AIPG 1991 ANNUAL MEETING
“Energy vs. Environment”

The 1991 Annual Meeting will be held in Gatlinburg, Tennessee, a small mountain resort town located in the foothills of the Great Smoky Mountains.

This east Tennessee setting, known world wide for its exceptional fall colors and natural beauty, is also home to such energy giants as Oak Ridge National Laboratory and the T.V.A. (Tennessee Valley Authority). Your visit to east Tennessee will allow you to view the harsh contrasts and competition between environmental concerns and energy needs.

Program will include:

- **Field Trips**
  - Energy installations
  - Environmentally Sensitive Sites
  - Appalachian Geology
  - Historic Interests
  - Beautiful Scenery

- **Technical Sessions**
  - Invited Papers
  - Policy Issues
  - Education
  - Professionalism
  - Tutorials

- **Professional Development Seminars**

- **Social Activities**

- **Open Forum and Panel Discussions on the Future of Professional Geology and AIPG**

- **Business Meetings**

- **Awards**

- **Exhibits**

Plan now to attend the annual meeting in Gatlinburg, Tennessee
October 16-19, 1991

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On Our Cover

Back: Spectacular array of color displayed by the fall foliage in eastern Tennessee.

PHOTOGRAPH CREDITS:

Front cover - Cades Cove, Gary Pinkerton, TN Division of Geology; 
Back cover Tennessee fall foliage, Larry C. Weber;
Page 4 - Geologic features visible from Maloney Point, 
excerpt from the Geological Survey Professional Paper 587;
Page 7 - Clingmans Dome, Great Smokey Mtn. Natl. Park;
Page 8 - Biltmore Estate, Biltmore Estate; Stream, Larry C. Weber; Page 15 - Cades Cove, Gary Pinkerton,
and thank you to all the speakers who provided photographs and graphics.

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 non-professional practices, monitors governmental and other activities affecting the geological sciences, and communicates with the public.

Prepared under the direction of national AIPG Editor Thomas Z. Jones and AIPG Headquarters Publications Specialist Wendy J. Davidson.

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**Smoky Mountain Geology and Topography**

**A Summary**

Robert A. Miller, CPG 1906

The Smoky Mountains are part of the Blue Ridge chain that extends from Virginia to Georgia. The Cherokee name used in Tennessee for the Blue Ridge is The Unakas. The name "Great Smoky Mountains" is used only for those ranges included in the National Park.

In addition to the Smokies, the Unakas include the "foothills" such as Chilhowee Mountain. You pass through a gap in the foothills on the trip into Gatlinburg. Inside the mountains are such "limestone" coves as Cades, Wear, and Tuckaleechee. The highest point in the Smokies is Clingman's Dome (a field trip stop), with an elevation of 6,642 feet. Coves are just over 1,000 feet in elevation.

The majority of the rocks exposed in the Smokies are Ocoee Series, metasediments of Precambrian age. Rocks of the Ocoee show all degrees of metamorphism. The most common rocks are quartzite, slate, phyllite, and schist.

Coves, such as Cades, have Ordovician dolostone and limestone (Knox Group) surrounded by Precambrian metamorphics thrust over them. The foothills are formed by Cambrian Chilhowee Group (quartzite, sandstone, shale, and siltstone). The oldest fossils in Tennessee are in these lower Cambrian Rocks.
On behalf of the Tennessee Section, I would like to extend an invitation to all Members to attend the Institute’s 28th Annual Meeting in Gatlinburg, Tennessee, October 16-19, 1991.

According to Tom Siler of the East Tennessee Historical Society, Gatlinburg was originally known as White Oak Flats. In 1837, the White Oak Flats Baptist Church was built. A few years later, pioneer Noah Ogle opened the first store. In 1855, the town's second store was started by Radford Gatlin, a former resident of North Carolina. Gatlin brought with him a black woman slave, and alienated the other settlers with his strong pro-slavery views. When Dick Reagan became the first postmaster, Gatlin offered him room in his store if he would call the post station Gatlinburg. Although Reagan agreed, threats from the early residents eventually drove Gatlin to South Carolina. The name stuck, however, and White Oak Flats was no more. Gatlinburg was incorporated in 1945, and today is home to more than 3,000 permanent residents.

Located adjacent to the Great Smoky Mountains National Park, Gatlinburg is a popular tourist attraction, offering breathtaking fall colors and such winter sports as snow skiing at its alpine-type facilities. The area is also geologically interesting, with rocks ranging in age from over one billion years to nearly 350 million years, in what is known as the Blue Ridge Physiographic Province. To the east lies the Piedmont, and to the west the Valley and Ridge.

According to Harry L. Moore, in his Roadside Guide to the Geology of the Great Smokey Mountains National Park, rock types represented in the area include metamorphic rocks of the Precambrian basement complex, more than one billion years old, which forms the ancient crystalline foundation on which all of the other strata have been deposited. Also present are metamorphosed late Precambrian sediments of the Ocoee Supergroup, from about 500 million to one billion years old. In addition, Paleozoic sediments ranging in age from 300 to 500 million years can also be seen, but only in limited areas such as Cades Cove, an eroded "window" of Ordovician limestone, dolomite, and shale surrounded by Precambrian rocks, and the subject of one of our planned field trips.

The technical sessions will focus on a broad spectrum of energy and environmental issues, such as acid rain, clean coal technology, future energy possibilities, including nuclear policy, bio-remediation, emissions control, and environmental restoration. Many examples of these will be seen during the various field trips. Spouse tours will include such attractions as the Knoxville Art Museum, the Appalachian Mountain Craft Museum, and Biltmore Mansion. We have also planned such fun activities as a picnic and hay ride, and a dinner theater type of western show. We therefore believe we have arranged a program that will be challenging, interesting, and enjoyable for all who attend.

Because Gatlinburg is very popular during October, I urge you to pre-register early, and look forward to seeing you there.

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Program

Tuesday, October 15, 1991:

Continuing Education
  Short Course (Pending) 8:00 a.m. - 5:00 p.m.
Registration 4:00 p.m. - 6:00 p.m.

Wednesday, October 16, 1991:

Field Trip 1 7:30 a.m. - 11:30 a.m.
Technical Session 1 8:30 a.m. - 11:30 a.m.
Spouse Tour 1 9:00 a.m. - 12:00 a.m.
1991 Advisory Board 10:00 a.m. - 12:00 a.m.
Panel Discussion 12:30 p.m. - 2:30 p.m.
Field Trip 2 3:00 p.m. - 10:00 p.m.
Ice Breaker 5:30 p.m. - 7:00 p.m.

Thursday, October 17, 1991:

Past Presidents Breakfast 7:30 a.m. - 9:00 a.m.
1992 Advisory Board 8:00 a.m. - 9:00 a.m.
Technical Session 2 8:00 a.m. - 12:00 a.m.
Awards Luncheon 12:00 a.m. - 1:30 p.m.
Technical Session 3 1:30 p.m. - 5:00 p.m.
Cocktails 5:30 p.m. - 7:00 p.m.
Banquet with Speaker 7:00 p.m. - 9:30 p.m.

Friday, October 18, 1991:

1992 Executive Committee Breakfast 7:30 a.m. - 9:00 a.m.
Technical Session 4 9:00 a.m. - 12:00 a.m.
1991 Executive Committee Lunch & Business Meeting 12:00 a.m. - 4:00 p.m.
Spouse Tour 3 9:00 a.m. - 3:00 p.m.
Party (Dixie Stampede) 6:00 p.m. - 10:00 p.m.

Saturday, October 19, 1991:

Field Trip 3 7:30 a.m. - 6:00 p.m.
Field Trip 4 8:00 a.m. - 6:00 p.m.
Field Trips And Spouse Tours

Field Trip #1 - Wednesday, October 16, 1991

The purpose of this trip is to get acquainted with the geologic setting of the Great Smoky Mountains. The trip will ascend from Gatlinburg through picturesque scenery adorned by fall foliage to the highest point in the Park, Clingmans Dome. Several stops will be made to observe major stratigraphic units of the Ocoee Supergroup forming the core of the mountains, to observe the effects of Pleistocene periglacial conditions on the evolution of the mountains, and to observe environmental impacts related to landslides and acid drainage caused by certain bedrock units and by atmospheric deposition. Bring your camera! Trip departs from the River Terrace Resort at 7:30 a.m. and returns by 11:30 a.m. Minimum number - 10; Maximum number - 30. Cost - $15.

Field Trip #2 - Wednesday, October 16, 1991

The purpose of this trip is to visit Cades Cove, a structural window in the Great Smoky thrust Sheet, for a picnic supper and hay ride. The fertile valley of the cove is underlain by Cambro-Ordovician carbonate rocks and capped by Precambrian metasedimentary rocks of the Ocoee Supergroup. The route to the cove will follow the scenic gorge of the Little River. The natural beauty of the cove is enhanced by many old churches, cabins, barns, and mills built by the early Scotch-Irish settlers of the mountains. A likely plus will be seeing deer and other wildlife browsing in the cove bottom. Bring a camera. The trip departs the River Terrace Resort at 3:00 p.m. and returns at approximately 10:00 p.m. Minimum number - 25; Maximum number - 47. Cost (including picnic supper) - $25.

Field Trip #3 - Saturday, October 19, 1991

Geology, Hydrogeology, and Environmental Problems of the Oak Ridge Reservation. The Oak Ridge Reservation (ORR), a DOE facility, is presently operated by Martin Marietta Energy Systems, Inc. The history of the site dates back to WW II when the Manhattan project (later the AEC) developed the atomic bomb. Although state-of-the-art technology for those times was used to handle wastes, they were not adequate by today’s standards. Thus, modern state-of-the-art technology is being applied to address the inherited problems. The trip will consist of two parts. The first part will study the bedrock and structural elements of the area in order to become better acquainted with the geologic setting of this classic foreland fold and thrust belt. The long-term goal of geologic investigations in the ORR is to determine what correlations exist between fracture systems in individual rock or tectonic units and the fluid flow regimes that are present. This is essential for many current and proposed activities related to land use planning, waste management, and remedial actions. The second part of the trip will focus on the Environmental Sciences Division of the Oak Ridge National Laboratory (ORNL). Here we will get an overview of past, present, and future ORR activities related to geology and the environment. If time permits we will visit some of the waste disposal sites where new technology is being applied. This trip will depart from the River Terrace Resort at 7:30 a.m. and return by 6:00 p.m. Minimum number - 25; Maximum number - 47. Cost (includes lunch) - $40.
Field Trip #4 - Saturday, October 19, 1991

Biltmore Estate - House/Gardens/Winery. A visit to the Biltmore Estate is the prime objective of this trip; however, salient geologic features will be pointed out enroute, plus the fall colors should afford some very scenic views. You will discover the world of George Vanderbilt - the art of Biltmore, its great sculptures and paintings, its furnishings and housewares, are all here in perfect order, exactly as they were in days past. Biltmore is truly a national treasure! From top to bottom, every corner turned is a world revealed. A skylit court of palms filled with giant tropical greenery. The banquet hall, so acoustically perfect that a whisper can carry past 26 place settings. The library built to house an Italian master painting 70 feet in length, and on and on. Lunch (on your own) will be in the Stable Cafe situated in Biltmore's original stable building. The cafe features sandwiches, salads, soft drinks, ice cream (from the Biltmore Dairy), beer, and wine. Time permitting we will visit the winery and its gift shop. Bring a camera. Trip departs the River Terrace Resort at 8:00 a.m. and returns by 6:00 p.m. Minimum number 25; Maximum number 45. Cost (does not include lunch) - $48.

Spouse Tour #1 - Wednesday, October 16, 1991

The prime objective of this trip is to visit a premiere Factory Outlet Shopping Mall in Pigeon Forge, Tennessee. We will visit the Applewood Restaurant for an Old Time Farm House luncheon and a little more shopping, then, time permitting, stop at the Old Mill for a little more browsing and shopping. The tour will depart from the River Terrace at 9:00 a.m. and return by 2:30 p.m. Minimum number - 15; Maximum number 30. Cost (includes luncheon) - $15.

Spouse Tour #2 - Friday, October 18, 1991

The itinerary for this trip is planned to include: the Art Museum on the 1982 World's Fair site in Knoxville; the Museum of Appalachia near TVA's Norris Dam and lunch at either Norris Dam or Cove Lake State Park. Tour departs from the River Terrace Resort at 8:30 a.m. and returns by 4:30 p.m. Minimum number - 15; Maximum number - 30. Cost (includes lunch) - $35.

FISHING?

While in Tennessee, why not try some fishing? The Smokies are an excellent area for trout fishing. Other game fish species are plentiful in the many lakes and streams that are easily accessible from the Gatlinburg area. Information on fishing will be supplied at the registration desk. Fishing within the National Park requires a valid fishing license and use of single-hook, artificial flies or lures. Non-resident, three-day permits cost about twenty dollars for all species, about ten dollars for no-trout permits. Special permits are required for fishing within the Gatlinburg city limits. GOOD LUCK!
Speakers

Three-Dimensional Geometry of the Sedimentary Basin, Fault Zone Characteristics, andCrustal Structures in the Central New Madrid Seismic Zone from the High-Resolution PANDA Data

Jer-Ming Chiu - Professor of Geology, Memphis State University

Jer-Ming Chiu, Professor of Geology, was born in Tonshau, Taiwan, RUC, and educated at the National Central University in Taiwan and Cornell University in New York. Since 1982 has been a professor in the Department of Geological Sciences and Center for Earthquake Research and Information at Memphis State University, Memphis, Tennessee. He has published several papers on the propagation of seismic waves, location of earthquake sources and geometry of seismically active crustal masses.

Seismic Surface Wave Dispersion and Shallow Crustal Structure in the Southern Appalachians

James Dorman - Associate Director, Memphis State University Earthquake Center

Jim Dorman is a native of Chicago, and received a Master's Degree in Geology from Northwestern University in 1951 and a Doctorate in Geophysics from Columbia University in 1961. At Columbia and at the University of Texas, his research dealt with earthquakes and deep earth exploration by means of seismic waves. He was a member of the team that sent seismographs to the moon on five Apollo missions, and studies the Moon's interior with the returned data. From 1981 to 1986 he worked at Exxon Production Research Company, Houston, developing new seismic exploration technology. In 1987, he joined Memphis State University as Associate Director of the Center for Earthquake Research and Information, and Research Professor of Geological Sciences.

Bioremediation Technology in Environmental Clean-Up

Duane A. Graves - Process Development Supervisor, Technology Development Laboratory, IT Corporation

Dr. Graves has 10 years' experience in biological research and development. He has conducted research in the areas of biodegradation, photosynthesis, biological energy capture and conversion, algal, vectorial, and plant physiology, bacterial and plant genetics, molecular genetics, plant tissue culture, and plant-bacteria symbioses. Experience in university, U.S. Department of Agriculture (USDA) Agricultural Research Service, national laboratory, and commercial settings provides a wide range of scientific, technical, and managerial capabilities that are being applied to critical aspects of bioremediation.

Dr. Graves is currently the process development supervisor for the IT Biotechnology Center. In this capacity he serves as a catalyst for the development of creative solutions to problems in bioremediation in the laboratory and in pilot and full-scale implementations. He plays an integral part in the development of hazardous
An Overview of the Geology of the Southern Appalachians

Robert D. Hatcher - UT/ORNL Distinguished Scientist and Professor of Geology

Dr. Hatcher, a graduate of Vanderbilt University (B.A. and M.S.) and the University of Tennessee (Ph.D.), worked in industry and several academic institutions before accepting the UT/ORNL Distinguished Scientist position in 1986. The principal goal of his research has been to gain a better understanding of the evolution of the continental crust through the study of mountain chains. Dr. Hatcher was a director and participant in the International Geological Correlation Program - Caledonide Orogen Project (1974-1985), served on the Geological Society of America Council (1980-82) and, from 1982-88, served as Co-Editor of the Geological Society of America Bulletin. He presently serves on the National Academy of Sciences Board on Radioactive Waste Management, DOESEC Board of Directors, and the Earth Sciences Advisory Committee for the Savannah River Laboratory. Dr. Hatcher recently completed a new tectonic map of the U.S. Appalachians, published in 1990 as part of the Geological Society of America DNAG U.S. Appalachians-Ouachitas volume.


Amy S. McCabe - Research Associate, Energy, Environment, and Resources Center, University of Tennessee

Amy McCabe has a Ph.D. in Political Science and is a Research Associate at the University of Tennessee's Energy, Environment, and Resources Center. Also a Fellow in the Center for Resource and Environmental Policy at the Vanderbilt University Institute for Public Policy Studies, she is working on a book about the implementation of the Nuclear Waste Policy Act of 1982, as amended. This presentation examines the political, technical, and regulatory challenges associated with DOE's Repository Program. Emphasis is placed on the controversy between DOE and one of its main contractors, the U.S. Geological Survey, over the role of quality assurance in high-level radioactive waste management. Prospects for program implementation are offered.
Energy generation and its impact on Great Smoky Mountains National Park: balancing the preservation of biodiversity with the needs of people

John D. Peine - Director, Great Smoky Mountains National Park

Dr. Peine holds a BS in Forestry from Purdue University and an M.S. and Ph.D. in Watershed Management at the University of Arizona. He has been Director of the Field Research Station in the Great Smoky Mountains National Park since 1982. His research focuses on air pollution, transport, deposition, and its geographical and biological effects in the Park.

Energy Alternatives of the Future

Ralph Perhac - Senior Scientific Advisor, Environment Division of EPRI (retired)

Dr. Ralph Perhac has had a long distinguished career in science, industry, and public service. His many significant appointments include Lunar Investigator for the Apollo Missions, Director for the Environmental Effects Program at the National Science Foundation, advisor to the California Air Resources Board, and a member of the U.S. Acid Precipitation Task Force. Dr. Perhac joined EPRI in 1976 and after four years became Director of the Environmental Assessment Department (now the Environment Division), in which capacity he served for nine years. Two years ago, Dr. Perhac was appointed Senior Scientific Advisor to the Environment Division. Dr. Perhac retired from EPRI in early 1991.

TVA’s Re-Evaluation of Reservoir Operations Policy

Larry M. Richardson - Manager, TVA Water Resources Operations

Mr. Richardson, a Registered Professional Engineer, is responsible for developing, planning, and administering a multidisciplinary group of programs, projects, and activities directed toward the protection and enhancement of the water resources of the Tennessee Valley. He was honored in 1990 as the TVA Engineer of the Year. He will discuss Energy vs. the Environment from the perspective of water resource.

T.V.A.'s Fontana Dam with Smoky Mountains in background.
Overview of the New Madrid Zone

Richard G. Stearns - Professor of Geology, Vanderbilt University

Richard G. Stearns was born in Buffalo, New York and educated at Vanderbilt and Northwestern Universities. He has been a professor at Vanderbilt since 1961, and has worked in the New Madrid Earthquake Region since 1972. His investigations have been concentrated on post-Paleozoic structure using surface geology and drill holes; also gravity and earth resistivity. Before 1980, Stearns compiled the catalogue of felt earthquakes for the Tennessee portion of the earthquake region. Stearns has published numerous maps and reports through the Tennessee Division of Geology, US Nuclear Regulatory Commission, and the Tennessee Valley Authority.

New Madrid Earthquake Region

The three great 1811-12 New Madrid earthquakes had a body wave magnitude estimated to be 7.2-7.4. They originated near the Mississippi River in SE Missouri and NE Arkansas. They resulted in sunk lands at Reelfoot Lake (and elsewhere), created uplifts, generated sand volcanoes for more than 100 miles along the Mississippi River alluvial plain, and caused landslides over even greater distances on the river banks and alluvial valley walls. It was strongly felt over the whole eastern United States. Other large earthquakes have occurred, but the last one that caused noteworthy damage in the Mississippi Valley was nearly 100 years ago (1895).

Faults are concealed by loess, alluvium, or Cretaceous and Eocene fill of the Mississippi Embayment, so structure is mainly known from subsurface geology and geophysics. Subsurface geology has long been of interest for hydrology and oil exploration. However, during the last 30 years, interest in the threat of earthquakes to major structures, such as dams and nuclear plants, resulted in geophysical surveys and new surface investigations. We now know that the earthquake belt marks a major tectonic feature, the Reelfoot Rift. Above basement the rift is expressed as a graben filled with 2-4 km of pre-Knox dolomite (early Cambrian) clastics. To the north the Cambrian graben spreads and splits ENE into Western Kentucky, NE into the Wabash River area, and NW into the Middle Mississippi Valley. To the SW the rift may terminate at the N edge of the buried Ouachita orogen in Arkansas. Rift-related activity continued or reoccurred into the Mesozoic as marked by mafic plutons that bracket the old graben.

From seismographs we know the location, orientation, and slip mechanisms of faults. From aeromagnetic surveys that are sensitive to plutons and basement, and gravity surveys that are sensitive to shallower features too, we know the approximate structure of the old rift. Surface and shallow subsurface investigations have indicated Holocene vertical movement, located 1811-12 landslides and sandblows, and discovered a few faults at or near the land surface.

Present earthquakes could be related to the "favorable" roughly 30 degree shear angle the old rift makes with the present direction of maximum stress in the region. A continuing question is the likelihood of another great earthquake. Estimates of the average recurrence time interval for earthquakes as great as those in 1811-12 have ranged from 500 to 1500 years.

Selected References

Fuller, M. L., 1912, The New Madrid earthquake, USGS Bull. 494, 119 p. This report describes the earthquake and geologic phenomena including fissures, landslides, land warping, sand blows, and maps the distribution of the effects. He draws an "epicentral line".


McKeown, F. A., and Pakiser, L. C., 1982, Investigations of the New Madrid, Missouri, earthquake region, USGS Prof. Paper 1236, 201 p. This is a collection of 14 papers, and is the modern sourcebook on geology and geophysics of the region.

Impacts of Acid Rain Legislation and No Net Loss of Wetlands Policy on the Coal Industry

Barry K. Thacker - P.E., ERCE

Barry K. Thacker is a Principal Geotechnical Engineer for ERCE, Inc. His responsibilities include review of major civil, geotechnical and environmental engineering projects and management of ERCE's Knoxville, Tennessee Office. Thacker has extensive experience in the design of special waste handling and disposal facilities. He has served as a consultant to major coal mining and power production companies in the eastern U.S. He is the author of numerous papers on various aspects of coal refuse disposal and geotechnical engineering and is a registered engineer in 8 states. He holds B.S. and M.S. degrees from the University of Louisville.
The Environmental Business: Risks and Rewards

Lawrence E. Wilson, Jr. - President
OSCO

Ed Wilson graduated from Tennessee Technological University in 1966 with a degree in civil engineering and after two years of service as an engineering officer with the US Army Corps of Engineers, he joined Geologic Associates, a geotechnical partnership headquartered in Franklin, Tennessee. Wilson became chief executive officer of Geologic Associates and guided its transition from a small specialty firm to a large multidisciplinary engineering company which was named Engineering Design and Geosciences Group (EDGe). EDGe became the largest engineering firm in Tennessee employing nearly 350 people when it was acquired in 1987 by ERC International, a publicly held professional services company. The company now operates internationally as ERC Environmental and Energy Services Company and is recognized as one of the nations leading providers of professional services in the environmental sciences.

In 1989 Wilson resigned from ERCE to become President and Chief Executive Officer of OSCO Inc., a fully integrated environmental management company headquartered in Nashville, Tennessee. OSCO provides hazardous waste transportation and treatment services as well as environmental engineering and remedial contracting. Under Wilson’s leadership OSCO has designed, permitted, financed and constructed the nation’s most modern aqueous hazardous waste treatment facility which is located in Nashville.

Clean Cole Technology

Steven M. Wilson - Manager,
Southern Company Services, Inc.

Mr. Wilson has over ten years of experience in electric utility operation, research, and engineering focusing primarily on fossil fuel combustion improvement and emissions control. He has a B.S. in Mechanical Engineering from Tennessee Technological University and an M.S. in Mechanical Engineering from the University of Alabama. Wilson has served as Project Manager for two DOE ICCT demonstrations of advanced wall and corner-fired utility boilers. He is responsible for research and development of combustion and boiler performance technology, emissions control and advanced flow measurement instrumentation. He has been involved with emissions reduction projects utilizing a variety of boiler types and fuels and blends, such as bituminous coal, petroleum coke, refuse derivatives, natural gas, oil, and coal derived synthetic liquids. Mr. Wilson will discuss how improved technology can minimize environmental impacts associated with burning fossil fuel for energy production.

Speakers - biographical sketches were not available at time of this printing

1. A spokesperson from E.P.A. to discuss the current status of the Superfund Program.

2. A representative from the American Petroleum Institute to talk on the future of oil and gas as they relate to energy needs.
Pre-Registration Form

AIPG 1991 Annual Meeting
October 16-19, 1991 - Gatlinburg, Tennessee

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Name as you want it on badge: __________________________________________

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<td>Pre-Registration to (8 Sept. 91)</td>
<td>$95.00</td>
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EVENTS

1. Awards Luncheon (Thursday noon) $20.00
2. Banquet (Thursday Evening) $40.00
3. Dixie Stampede Dinner Party (Friday evening) $27.00
4. Field Trip No. 1 (Clingman’s Dome) $15.00
5. Field Trip No. 2 (Cades Cove-Hayride/Picnic) $25.00
6. Field Trip No. 3 (Oak Ridge) $40.00
7. Field Trip No. 4 (Biltmore) $48.00
8. Spouse Tour No. 1 (Pigeon Forge) $15.00
   (Site-Seeing/Shopping)
9. Spouse Tour No. 2 (Knoxville; Museum of Appalachia) $35.00

TOTAL PAID ____________

NOTE: All trips subject to minimum/maximum registration as described with trip.

RETURN form with payment (checks payable to AIPG Tennessee Section) to:
Ron Zurawski - Conference Finance Chairman
Tennessee Division Geology
701 Broadway, Suite B-30
Nashville, Tennessee 37243-0445.
Panel Discussion

Wednesday - October 16, 12:30 - 2:30 p.m.

Who can argue that times are not changing and that Geology as a profession is not changing with them. Change brings opportunity to those who are informed and positioned to take advantage of new surroundings. What are the opportunities for geologists today? How can geologists best prepare for the challenges of tomorrow? What should AIPG be doing to meet the changing needs of its membership, and where are we going as a professional organization? These are the types of subjects to be considered in a two hour long discussion featuring a panel of leading geologists representing a broad range of geologic disciplines and professional backgrounds. What’s more, you will have an opportunity to participate. As part of the program, there will be an open forum in which the membership/audience will be given specified times to speak on these matters or on topics such as ETHICS, PROFESSIONAL REGISTRATION, TRAINING AND COOPERATION WITH OTHER PROFESSIONALS. Watch for future TPG articles that will reveal who will be on the panel and will provide instructions for those who might wish to speak on these subjects.
HOTEL RESERVATION FORM

Complete and Mail to:
River Terrace Hotel Convention Center
River Road, P.O. Box 747
Gatlinburg, Tennessee 37738
Telephone: 1-800-251-2040 (National)
1-800-221-6005 (Tennessee)

Name: ________________________________
Address: ________________________________
City: ___________________ State: ________ Zip: _______
Telephone No.: __________________________ Work: Home: __________________________

Type of Room Desired: Single ___________ Double ___________ No. of Rooms ______
No. in Party: Arrival Date: __________________________ Departure Date: __________________________

Hotel Accepts: MC, VISA, American Express, Discover, Diners Club - Credit Cards
Card Type: ___________ No.: ___________ Exp. Date: ___________

Signature: ________________________________

River Terrace has blocked 60 rooms at a rate of $65/night + tax.
First Night’s Room + Tax ($71.79) deposit required-must be received by 9-8-91. After these are filled, rooms will be available at the Comfort Inn in Gatlinburg at a cost of $79/night + tax. Comfort Inn is within walking distance from the convention center hotel. CANCELLATION POLICY 72 HOURS.

TRANSPORTATION INQUIRY

Gatlinburg is located approximately 30 miles from Knoxville’s McGee Tyson Airport. Car rental is available and is a preferred method of transportation.
If you are interested in a special shuttle service from airport to hotel,
please fill out the following questionnaire.

Arrival Date: _______ Time: _______ Carrier ___________ Flight No. ___________

Departure Date: _______ Time: _______ Carrier ___________ Flight No. ___________

Your Name: __________________________________________________________________
Address: ___________________________________________________________________

Telephone No. (______) ___________________________________________________________________

Return this portion to Ron Zurawski with Pre-registration Form.
Marketing in Bad Times - A Darwinian Effort

Russell G. Slayback, CPG 2305

Marketing is an activity that most consulting geologists hate but recognize as crucial to meeting payrolls and putting bread on their tables. Marketing one’s skills should be an all-time, year-after-year part of a professional’s calendar, but recession impacts raise the level of marketing consciousness. Many of us in the Northeast have felt the recession as reduced professional activity and an unaccustomed level of bad debt, have turned to more intensive marketing at a time when the cash flow to support such expensive efforts is tight. You have to spend money to make money, right?

I have seen more new, glossy brochures this year than anytime I can remember. New company newsletters are appearing at a stunning rate and the advent of desktop publishing will continue to foster this trend. Many consultants have purchased modular booths for exhibit space at conventions and trade shows. More and more firms are going outside to professional advertising or public relations firms to help them get their message of “unique” skills and services to their clients and prospective clients. Direct mail, telemarketing, targeted marketing, market focus, client maintenance, strategic placements, etc., have become the familiar jargon of selling of one’s services.

During the past decade or so of environmental awareness, most of our prospective clients have become more sophisticated buyers. As the number of firms offering environmental services has proliferated, the corporations regarded by the consulting community as ideal clients have learned to pit competing firms against each other to lower their costs for mandated environmental remediation programs. As their own cash flow has felt the impact of recession, many large corporations have ruthlessly used their marketplace leverage to muscle consultants into lower unit fees, lower mark-ups, discounts and acceptance of excruciatingly slow payment without interest charges. Like it or not, consultants have been offering no-interest bank loans to their slow-paying clients.

It truly is becoming dog eat dog out there? Any why not? Many of our clients and prospective clients have experienced “corporate downsizing”, one of the memorable euphemisms of our era. Downsizing means massive layoffs and increased responsibilities for the lucky survivors. It also means salary freezes for several years and, in a few cases, salary reductions. It means becoming “lean and mean” by focusing corporate energy on productivity and the almighty bottom line, and getting the environmental hangovers caused by past activities cured as quickly and cheaply as possible. It should surprise no one that people who have gone through such corporate convulsions, which have severely affected their own private lives, have little sympathy for environmental consultants who they perceive as vultures feasting on the carcasses of their predecessors’ mistakes. Oh yes, those deemed responsible for corporate pollution of soil and ground water have largely disappeared as the passage of a generation and early retirements have left the problems for the new breed to solve.

Marketing environmental services in these bad economic times is a hard sell and will test us all. Many small consulting firms are springing up, manned (if I may risk that sexist term) with qualified professionals breaking out from larger firms and having the marketing edge of low overhead. Low overhead and low multipliers are music to the ears of corporate purchasing agents, and that is unlikely to change as we explore the early 90’s.

Nevertheless, the overall market for geologists in the environmental fields continue to look good. Despite the recent defeats of California’s “Big Green” and New York’s “Environ- mental Quality Bond Act” in popular referenda, polls show that the public supports environmental quality actions by government, and legislators still see environmental votes as good re-election insurance. For all its flaws, Superfund will be re-authorized and amendments to the Clean Water Act will continue the drive for control of national water quality. Activities at the state level will follow suit, with local clean-ups in response to compliance orders and preventive actions such as wellhead and aquifer protection regulations.

A downside aspect is that lawyers and engineers will still get the lion’s share, but geologists have never been unduly greedy and will continue to benefit. And, those who have learned how to market their services will survive and prosper, and those who sit back and wait for the phone to ring will wither and eventually disappear. Somewhere I saw that described as “survival of the fittest.” In today’s trying times, those who master marketing will become known as the fittest, and they will survive, as Dr. Darwin suggested.

Wyoming Registration for Professional Geologists

The 1991 Wyoming Legislature passed legislation providing the means for geologists to become registered as “Professional Geologists”. Registration is only required for geologists who desire or need to use the title “Professional Geologist”. An applicant for registration must meet all the following minimum requirements:

1. At least a bachelor’s degree in geology or an associated science approved by the Registration Board;

2. A passing score on the Board’s examination in the fundamentals of geology;

3. At least four years of active professional experience of a character acceptable to the Board; and

4. A passing score on the Board’s professional examination.

During the first year of this Act (July 1, 1991 through June 30, 1992), a grandfather clause will allow degreed geologists with at least four years of professional experience to apply for registration without taking any examination. The grandfather clause also allows a degreed geologist, who lacks the required experience, to apply for the status of Geologist-in-Training. In this latter case, an applicant need not take the Board’s examination in the fundamentals of geology.

Registration will be maintained by payment of an annual renewal fee and may require a continuing education requirement.

Rules governing this act will be ready for public comment by late summer. Additional information about proposed rules, fees, and application forms will be made available as soon as possible. Individuals wishing to receive applications, as they become available, should send their names and mailing addresses to:

Gary B. Glass, State Geologist
Geological Survey of Wyoming
Box 3008, University Station
Laramie, Wyoming 82071

MAY 1991
LETTER TO THE EDITOR

Registration has created little discussion in this Newsletter but it still generates a significant amount of comment in informal conversations. More states are considering registration laws for geologists. Professionals in other disciplines with whom we work are registered. To obtain registration, these professionals must take one or two examinations and must take a certain amount of continuing education to maintain their registration. As registration becomes reality in more states, AIPG needs to respond to the needs of our profession regarding this issue.

Continuing education is an issue in registration that I find difficult to argue against. I believe that it is a necessary part of maintaining our technical competency and, therefore, our professional standing. When I applied for certification with AIPG, membership in a technical society was required as documentation of continued technical growth. When the Executive Committee discussed elimination of the requirement, I was opposed. Now, I would encourage the Executive Committee to consider establishing required continuing education for certification by AIPG.

In a complex and rapidly evolving discipline, the professional, practicing geologist, must maintain a current level of competency. In exploration, a lack of current knowledge of the "state of the art" will diminish effective competition and success. I have observed my colleagues, many of whom have opposed the idea of required continuing education, actively participating in short courses and attentively listening to presentations at conventions. I believe that most AIPG Members would easily qualify for a reasonable continuing education requirement with their present level of educational activity. The bookkeeping involved should also be simple for the geologist. We just don't like to be told we have to do something even when we are already doing it.

Bill Knight recently passed on a comment from a conversation he had with an engineer, who pointed out: "Geologists want to have all of the benefits of recognition equal to that of the engineers, but are unwilling to meet equivalent standards. Well, as far as I am concerned, until geologists are willing, they can stay on the outside looking in and can work under the supervision of someone who is willing. You cannot expect to join the club unless you are willing to pay the dues." Geologists in more states are learning that they must pay those "dues".

I would propose that AIPG establish a standard, acceptable to our profession, for establishing continuing education requirements which may serve as a model for states enacting registration laws in the future (or those states considering changes to current laws.).

Susan M. Landon, CPG 4591

SECTION NEWS

NORTHEAST SECTION

Highway Geology Symposium and Spring Meeting

The Annual Spring Meeting of the Northeast Section will be held on Friday, May 31, 1991, directly following and in conjunction with the 42nd Annual Highway Geology Symposium in Albany, New York. The host hotel is the Albany Hilton on Ten Eyck Plaza. AIPG is a co-sponsor of the Highway Geology Symposium, along with ASCE, NYSDOT and the NYS Geological Survey.

The Highway Geology Symposia runs from Tuesday, May 28 through Friday noon, May 31. The program includes technical sessions covering a wide range of highway geology techniques and problems, an Exhibitor's Display on Tuesday and Wednesday, a field trip to the West Point area, with a stop along the NYS Thruway, and a social hour and banquet on Thursday evening. Among the organizing committee members is Bob Fickling, CPG 2658, of the NYS Geological Survey. Northeast Section Members presenting talks are Bob Pekunidny, CPG 4977, Steve Stokowski, CPG 6607, Jim Mellett, CPG 7406, Jim Dunn, CPG 1347, and George Danilo, CPG 2287.

If you have not received a flyer on the Highway Geology Symposium, you can contact Steven Sweeney at NYSDOT, Soil Mechanics Bureau, Albany, (518) 457-4784.

The Northeast Section AIPG meeting agenda is as follows:

2:00 - 4:00 p.m. - Executive Committee Session
4:00 - 4:45 p.m. - Technical Presentation
5:00 - 6:00 p.m. - Cocktails
6:00 - 8:00 p.m. - Dinner

For reservations, please contact David Scott, Leggette, Brashers & Graham, Inc. 1123 Route 52, Suite 38, Fishkill, NY 12443, (914) 897-2970.

VIRGINIA SECTION

Spring Meeting Held

On March 23, 1991, the Virginia Section held a meeting at the Holiday Inn Koger Center South, Richmond, Virginia. Members of the Virginia Board of Geology were invited, and the section was most fortunate to have as guests Dr. Suzette Kimball, Board Chair, along with Nelle Hitchcock, Assistant Director of the VA Department of Commerce, whose duties include the VA Board of Geology. Additionally, Bill Knight, Executive Director of AIPG attended after a successful talk at William and Mary the day before, and prior to continuing travel on his exhausting schedule.

VA Certification Program Could be Abolished!

In line with governor Wilder's Project Streamline, the VA Board of Geology has been directed to review the Geologist Certification program to determine if modifying or abolishing this program is merited. Many AIPG members are certified through this program. The Executive Committee of the Virginia Section have voted to support the program as it now exists, and plan to send a representative to the Board to voice their concerns.

Grand Canyon Cover (TPG)

Some of our Members have asked if framable copies of the cover of the April TPG (Grand Canyon) are available for purchase. If we receive a minimum of 50 orders for individual prints, they can be made available prepped for $5 each, plus $2.50 for handling and postage. They will be mailed rolled. If sufficient orders are not received by July 31, any prepayments will be refunded. Send requests to Headquarters with checks for $7.50 payable to AIPG.
Alaska Miners Association, Inc. To Conduct 1991 Western Alaska Mine Tour

The Alaska Miners Association is sponsoring a tour of selected western Alaska mines. The 1991 tour will occur on Saturday and Sunday June 8-9 and will include several mines and prospects in the Nome area and the world class Red Dog Mine north of Kotzebue.

In the Nome area the tour will include the Alaska Gold Company dredge operations, the Rock Creek prospect and various placer mines. It is the opinion of some that the Rock Creek prospect is the "mother lode" or the origin for the gold in the Nome area.

The second day of the tour will begin with a fly-over of Lost River, Little Diomede Island on the border with the Soviet Union and the Red Dog port site. At the Red Dog Mine all aspects of the mine, mill and support facilities will be visited. Red Dog is now the largest zinc mine in North America and is possibly the largest zinc deposit in the world.

For more information please contact the Alaska Miners Association, 301 W. Northern Lights, #203, Anchorage, AK 99503, (907) 276-0347.

Geochemical Atlas of North Carolina - NURE Database and Geochemical Applications for State Government

Reid, J.C.

The North Carolina Geological Survey (NCGS) is preparing a Geochemical Atlas of North Carolina using the National Uranium Resource Evaluation (NURE) data. Before termination of the NURE program sampling of nearly the entire state (49,097 square miles of land area) was completed and geochemical analyses were performed. The NURE data are applicable to mineral exploration, agriculture, waste disposal siting issues, health, and environmental studies.

The North Carolina NURE database consists of stream sediment samples, ground water samples, and stream water analyses. The statewide database consists of 6,744 stream sediment sites, 5,778 ground water sample sites, and 295 stream water sites. Neutron activation analyses were provided for U, BR, CL, F, Mn, Na, Al, V, Dy, in groundwater and stream water, and for U, Th, Hf, Ce, Fe, Mn, Na, Sc, Ti, V, Al, Dy, Eu, La, Sm, Yb, and Lu in stream sediments. Supplemental analyses by other techniques are reported U (extractable), Ag, As, Ba, Be, Ca, Co, Cr, Cu, K, Li, Mg, Mo, Nb, Ni, P, Pb, Sb, Sn, Sr, W, Y, and Zn were performed on 4,619 sediment samples. A small subset of 334 samples was analyzed for gold.

For more information contact: Jeffrey C. Reid, Chief Geologist, North Carolina Geological Survey, P.O. Box 27687, Raleigh, NC 27611-7687, Telephone (919) 733-2423.

AGU Announces 1991 Medal Winners

The American Geophysical Union is proud to announce its medal recipients for 1991.

Dr. Don L. Anderson of the Seismological Laboratory of the California Institute of Technology and AGU’s immediate Past-President, will receive the William Bowie Medal, AGU’s highest honor. The Bowie Medal is awarded to Dr. Anderson for his outstanding contributions to fundamental geophysics and also for his unselfish cooperation to geophysical research and study.

The John Adam Fleming Medal for original research and technical leadership in geomagnetism, atmospheric electricity, aeronomy and related sciences will be awarded to Dr. James W. Dungey of the Blackett Laboratory of the Space and Atmospheric Physics Department of Imperial College in London England.

Receiving the Walter H. Bucher Medal will be Seiya Uyeda of Texas A&M University. The medal is given for original contribution to the basic knowledge of the Earth’s Crust.

C. David Keeling of Scripps Institution of Oceanography was selected to receive the Maurice Ewing Medal which is presented jointly by the United States Navy and AGU for significant original contributions to understanding physical, geophysical, and geological processes in the ocean and/or significant original contributions to scientific ocean engineering, technology, and instrumentation; and/or outstanding service to marine sciences.

Roderic Lewis Jones of the United Kingdom Meteorological Office will be presented the Macelwane Medal for his work with trajectory/photochemical models that have brought major insight to the study of polar ozone depletions.

Thorne Lay, of the Earth Science Board of the University of California at Santa Cruz, will receive the Macelwane Medal for his influential work in the identification of a seismic discontinuity in the lowermost 200 kilometers of the Earth’s mantle.
E. G. Newton & Associates

1992 Political Agenda begins to form - some Early Crystal-Balling

The 1992-elections are just over the horizon. Washington wizards are polishing up their crystal balls and making a few early prognostications. One certain prediction can be made now about the '92 elections. The outcome of the 1992 elections is not predictable.

Results of the 1992 census mandate reapportionment of a number of congressional districts. That means the legislative contests will be the ones to watch. The races for House seats promise to be extremely interesting. Political experts predict that the pending "redistricting" of the House will lead to a major shift of U.S. political power. Major shifts of political representation will occur in western and "sun-belt" states, where House seats will be gained. A number of mid-western and northeastern states that lost population in the census count will lose seats in the House.

Members of House of Representatives, with two-year terms, therefore, must all contend with the impact and effects of "redistricting". States that must redistrict are now gearing up to remap their respective legislative terrain. That is the first step necessary to identify how and where district boundaries are to be changed.

For incumbent House members who could be either, redistricted-in, or -out of the picture, this is a time to maintain a high civic image, and one's own counsel. The final verified census count will be released in July. Until then, savvy House Members seem content to "wait and see". The 1992 Senate races are also politically critical. Senate races in '92 will affect 20 seats now occupied by Democrats, and 13 now held by Republicans. At present, party division of the Senate is close. There are 56 Democrats and 44 Republicans. Obviously, both parties want to be in the position of determining the occupancy of the greatest number of Senate seats. A member-majority in the Senate allows a political party to exercise control over the legislative agenda of every committee, and of every subcommittee for at least six years. The majority also controls the legislative voting process on the Senate Floor. For 1992, with the Senate "power margin" so very close, both parties will be working very hard to either keep ahead or get ahead.

Thus far, the presidential contest for 1992 seems equally unusual, but due to a different circumstance. Competitive imbalance.

Running on the "inside track" to the White House is one obvious participant; and, an amazing number of "maybes", "might" or "coulds"—too many to name.

It may be early - but these few portents signal a '92-election that's going to be tough-and very hard to call.

New OCS Leasing Schedule Finally Released

The White House and the Minerals Management Service have finally gone public with the specific plans for the 1992-1997 Outer Continental Shelf Leasing Program [TPC 3-91]. As anticipated, the acreages offered are to be more conservative than in prior schedules.

The new plan calls for leasing 250 million acres over a 5-year interval. Twenty-three sales in 12 OCS areas are contemplated. The 1987-92 leasing schedule had slightly less than 800 million acres available to lease.

In the Gulf of Mexico (GOM), where most sales are scheduled, each sale area will be limited to 200 blocks. The central and western Gulf planning areas are targeted for the greatest number of lease sales; at least one per year. In the eastern Gulf, two sales are possible-one in 1994 and one in 1997.

For Alaska, two sales are planned in the Beaufort Sea-1993 and 1996; and two sales-1994 and 1997 are planned for the Chukchi Sea. Cook Inlet in 1994, and the Yukon area of the Gulf of Alaska in 1995 are also possible sale areas. Depending upon the level of interest and further assessment of the resource potential one sale could be held in 1995 in either Hope Basin or St. Georges Basin. Consideration will also be given for one sale in 1996 for either Norton Basin, Navarin Basin or St. Matthew-Hall. Although resource assessments and environmental information will be gathered for other Alaskan OCS areas, additional areas are not subject to lease during this 5-year schedule.

In the Atlantic OCS two sales, in 1994 and 1997, are planned for the combined Mid-and South Atlantic OCS. In this area, each sale area will comprise 1000 blocks, but only 250 blocks will be put up for lease. No leasing is scheduled in the North Atlantic, but resource estimates and environmental studies are planned. No studies and no leasing are contemplated for the Straits of Florida.

No sale will be held in California before January 1996. Studies for the area are planned, but only 87 blocks in the Santa Maria Basin and the Santa Barbara Channel are being considered for lease. No activity is in the schedule for central and northern California. Likewise no activity is planned for the northern Pacific OCS-Washington and Oregon, although some baseline studies are planned. The program is designed to utilize more stringent evaluation criteria and to give more attention to geologic indicia. According to MMS, the focus will be "on basins with the greatest geological potential." "The hallmarks of this program are quality science, judicious leasing, and clean safe operations."

For long time Geos-of the OCS persuasion, the administration's "new policy", to focus leasing only in areas with geologic promise, contains a large chunk of "deja vu".

South Pacific Minerals Compact

The United States, Australia, and New Zealand have entered into an agreement to continue marine geoscientific research and studies of the mineral resource potential of the South Pacific region. The "umbrellas" agreement will enable the participating nations to cooperate in scientific and technical programs. The South Pacific Offshore Areas organization will be associated also with the research activities. The studies will include evaluation of the mineral and hydrocarbon potential of areas in the South Pacific.

Landsat Data Now Available for Public Use

Landsat data more than two years old are now commercially available. The data are available at reduced prices through the Earth Resources Observation System (EROS) Data Center, Sioux Falls, SD [telephone (605) 594-6151].

Data captured through Landsat imagery are able to identify changes in terrain and climatic conditions within precise time intervals. Environmental monitoring studies and resource-assessment investigations can benefit from this unique capability.

The data have been made available to the public through an agreement between the National Oceanic and Atmospheric Administration (NOAA) and the Earth Observation Satellite (EOSAT).
Mining Caucus Formed In House of Representatives

Four House members whose districts have mining interests have formed the House Mining Caucus. The caucus organizers are Representatives Austin Murphy (D-PA), Bill Emerson (R-MO), Barbara Vucanovich (R-NV), and Ben Campbell (D-CT). The caucus was organized to provide interested participants with a forum for "responsibly addressing national mineral needs". Both district-specific mining issues as well as general mining topics are on the agenda.

BLM Partnership Awards

The Bureau of Land Management (BLM) has instituted an annual award for lessees and operators who have enhanced public lands. Half of the 1990 awards recognized the beneficial stewardship of extractive industries.

Among the first awardees was ARCO Oil & Gas Company's Sheep Mountain Unit, Gardner, Colorado for developing the Canon City carbon dioxide field with special techniques and practices to minimize environmental damage.

Energy Fuels Nuclear, Inc. of Denver was recognized for its mining reclamation practices in Arizona and for support of wilderness legislation.

Meridian Oil Company, Inc., Farmington, New Mexico was honored for assuming compliance for 250 miles of pipeline and its assistance to BLM in cultural resources, wildlife, water quality, and information systems projects.

"Partnerships and cooperation are essential to the stewardship responsibility of managing the public lands" according to BLM Director, Cy Jamison.

New Legislation on EPA Cabinet Status

The Administration apparently has been taken by surprise by H.R. 67, a bill to elevate the Environmental Protection Agency (EPA) to full cabinet status. The sponsors of the bill Representatives Sherwood Boehlert (R-NY), Christopher Shays (R-CT), and Edward Markey (D-MA), according to some sources, made their move without any input from EPA itself. Last year a similar bill passed in the House, but was defeated in the Senate. The issue of stringent cleanup standards for federal facilities, particularly DOE facilities caused the legislative hangup.

H.R. 67 is considered a "new clean" bill. A new legislative offering unencumbered by any of the chancy or unacceptable provisions that defeated its predecessor in the last session of congress.

Buggy Science to the Rescue

Oak Ridge National Laboratory (ORNL) has discovered strains of bacteria that can clean up industrial waste-water discharges by absorbing contained metallic and radioactive contaminants. The bacterial strains now under study at ORNL have the ability to attract eh contaminants into a bond, much like the magnetic attraction of metal particulate. The bacteria become covered with radioactive particles and can then be filtered out of the waste-water as a radioactive sediment. The disposal of the sediment is easier than disposal of a radioactive solution.

It is believed that biological filtration would be more effective and cheaper than the chemical methods currently in use. This process would provide an effective means to manage waste water discharges from radiology rooms, nuclear power plants and nuclear weapons facilities.

Board on Geographic Names Observes Centennial

Felicitations are in order for an important geo-cohort. The Board on Geographic Names (BGN). BGN founded by President Benjamin Harrison in 1890, recently observed its 100th anniversary.

BGN determines both the correct form and the suitability of every name used on map-products produced by the federal government. The recommendations of BGN determine name changes and settle disputes over geographic names. The Secretary of Interior shares responsibility with BGN and has final approval over proposed name changes.

Without BGN, maps would be unusable, and field descriptions, a mess. To professional geology, BGN obviously is a valued asset.

Selected Federal Register Notices (3-91)

National Oceanic and Atmospheric Administration


U.S. Fish and Wildlife Service

Availability of Report to Congress-Wetland losses in the United States, 1780's to 1980's. Contact: Don Woodard (812) 8931-3624. 56 FR 8792.

U.S. Coast Guard


Environmental Protection Agency


Notice of proposed rulemaking 40 CFR Part 61 National emission standards for hazardous air pollutants. Contact: Al Colli (703) 308-8787. 56 FR 10524. [Re: nuclear power plant emissions]

Proposed rule 40 CFR Part 435 Oil and gas extraction point source category, offshore subcategory; effluent limitations guidelines and new source performance standards. Contact: Marvin Rubin (202) 382-7124. 56 FR 10664.

Notice of availability of guidance for Clean Air Act section 405 [d][4] and 405 [g] [2] (acid rain provisions). Contact: Kathy Barylaki (202) 475-9400. 56 FR 10427. [Re: "clean" coal use-utilities allowance].


Federal Energy Regulatory Commission

Notice of determination designating tight formation; Mississippi State Oil & Gas Board. Effective date: February 20, 1991. 56 FR 9213.

State of Colorado Oil and Gas Conservation Commission; Determination designating tight formation. Effective date: March 8, 1991. 56 FR 12198 (two notices).

Department of Agriculture


Department of Housing and Urban Development

Defense Nuclear Facilities Safety Board


General Services Administration


National Park Service


Office of Surface Mining Reclamation and Enforcement


Department of Energy

Notice of intent to prepare environmental impact statement and to conduct public scoping meetings: Rocky Flats Plant, Golden, Colorado. Contact: Beth Brainard (800) 446-7640. 56 FR 10548.

Bureau of Land Management

Notice to solicit applications to conduct research projects Global Change Research; Ecological change in environmentally stressed ecosystems in the western and northern United States. Contact: Stanley Coloff (202) 653-9210. 56 FR 10567.

Minerals Management Service

Availability of the final environmental impact statement for the proposed mining program lease sale Norton Sound OCS, Alaska. Contact: MMS Alaska Public Info. Office (907) 261-4435. 56 FR 10572.

Nuclear Regulatory Commission

Final rule 10 CFR Part 2 Assistance to prospective petitioners. Effective date: March 12, 1991. Contact: Donnie Grimley (301) 492-7211. 56 FR 10359. [Re: public petition assistance/NRC decisions]

Internal Revenue Service


U.S. Forest Service

Proposed rule 36 CFR Part 228 Oil and Gas Resources. Contact: Stanley Kurcaba (202) 453-8239. 56 FR 11386. [Re: roadless area leasing exclusion removal].

Department of Transportation


National Oceanic and Atmospheric Administration

Notice Settlement agreement concerning the Exxon Valdez oil spill between the United States, the State of Alaska and the Exxon Corp., Exxon Shipping Co. and Exxon Pipeline Co. Contact: Daniel Addison (202) 377-1400. 56 FR 11636.

Department of Commerce

Memorandum of agreement between the United States and the State of Alaska concerning the Exxon Valdez oil spill. Contact: as above. 56 FR 11642.

Public Health Service

National Toxicology Program; Availability of technical report on toxicology and carcinogenesis studies of Amosite asbestos. Contact: Chemical Carcinogenesis Branch (919) 541-1371. 56 FR 12555.

Participants Needed to Join in ASTM Round Robin Test Program for Geosynthetics

Participants are needed to take part in a round robin test program being sponsored by D35.01 on Mechanical Properties, a subcommittee of ASTM standards-writing Committee D-35 on Geosynthetics.

The task group on Direct Shear Friction of Geosynthetics and Soils needs laboratories to complete round robin testing to establish a precision statement. Interested parties who wish to participate should have a 12 x 12 inch shear box, and are encouraged to attend the June 26, 1991 meeting in Atlantic City, New Jersey, where the program will be discussed.


California has Opportunity to Rehabilitate Reservoirs Now Dry From Prolonged Drought Conditions

California's severe drought conditions have a silver lining, according to one international water management authority.

"With California's surface water reservoirs at historically low levels, there is a real opportunity now to go in and remove the years of silt and sediment that built up and effectively reduced their original storage capacity," says Dr. Jay Lehr, CPG 2748, a recognized international authority on water supply management.

"It will rain again in California. And it will rain in quantities sufficient to refill all of the State's now depleted lakes and rivers, probably even to levels in excess of their capacity," Lehr says. "It is best that we take advantage of this chance given us by nature. We should rehabilitate these reservoirs during this window of opportunity that increases our accessibility to bottom sediments."

"The prevailing attitude has always been to respond to drought as a disaster, developing a crisis management strategy which implies a short-range approach, rather than a risk management, long-term strategy," Lehr contends. "The present conditions should allow California to use the drought to whatever advantage it can."

Lehr, a specialist in ground water and Executive Director of the National Water Well Association (NWWA), has long been critical of the development of surface water resources without the integration of ground water resources into an overall water management strategy.
Fred Beck, CPG 6757, sends news from Maine. As a consulting geologist, Fred continues to work for a variety of clients on jobs such as mineral exploration, mining contract review, and gravel property valuations and reserve estimates, mining rule making (for the State of Maine), bedrock mapping for rock aggregate searches, and critical geological studies for Federal relicensing of dams. In addition, Fred owns and manages Northeast Geophysical Surveys, Maine Environmental Laboratory, and Northeast Geochemical and Assay Company - all of which are very busy and thriving, albeit as separate entities with quite different markets.

John Bee, CPG 6173, of Shakti Consultants, Inc. of Jamesburg, New Jersey, says this last year has proved challenging, frustrating and alarming. Challenging in that the company is in demand pulling underground tanks and dealing with the ground-water problems resulting from the leaks and has increased its ability to do volatile organic and PHC analysis in the field.

Bill Bender, CPG 7778, formerly of Atlantic Environmental of Dover, New Jersey, recently moved to Salt Lake City, Utah to head the Environmental Assessment Department of Delta Environmental Consultants. His new responsibilities will include establishing the department, marketing, and performing EA's.

Nicholas Beskid, CPG 4386, has been appointed Director of Argonne's Applied Research and Development Program Coordination Office. Beskid will be responsible for technical management of applied research and development activities which support DOE's environmental restoration and waste management program.

Don Bruehl, CPG 2272, of Core Environmental Resources, Inc. is involved as project manager on ten sites that have been affected by releases of petroleum or hazardous materials in eastern Massachusetts. All of these sites are in various stages of investigation or remediation under the Massachusetts Contingency Plan.

Dan Buza, CPG 5157, Senior Associate of LBG, has seen nothing but growth in the market for hydrocarbon remediation, as he manages projects from Pennsylvania up through Massachusetts.

Bill Cutcliffe, CPG 1348, President and CEO of Dunn Geoscience Corporation, announced on January 22, 1991 the acquisition of Behre Dolbear & Co., Inc. Hans Schreiber, CPG 1337, President of Behre Dolbear since 1976, will continue as President of Dunn-Behre Dolbear, Inc., with offices in New York City and Denver. The full range of environmental, mining and minerals consulting services will be available from all ten of Dunn’s office locations.

Sid Fox, CPG 2300, Executive Vice President of LBG, has recently completed service on a multidisciplinary review panel investigating the feasibility of natural gas storage in deep excavated chambers in southern Queens County, NY.

Tyler E. Gass, CPG 5042, VP of Blasland, Bouch & Lee, of Syracuse, New York, has been appointed to a one-year term as Chairman of the Education and Research Committee of the National Water Well Association (NWQA). This NWQA committee offers guidance and support to the Association's important activities designed to advance the professionalism of the industry and the technology it uses.

Carol Graff, CPG 6429, has been elected to President of the New Jersey Water Well Drillers Association for 1991. The group includes over 100 drillers and technical people. Meetings are quarterly and held in Bordentown, New Jersey.

Weldon W. Hammond, Jr., CPG 2337, USNR was recalled to active duty in December for duty with the U.S. Navy in the Persian Gulf. Weldon is the Director of the Center for Ground-Water Research and Technology at the University of Texas at San Antonio.

John Hankins, CPG 6820, formerly with TRC, is now working with Fuss & O'Neill, Inc. in Manchester, Connecticut, as a Senior Hydrogeologist. His primary responsibility will be as project manager for RCRA Facility Investigations, but he also expects to be working in the solid waste field, a specialty of Fuss & O'Neill.

Charles E. Herdendorf, CPG 1831, has been selected as one of 25 Centennial Honorees by the Ohio Academy of Science for his significant contributions to the development of science and technology in Ohio. Dr. Herdendorf is professor emeritus of geology at The Ohio State University where he also directed the Center for Lake Erie Area Research and the Ohio Sea Grant College Program.

Stephen K. Jones, CPG 7789, is now employed as a project geologist for Aguilar Associates and Consultants, Inc. in Matawin, New Jersey.

Bob Lamonica, CPG 5149, Vice President of LBG, is involved with a wide variety of hydrocarbon fuel and solvent problems in New York, New Jersey, and Connecticut.

Joe Minster, CPG 6483, Senior Project Advisor with Geraghty & Miller, is directing aquifer remediation work in fractured media (dolomite, limestone) and porous media (buried valley coarse sand and gravel).

Mike McEachern, CPG 3835, is pleased to report that he has been made a partner in Eder Associates and will continue to be the Director of Eder's Ground Water Division. Eder Associates moved (mid-March) their main office to a newly purchased and renovated building about one-half mile west of their present location. The new address is: Eder Associates, 480 Forest Avenue, Locust Valley, NY 11560. They are also pleased to announce the opening of their newest office in Augusta, Georgia.

Gray Multer, CPG 6088, of Multer & Associates is collecting data for a working manual on various aspects of Environmental Site Assessment or Environmental Audits. He would be interested in corresponding with other members who have similar interests.
Paul F. Putzier, CPG 7798, has opened a new office for Groundwater Technology, Inc. in Minneapolis, Minnesota. Mr. Putzier has been with Groundwater Technology for six years in capacities as hydrogeologist, Tampa, Florida Office Manager, and Regional Sales Manager. Groundwater Technology specializes in assessment and remediation of contaminated soils and groundwater. Contact Paul at (612) 890-0665.

Russell G. Slayback, CPG 23065, of LBG, has been spending time on the huge Barrick Goldstrike Mine project, along with LBG's Albuquerque office. The project involves mine dewatering, aquifer impact modeling, evaluation of seepage losses from a storage reservoir, and use of mine water for agricultural irrigation.

Rick Standish, CPG 7226, reports that is now affiliated with ENSR Consulting and Engineering in Hartford, Connecticut. His new number is (203) 657-8910. Rick has been busy managing their Hartford office and directing some site investigations and RCRA compliance projects in Connecticut. He has also been involved in conducting property assessments in Europe for several US firms.

Tim Stone, CPG 7282, announces the formation of Stone Environmental Sciences, Inc. based in Hampstead, New Hampshire, specializing in providing hydrogeologic investigation, site assessment, and project management/oversight services.

Vince Uhl, CPG 6519, has left Geraghty & Miller to start his own consulting firm in the Philadelphia area. His new firm is called The Piedmont Group, based in Huntington Valley, Pennsylvania, and will be involved in water-supply development projects, site assessments, and contamination work.

Deborah Y. Wright, CPG 8005, has been promoted to the position of manager in the Earth Science Division of the O'Brien & Gere Engineers' Syracuse, New York, headquarters. Wright joined O'Brien & Gere Engineers in 1982 and was promoted to senior project hydrogeologist in 1988. Her areas of specialization include soil and water well drilling methods, soil testing, ground water investigations, geophysical surveys, remedial investigations and ground water collection system studies.

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AIPG WANTS YOUR OPINION

AIPG is considering expanding the insignia items for sale to Members as well as non-members. The Institute now offers plaques, mugs, lapel pins, pens, and decals. The items listed below are a few of our options. Headquarters values your opinion on which items you would like to see the AIPG emblem displayed. Please check next to the item(s) you consider appropriate. Any comments or suggestions are appreciated.

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