle. Keep your issues moving forward when possible.
- Be professional, on time, and respectful of others’ positions and responsibilities.

- Always follow sound, ethical business practices that are aimed at protecting the health, safety, and economic welfare of the people, natural resources and environment.
- Don’t forget to take a copy of the AIPG book, The Citizen’s Guide to Geologic Hazards with you when you visit legislators. They appreciate the opportunity to review quality information. Check to see if you have other publications in your state that would have a similar impact.
- Finally, remember that you will lose some and you will win some. Be patient during periods of losses because your few wins can be very valuable to your profession and especially to you.

_Lynn Graf is a government relations consultant with over 20 years of experience in community and government relations. She has served as lobbyist for the AIPG Colorado Section since 1990 and worked on a variety of issues including oil and gas, mining, geologic hazards, water, financial planning, water/mineral appraisals, land use planning, economic development, and professional licensing/registration._

**LETTERS TO THE EDITOR**

Dear Editor:

Adolf Honkala’s editorial comment on Ethics strikes a common chord. I have to offer my appendum. As an older exploration geologist, but still surviving in the business, ethics means _everything_ to me. I have only one thing of value...my name!

If one adopts a philosophy of helping everyone succeed, ethics takes care of itself. Placing personal gain second to “proper” business deals will result in success. Some of our professional associates seem to forget conveniently and contact your clients around you or develop terms of deals that seem to change down the road if it is to their advantage. They are aggressive - which is good - but lack the common courtesy of business which I call ethics. My 95-year old geologist Father calls it: “Out to make a quick buck”.

Our membership needs to think of where they stand on the ultimate list of “Good Guys vs. Bad Guys”. When you have some doubt about doing something, don’t do it! That’s my motto. Contact the parties involved before you leap and you’ll be a lot better off - and successful - in your old age.

Are you ethical? Do you care about the welfare of your business contact - both associates and clients?

_Dear Editor:_

Another Point Of View - Let’s make sure that we keep the power.

If discouraging Domestic production means paying the true cost for fossil fuels here in the US, then the EPA is guilty of fulfilling Rachel Carson’s prophesy. If the public welfare is not more important than dollars, then there is no need for regulations by the EPA. If human progress is measured by “bigger is better and more is best”, then indeed it is no exaggeration to say that law and enforcement that destroys production from land is a curse on human progress. Human population growth is _not_ due in large measure to the production and consumption of energy, regardless of where you heard it or read it. Energy consumption mirrors the complexity of the society. The more complex industrial societies have the greatest energy needs.

I hope that I can communicate clearly so as to let others know that many earth scientists really do love the earth.

We stand four-square behind _sustainable development_ - actions that address the needs of the present without compromising the ability of future generations to meet their own needs - [past President of the World Commission on Environment and Development] - in which the natural resource base is enhanced rather than exploited.

Because we “are positioned to convey information to the public that can change laws”, maybe we should call for striking laws that fail to address increasing populations. When scientists are silent, I agree that we may be acting irresponsibly, but on the other hand, surely you have seen in the recent past, unethical conduct, namely: tell me what results you want, pay me and I can show it - sometimes even convincingly.

To be honest, I would much prefer a democratic government rather than the learned few “Taking Back The Power” in the name of the people.

_albert f. allong, CPG-6390_
Robert L. Bates, CPG-0827

Robert L. Bates, CPG-0827, died June 21, 1994 at Riverside Methodist Hospital in Columbus, Ohio, a week after suffering a heart attack at home. He is survived by his wife Marion, daughter Helen McDermott of Rochester, Minnesota and son, Steven Bates of Evanston, Illinois.

Bob had been a friend to me for the last 26 of his 82 years. We had shared laughs, seats on field trip buses, podiums where we often traded barbs, (rarely compliments - honor you know), serious geologic discussions and moments of solace. In recognition of those shared situations and Bob's successful pursuit of geologic excellence through appropriate humor, this Memoriam may well be different than many of you would have expected. However, do not believe for a moment that irreverence is present.

The Geologic Column in Geotimes which Bob began writing in 1955, and followed with approximately 350 entertaining editions, was no doubt the major instrument of connection between Bob and his legion of admirers/readers/believers. His ability with the written word as manifested in the "Column" and a host of other publications is represented as somewhat of a paradox in his death. Words, somehow, seem inadequate to do justice to his accomplishments, wit and wisdom. No doubt some of the credit for his ability to successfully and entertainingly combine the "language" and an "earthly" science belongs with his English Professor Father; I understand Bob was torn between those two professional pursuits.

Dr. Bates was a graduate of Cornell and the University of Iowa where he took his Doctorate. Bob was a professor at Rutgers University and The Ohio State University where he became an Emeritus Professor in 1977. He also had teaching stints at four other institutions where his affable manner made his geology classes favorites on the campus.

AIPG - Bob was the TPG Editor in 1969-70, the annual banquet speaker in 1981, and in 1984 the recipient of the Ben H. Parker Memorial Award. Bob was also a Distinguished Member of the SME.

Bob was the author of Geology of Industrial Rocks and Minerals, Pandora's Bauxite, co-author with Julia Jackson of Our Modern Stone Age, editor of the Journal of Geological Education, associate editor of the 4th Edition of AIME's Industrial Minerals and Rocks, co-editor with Julia Jackson of the Glossary of Geology with whom he also revised the AGI Dictionary of Geology. He had over 100 published titles including the likes of "The Editor as a Busybody" and "What Johnnie Won't Read."

Bob left his mark in many arenas because the list above is far from complete. Apparently, his founding of the "Forum on the Geology of Industrial Minerals" gave him and multitudes of us attendees, an unprecedented pleasure. Marion and Bob were and the memories will remain, integral parts of the "Forum." Bob presented numerous technical papers, was usually good for some gently (for the most part) critiques of other papers, had his bad-slide, dark scowl at the ready and could always be counted on for some light moments at the Annual Banquet. He was at his best a few weeks ago at the 30th Forum in Halifax, Nova Scotia, where he presented a recap of the first 30 "events" as he like to call them.

Christmas, like the annual "event", will suffer because of the absence of the annual Bob Bates poem in their card. Wendell Cochran, the former editor of Geotimes, wrote me a letter a few years ago in response to a "Roast" information request and reminded me of this one, entitled 'Vanguard':

One day soon my love and I,
Having agreed all care to banish
Will say a general good-bye
Make haste into our van, and vanish.
And, in everyplace we go--
Land of brook trout, bears or bisons--
Our van, in front and rear, will show
My up-to-date poetic license.

I would not dare abridge the poetic license of Bob's, nor his Geotimes rule about publishing only his own poetry, but I would ask Bob, Marion, Helen and Steven and AIPG members the granting of literary license in writing this Memoriam, perhaps a slight departure from the standard but one I believe would have been approved by Robert Littmer Bates.

Goodbye Ole Friend, May God Bless and Keep You!

Bobby J. Timmons, CPG-2736,
Jacksonville Beach, Florida, July 18, 1994

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Oct. 3-5, 1994 Focus Conference on Eastern Regional Ground Water Issues, Burlington, VT. Contact: National Ground Water Association, P.O. Box 182038, Dept. #017, Columbus, OH 43218-2038. Ph.: (800) 551-7739.


Oct. 11-13, 8th Annual Regional Environmental Business & Management Conference & Expo - Beyond 2000: Organizing for Environmental Compliance, Denver, CO. Contact: Environmental Resource Specialists, P.O. Box 440112, Aurora, CO 80044. Ph.: (303) 690-4245.


Nov. 2-4, Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Protection, Detection, and Remediation, Houston, TX. Contact: National Ground Water Association, P.O. Box 182039, Dept. #017, Columbus, OH 43218-2039. Ph.: (800) 551-7739.


Nov. 15-17, Geology and Resources of the Eastern Pennsylvanian Belt, Dacota Mountains, and Southwestern Arkansas Basin, Potomac, OK. Contact: Neil H. Suneson, Oklahoma Geological Survey, Searcy Energy Center, Room N-131, 100 East Boyd St., Norman, OK 73019. Ph.: (405) 325-0301.


Nov. 28-29, NWMA 100th Annual Convention, Short Course & Trade Show, Spokane, WA. Contact: Northwest Mining Association, 10 N. Post, Ste. 414, Spokane, WA 99201-0773. Ph.: (509) 624-1158.


1995


Feb. 6-9, SME/AIME 124th Annual Meeting & Exhibit, Denver, CO. Contact: Meetings Dept., SME, P.O. Box 625002, Littleton, CO 80162-5002. Ph.: (303) 973-9350.


Apr. 2-5, 5th Conf. on Shrubs, Eng. & Env. Impact, Karst, Gailburg, TN. Contact: D.F. Heck, E.P. Labreaux & Assoc., Inc., Box 4412, Oak Ridge, TN 37831-4412.

May 2-5, International Trade Fair and Congress for the Geosciences and Geotechnology, Cologne, Germany. The correspondence address: Alfred Wegener-Stiftung, Wissenschaftszentrum, Ahrstrasse 45, D-53175 Bonn.


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The conference is planned for April 21-23, 1995, at the Sarkeys Energy Center at the University of Oklahoma, Norman, Oklahoma.

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