



# THE ENERGY MINERALS GEOLOGIST

Newsletter of the Energy Minerals Division  
of the American Association of Petroleum Geologists

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## Annual Report of the Immediate Past President

On July 1, 1990, EMD consisted of 1,740 members who were concerned with the geology of minerals, other than conventional oil and gas, that are or can be used for fuel/energy or in remote sensing in search of energy. By June 30, 1991, the EMD membership was 1,842, an increase of 102 (5.9%), which is 5.6% of AAPG membership.

Secretary-Treasurer Sandra C. Feldman submitted two complete EMD financial and membership reports and two accurate and complete sets of minutes, making my job seem easy. She and Vice-President Peters worked with me as an efficient and dynamic EMD Executive Committee, supported by councilors and committee chairs, to provide leadership for EMD members during the 1991-1992 fiscal year.

EMD's fund balance on June 30, 1991 was \$24,553 as compared with \$26,850 on June 30, 1990. For the second consecutive year, the fund balance decrease reflects increased expenses at the annual national convention.

Your executive committee was encouraged by the AAPG Executive Committee to boldly go where EMD has never gone before: to publish an EMD book. Therefore, our most important financial investment of the year dealt with applied coal geology, namely *Geology in Coal Resource Utilization*, an approximately 600-page book being published by TechBooks of Alexandria, Virginia.

EMD will pay \$12,000 for 500 copies and receive 50% of the royalties. AAPG's attorney approved the contract with TechBooks. Approximately \$6,000 to defray this cost has been pledged or paid by coal companies, an associated local AAPG society, and the Rocky Mountain and Eastern sections of AAPG. The book should be available in late November 1991 for \$95.00.

Doug Peters has labored for 2.5 years as editor on this worthy project!

Volume 2 of the *Energy Minerals Geologist* was published to improve

communication between the EMD board and the members. Comprehensive "annual developments" papers on coal, nuclear energy, and oil shale were published in Part II of the October 1990 AAPG *Bulletin* by S. Friedman, W. Chenoweth, and C. Knutson, respectively.

Of the 4,008 professional registrants at the June 1991 AAPG Annual Convention in Dallas, 226 (5.6%) were EMD members. EMD clearly has a beneficial effect on AAPG.

At that convention, EMD provided an exhibit booth to inform AAPG members of our purpose, goals, and activities and to attract new EMD members. Two field trips provided participants opportunities to learn about the hydrogeology of a large lignitic coal surface mine in the Eocene rocks of Texas (Bill Kaiser, leader) and about the fractures and structure of Middle Pennsylvanian coal beds in relation to coal mining and coalbed methane production in the Arkoma basin of Oklahoma (Sam Friedman, leader).

Fred Henderson III, EMD Vice-Chair and Technical Program Chairman for the Dallas meeting, coordinated the entire EMD program. D. Blackwell and S. Kelley presided at the 10 oral papers presented in an EMD session on "Geothermal Basin Maturation and Remote Sensing." Bob Hopkins chaired a poster session on "Remote Sensing for Exploration," and Keith Murray and Walt Ayers chaired a session of eight papers on coalbed methane geology, with one paper on energy policy and one on hydrogeology.

Walt Ayers coordinated the two field trips and Mike Wiley chaired the Judges and Best Paper Awards Committee.

In Denver in September 1990, Bruce Kelso and Lew Ladwig co-chaired an EMD general session of 10 papers covering mostly coal geology and coalbed methane at the AAPG Rocky Mountain Section annual meeting. Of six EMD topic papers presented in non-EMD sessions, four were on coal.

Altogether, these 16 EMD topic papers represented 11% of the total papers at the Rocky Mountain convention. A successful field trip to

the San Juan Basin was related to coal and coalbed methane geology. At the AAPG Eastern Section annual meeting in London, Ontario, in September 1990, six EMD papers were presented on coal, coalbed methane, and remote sensing. These six comprised 12.5% of all papers presented. Only 12 of the papers were on an EMD topic at the October 1990 AAPG Gulf Coast Section convention in Lafayette, Louisiana.

Thus, of 48 EMD papers given at the national and section meetings in the 1990-91 fiscal year, 53% were presented at the national meeting, 33% were at the Rocky Mountain meeting, 13% were at the Eastern meeting, and

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## The Coal Book is Coming!

We finally are close enough to publication to have a pre-publication sale on the *Geology in Coal Resource Utilization* book. We expect that the 37-paper, 600-page book will be available in December.

The book is being published by a publisher other than AAPG because of the cost savings (projected to be \$28,000).

Thus far, the following organizations have donated or committed to donating funds toward the book: AMAX Coal Industries, ARCO Coal Co., Cyprus Coal Co., Eastern Section of AAPG, Grand Junction Geological Society, Raven Ridge Resources, and Rocky Mountain Section Foundation.

If your company would be interested in contributing to the book, please let me know as soon as possible so we can acknowledge them in the book.

I encourage you to take advantage of the pre-publication sale price (\$85.00). If your copy of the pre-publication notice has been delayed, note that you are an EMD member on your order form and the sale price will be honored for as long as possible.

—Doug Peters

## Membership Report

There were 1,842 members in EMD as of June 30, 1991. This figure reflects a 3.8% increase in membership, or 71 members since December 31, 1990.

The June figure is the highest June membership since 1986 when the membership was 1,601. For the past five years, the annual membership has peaked during May. The 1991 May membership was 1,952 versus the highest May number of 1,986 members in May 1984.

As of June 30, 1991, 5.5% of AAPG members are also EMD members, an increase of 0.4% from December 1990. Of the total membership (as of June 30), 1,202 were active members, 626 were junior members, 72 were students, and 42 were associate members.

*Frank D. Pruett*

*(Editors Note: As of August 31, 1991, total membership was 1,898. Let's maintain the upward trend! It's important for every EMD member to let their colleagues working in EMD topics know about EMD and to encourage them to join!)*

## Newsletter Schedule for 1991-92

We are planning three issues of *The Energy Minerals Geologist*: this one, early January, and mid-April.

We regret the intermittent nature of the newsletter recently, and we hope to get back to a standard three or four issues per year basis over the next couple of years.

Candidates for the 1992-1993 election and their biographies will be announced in the January issue of the *EMD Geologist*.

### *Note from the Editors:*

You will note from reading this newsletter with the various contributors' names after the articles, the *Energy Minerals Geologist* is the result of efforts by a number of people.

We encourage you to submit short notices and articles for publication in this newsletter. Contributions may include commodity/industry notes, product announcements in areas of EMD topics, book reviews, employment changes, geological software reviews, and any other items which would be of general interest to EMD members.

We prefer these articles on IBM-compatible diskettes (in WordPerfect or ASCII format), but letters and faxes are okay. Call Sam at (405) 325-3031 or Doug at (303) 236-0772 for more information.

*Sam Friedman — Doug Peters*

## Note From the Outreach Committee Chair

During my term as Secretary-Treasurer of EMD, I prepared a series of membership reports. As part of these reports, I analyzed the EMD and AAPG membership statistics to determine membership as a function of section and employer.

As a result of the analyses, it became apparent that AAPG members employed by certain classes of employers and within specific sections were more likely to be EMD members. I have initiated a membership drive based on these analyses, aimed at the groups most likely to join.

With the addition of our new electronic bulletin board, operated by Scott McColloch, and the new coal publication, edited by Doug Peters, we have a great deal to offer new members.

— *Sandra C. Feldman*

## Computer Bulletin Board Not Quite Pinned Down

Progress on the EMD bulletin board has not been as rapid as I hoped. Nevertheless, the major components have been assembled.

One problem developed when the hard disk apparently was damaged in transit, but this is being corrected under warranty. We should be up and running with a basic system as soon as the disk is replaced.

When the bulletin board becomes operational, the telephone number will be (304) 594-3547. I will be available at (304) 594-2331 to help those who aren't familiar with asynchronous communications and bulletin board software.

The major components I have assembled include a two-user version of the Major Bulletin Board System (MBBS), an optional file librarian, an IBM-compatible 386sx-16 computer with a 211-Mb hard disk, and a modem.

Total expenditures to date have been \$1,664.00. The West Virginia Geological and Economic Survey (WVGES) is donating surplus time on a little used, but necessary, telephone line until the BBS clearly is on its feet.

Access to the BBS will be free to EMD members, except for the cost of the telephone call. We gradually will be adding conferences and other features—this is where you can help.

I have described below the features of the MBBS and have included some ideas about how these can be used to meet the needs of the EMD. I am certain that there are many other

Services which can be developed. Your suggestions are encouraged! This is your bulletin board!

The following features are supported by the MBBS with the optional file librarian. Descriptions are accompanied by brief discussions of how I plan to initially implement each feature:

### 1) Special Interest Groups (SIGs)—

These are discussions between users who do not have to be logged on simultaneously. They generally are set up to cover specific topics. If the discussion diverges into more than one topic area, a new SIG can be spawned. A knowledgeable moderator frequently is recruited to host a SIG. Until we see how this project develops, I can either moderate SIGs or try to recruit a moderator on our staff or from the local area. Volunteer EMD members from outside my local area will be needed! If you are interested, let me know. I plan to start out with SIGs concerning each EMD specialty along with some on special topics such as GIS applied to geology and the impact of clean air legislation. I would appreciate suggestions for additional topics.

### 2) Electronic Mail—

This feature allows users to correspond (confidentially or publicly) with other users. It can facilitate the production of various publications and newsletters by allowing us to pass word processor files and graphics back and forth by modem. It will notify users that they have new mail when they log on to the BBS.

### 3) Information Center—

This mostly is a way to post messages. It also can provide a list of the 15 most recent users, or what other users are doing in a multi-user setup.

### 4) Classified Ads—

These are like newspaper classified ads. It would be good to initially limit this feature to non-commercial users.

### 5) File Library—

This feature will allow us to develop a public-domain software and shareware exchange. One use that has been proposed for the BBS is as a publication medium. The file librarian also will be used to develop a repository for EMD electronic publications. The collection of program files available on some commercial bulletin boards is large and redundant. Also, much common general interest software is available through the mail and on CD-ROM. I believe we should offer a system with software and text files that is unique rather than large, centering on software of geological interest and text files. We will offer a few general-interest programs such as a good shareware communications program, a file archive utility, and possibly a word processor.

### 6) Questionnaire—

This feature is quite sophisticated on the MBBS. Along with the ability to poll the membership, this might be a way to expedite membership applications. It is

possible to allow potential members to browse through the bulletin board without access to the features.

#### 7) Registry of Users—

This is a listing of voluntarily-provided biographical information on users. Entries are maintained by the users themselves.

#### 8) Teleconferencing—

This cannot be implemented in the beginning because it requires more than one phone line. The one exception is that someone at the console could communicate interactively with the user on the dial-up line. If the bulletin board grows to the point that it can simultaneously support several users we can actually set up interactive conferences between members.

These are the main features of the MBBS. There are about 1,000 options that can be used to obtain a custom configuration, including the ability to turn off most features mentioned, change messages, and add restrictions.

I have not addressed MBBS support for Apple Macintosh computers because I have virtually no experience with the details of the Mac. I would appreciate a volunteer resource person from the membership for this aspect of the BBS.

“Scott” McColloch

## By-Laws Changes

As you may remember from the last newsletter, preceding the AAPG Annual Meeting in Dallas, a number of proposed changes to the EMD Bylaws were voted on at the meeting.

The overall updating of the Bylaws to bring them into line with the gender-neutral nature of AAPG's Bylaws passed. An additional review of the Bylaws to update them in a more general sense is underway.

Frank Pruett, EMD Secretary/Treasurer, is heading a committee to work with AAPG Executive Director Fred Dix to make sure the Bylaws are properly worded in a modern legal context and to assure there are no potential administrative or legal problems hidden with regard to topics not covered or existing loopholes. Any recommended changes resulting from this review probably will be put to a vote of the membership during the 1992-1993 fiscal year.

Another adopted change reduces the required number of nominees for officers and section councilor from four to two. This was done to simplify the search for candidates in smaller AAPG sections (with respect to the EMD portion of membership).

Even when four qualified prospects can be found, as many as three often decline the nomination. Nominations

committees will now strive to find as many choices for officers as possible, but this will reduce the chance of an election being improper just because of the number of declining candidates.

A motion to add the immediate past-president of EMD as a voting member of the EMD Council passed at the Dallas meeting but was rejected by the AAPG Executive Committee on grounds that the past-president should not be able—as could be possible as a voting member—to force an agenda on a current president and council.

Under the Bylaws, all past-presidents are non-voting members of the council, so they still can officially bring their requests to the council as a member.

A proposal which failed at the Dallas meeting was to change the voting structure of EMD so that only members in a given section could vote for the councilor of that section. Currently, all members vote for all section councilors, and even though the item did not pass, there still is sufficient interest in this issue among council members that it will be put on the general ballot with the election of 1992-1993 officers and councilors. The members can decide if they want this change to the Bylaws.

Nominations for the section councilor still would be by the Nominations Committee even if this change passed by general vote.

Another proposed change which failed, but also will appear on the general ballot, was changing the name of the Division. There is some opinion among the council members and the general membership that the name of the Division needs to be updated to reflect changes in the industry and membership over past years—mainly the broadening of some member interests and employment changes.

Proposed alternative names were “Energy Minerals Science and Technology Division” and “Applied Science Division.” These, in addition to “no change” and write-in options, will appear on the ballot. If you feel strongly about other possible names, send them in writing to one of the officers or councilors of the Division.

A final proposed change which did pass at the meeting was a modification to the section on committees which would have allowed their formation and dissolution to be more flexible. The proposed change stated that “committees may be added or deleted by vote of the members at the Annual Business Meeting on recommendation of the President and Council.”

## Coal Articles of Special Interest

Two magazine articles of special interest to those working in the coal sector of EMD are worth reading.

One is from the February 1990 *Pitt Magazine* (pp. 24-31), entitled “King Coal,” by Tommy Ehrbar. It discusses the general state of coal mining and environmental concerns, and the impact of coal mining and use of coal on Pittsburgh and Southwestern Pennsylvania. This is a very readable and thought-provoking view on regional coal history and present environmental concerns in coal use.

A second article, by Arthur Sanda, is from the April 1991 issue of *Coal* (pp. 60-65). It is entitled “Novel History Gives Depth to Anthracite.” The article reviews past production of anthracite from Northeastern Pennsylvania and current mining style and production.

Future hopes of the regional coal industry in the face of continuing production declines also are covered. This article is appealing because the general feeling in the coal industry seems to be that U.S. anthracite is “dead” when in fact there still are significant resources in Pennsylvania.

—Doug Peters

## Acting Vice-President

Because of Carl Smith's absence while on military duty in the Persian Gulf, Sandra Feldman (former Secretary/Treasurer) was named Acting Vice-President until his return, which is expected by the end of December.

## 1993 Annual Meeting Plans Updated

Although there has been no substantive change in planning for this meeting in New Orleans, the network of participants has expanded and I have delegated most of the work to my committee.

There appears to be enthusiasm for a joint session on energy minerals, the environment, and economics. Although I do not have written approval from any of the solicited divisions regarding such a session, I have a positive response from Dr. Dixie Lee Ray, a prospective EMD luncheon speaker.

I believe an increase in participating EMD members would be the long-term payoff on the project. For each 10 new members attracted to EMD by the luncheon (all of whom are retained for at least five years) there is an additional \$500 of long-term income.

—Mike Fein

1% were at the Gulf Coast meeting. By EMD topics, 50% were on coal or coalbed methane, 23% were on remote sensing, 13% involved geothermal energy or basin heating, 8% nuclear energy or radioactivity, and 6% energy minerals and economics or policy.

This distribution of papers and field trips on EMD topics continues to reflect the results of Past-President Jeremy Platt's extraordinary 1988 membership-wide interest questionnaire, which showed that most EMD members were interested in coal, coalbed methane, and remote sensing. These three geologic topics accounted for 73% of all EMD papers in 1990-91. In addition, three field trips with guidebooks addressed coal geology.

In April 1991, Carl J. Smith (West Virginia Geological and Economic Survey) was elected Vice-President/President Elect. Also elected for two-year terms (1991-1993) were Frank D. Pruett (Indiana Geosciences Institute) as Secretary-Treasurer, and councilors E.E. Gilbert (Burning Rock Oil Co.) for the Canadian Section, Walter B. Ayers, Jr. (Taurus Exploration) for the Gulf Coast Section, and Thomas Beard (Consulting Geologist) for the Southwest Section. In their second year of two-year terms ending in June 1992 are councilor Donald D. Carr (Indiana Geological Survey) for the Eastern Section, John A. Taylor (Hiawatha Oil Co.) for the Midcontinent Section, M.C. Erskine (Consulting Geologist) for the Pacific Section, and John M. Mercier (Cyprus Coal Co.) for the Rocky Mountain Section.

Standing Committee chairs (two-year terms) were Carl J. Smith (Coal), D. Keith Murray (Coalbed Methane), P. Michael Wright (Geothermal), W.L. Chenoweth (Nuclear Minerals), Carroll Knutson (Oil Shale), Peter A. Bower (Oil Sands), and H. Robert Hopkins (Remote Sensing).

Special Committee chairs were Frederick B. Henderson III (Annual Meeting A—Dallas), E.E. Gilbert (Annual Meeting B—Calgary), Gretchen K. Hoffman (Education), Douglas C. Peters (Publications), Jeremy Platt succeeded by Sandra C. Feldman (Outreach), Samuel A. Friedman (Newsletter Operations), and Donald Towse (Nominations). G.H. McColloch served as Ad Hoc Committee Chair for the Computer Bulletin Board.

I am grateful to the AAPG Headquarters staff, Walt Ayers (EMD Field Trip Chair), and Mike Wiley (EMD Judges and Best Paper Award Chair), and to all EMD volunteers at the Dallas convention because EMD has benefited from their energetic involvement.

Honors and awards at the Dallas convention followed the luncheon address by T. S. Ary, the director of the U.S. Bureau of Mines. The best oral paper, entitled "Ouachita Mountain Thrust Fault: An integrated approach to prospect analysis in thrust belts," was presented by R.L. Dodge, M.A. Keeling, and D. Cassiani at the annual meeting in San Francisco in June 1990.

Also honored were F. Dekker, H. Balkwill, A. Slater, R. Herner, and W. Kampschur for their work in hydrocarbon exploration through remote sensing and field work in the onshore eastern Papuan Foldbelt, Gulf Province, Papua New Guinea, and Z. Berger and H.W. Posamentier for the contribution of an integrated analysis of satellite imagery, gravity, and magnetic data in the recognition of structural/stratigraphic traps in the Alberta Basin, Canada.

S.E. Sommer and B.K. Jain presented the best EMD poster paper on "Utilization of Micromagnetic Services in Exploration." Frank E. Kottlowski, EMD President in 1987-1988, received the prestigious EMD Distinguished Service Award.

Immediate Past President Donald Towse received a certificate awarded in appreciation for dedicated service to EMD.

In his position as EMD Vice-Chair and EMD Technical Program Chair, Ned Gilbert has coordinated a full complement of EMD activities for the annual convention scheduled for June 21-24, 1991, in Calgary. Oral and poster sessions on oil sands, coal, and coalbed methane, field trips, and a short course on remote sensing are in the works.

Michael Fein has been appointed EMD Vice-Chair for the annual convention in New Orleans in April, 1993, and he is already hard at work.

Doug Peters will find a dynamic EMD organization ready to respond to his leadership during his term as EMD President from July 1, 1991 through June 30, 1992.

See you in Calgary!

— *Samuel A. Friedman*

## State of the U.S. Uranium Industry in 1990 in Nuclear Minerals Committee Report

The domestic uranium industry continues to operate at a very reduced level due to low prices and increased foreign competition. For six years (1984-1989), the Secretary of Energy declared the industry nonviable. A similar declaration is expected for 1990.

Exploration and development drilling, at approximately 2,000,000 ft./yr. continued in areas of producing mines and recent discoveries, especially in northwestern Nebraska, South Texas, Wyoming, and in southwestern Colorado and southeastern Utah.

Production of uranium concentrate in 1990 is estimated at 10.2 million lb. of uranium oxide ( $U_3O_8$ ) — a sharp drop from 13.5 million lb. in 1989.

Conventional mining in New Mexico (including mine water recovery), Arizona, Utah, Colorado, Texas, and Wyoming accounts for approximately 58% of the production. The remaining 42% is from solution (in situ) mining and as a by-product from the manufacture of phosphoric acid.

In 1990, there was underground mining in the Grand Canyon region of Arizona (Energy Fuels Nuclear), Ambrosia Lake, NM (Chevron Resources), and in the Urvan mineral belt of Colorado and Utah (Umetco Minerals). Since the vanadium content of the ores in the Urvan area are as much as 10 times that of the uranium, vanadium is the principal metal recovered, and uranium is a by-product.

Two open-pit mines were operating in 1990: one in Shirley Basin in Wyoming (Pathfinder Mines) and another in McMullan County, TX (Chevron Resources/Total Minerals).

Solution mining took place in the Powder River Basin, WY, and in South Texas. The Crow Butte project in Dawes County, NE (Ferret Exploration Co. of Nebraska) received its final permits for commercial operation in 1990. Solution mining should start in early 1991.

Uranium is recovered from water circulating through inactive underground mines at Ambrosia Lake, NM, by Rio Algom Mining Corp. and Home-stake Mining Co. Uranium is also recovered from the manufacture of phosphoric acid at plants in Central Florida by IMC Fertilizer, Inc. and in southern Louisiana by Freeport Uranium Recovery Corp. The latter plant processes phosphate rock brought by barge from Florida. Uranium recovered from phosphate operations amounted to about 3 million lb.  $U_3O_8$  in 1990 or 27% of total U.S. production.

Ore from conventional mines in 1990 was processed at four mills: Shirley Basin, WY (Pathfinder Mines); Blanding, UT (Umetco Minerals/Energy Fuels Nuclear); Ambrosia Lake, NM (Homestake Mining); and Hobson, TX (Chevron Resources).

In January, 1990, both the Shirley Basin and Ambrosia Lake plants were placed on standby. The Shirley Basin mill reopened in September, 1990, when stripping was completed, and mining began at Pathfinder Mines' new open pit in Shirley Basin.

In early 1990, the last underground mine at Ambrosia Lake (Chevron's Mt. Taylor Mine) closed and solution mining operations of Malapai Resources in Wyoming and Texas were placed on standby.

In April, Uranium Resources Inc. placed its Kingsville Dome solution mining project in Kleberg County, TX on standby, and in June, Homestake Mining Co. ceased recovery of uranium from mine water at Ambrosia Lake. The mill at Blanding, Utah, closed in October, 1990, forcing closure of all mines in the Uruvan mineral belt and in the Grand Canyon region of Arizona.

At the end of 1990, there were only two mills in operation. As of February, 1991, there were no underground uranium mines operating in the U.S. and only single open-pit mines in Wyoming (Pathfinder) and in Texas (Chevron/Total).

Solution mining operations continued in Wyoming (Power Resources), in Nebraska (Ferret Exploration), and in Texas at Rosita in Duval County (Uranium Resources).

Rio Algom continued to recover uranium from mine water at Ambrosia Lake, NM. Unmined deposits, such as those in the Church Rock and Crown Point areas of New Mexico, are being investigated for their amenability to solution mining technology.

Uranium concentrate production in the U.S. during 1991 could drop to approximately 8 million lb.  $U_3O_8$ .

The price of uranium delivered to domestic utilities in 1990 is estimated to have averaged about \$18.00/lb.  $U_3O_8$ . During the year, the spot market ranged from \$8.34/lb. to \$11.70/lb. for  $U_3O_8$  and averaged \$9.76/lb.

Domestic consumption of uranium in 1990 was approximately 40 million lb. of  $U_3O_8$ . Imports and sales from inventories made up the difference between production and consumption. Low cost imports from Canada, Soviet Union, and China increased in 1990.

*William Chenoweth*

#### U.S. URANIUM PRODUCTION, 1990

Arizona	2.5
Colorado/Utah	1.6
Florida	2.1
Louisiana	0.7
New Mexico	0.3
Texas	2.0
Wyoming	1.0
<b>U.S. Total</b>	<b>10.2</b>

Millions of Pounds (in concentrate)  $U_3O_8$

## Coalbed Methane Committee Activities Reviewed

A successful coalbed methane session, chaired by Walt Ayers and I, was held at the Diamond Jubilee Annual Meeting of AAPG last April.

A similarly successful session was held at the Rocky Mountain Section Annual Meeting in Billings, MT, in July. Betsy Campen was instrumental in organizing the papers for that meeting.

With the assistance of members of the Alberta Geological Survey and the British Columbia Ministry of Mines, working in concert with our Canada Section Councilor Ned Gilbert, we hope to assemble an interesting coalbed methane session at the AAPG Annual Meeting in Calgary next June.

In May, I co-chaired one of the sessions at the 1991 Coalbed Methane Symposium at the University of Alabama in Tuscaloosa.

I still am actively involved with the Coalbed Methane Forum, held in the Denver area eight or nine times a year, and with the Coalbed Methane Work Committee of the Potential Gas Committee. The PGC will hold its annual meeting in October in Mobile, AL.

The Rocky Mountain Association of Geologists and the Gas Research Institute co-sponsored a field symposium on "Coalbed Methane of Western North America" in Glenwood Springs, CO, on September 17-20, 1991. A hardbound guidebook of more than 300 pages, containing many of the papers presented at this conference, is available for sale from the RMAG office.

My future plans for this committee include establishing closer liaison with the various state geological survey geologists who are, or should be, tracking coalbed methane activities in their states. I am also preparing articles on coalbed methane for this newsletter and the *AAPG Explorer*.

—D. Keith Murray

## Oil Sands Committee Single-handedly Covered

The present chair was appointed in spring of 1991, and there are currently no other members. Committee activities, as you might guess, have been minimal.

Determining oil sands activities over the last year is our only contribution, as follows:

Syncrude is continuing production at approximately 156,000 BOPD. In this mode, nothing exceptional has taken place during 1990-1991. However, there continues to be an effort devoted to maximizing production capability

throughout the operation. Although Syncrude feels maximum production has not been reached, they state existing facilities should be able to achieve higher production by improving efficiencies.

An ongoing situation where improvement might be achieved is in handling indurated sediments. These sediments, although oil bearing, are cemented with siderite and other cements. They cause mining problems because of their discontinuous nature, and must be handled separately at the mine. They also tear the conveyor belts and have a lower yield in processing.

A minor event of note was the opening of an auxiliary mine to the northwest of the current mine which will be termed the "North Mine" in the future. Although excavation and transportation is by shovel and truck from the auxiliary mine, an expensive technique, Syncrude says they will help in maintaining production when any of the existing facilities need servicing.

Petroleum geologists provide a very useful service in mining operations by using predictive depositional models (i.e., fluvial, estuarine, and marine). Mining characteristics are related to the depositional facies and mine managers are able to predict mining conditions and yields from the models. Syncrude employs about 12 geologists in mine planning and operational phases.

Suncor also continues in a production mode, contributing about 52,000 BOPD to Canada's current needs. Suncor did not have any startling news to reveal, although they promised to send some literature. The OSLO project is the third potential mine being envisaged, but current prices suggest that poor economics will keep this project out of commercial operation for the near future.

OSLO is in the process of winding down its project team. Work done to date has cost the participants C\$130 million. Both federal and provincial governments agreed to cover 75% of those costs. In order to recover the government's contribution, OSLO must produce a report called the "Design Basis Memo," or "DBM". This report covers the design engineering necessary for the equipment, mine, upgrading facilities, and utilities. It also covers the plan for project execution, a "Class B" cost estimate, and environmental and socio-economic reports.

The entire report is expected in the fall of 1991. As the report segments are completed, those responsible will return to their respective companies. Although the writing is on the wall, the final decision on the mine's future will be decided at the end of 1991.

—Peter Bower

## Oil Shale Activities Down

Oil shale activities in the U.S. are declining.

Union Oil has announced they are terminating their shale oil production prototype experiment. The Department of Energy (DOE) has not increased their funding in the oil shale area, resulting in a management-directed cutback in research.

The Australians are making progress in oil shale development. The federal and provincial governments announced initial approval of a A\$145 million plant on the Central Queensland coast. Sponsors have set plant capacity at 4,400 bbl/day, and it will have a federal tax exemption until the year 2005.

The Estonian Academy of Science, in conjunction with the USSR Academy of Science, is trying to turn their publication *Goruchie Slantsy* ("Oil Shale") into the international publication on oil shale. They are soliciting articles in English or Russian and are providing bilingual summaries of all articles.

They have appointed a number of non-Soviet members to their editorial board, including Dr. J.H. Gary at the Colorado School of Mines and myself at the Idaho National Engineering Laboratory. Authors interested in submitting articles can address their inquiries to Ph. D.A. Koerman, Institute of Chemistry, Akadeemia tee 15, 200 108 Tallinn, Estonia.

With the renewed outward focus by the Soviets, it might be interesting to try to set up a jointly sponsored session on oil shale at the 1992 AAPG Annual Meeting (also an international event). I would be happy to try to procure some papers from China and Hungary, and we could expect the Soviets to provide the USSR papers.

—Carroll F. Knutson

## Remote Sensing: Good News/Bad News

The good news is the Landsat program, which has been in trouble for annual funding at least since commercialization in 1984, appears to have broad government support in Congress and the Bush administration and does not appear to be in danger of near-term extinction.

As reported by Murray Felsher in the Washington Remote Sensing Letter, during late June there was a congressional hearing on "Military, Civilian, and Commercial Applications of the Landsat Program," jointly held by the House Committee on Science, Space, and Technology (George E. Brown (CA),

Chairman) and the Permanent Select Committee on Intelligence (David McCurdy (OK), Chairman).

There was a consensus of support in the House's National Space Council (Vice-President Quayle, Chairman), and strong support by spokesmen from the U.S. Geological Survey, Department of Interior, the National Science Foundation, and the Department of Defense (DOD).

Therein lies the potential bad news! The strongest push and the momentum seems to indicate that the "civilian" Landsat program may be taken over by the Department of Defense. No official decision has been reached on the fate of Landsat, but news from Washington indicates that DOD has assigned staff, budget, and office space for major participation in the Landsat program.

The concern about DOD control of Landsat is based on past efforts by the Pentagon to place limits on resolution and interpretability of Landsat systems. Fundamental to this problem is an apparent Pentagon philosophy of restricting civilian use to lower resolution data.

Lt. Col. Wysocki, Chief of Navigation and Remote Sensing, U.S. Space Command, states in *GPS World* (July/August 1991, p. 43), concerning Selective Availability (SA) degradation of the Global Positioning System (GPS) signal, that "A major military concern with a peacetime SA-off configuration is the potential for constraints on the ability to reactivate SA when needed."

He goes on to say that, once DOD allows unlimited civilian use of high resolution data, then in a national emergency, great pressure will be put on the President not to institute SA and degrade the data. The same argument obviously can be used for Landsat.

Actual experience shows that this is not a valid argument. During Operation Desert Shield/Desert Storm, availability of U.S. Landsat data (by law) and French SPOT data over the potential area of conflict were controlled by the military.

More of the continuing saga of Landsat as it develops.

Efforts are underway to determine interest in forming an informal EMD/AAPG Remote Sensing Group in the Houston area. If anyone is interested, please contact me at (713) 965-4636. I already have contacted seven people who are interested in such a group. A few more, and we will try to get organized.

—H. Robert Hopkins

## Convention Committee

I now have represented EMD at three meetings of the AAPG Committee on Conventions: San Francisco 1990; mid-year meeting on December 10, 1990 in Dallas; and the Dallas 1991 meeting. In each of these meetings, the issue of space on the technical program has been discussed.

AAPG national meetings push the limits of the convention facilities of many cities. This results in space and time limits on the number of papers that can be presented. Adding another day to the convention seems to be a very unpopular option with the membership.

This is especially important for EMD because both AAPG and SEPM are feeling squeezed for space and they compete fiercely. Unless the EMD Vice-Chair is well prepared with proposed symposia and symposia chairs before the first local convention committee meeting, EMD will only get token program space.

A strong EMD technical program chairman needs to be appointed very early—in time to attend the mid-year meeting of the Committee on Conventions 18 months before the Annual Convention for which he has responsibility.

Responsibility for the disposition of the hydrogeology/environmental group within AAPG is up to the House of Delegates and the Executive Committee. However, as a separate division, they will become one more small group competing, like EMD for program space against the much larger AAPG and SEPM program. From this standpoint, it would be to both EMD's and the environmental group's advantage to join together in an expanded EMD to add bulk to their claim for program share.

In addition, AAPG is considering where computer geology and astrogeology should fit, possibly as separate divisions. Both of these groups have been feeling squeezed out by the full AAPG technical program, and they are very vocal and growing.

It also would be useful for the EMD Vice-Chairman to make Bruce Lemmon, the AAPG Exhibits Manager, aware of local contractors and service companies in EMD disciplines who may wish to exhibit at the national convention or who already do exhibit at the conventions.

Exhibitors pay for a significant portion of the convention and, therefore, get the attention of the convention committee. In the Western U.S., many drilling contractors and well service companies do a significant amount of geothermal work. They could be asked

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# EMD Councilors' Reports

## Eastern Section

At the September 9 meeting of the Eastern Section in Pittsburgh, honors and awards at the opening session included **Best EMD Paper** to Alan Swenson, **Best EMD Poster** to Michael G. Foley, and the **Gordon H. Wood, Jr. Memorial Award** to Jack A. Simon.

The 1992 annual meeting for the Section is scheduled for Champaign, IL, on September 19-23. Discussions are under way to have the 1993 meeting in Williamsburg, VA.

—Donald D. Carr

## Canadian Section

As EMD Vice-Chairman for the 1992 AAPG Annual Meeting, I am also a member of the Technical Program Committee. Dr. Ashton Embry has assigned the "Tectonics and Basin Development" and "Exploration and Development Geology" categories for the Call for Papers.

These categories contain 14 sessions which need session chairs, and I will coordinate with those people in the planning of the meetings. Several sessions would be on EMD topics.

I have tried to arrange EMD sessions as oral sessions, but these are not often strong drawing cards and they may become poster sessions. Dr. Embry states that poster sessions provide greater scope for study and discussion, so perhaps they are the coming thing. Still, I am trying to include some EMD-type papers as oral sessions.

I hope we will be able to prepare an oil shale paper and a poster or oral session on the new TACIUK processor of AOSTRA which will be used for the Australian and Canadian oil shales.

Paul Fuenning has been asked to Chair the EMD luncheon meeting. As a remote sensing specialist himself, he is trying to get Floyd F. Sabins Jr. as our luncheon speaker. Sabins would present a paper with slides on remote sensing successes in the Middle East.

I am trying to ensure that all EMD sessions are held Monday or Tuesday so they will not conflict with the EMD luncheon on Wednesday. Due to a lack of dining facilities at the convention site, our luncheon will be in downtown Calgary. This is only a short way by light rail transit, but may be of concern to those wanting to combine the luncheon with early afternoon talks.

—E.E. "Ned" Gilbert

## Gulf Coast Section

I have contacted Kipp Ferns, Program Co-Chairman for the 1992 Gulf Coast Association of Geological Societies meeting to be held in Jackson, MS, to encourage his planning committee to include an EMD program.

GCAGS has more EMD members than any other section, making an EMD program at this meeting very important. Since we were unable to identify a Jackson-area EMD member to organize the program before the letterhead went to the printer, I have agreed to be EMD program chair and will seek other EMD members to help organize the program. A questionnaire to members would help us decide the type of program to offer.

I have also worked with Gretchen Hoffman, Chair of the EMD Education Committee, to evaluate the probable success of a coalbed methane workshop at the AAPG annual meeting in Calgary. We are concerned that this topic may be overworked, and we would appreciate feedback. I have approached possible instructors, and if there is sufficient interest, we can mobilize qualified people to put a one-day workshop together.

I have discussed the 1993 AAPG annual meeting in New Orleans with Mike Fein and suggested some EMD field trips. Possibilities include modern swamps and marshes on the Mississippi Delta and adjacent analogs in Texas and Louisiana lignite mines. Mike would welcome any program suggestions.

—Walter B. Ayers, Jr.

## Pacific Section

The 1992 Pacific Section meeting will be in Sacramento, CA, April 29-May 1, where EMD will sponsor an oral session on "Geothermal Development Challenges" to be chaired by James L. Moore, senior VP for Natural Resources with California Energy Co., and Dr. Carl Austin, consulting geologist.

A field trip to the Lone Formation lignite and clay mines along the east side of the Great Valley is being worked up by trip leader Richard McJunkin. Trip emphasis is to be on hydrologic and environmental geology.

McJunkin is a senior geologist with the California Department of Health Services and a member of the Association of Engineering Geologists. Local AEG sections are co-hosting the meeting.

—Mel C. Erskine

## Rocky Mountain Section

Energy minerals activity in the Rocky Mountain Section for the first eight months of 1991 continues revolving around coal industry competition to gain or simply to hold a portion of the static coal market.

Posturing to best capitalize the recent acid-rain legislation has created a recent surge of interest by some companies in areas of Utah and Western Colorado. They hope to expand low-sulfur reserves or position themselves for the unexpectedly "hot" export market.

Some Japanese companies are showing definite interest in part ownership of Rocky Mountain coal properties.

A conflict seems to be developing between industry interests in the exploration and development of coalbed methane and the ongoing expansion of underground coal operations in the West.

Conversations with a number of coal producers in Colorado and southern Wyoming reveal concern that the economic production of coal could be severely affected in some basins because of coalbed methane development.

It has been suggested that the EMD coalbed methane committee look into this development and its possible effects on high-volume coal producers.

I have been working to encourage EMD members, and geoscientists in general, to become involved in promoting geology and mining in their local educational arenas. We need informed promoters of good science on the scene from grade schools through colleges to extol the need for and importance of responsible mining and development of resources in the Rocky Mountain Region.

A number of members are already involved as group leaders, guest lecturers, and concerned citizens on the community level.

I appreciate EMD President Peters' efforts to find alternate (industry) sources for funding EMD publications. Besides promoting a valuable resource in new material, this encourages more participation by the industry which stands benefit most by the new geotechnical publication.

—John Mercier

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to point this out to Bruce Lemmon and AAPG. This should help gain credibility for the EMD program and negotiating clout for the EMD program chair.

*-Mel C. Erskine*

EMD MEMBER ATTENDANCE AT NATIONAL CONVENTIONS			
Convention	EMD	Total	Percent
Dallas (1991)	217	4,156	5.22
San Francisco (1990)	168	3,941	4.26
San Antonio (1989)	211	3,805	5.54
Houston (1988)	229	5,028	4.55
Los Angeles (1987)	146	2,743	5.32

**Education Committee Report**

The annual AAPG meeting in Calgary will offer EMD members several options to learn more about the geology and resources of the area.

Two field trips of interest to EMD members are planned for the Calgary meeting. Wolfgang Kalkreuth of the Institute of Sedimentary and Petroleum Geology and Willem Langenberg of the Alberta Research Council (Alberta Geological Survey) will lead a pre-meeting (June

19-21) field trip in west-central Alberta. The 3-day trip will focus on the coal, oil, and gas deposits of the area, looking at several outcrops of the coal-bearing sequences and reservoir rocks. The maximum number of participants is 40, and the field trip will begin and end in Calgary.

Daryl M. Wightman, Alberta Geological Survey, and S. George Pemberton, University of Alberta, will lead a post-meeting (June 25-27 field trip to the Fort McMurray area. The 3-day trip, entitled "The McMurray Formation: Reservoir Heterogeneities Exposed in Outcrop," will begin by touring the Syncrude mine and AOSTRA UTF project near Suncor.

The second and third days of the trip will be spent looking at outcrops of the reservoir rock, the McMurray Formation, near Steepbank, Fort McKay, and Fort McMurray. The number of participants is limited to 16 as there is a helicopter ride from Suncor to Steepbank.

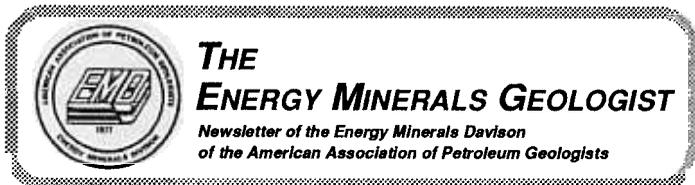
A short course on the applications of remote sensing also will be offered at the Calgary meeting. The course is entitled "Detection of Subtle Basement Structures and Related Hydrocarbon

Plays." The course will be taught by Zeev Berger of Esso Resources Canada, Limited. Several case studies in Canada, the Western U.S., and Europe will be used to demonstrate the control of basement warp structures on the distribution of both clastic and carbonate reservoir rocks.

Using these examples, the application of remote sensing tools to detect basement structures and reconstruct structurally controlled paleo-surfaces will be discussed. This short course tentatively will be offered before the technical sessions and will be limited to 15-20 participants.

Some interest has been expressed in offering a coal bed methane short course at the annual meeting in Calgary. To date, several people in Canada and the U.S. have been contacted about teaching part or all of a course, but everyone has been hesitant for fear of overkill on this subject. Input from EMD members would be appreciated on the interest in attending and/or teaching a coalbed methane course at Calgary or any other upcoming AAPG section meeting. Please direct any comments or suggestions to me at (505) 835-5640.

*—Gretchen Hoffman*



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