The Professional GEOLOGIST

GEOLOGIC REASON
A BASIS FOR DECISIONS AFFECTING SOCIETY

SYMPOSIUM AND ANNUAL MEETING
September 27-30, 1992 — Lake Tahoe, Nevada

A publication of
The American Institute of Professional Geologists
Symposium Invitation

GEOLOGIC REASON
A Basis for Decisions Affecting Society

The AIPG 1992 Annual Meeting

The Nevada Section invites all geologists to Lake Tahoe, Nevada, to attend the 26th Annual Meeting on September 27-30, 1992.

The American Institute of Professional Geologists is sponsoring the symposium, which addresses geologic and environmental hazard issues critical for both geologists and society in the ’90s. Through invited speakers, panel discussions, and poster sessions, the symposium will explore:

- the role of the geologist in predicting earthquakes,
- the role of the geologist in siting and cleaning up waste,
- geological common sense regarding environmental hazards,
- management of federal lands, and
- modeling geological phenomena.

Pre- and post-meeting field trips will present many examples of the issues and problems facing today’s geologists. These informative and comprehensive trips will review the 1989 Loma Prieta earthquake south of San Francisco, hazardous, nuclear, and municipal solid waste disposal sites in Nevada; and mercury contamination/cleanup strategies for the Carson River and historic mill sites of the Comstock Lode.

Professional workshops/short courses held in conjunction with the meeting will focus on such pertinent topics as:

- rights and responsibilities of the professional geologist,
- preparation for the California Registration Exam, and
- water resource management for design, operation, and closure of mining operations (including field trips to large gold mines).

Exciting trips have been planned for guests and spouses. These will include a tour of the historic mining town of Virginia City, a scenic tour around the Lake Tahoe rim, a learning experience at the Reno Gaming Academy, and an enjoyable evening dinner cruise on Lake Tahoe.

The location of the meeting will be the exciting Caesars Tahoe Hotel and Convention Center at South Lake Tahoe noted for its exquisite facilities and hospitality. In addition to the meeting, Caesars will host a Roman theme banquet featuring T S Ary, Director of the U.S. Bureau of Mines, as keynote speaker.

The Nevada Section has planned and arranged a program that will interest, challenge, and excite all who attend.

Lake Tahoe is a popular resort area; therefore, it is recommended you pre-register early to insure that you can attend every function you wish.
The Professional GEOLOGIST

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COVER
Front: Lake Tahoe, high in the Sierra Nevada, is surrounded by Cretaceous granites and granodiorites, which intrude Jurassic island-arc sequences and which are locally capped by Tertiary volcanic rocks. The lake itself occupies a graben bounded by Basin and Range normal faults. Emerald Bay, Lake Tahoe, photo courtesy of South Lake Tahoe Convention Authority.

Back: Virginia City, located in the mountain range east of the Sierra Nevada, is the site of the bonanza silver-gold mines on the Comstock Lode. Miocene intrusive and extrusive igneous rocks are cut by the vein, which occupies a normal fault. Virginia City, Nevada, photo courtesy of John Dyer.

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CORRECTION - The article “One View of the Current Oil & Gas Industry in the U.S., and What We Should Be Doing” was incorrectly printed in the table of contents in the April issue. This article will be appearing in the June issue of The Professional Geologist.

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

Sunday, September 27
- Registration 2:00 p.m. to 8:00 p.m.
- Field Trips 1 & 2 end at Lake Tahoe 6:00 p.m.
- 1992 Executive Committee Meeting 9:00 a.m. to 5:00 p.m.
- Exhibit set-up 8:00 a.m. to 4:00 p.m.
- EXHIBITS OPEN 4:00 p.m. to 8:00 p.m.
- Ice Breaker 6:00 p.m. to 8:00 p.m.

Monday, September 28
- Registration 8:00 a.m. to 6:00 p.m.
- 1992 Advisory Board continental breakfast 7:00 a.m. to 8:30 a.m.
- Guest/Spouse Trip 1 - Lake Tahoe Rim 9:00 a.m. to 4:00 p.m.
- EXHIBITS OPEN 9:00 a.m. to 6:00 p.m.
- SESSION 1:
  - Modeling Geophysical Phenomena 8:50 a.m. to 11:50 a.m.
  - AIPG AWARDS LUNCHEON noon to 1:30 p.m.
- SESSION 2:
  - Role of the Geologist in Predicting Earthquakes 2:00 p.m. to 5:00 p.m.
  - COCKTAILS in Exhibit Hall 4:00 p.m. to 6:00 p.m.
- Lecture: "Overview of the Geology, Resources, Hazards, and History of Nevada" 8:00 p.m. to 9:00 p.m.

Tuesday, September 29
- Registration 8:00 a.m. to 6:00 p.m.
- 1993 Advisory Board breakfast meeting 7:00 a.m. to 8:30 a.m.
- Guest/Spouse Trip 2 -Virginia City/Carson City 9:00 a.m. to 3:00 p.m.
- EXHIBITS OPEN 9:00 a.m. to 6:00 p.m.
- SESSION 3:
  - Role of the Geologist in Siting and Cleaning Up Waste 8:50 a.m. to 11:50 a.m.
- SESSION 4:
  - Geological Common Sense Regarding Environmental Hazards 2:00 p.m. to 5:00 p.m.
  - COCKTAILS in Exhibit Hall 4:00 p.m. to 6:00 p.m.
  - BANQUET with keynote speaker (Roman theme) 7:00 p.m. to 10:00 p.m.

Wednesday, September 30
- Registration 8:00 a.m. to 10:00 a.m.
- AIPG Past Presidents' breakfast 7:30 a.m. to 8:40 a.m.
- 1993 Executive Committee breakfast meeting 7:15 a.m. to 8:15 a.m.
- Guest/Spouse Trip 3 - Reno and Gaming Academy 9:00 a.m. to 4:00 p.m.
- EXHIBITS OPEN 9:00 a.m. to noon
- SESSION 5: Management of Federal Lands 8:50 a.m. to 11:50 a.m.
- ANNUAL AIPG BUSINESS MEETING 2:00 p.m. to 5:00 p.m.
- Exhibit take-down noon to 6:00 p.m.
- Guest/Spouse Trip 4 - Lake Tahoe Dinner Cruise 6:00 p.m. to 11:00 p.m.

Thursday, October 1
- Field Trip 3 begins at Lake Tahoe 8:00 a.m.
- Workshop/Short Course 1 - Rights and Responsibilities 8:30 a.m. to 5:00 p.m.
- Workshop/Short Course 2 - California Registration Exam 8:00 a.m. to 5:30 p.m.
- Workshop/Short Course 3 - Water Resource Management begins at Lake Tahoe 8:00 a.m.
Theme Sessions

Each theme session will consist of three invited speakers giving 20-minute presentations, followed by a panel discussion, with written questions from the audience (handed to the moderator during the break), then poster sessions with both volunteered and invited contributions.

Modeling Geological Phenomena

Theme Session on Monday morning, September 28

Andre G. Journel
Stanford University

Andre Journel is a leader in the field of geostatistics for natural resources valuation. He is Director of the Stanford Center for Reservoir Forecasting and Chairman of the Department of Applied Earth Sciences. Before joining the faculty at the Stanford School of Earth Sciences in 1976, he was a research engineer at the Paris School of Mines. Professor Journel was awarded the Krumbein Medal of Mathematical Geology in 1989.

Geostatistics is being increasingly applied in calculating ore reserves, modeling petroleum reservoirs, and characterizing plumes of pollutants. Geostatistics offers probabilistic models for characterizing spatial continuity of geological variables, whether continuous, such as porosity, or categorical, such as indicators of lithofacies. These models can be used not only for interpolation among data but also to image the prevailing uncertainty. The stochastic modeling and imaging of a submarine fan sand/shale sequence located in the upper Miocene Wilmington field of Los Angeles will be presented.

Thure E. Cerling
University of Utah

Thure Cerling is a geochemist with a global perspective. His broad research interests include the use of tritium and helium isotopes as hydrologic tracers, geology of Old World paleoanthropologic sites, development of the Asian monsoon system, soils as climatological indicators, paleodiet of mammals, geochemistry of large lakes, environmental geochemistry, dating the time of surface exposure using cosmogenic isotopes, and history of the atmosphere. To conduct his research he has worked in East and West Africa, Antarctica, Spain, France, Turkey, Pakistan, the western U.S., Tennessee, and Hawaii. His laboratory work includes stable isotopes, radiotopes, mineralogy, petrology, and wet chemistry. He also has oil and mineral industry experience and serves on the Utah Governor's Task Force on Nuclear Waste Disposal.

The climate and ecology of the earth has undergone significant changes many times, on many time scales. The record of global change is preserved in literature, art, solid rock, ice, soils, sediments, and even water. The record is very explicit about the magnitude and direction of climatic and ecological changes in the past. They provide important information for planning for the future.

Joel W. Massmann
University of Washington

Joel Massmann is an expert in applications of decision and risk analysis in ground water problems and environmental site remediation. He earned his Ph.D. in geological engineering at the University of British Columbia and is an Assistant Professor in the Department of Civil Engineering at the University of Washington, where he teaches undergraduate and graduate courses on ground water and contaminant transport and site remediation. Professor Massmann received the Rudolf Hering Medal from the American Society of Civil Engineering in 1990, and the Presidential Young Investigator Award from the National Science Foundation in 1988.

Engineering design involves selecting from a set of alternatives under conditions of uncertainty. In geotechnical and hydrogeological applications, the degree of uncertainty is generally much greater than in other engineering disciplines. Risk-based decision analysis can be used to help select alternatives in these applications. In certain situations, risks can be quantified with probabilistic models of geological environments and processes. While applicable to many situations, this approach presents difficulties when applied to situations in which low-probability, catastrophic events play a significant role.
Role of the Geologist in Predicting Earthquakes

Theme Session on Monday afternoon, September 28

James Davis
California Division of Mines and Geology

As State Geologist, James Davis is responsible for oversight of all California Division of Mines and Geology programs. His personal interests are in the applications to public policy of earthquake prediction research, investigations of other geologic hazards, and mineral resource evaluation. Dr. Davis has worked for U.S. Steel Corporation, the U.S. Forest Service, and the New York State Geological Survey, where he was State Geologist from 1968 to 1978. He is past president of the American Geological Institute and the Association of American State Geologists.

Bert Swan
Geomatrix Consultants, Inc.

Bert Swan is an expert in the field of neotectonics. Before becoming Vice President and Principal Geologist of Geomatrix Consultants, Inc. he worked in the Geology, Seismology and Geophysics Group of Woodward-Clyde Consultants. Current or recent projects include evaluation of the location and recency of faulting near prospective surface facilities at the proposed nuclear waste facility at Yucca Mountain, paleoseismic investigations of the Meers fault in southwestern Oklahoma, seismotectonic evaluations for over 50 U.S. Bureau of Reclamation dams in the western U.S., and technical peer review of the long term seismic program for the Diablo Canyon Nuclear Power Plant. He has served on many expert panels and committees dealing with earthquake issues.

Dr. Swan will discuss the geologist’s role in evaluating seismic hazards for critical facilities. Examples of seismic safety evaluations for dams and nuclear power plants will be presented. These illustrate the importance of determining seismic design and earthquake safety criteria that have a rigorous scientific basis to avoid excessive costs due to inadequate or overly conservative designs.

Pamela Sands Showalter
University of Colorado

Through work at the Natural Hazards Center at the University of Colorado, Pamela Sands Showalter has gained considerable insight into the public’s reaction to earthquake predictions. With a master’s degree in anthropology from Arizona State University and as a Ph.D. candidate in geography at the University of Colorado, she is well qualified to analyze the responses of the media, scientists, and the public to false predictions.

The December 3, 1990 earthquake prediction by Iben Browning for the New Madrid Seismic Zone generated substantial public response. Two mail surveys of four small towns in the area attempted to measure public behavior, beliefs, and attitudes regarding the prediction. Among other findings, the research indicates that once the news media had established Browning’s credibility as a scientist, statements by academic or government scientists discrediting Browning’s methodology had little effect. Because future earthquake predictions by those outside the “accepted” scientific community are certain to occur, suggestions to help reduce the impact of such predictions will be presented.
Role of the Geologist in Siting and Cleaning Up Waste

Theme Session on Tuesday morning, September 29

Jean L. Younker
M&O/TRW Environmental Safety Systems, Inc.

Jean Younker is one of the most knowledgeable geologists involved in the siting of nuclear waste. As Chief Scientist with Science Applications International Corporation for eight years, she was responsible for technical review and overview of all aspects of the U.S. Department of Energy’s high-level waste repository program at Yucca Mountain. Dr. Younker has been instrumental in coordinating the preparation and review of geotechnical portions of the DOE’s Environmental Assessment and Site Characterization Plan for the Yucca Mountain Project. She also worked as a geologist for Lawrence Livermore National Laboratory and taught at the university level.

Geologists have an important role in helping the general public understand earth processes and how waste disposal problems and solutions depend, in part, on earth processes. The long-term hazard associated with high-level radioactive waste provides a unique perspective requiring predictions of earth processes over a period of 10,000 years, a snapshot on the geologic time scale, but an interval that is difficult for non-geologists to comprehend.

Steven A. Frishman
Nevada Agency for Nuclear Projects

Steven A. Frishman is also one of the most knowledgeable geologists in the field of nuclear waste. Since 1987, as the Technical Policy Coordinator for the Nuclear Waste Project Office of the Nevada Agency for Nuclear Projects, he has been responsible for various aspects of the State’s technical oversight concerning the proposed repository at Yucca Mountain. He was the Director of the Nuclear Waste Programs Office at the Texas Department of Public Safety, Division of Emergency Management from 1984 to 1987. His earlier career in environmental issues included advisory and consulting positions with various federal and state agencies and publishing a weekly newspaper.

It should come as no surprise to geologists that most, if not all, land-based waste disposal sites eventually leak. The adverse environmental consequences of this eventual leakage ultimately can only be mitigated by the development and rigorous application of stringent siting criteria. Regulations must recognize that engineered barriers may serve to enhance waste isolation, but should not be relied upon to compensate for geohydrologic flaws associated with specific sites.

Harry W. Smedes
Consulting Geologist and Principal, Harry W. Smedes Associates

Harry Smedes, CPG 6480, has extensive experience in geology applied to hazardous and nuclear waste. Dr. Smedes worked as a research geologist with the U.S. Geological Survey for 28 years, as a senior technical advisor for the U.S. Department of Energy, and as a senior geologist for CER Corporation and IT Corporation. He currently consults in broad areas of general geology, environmental geology, field geology, field methods, and technical writing and review.

Cleanup and disposal of hazardous waste is a worldwide problem that generally involves contamination of ground water. Public pressure has been a major factor in the enactment of extensive regulations. Compliance generally involves astronomical remedial costs. In the ensuing intense competition for this big money, some contracts are awarded to firms which are incompetent because they lack the necessary technical expertise and an understanding of the geologic environment in which the contamination occurs. The client generally does not know what is needed and is easily beguiled by technical jargon, computer printouts, and a cheap price. Some specifics will provide a focus for discussion of how we can help solve this complex problem.


**Geological Common Sense Regarding Environmental Hazards**

*Theme Session on Tuesday afternoon, September 29*

**Malcolm Ross**  
U.S. Geological Survey

Malcolm Ross is one of the nation's leading mineralogists. As Research Mineralogist with the USGS, he is currently investigating the mineral resources of Arkansas, especially those associated with alkaline rocks; the chemical and crystal structure of rock-forming minerals; and the effects of mineral dusts on health. He is a recipient of the U.S. Department of the Interior's Superior Service Award and Distinguished Service Award for contributions to understanding health effects of asbestos minerals. He is Past President of the Mineralogical Society of America and in 1990 received the Society's first Public Service Award for bringing to the public's attention the relationships between the incidence of disease and amount and type of exposure to asbestos dusts.

As a consequence of the wave of environmental and health consciousness that began in the 1970's, several common minerals have become suspect as agents of cancer and other diseases - invoking very restrictive regulatory controls. Ore and gangue minerals presently classified as human carcinogens include: chrysotile, amosite, crocidolite, anthophyllite, tremolite, actinolite, radioactive minerals, quartz, and minerals containing arsenic, cadmium, chromium, nickel, and beryllium. Because these suspect minerals are present in mining, milling, and smelting environments, these industries may not survive unless the regulators begin to use common sense and good science instead of fearmongering to justify their pronouncements.

**W. Berry Lyons**  
University of Nevada, Reno

Berry Lyons is an internationally recognized geochemist with broad interests in geological processes and environmental issues. He is the Director of the Hydrology/Hydrogeology Program at the University of Nevada, Reno and a Professor in the Department of Geological Sciences. He taught and conducted research at the University of New Hampshire and was a visiting scholar in Yugoslavia and Australia. His research interests include the chemistry of glacial ice and snow, geochemistry of ground water, geochemistry of lakes and lacustrine sediments, early diagenesis of sediments, trace metal transfer and speciation in sedimentary systems, trace metal-organic matter interactions in natural systems, palaeoclimate studies, and environmental geochemistry and global change, particularly in arid and semi-arid regions.

Professor Lyons will talk about a number of water quality issues on which geologists, in general, and geochemists, in particular, should speak out. These will include the setting of drinking water quality standards for such things as radon and man-made organic compounds, finally he will discuss the importance of the chemical speciation of metals and metalloids in natural waters and the role of speciation in elemental toxicity.

**Gilbert F. Cochran**  
Desert Research Institute

Gilbert F. Cochran is an expert on the hydrology and water resources of arid regions. As Research Professor in the Water Resources Center of the Desert Research Institute, he is responsible for the development and management of water-related basic and applied research programs. His interests include ground water, water management, and interdisciplinary environmental studies. Dr. Cochran was the Nevada State Science Advisor in 1978-79. The research that he and his colleagues have been conducting in Owens Valley demonstrates a vital link between water (or lack of it) and air quality.

At the atmosphere/lithosphere interface natural or man-made conditions can arise that lead to dust storms violating air-quality standards and posing public health risks. These conditions include drought, water diversions, and land disturbance. Destabilization of Owens Lake through water diversion to Los Angeles exposed 110 square miles of lake bed. Winds over the Sierras raise particulate clouds that can obscure the 100-mile long Owens Valley. Control of this problem presents an unresolved challenge in management of water and sand. In Reno, grading of land for housing development created local dust storms resulting in a successful lawsuit by downwind homeowners. Controls include staged development and watering.
Management of Federal Lands

Theme Session on Wednesday morning, September 30

Ted Wilton
Independence Mining Company

As Vice President and Regional Geologist for Independence Mining Company, Ted Wilton, CPG 7659, supervises all phases of mine geology and gold exploration in the Jerritt Canyon and Big Springs areas of northeastern Nevada. His research interests include borehole geophysics and high-level epithermal precious metal systems. His experience includes 24 years in mining and exploration for gold, uranium, diamonds, and potash in the U.S., Australia, and New Zealand. He serves on the Board of Directors and is Past President of the Minerals Exploration Coalition and is Vice Chairman of the Public Lands Committee of the Nevada Mining Association.

David W. Brickey
Sierra Club

David Brickey, Senior Scientist at EG&G/EM, is responsible for the supervision and application of geographic information systems, remote sensing, and 3-D visualization to geological investigations in support of the U.S. Department of Energy's Yucca Mountain Project. In 1988 he received a Special Achievement Award for his work with the USGS in remote sensing applied to mineral exploration. He is not speaking on behalf of the federal government or his employer, but rather on behalf of the Sierra Club. As Conservation Chair for the Southern Nevada Group of the Sierra Club, he is responsible for leading and coordinating the Group's activist activities. He is also a member of the Executive Committee and the Political Co-Chair for the Toiyabe Chapter of the Sierra Club.

Our federal lands contain the last remaining wilderness in the U.S. Human activity significantly, and usually destructively, affects the environment. In order to preserve the environmental health of our country, and human physical and spiritual health, we must retain these public lands and manage them in a sensitive manner. Geologists should play a significant and impartial role in the management of our federal lands, in the form of information and analysis, to provide the best management of the public land trust.

Roger A. Haskins
U.S. Bureau of Land Management

As Mineral Examiner, Staff Geologist, and Mining Law Specialist for the BLM, Roger Haskins, CPG 6598, is, along with others, responsible for oversight and technical guidance related to BLM's Mining Law Administration program in Nevada. With major emphasis on reclamation activities, bonding, and land use planning, he is the liaison with the State Division of Environmental Protection on joint reclamation actions. Additional responsibilities include mining claim validity, patenting, and case law. He has received several special achievement awards from BLM. Prior to joining the BLM, he worked in the Exploration Operations Branch of the Manitoba Department of Mines.

Consideration of the BLM land use plan is the first step in making decisions affecting multiple use of public lands. Geologic data, analysis, and reason are major building blocks for wise, prudent management of public lands. How geologic data are addressed and used has been an evolving process; today, geologic data support many of the decisions affecting society. The presentation will focus on how BLM's land use planning process is applied to mineral resource identification and how BLM's mineral resource identification is applied to land use planning. The Environmental Assessment process integrates the land use plan, operating and reclamation plans, and local site conditions into a comprehensive review and mitigation analysis, which is then translated into operational and reclamation requirements for the mineral operator.
If you would like to present the results of your work related to one or more of the five themes, please consider submitting an abstract for a poster presentation. The abstract should list the title of your presentation, your name, affiliation, address, and contain 150 to 250 words of text. All abstracts must be postmarked no later than July 31, 1992 and should be addressed to

Jonathan G. Price  
c/o Nevada Bureau of Mines and Geology, Mall Stop 178  
University of Nevada, Reno, Nevada 89557-0088  
(fax 702-784-1709)

Upon acceptance, by August 15, your abstract will be published in the symposium program.

Poster sessions will run concurrently with the five half-day theme sessions beginning Monday morning, September 28 and ending at noon on Wednesday, September 30, 1992. Each theme session will focus on one aspect of the broad topic, Geologic Reason: A Basis for Decisions Affecting Society. Themes are:

1. Modeling Geological Phenomena  
2. Role of the Geologist in Predicting Earthquakes  
3. Role of the Geologist in Siting and Cleaning Up Waste  
4. Geological Common Sense Regarding Environmental Hazards  
5. Management of Federal Lands

Each half-day technical session will include a one-hour presentation by three invited speakers, a half-hour panel discussion, and a one-hour poster session. Poster authors are expected to host their booth display for the designated hour, and to vacate the space as needed by authors in subsequent sessions.

Posters will be displayed in a dedicated area of the convention floor (the Forum Room). Each author will have the use of a three-sided display booth, containing three panels of foamcore 8' high and 4' wide, and a 7" x 44" booth identification sign stating the presenter’s name and booth number. Additional equipment, such as furniture, electrical service or audio-visual equipment, can be obtained from the convention authorities.

Boards will be set up in the same configuration in each booth. Please plan your presentation to accommodate a three-board display space. Posters will have the maximum impact if they are prepared according to the display guidelines found in U.S. Geological Survey Open-File Report 88-667, The Poster Session: A Guide For Preparation by Carol Waite Connor. Interested authors without ready access to it should write or call for a free copy of this brief but illuminating report.

Presenters should bring their own materials for attaching illustrations to the foamcore boards (stapler, staples, tacks, or pins). Please do not use tape. A limited supply of attaching materials will be available on site.
Banquet

Tuesday evening, September 29, Caesars Tahoe will be the host of a lavish banquet with a Roman theme. We guarantee that the entertainment and food will be well worth the cost of $48 per person. All symposium attendees, spouses, and guests are invited.

Keynote Speaker

T S Ary, Director,
U.S. Bureau of Mines

T S Ary was sworn in as the 18th Director of the U.S. Bureau of Mines in 1988 and has more than 40 years experience in the minerals industry. This wealth of experience includes President of the Minerals Exploration Division at Kerr-McGee Corporation, Vice President of Exploration and Director of Development for Utah International, Inc., and Vice President of the Union Carbide Exploration Corporation. He began his career in 1951 with Anaconda Mining as a shift boss and assistant superintendent of several mines, followed by an appointment to the geology department.

T will present his views on the general theme of the meeting: Geologic Reason - A Basis for Decisions Affecting Society during the banquet Tuesday evening.

Monday Evening Lecture

"Overview of the Geology, Resources, Hazards, and History of Nevada

Monday at 8:00 p.m., Jonathan G. Price, State Geologist and Director of the Nevada Bureau of Mines and Geology, will entertain you with a geological and historical perspective of Nevada, a state that is unique in many ways. Be prepared to learn some interesting tidbits about gold mining, why Reno and Salt Lake City keep moving apart, and survival in the desert and in the casino. Guests and spouses are welcome; Jon personally guarantees that all who attend will be winners.

Jonathan G. Price photo.
Field Trip No. 1

The 1989 Loma Prieta, California Earthquake

Leaders: Ellen Hodos, Onstream Resources, Inc.
Jim Yount, Bob McLaughlin, U.S. Geological Survey
Dave Wagner, California Division of Mines and Geology
Gary Norris, University of Nevada, Reno
Joel Baldwin, Earth Investigations Consultants
Henry Taylor, Harding Lawson Associates
Gerald Weber, Weber and Associates

Date: Friday, September 25, through Sunday, September 27, 1992
Fee: $350, includes bus transportation from San Francisco to Lake Tahoe,
2 nights' lodging, 2 dinners, and 2 lunches, and guidebook

Enjoy spectacular scenery, geology, and company from the San Francisco Bay area, through the Coast Ranges, to the alpine setting of Lake Tahoe.

The field trip will begin on Friday evening, September 25, in San Francisco with a presentation by U.S. Geological Survey personnel about the regional geology, structure, and tectonics of west-central California. Saturday, September 26, we will travel to Santa Cruz and make two to three stops along the way to view the geologic setting and highlight the landslide effects of the "World Series" earthquake. A walking tour of Santa Cruz in the late afternoon will include visits to areas of the city that were heavily damaged but remain un-reconditioned. Saturday evening's presentation will focus on liquefaction processes and geologic conditions in the Marina District of San Francisco.

Sunday, September 27, we will begin with a walking tour of the Marina District and a visit to the site of the collapsed Cypress structure. Sunday's lunch is scheduled at the Berkeley Yacht Club, a very photogenic spot. Dave Wagner will provide a synopsis of roadside geology Sunday afternoon during the bus ride from Berkeley to Lake Tahoe. The field trip will not include any arduous hiking, but will be intellectually intensive, with presentations by expert geologists and structural engineers.
Field Trip No. 2

Nuclear, Hazardous, and Municipal Solid Waste Disposal in Nevada - Ground Water Effects and Solutions

Brian Dozier, Reynolds Electrical and Engineering (REECO)
Brian Andraski, U.S. Geological Survey
Peter Mesard, Kennedy/Jenks Consultants

Date: Saturday, September 26 and Sunday, September 27, 1992
Fee: $250, includes bus transportation from Las Vegas to Lake Tahoe,
1 nights' lodging, 1 dinner, 1 breakfast, 2 lunches, and guidebook

Discover first hand what the key geological issues are regarding the disposal, fate, and environmental impact of nuclear, hazardous, and municipal solid wastes. Enjoy a relaxing drive, in an air-conditioned bus, through some of the best geologic exposures in the nation's most arid state.

This two-day trip will start early Saturday morning in Las Vegas and end Sunday evening at Lake Tahoe. On Saturday, September 26, we will concentrate on waste disposal at the Nevada Test Site (NTS) and the proposed Yucca Mountain high-level radioactive waste repository site. We will visit the NTS Area 5 low-level radioactive waste disposal site, where Brian Dozier will explain the hydrology and geology of this playa site. In the afternoon we will visit Yucca Mountain and support/research facilities. Yucca Mountain Project staff members will explain site hydrology and geology and proposed waste-handling methods.

Sunday, September 27, will be used to travel to Lake Tahoe with stops along the way. You will ride through some famous desert mining camps, including Goldfield and Tonopah, on your way to the cool mountain setting at Lake Tahoe. One stop will be at the Beatty hazardous waste disposal site. Brian Andraski will detail USGS research and provide an overview of the geology and hydrology of the site. Another stop will be at the Lockwood landfill in Storey County, about 10 miles east of Reno. Peter Mesard will explain the geology, hydrology, special ground water quality monitoring concerns, and the new federal regulatory framework for disposal and monitoring practices at the site.

Non-U.S. citizens will be subject to advance security screening. Register early.

U.S. Department of Energy photo.
Field Trip No. 3

Historic Contamination and Scenarios for Cleanup of the Comstock Lode and Carson River, Nevada

Leaders: John Dyer, Kleinfelder
Harold Bonham, Nevada Bureau of Mines and Geology
Jim Cooper, Nevada Division of Environmental Protection
Becky Purkey, Nevada Bureau of Mines and Geology
William R. Henkle, Jr., Henkle-Buchanan Group

Date: Thursday, October 1 and Friday, October 2, 1992
Fee: $165, includes bus transportation from Lake Tahoe to Reno, 2 lunches, 1 dinner, and guidebook.

Motel rooms will be set aside in Carson City for Thursday night, but participants will be responsible for their own arrangements. Participants should make their own reservations for lodging Friday night in Reno.

This two-day field trip combines a look at the mining history of the Comstock Lode, a review of mercury contamination of the Carson River, and a look at a modern heap-leach gold operation.

On Thursday, October 1, the participants will be introduced to the geology, mining history, and ore processing of the world-famous Comstock Lode at Virginia City, Nevada. The Comstock Lode was discovered in the 1850’s and has produced over 8,300,000 ounces of gold and 192,000,000 ounces of silver. Our guide will be Harold Bonham, who has conducted geologic mapping projects in this area over many years, and is an expert on volcanic rocks and their associated hydrothermal mineral deposits.

On Friday, October 2, the tour will follow a portion of the Carson River, site of the mills that treated ore from the Comstock. The Carson River flows east from the Sierra Nevada, northeast through the Stillwater Wildlife Refuge near Fallon, to end in the Carson Sink. We will discuss the extent of mercury contamination in the river from the old milling operations, and explore the regulatory setting and remediation/mitigation options. Before returning to Reno, the group will view a modern heap-leach operation in the Flowery mining district, a few miles southeast of Virginia City. The Flowery Lode was discovered in the 1860’s and known production through 1945 was 105,000 ounces of gold and 1,149,000 ounces of silver. Jim Cooper, a biologist who has sampled the mercury content of fish and sediments, will guide us along the river past old mill sites and tailings.

Nevada Historical Society photo.
The Rights and Responsibilities of the Practicing Geologist (and Related Professionals)

Presented by: Erwin Thompson & Hascheff Law Partnership
Guest Speakers: Vickey Vessie and David M. Abbott

Date: Thursday, October 1, 1992
Time: 8:30 a.m. to 5:00 p.m.
Place: Caesars Tahoe Hotel and Convention Center
Fee: Pre-registration - $80, on site - $100

Course Description:

Downsizing in the mining and petroleum industries has created a situation where many companies with a small core of professional staff have to rely on temporary personnel and consultants to meet seasonal staffing requirements. Questions arise as to which is the best way to meet those requirements and satisfy Federal and State statutes regarding permanent and temporary employees as well as consultants.

This seminar is intended to provide basic information in all types of employment situations:

1. Staff professionals with corporations
2. Independent consultants
3. Small groups and partnerships
4. Exploration and project managers

Morning Session:

General Course Overview of Applicable Nevada Statutes:
Attorney Pierre Hascheff.
Employment Contracts, Trade Secrets, Employee Fiduciary Duties,
Wrongful Discharge, Structuring Business Entities and Employee Benefits: Attorneys Tom Erwin and Frank Thompson.

Afternoon Session:

Case Histories of State Industrial Insurance System Audits,
Discussion of New Rules and Regulations: Vickey Vessie, Senior Auditor.

Panel Discussion on Ethical Dilemmas Facing Geologists:
**Preparation for the California Registration Exam**

**Presented by:** Patti Osiecki, C.E.G. and Lisa Dirth, C.E.G., REG REVIEW, Inc.

**Date:** Thursday, October 1, 1992  
**Time:** 8:00 a.m. to 5:30 p.m.  
**Place:** Caesars Tahoe Hotel and Convention Center  
**Fee:** Pre-registration - $325, on site - $375

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**Course Description**

Patti Osiecki and Lisa Dirth, through their company REG REVIEW, Inc., have been instructors of review courses for the California Geology Registration Exam since 1985. A copyrighted Study Manual will be provided to all course registrants at the time of conference check-in. This year the Study Manual is a corrected reprint of the 1991 Study Manual. Over 340 pages of technical text covering the topics expected on the California licensing exams, and over 65 homework problems with answers are featured in the Study Manual. Thus, the Study Manual has proven to be very useful not only as a preparatory tool for the licensing exams, but also as a reference in everyday practice after becoming licensed.

The Registration Short Course is an intensive one-day, introductory course designed for the geologist who has met the qualifications for geology registration and who has applied or intends to apply to take the California geology registration exam. The Short Course focuses on the topics that are most often emphasized on the California geology registration exam; reviews basic geologic concepts and principles; provides shortcuts, studying and examination strategy; and demonstrates sample problems. The technical topics stress geometrical techniques in structural geology, cross-section and map interpretation, hydrogeology, California geology, geologic hazards, mineralogy, petrology, and economic geology. After the basics of each topic are introduced, the concepts are applied to a problem. Finally, a sample problem is presented to illustrate the technical difficulties and time constraints during the actual exam. These sample problems are in addition to the ones presented in the Study Manual. Problems are presented to the participants using an overhead projector and handouts. Shortcuts for the solutions, time strategy, thinking processes, and assumptions will all be examined, and answers to the problems will be provided in the handouts.

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**The 1992 Exam**

The Board of Registration for Geologists and Geophysicists in California has made many changes for 1992. Among these changes are nonrefundable application fees and new exam schedules, format, and grading procedures. The Geology Registration exam in 1992 will be given on Tuesday, October 27. The exam is next offered 7 months later on May 25, 1993, and is tentatively scheduled again for the fall of 1993. The 1993 schedule marks a return to the exam being given twice a year, a feat last accomplished in 1987.
Workshop/Short Course 3

Field Trip Leaders: Jeff Farshley, Steffen Robertson and Kirsten Dr. Earl Abbott, Consulting Geologist Pam Klessig, Great Basin Exploration and Mining Company

Course Instructors: Dr. Andy Robertson, P. Eng, David Bentel, P. Eng, Steffen Robertson and Kirsten Dr. Terry Mudder, TIMES Limited

Date: Thursday, October 1, through Sunday, October 4, 1992

Place: Departs from Caesars Tahoe Thursday morning, stops in Reno en route, returns to Reno before 6:00 p.m. Sunday evening

Fee: Pre-registration-$8585, includes bus transportation from Lake Tahoe to the mines and returning to Reno, 4 lunches, 3 dinners, 3 nights’ lodging, guidebook, and course materials.

(Participants should make their own reservations for lodging Sunday night in Reno. Limited on-site registration might be available at an increased cost.)

Course Description

Today Nevada produces approximately 9% of the world’s gold, equivalent to 5.8 million troy ounces per year. Most of the near-surface deposits with easily extractable gold are being depleted, leaving considerable reserves and resources at depth. The deeper Nevada disseminated gold ores typically contain abundant carbon and pyrite, which hinder recovery and have the potential of creating acid mine drainage problems. In addition, the fractured sedimentary host rocks present some challenges for the hydrologists who will be responsible for dewatering the mines and disposing of the water. Environmental concerns about the use of cyanide in the extraction of gold have led to the development of new technology to increase leachate effectiveness while minimizing the potential for adverse environmental impacts.

This four-day combined short course and field trip will explore some of the most critical water resource management issues faced by the mining industry today, including:

- Pit dewatering
- Water treatment and water quality
- Post-closure monitoring and water management.

Regulations affecting these issues will be addressed during the short course portions of the trip. Three northern Nevada mines will provide hands-on examples of site specific water resource issues and will illustrate how local geology and hydrogeology influence water management issues in mine planning, operations, and closure planning.
Guest/Spouse Trip No. 1

LAKE TAHOE RIM

Monday, September 28 ($42.00 per person, lunch included)

Duration: 7 hours (9:00 a.m. - 4:00 p.m.)

No trip to Lake Tahoe would be complete without this spectacular drive around its shimmering shores. At an elevation of 6,200 feet, Tahoe is one of the largest montane lakes in the world. Your SAFARIS Trip Director will provide tales of legend and history along the way of this scenic, 72-mile tour. Your group will stop at various vista points for pictures and breathtaking views.

A stop will be made at the South Lake Tahoe Visitors Center where you will have the opportunity to view an interpretative stream area with a U.S. Forest Service guide. A visit will be made to the Tallac historical mansion with a U.S. Forest Service guide.

Other stops along the lake might include Emerald Bay Lookout and shopping at Tahoe City.

This seven-hour tour includes round-trip transportation, SAFARIS staff on each motorcoach, all applicable taxes and driver gratuities.

The tour will stop at a scenic location for a picnic-style lunch. This trip is based on a minimum attendance of 30 people.

Guest/Spouse Trip No. 2

VIRGINIA CITY/CARSON CITY TOUR

Tuesday, September 29

($35 per person, lunch not included)

Duration: 6 hours (9:00 a.m. - 3:00 p.m.)

The tour will begin with a scenic drive over Kingsbury grade into the Carson Valley. A stop will be made at the Nevada State Museum, formerly the Carson City Mint. There are excellent displays of silver from the Nevada mines, Indian information, gems, and wildlife. One of the highlights is being able to walk through a recreated mine tunnel. After visiting the museum, you may cross the street to see the spectacular gold display at the Carson City Nugget.

Departing Carson City, the tour will parallel the old Pony Express route on the way to Virginia City. A living history museum, Virginia City is the nearest thing to a frontier town located in the west today. A mining metropolis in the 1870's, Virginia City's rapid growth and prosperity were due to the discovery of the Comstock Lode, one of the richest gold and silver veins ever found anywhere in the world. Virginia City became the largest mining, financial, and cultural city of the entire west in the short period of 20 years.

This town, located high on the side of what was once a remote mountain, had a population of over 30,000 in its boom days. Today, Virginia City stands as a link to the past, a town vibrant with the activity of visitors, but filled with memories and ghosts of days gone by. During your visit, stroll the wooden sidewalks, browse through the many original saloons and antique shops, and visit old Victorian mansions, museums, and churches.

You will enjoy a ride on the historic V&T Railroad, the most famous of all American Short Lines. This narrated 25-minute tour includes a round-trip fare to Tunnel #4 in Gold Hill and back to the station in Virginia City.

After enjoying some free time exploring this historic city, you will reboard the motorcoach for the return trip to Lake Tahoe via Spooner Summit.

This tour includes round-trip transportation, SAFARIS staff on each bus, admission to the Nevada State Museum, round-trip fare on the V&T railroad, all applicable taxes and driver gratuities.

This trip is based on a minimum attendance of 30 people.
Guest/Spouse Trip No. 3

RENO TOUR AND GAMING ACADEMY

Wednesday, September 30
($45 per person, lunch included)
Duration: 7 hours (9:00 a.m. - 4:00 p.m.)

A very scenic ride is in store as you go over the mountains into the Truckee Meadows, where The "Biggest Little City" awaits. Highlights will include the downtown area, the residential communities, some historic city landmarks and the University of Nevada, Reno campus. Reno offers another educational opportunity ...

RENO GAMING ACADEMY: What's a trip to Nevada without some inside information about our "Games?" Let professionals show you how to play the games of your choice - "Twenty-One," "Craps," "Roulette," and "Baccarat." Learn while playing with our money before playing with your own.

After your instruction, enjoy an informative tour of one of Reno's famous casinos. You will have an opportunity to steal a secret peek through the one-way mirrors overlooking the playing area. Nevada hospitality continues with two complimentary cocktails, while you practice your newly acquired skills in the casino.

Our next stop will be at the Wilbur May Museum. Mr. May was a local resident, composer, musician, philanthropist, and world traveler. You will see many of his attractively displayed personal belongings, memorabilia, and fascinating collections from around the world.

Following lunch at a local Reno restaurant, there will be time for shopping at Arlington Gardens.

This seven-hour Reno tour includes round-trip transportation, SAFARIS staff on each bus, admission to the Gaming Academy, lunch at a Reno restaurant, and all applicable taxes and driver gratuities. This trip is based on a minimum attendance of 30 people.

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Guest/Spouse Trip No. 4

LAKE TAHOE DINNER CRUISE

Wednesday, September 30
($45 per person, dinner included)
Duration: 5 hours (6:00 p.m. - 11:00 p.m.)

Discover the crystal blue magic of Lake Tahoe from on board the Tahoe Queen, a Louisiana paddlewheeler which cruises on Lake Tahoe. This three-tiered ship departs from Ski Run Marina for a lovely sunset dinner/dance cruise. Your guests will be welcomed on board and will be seated at the first dinner seating for a full dinner meal. This includes soup, salad, entree, red and white wine with the meal, and coffee, tea or milk. This cruise sails into Emerald Bay, past "Vikingsholm" castle, then returns along the South Shore of Lake Tahoe. There is a live band for your entertainment and dancing pleasure throughout the evening.

There is probably no more beautiful place on earth than Lake Tahoe and no more beautiful way to see it than under the evening stars while cruising on the lake. This is truly a night to remember and will be enjoyed by everyone.

Price for this all-inclusive evening includes round-trip transportation, SAFARIS staff, admission to the Tahoe Queen, dinner, live band, and all applicable taxes and gratuities. This trip is based on a minimum attendance of 30 people.
### CAESARS TAHOE HOTEL GROUPEVENT REQUEST

#### Sunday, September 27 - Thursday, October 1, 1992

**APG Annual Meeting/Symposium**

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<thead>
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#### The Hotel and Convention Center

-Caesar's Tahoe in Stateline, Nevada is the southernmost lake show in the

#### Transportation—Reno to Caesars Tahoe

-To reach Lake Tahoe, turn left toward 80. The Tahoe Coffee Shop is on your left. Follow Lake Shore Drive to the entrance of The Lodge at Caesars Tahoe.
ATEC Associates, Inc. knows about change... when to invest it and when to make it. We began in 1958 as a geotechnical, drilling and materials testing company. In the early '80's, we expanded our services to help address the world's environmental concerns. Now, ATEC has grown into one of the largest privately-held environmental consulting firms in the United States.

Growth does not occur without change. ATEC finances growth with the profits we earn through the work of dedicated employees. ATEC hires the best people in the industry and supports them with state-of-the-art technology and training. ATEC gives employees the freedom necessary to contribute to the growth of the following environmental programs:

- Environmental Property Assessments
- Environmental Compliance Audits
- Underground Storage Tank Management
- Solid & Hazardous Waste Facility Development
- Environmental Remediation
- Remedial Construction
- Industrial Hygiene
- Air Quality
- Analytical Laboratory Services

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Indianapolis, Indiana 46250-1970
(317) 577-1761
E.O.E./A.A.
TODAY IN WASHINGTON

F. B. "Ted" Mullin, CPG-1716

For those in need of environmental training, the Occupational Safety and Health Administration (OSHA) conducts short term technical training in occupational safety and health through the OSHA Training Institute in Des Plaines, Illinois. Information regarding these programs can be obtained from:

Dw. of Training & Educ. Programs
Office of Training & Educ., OSHA
1555 Times Drive
Des Plaines, IL 60018
(708)297-4810

According to the March 19 Public Land News, the DOE issued an Interim Rule on March 13 that will keep oil and gas activities in effect while appeals of APD’s (Application to Drill) to the Interior Board Of Land Appeals are being considered. This action is in response to an IBLA decision on March 5, 1992 that held that an appeal of a BLM approval of an APD automatically stayed the approval. (US vs. Utah Chapter of the Sierra Club and South Utah Wilderness Society, 122 IBLA 283).

Also on March 10, The House Interior Committee approved two bills involving oil and gas development on public lands. HR 3856 would order the Forest Service to TIGHTEN REGULATIONS governing oil and gas development of private mineral rights where the surface is owned by the Fed. Hoo Boy!!

The other, HR 3168, would authorize Interior to lease 3 Naval Oil Shale Reserves for oil and gas development in Garfield County, Colorado. The reserves are under the jurisdiction of the DOE, but the surface is managed by Interior (BLM).

Now, as an introduction to the Federal Register notes this month, comes the following gems:

Volume 57, No. 62 (3-31-92) - on page 10814, the following heading can be found PART 606 - CURRENT GOOD MANUFACTURING PRACTICE FOR BLOOD AND BLOOD COMPONENTS.

And, on the next page from the IRS comes CLARITY WITH CORRECTION 5. On page 47668, column 3, para 1.415-2(d)(1)(i), lines 4 through 6 from the top of the column, the language "written statement under sections 6041(d) and 6051 (a)(3). See para 1.6041-1(a), 1.6041-2(a)(1) and 31.6051-(a)(1)(b)(c)." is corrected to read "written statement under sections 6041(d), 6051(a)(3), and 6052. See para 1.64041-1(a), 1.64041-2(a)(1), 1.6052-1, and 1.6052-2, and also see para 31.6051-(a)(1)(b)(c) of this chapter. Don't you just love the IRS?

In the same volume, on page 10913, the DOI announces it has revised DOE Manual 516, DM 6, Appendix 5. Managing the National Environmental Policy Act (NEPA) Process. This document revises the list of categorical exclusions from an EA or EIS. It is too voluminous to include herein. It covers fluid minerals, geophysical exploration, and solid minerals.

For further information contact: Jonathan Deason, Director, Office of Environmental Affairs, Office of the Secretary, (202) 208-3891: or, Paul Petty, Division of Planning and Environmental Coordination, BLM, (202) 653-8824.
AIPG’s Position

The two-part article on this subject by Mark L. Meech, which appeared in the January and February issues of The Professional Geologist presented information on the proliferation of programs to certify and register persons practicing in the geoenvironmental field.

The following describes the activities of AIPG in this burgeoning field and presents AIPG’s position on these programs.

On February 12, 1991, the Geoenvironmental Forum was formed, as an intersociety organization, with the following charter members: American Institute of Professional Geologists (AIPG), Association of Engineering Geologists (AEG), Association of Ground Water Scientists and Engineers (AGWSE), The Association of Engineering Firms Practicing in the Earth Sciences (ASEF), and the Hazardous Waste Action Coalition (HWAC). Other organizations which have been represented at subsequent meetings include the American Society of Civil Engineers (ASCE), the American Association of Petroleum Landmen (AAPL), and the Soil Conservation Service (SCS). Based on a recent survey, these organizations were estimated to have within their memberships more than 90% of the professionals currently performing Preacquisition Site Assessments (PSAs). They also are perceived to include most of those involved in all geoenvironmental work. PSAs represent the bulk of current geoenvironmental activity.

Two of the several objectives of the Geoenvironmental Forum are to

(1) define what constitutes a PSA (Phases 1 & 2), and identify appropriate standards of care; and

(2) identify the qualifications which should be required of those who perform PSAs.

In January, 1992, AIPG’s Executive Committee endorsed the policy of HWAC regarding Hazardous Waste Certification. In doing so, AIPG’s Executive Committee took a position which can be summarized as follows:

(1) To the extent that States require licensed individuals to perform environmental services, licenses should be issued on a discipline, rather than a multi-discipline, or cross-discipline, basis.

(2) AIPG encourages the development of national certification programs for other disciplines, e.g., chemistry, toxicology, etc.

(3) AIPG does not recommend or support any of the current multi-discipline certification, licensing or registration programs, such as those described in the two-part article mentioned at the beginning of this article.

(4) AIPG will consider support of certification programs that

(a) are national in scope or are uniform state programs;

(b) effectively protect the public;

(c) require appropriate credentials;

(d) assure adequate understanding of a body of knowledge necessary to perform the certified function;

(e) require adequate working experience in the field being certified; and

(f) confirm the established integrity of the certified individual.

(5) AIPG does not support certification, licensing or registration programs that are merely a list of persons who have stated that they offer certain services with no certainty that their qualifications to offer those services have been verified.

Several AIPG Sections have actively opposed bills introduced in the legislatures of their states which would establish multi-discipline certification, licensing or registration programs. No AIPG Section has supported such legislation. Nor would the National AIPG do so under its present policies.
Last month we began to look at career planning and management. It was pointed out that, first, you need to have some idea of where you want your career to go; then what it is going to take to get you there. Having determined this, and set out on this route, the next thing you need to do is keep track of what you are doing. So, this month we will discuss Career Planning And Management: Staying On Track.

You have the map, now chart your progress. You do this by keeping a record of the things you do. Keep a notebook, or card file with descriptions of the positions you hold. Who was your employer (If you were self-employed, that needs to be recorded, too)? What were your titles? What were your duties, in general, for each title? Who were your supervisors? Where and when did you work under those supervisors and/or in those positions? What were your beginning and ending rates of pay? How did you get the job and why did you leave?

Supplement this with a record of the various projects, or prospects, you worked on. Include in this a brief description of each project/prospect, when and where it was, what it was about, its objective, its geologic management and other aspects, the problems that were encountered, how they were handled, the results of the project/prospect, what was learned, and (most important) what your part was in each of these. If a report was made, and it is not proprietary, keep a copy. If it is proprietary, it belongs to someone else and should not be in your possession without permission (If it is a report for which you were responsible, and for which you “signed off”, you should definitely arrange to retain a copy for your records. Still, you should keep it confidential, if the owner wishes). You should never make public a proprietary report without the express written permission of its owner.

Keep the same sort of record of any publications you author, or co-author. Most people keep copies of their published works, but these should be supplemented by additional information on the circumstances of their publication, as well as some of the information described above that does not appear in the publications, themselves.

General, non-geological, experience should be included in your record. Again, the same sort of information should be noted. Whether it is work related, or not, it should be recorded. It might include coaching a Little League team, serving in civic, fraternal or religious organizations, involvement in politics, or any other of a myriad of possible activities.

Obviously, what you will have with all of this is a good resource for preparing resumes, if you ever need to. You will also have some basis upon which to measure your progress in your planned career. It will help you identify any weaknesses in your education and experience so that you can take steps to remedy them. You may find that you want to adjust, or change your career, based on things you have done and found that you have a particular talent or liking for.

Throughout your entire career, you should observe others, particularly those who are ahead of you on the same career path (But, do not thereby limit yourself. Observe others, too). Learn from them. You should try to discover what works and what does not work, without having to learn the hard way. Again, you may find from these observations that you need to make some changes in your path, objectives or career.

Monitor your plans and your progress constantly. Identify the things you need to do, and not do, to advance the way you want to. Make midcourse adjustments or changes, but only after you have done a lot of self-examination. You will have a progressively greater investment in your life’s work. It should not be thrown away lightly.

Build on what you learn. Each project or prospect or other activity should be a new learning experience. If you have the opportunity to be selective, try to choose those that will benefit you most and fill in the education and experience gaps that you identify.

Finally, you should always remember that any employer who hires you takes a risk, especially when you are just beginning your career and you are an unknown quantity. It is relatively easy to find information about employers. If they are public corporations, they have to file public reports. These should be available through your college placement service. Seek information from current and former employees. On the other hand, the employer can learn very little about you except that which can be determined from your college transcript and other such records. Former employers will generally not give out information other than dates of employment. So, the employer takes a risk, and deserves an opportunity to recover the investment that has been made in seeking, hiring and training you. You may discover that you do not wish to stay there, but do so long enough to give your employer a good return on that investment.
June 14-18, 1992. National American Society for Surface Mining and Reclamation (ASSMR) 9th Annual meeting, Duluth, MN. Contact: Daniel R. Jordan, IRRRB Mine Reclamation Div., P.O. Box 592, Chisholm, MN 55719, Ph.: (218) 254-3509.

June 18, 1992. ASTM Symposium on Durability and Conformance Testing of Rock used for Erosion Control, Louisville, Kentucky. Contact: Charles H. McElroy, Soil Conservation Service, P.O. Box 6567, Fort Worth, TX 76115, Ph.: (817) 334-9444.


October 13-15, 1992. FOCUS Conference on Eastern Regional Ground Water Issues, Newton, MA. Contact: NGWA, P.O. Box 182039, Dept. #017, Columbus, OH 43218-2039, Ph.: (614) 761-1711.

October 26-28, 1992. International Conference on Extractive Metallurgy of Gold and Base Metals, Kalgoorlie, WA, Australia. Call for papers. Contact: Dr. V. N. Misra, Conference Chairman, Kalgoorlie Metallurgical Laboratory, P.O. Box 881, Kalgoorlie, WA 6430, Australia, Ph.: (090) 220 120, Fax: (090) 912 762.

November 4-6, 1992. Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detecion, and Restoration, Houston, TX. Contact: NGWA, P.O. Box 182039, Dept. #017, Columbus, OH 43218-2039, Ph.: (614) 761-1711.


March 30 - April 4, 1993. AusIMMM Annual Conference celebrates the Centenary of The Institute, Adelaide, South Australia. Call for papers. Contact: R. K. Johns, C/-Department of Mines and Energy, 191 Greenhill Road, Parkside, South Australia 5063, Ph.: (08) 274-7500, Fax: (08) 272-7597. Abstract deadline: May 1, 1992.

April 17 - 29, 1993. SECoG Conference ’93, Integrated Methods in Exploration and Discovery, Denver, CO. Call for papers and posters. Contact: SECoG Conference ’93, P.O. Box 571, Golden, CO 80402, USA, 6. Alan Cope, Ph.: (303) 892-6534 or (303) 7911-7231 or Richard L. Nielsen, Fax: (303) 727-3118.


Call for Papers - Workers in the field are encouraged to contribute to the new journal by submitting reports of their most exciting recent work. Nonrenewable Resources publishes original articles, reviews, and correspondence. High-quality photographs and illustrations are encouraged.

Manuscripts should be submitted in triplicate and in English to: Editor, Nonrenewable Resources, P.O. Box 34600, Bethesda, MD 20827, USA. Information on manuscript preparation may be obtained by contacting the editor or by referring to Volume 1, Number 1 of the journal.
## NEW INSIGNIA ITEMS AVAILABLE

### AIPG INSIGNIA ORDER FORM

Late last year we announced the results of our survey on expanding the range of insignia items for sale to Members and non-Members. As a beginning, we are stocking the five leading items in the survey. These are in addition to the Membership certificates, seals and walnut plaques which we continue to make available. Current prices as of May 1, 1992.

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<th>Item</th>
<th>Description</th>
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<tr>
<td><strong>Tee Shirt, Russell</strong></td>
<td>50% cotton, white with royal blue silk screen AIPG seal. Sizes M, L, XL.</td>
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<td>$12.50</td>
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<tr>
<td><strong>Sweat Shirt, Russell</strong></td>
<td>9 oz, 50% cotton, royal blue with white silk screen AIPG seal. Sizes M, L, XL.</td>
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<td>$21.50</td>
</tr>
<tr>
<td><strong>Golf Shirt, Outerbanks</strong></td>
<td>100% cotton, white with royal blue embroidery of AIPG in upper left chest. Sizes L, XL.</td>
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<td>$30.00</td>
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<tr>
<td><strong>Golf Cap, Poplin</strong></td>
<td>Sewn eyelets, adjustable leather strap, stay-front liner, traditional green under visor, plastic visor insert, royal blue with white silk screen AIPG seal. One size fits all.</td>
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<td>$15.50</td>
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<tr>
<td><strong>Coffee Mug, 12 oz.</strong></td>
<td>Ironstone, shatterproof, microwaveable, cobalt blue, gold band and AIPG seal.</td>
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<td>$10.50</td>
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<td><strong>Plaque, walnut, for 8.5” x 11” certificate, with acrylic cover and brass tacks.</strong></td>
<td>Specify clear or non-glare, add $2.00 for mounting certificate.</td>
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<td>$38.00</td>
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<td>Deluxe Ballpoint Pen</td>
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<td>Self-Inking Stamp</td>
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MEMBERS IN THE NEWS

Paul W. Hare, CPG-7677, is now with the General Electric Company’s Corporate Environmental Program as a Remedial Project Manager. Paul was previously an Associate Hydrogeologist with Dunn Geoscience Corporation.

Haig Kasabach, CPG-1461, was appointed to a 16-person Inter-governmental Task Force on Monitoring Water Quality co-chaired by USEPA and USGS, and attended the first meeting in Arlington, Virginia on January 28-29. Mr. Kasabach represents the Nation’s State Geological Surveys and northeastern states on the task force which is mandated to submit a report and recommendation to OMB based on a review and evaluation of water-quality monitoring activities nationwide.

Thomas Lobasso, CPG-6473, G&M’s Regional Business Development Manager in the Northeast, is organizing an Earth Day seminar for G&M clients in New York City, entitled: “Environmental Challenges Facing Industries in the 90’s.” G&M’s Corporate Marketing Vice President Fred L. Troise, CPG-6794, and his staff are also involved in the meeting which is expected to draw about 200 corporate executives to the Roosevelt Hotel.

Mike McEachern, CPG-3835, led an Eder Associates seminar on “Real-Time Environmental Data Acquisition” on February 11, 1992. The seminar was given to a group mostly composed of attorneys.

Daniel A. Nachman, CPG-6524, Vice President of G&M, has been appointed to the position of National Program Manager for RCRA Services. Dan will be based at the Rochelle Park, New Jersey office.

Russ Slayback, CPG-2305, of LBG has been appointed by President Dan Miller to chair the 1992 AIPG Governmental Affairs Committee. The 1992 mission is to be expanded in comparison with past years, to encompass both federal and state legislation and regulations, will include AIPG’s existing Ad Hoc committees on the 1872 Mining Law and the Geo-Environmental Forum.

Nicholas Valkenburg, CPG-4404, has been appointed Regional Manager for the CERCLA Program at Geraghty & Miller, Inc.

Robert J. Weimer, CPG-0098, has been elected to the National Academy of Engineering. Weimer, AAPG president and professor emeritus in the geology and geological engineering department at Colorado School of Mines, is a registered engineer in Golden, Colorado.

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BOOTHBY, Donald R., CGA-8436
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SOLIE, Michael D., CGA-8449
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NEW CANDIDATES FOR CERTIFICATION

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THARP, Tommy L., CGA-0025
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ZDON, Andrew, CGA-0023
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