AMERICAN INSTITUTE OF MINING, METALLURGICAL, AND PETROLEUM ENGINEERS, INC.

# 1993 ANNUAL REPORT











# AMERICAN INSITUTE OF MINING, METALLURGICAL, AND PETROLEUM ENGINEERS, INC.

## 1993 Annual Report

One hundred and twenty-second year

#### December 1, 1992 - November 30, 1993



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#### A Founder Society of the

#### United Engineering Trustees, Inc.

Established in 1904 for
American Society of Civil Engineers
American Institute of Mining, Metallurgical, and Petroleum Engineers
American Society of Mechanical Engineers
Institute of Electrical and Electronics Engineers
American Institute of Chemical Engineers



G. Hugh Walker, President — 1993 American Institute of Mining, Metallurgical and Petroleum Engineers

## Report of the 1993 President

ast year, 1992 AIME President Roshan B. Bhappu reported on the developments of two major activities: Transformations Project of the Public Issues Committee and actions of the All-Institute Government Affairs Committee. I am pleased to report to the AIME Member Societies and their members on the significant progress of these two projects and on other developments. Both projects reached important milestones during 1993; these and other activities continue to show our ability to develop and implement meaningful projects of benefit to the Institute and Member Societies.

#### 1993 AIME ANNUAL MEETING

A highly successful AIME Annual Meeting was held in Reno, Nevada in February hosted by the Society for Mining, Metallurgy and Exploration (SME). The AIME Keynote Session, chaired by 1994 AIME President-Elect Noel D. Rietman, featured three distinguished speakers and was very well received. The annual banquet served to recognize the recipients of Honorary Membership as well as the other prestigious AIME Awards. An account of the 122nd Annual Meeting may be found on page 8, followed by the names of the award winners.

#### TRADITION

The Iron and Steel Society (ISS) is hosting the 1994 AIME Annual Meeting in Chicago. As a long term solution, the AIME Board of Trustees agreed that SME will host the AIME Annual Meeting in 1995 and all years beyond with TMS hosting the Annual Meeting every fourth year commencing in 1996. I thank all Member Societies who have so graciously hosted AIME and acknowledge with gratitude SME and TMS cooperation in planning for the future.

#### **EDUCATION**

## Transformations Video Series

Throughout 1993 AIME has evidenced a commitment to improving middle school education by continuing to support the marketing and distribution of *Transformations* Video Series: Science, Technology and Society.

Throughout 1993, the user base for *Transformations* grew, as more and more teachers selected the series for use with their students. In 1993, 750 units were sold bringing the number of sets in use in classrooms nationwide to over 1,500. With current placement at over 1,500 locations, we estimate that over 4,500 teachers are using the series today. Word of mouth, plus endorsements, reviews, press coverage, advertising and exposure at educational conferences all contributed to the growing users base. I congratulate Dr. Frank V. Nolfi, Jr. and his committee on their continued accomplishments.

# The Transformations Project: Partnering Technology with Education and Society

At the Reno meeting the AIME Board of Trustees approved the Transformation Project with the proviso that it would fund the project 50

percent with equal funding from outside sources. To this end, a Steering Committee was appointed, chaired by Donald G. Russell, and I am pleased to announce that this committee has so far raised in excess of \$100,000. The *Transformations* Project will help teachers explore the world of technology, develop appropriate learning experiences and share their knowledge with other teachers. Selected teams will attend an intensive two-week summer session, then participate in follow-up meetings held in conjunction with educational association conferences, conduct peer-to-peer training, and explore technology through a network of practicing scientists and engineers.

#### GOVERNMENT AFFAIRS THROUGH AAES

Upon the recommendation of the All-Institute Government Affairs Committee, the AIME Board of Trustees approved the rejoining of the American Association of Engineering Societies (AAES). AAES is a multidisciplinary organization of engineering societies dedicated to advancing the knowledge, understanding and practice of engineering; and specifically to foster a better understanding of the role engineering and technology play in impacting and resolving national issues. AAES dues are paid by AIME and after discussion with the Member Societies a plan was developed whereby AIME represents the AIME and its Member Societies in AAES.

A total of ten volunteers, each representing a Member Society, are serving on the various AAES Councils, Commissions and Task Forces; and I am pleased to report that they held their first meeting on November 22, 1993 to formulate a set of public policies which will serve as guidelines for 1994 AAES activities. I wish to thank Dr. Thomas V. Falkie and his Committee for their efforts in this initiative and express AIME's gratitude to all Washington-based volunteers for their active participation in AAES.

#### INTER-SOCIETY AFFAIRS

#### **ESL Solution at UET**

AIME continues its effective involvement in the governing of the United Engineering Trustees (UET) with member of AIME Member Societies serving as AIME representatives on the Boards of the UET and its entities. One of the recurring problems facing the UET was a large, unplanned and unexpected financial deficit caused by the Engineering Societies Library operations. After a valiant effort to resurrect the library from its obsolete state, the Trustees shrank its operations to a non-deficit size, and aggressively sought a modern library with which the Engineering Societies Library could beneficially merge, thereby making its distinguished holdings better available to our members and the public-at-large.

I am pleased to report that the UET at present is negotiating with several high quality libraries and expects to reach agreement with one of them early in 1994. A solution of the deficit problem was achieved, in close collaboration with the Founder Society Executive Directors, with a combination of assessment of the Founder Societies and a partial liquidation of Engineering Societies Library endowment.

#### **ABET**

The Institute also retained its relationship with the Accreditation Board for Engineering and Technology (ABET), as an Affiliate Body and is represented by its Executive Director, who serves as an official observer at ABET Board Meetings.

#### **Founder Societies**

I am also pleased to report our continued interaction with the Founder Society officers and Executive Directors in matters of common interest. I've found this interaction has provided the President-Elect, the Executive Director and myself with an important opportunity to become aware of the broad spectrum of issues as they affect the engineering profession.

### Australian Interchange

AIME and AusIMM (Australasian Institute of Mining and Metallurgy) have had a long standing exchange program of distinguished lecturers from both countries taking turns each year visiting each other's country. During November/December AIME and its Member Societies had the pleasure of hosting Alister McLeod and his spouse when the 1993 President of AusIMM and distinguished lecturer visited Denver, Salt Lake City, Tucson, New York City and Washington. I was pleased to have had the opportunity to welcome the McLeods and on behalf of AIME present AusIMM, on this occasion, with a plaque honoring its 100th Anniversary.

#### LONG-RANGE PLAN

The 5-year Implementation Plan for AIME was put on hold pending implementation of a proposal to distribute a portion of the revenue from AIME endowment funds to member-direct programs. This member-direct proposal approved in August by the AIME Board of Trustees was to be studied and an implementation plan drawn up by an ad hoc Committee made up of a representative of each Member Society. This Committee is to report out on its charge at our next Board Meeting in Chicago.

If we consider the diverse interests within the AIME, given we are a voluntary organization and actions must have a consensus agreement by the four member societies, the AIME has been remarkably productive in the last five years, witness the two active major projects: Transformation and AAES. I applaud our continued effort to develop additional meaningful roles for AIME and look forward to future efforts of implementation.

#### **FINANCES**

You are invited to review the audited financial statement for the AIME Corporation for the fiscal year 1993 (ended November 30, 1993) contained on pages 16-24 of this report. Despite the less than favorable economic climate this past year, AIME assets increased moderately from the \$11,111,599 at the end of the previous fiscal year to \$11,849,663 at the end of fiscal year 1993. Therefore we continue to build the financial resources required to undertake programs in support of the Member Societies and their members, and to protect against the effects of inflation.

#### IN MEMORIUM

It was with great sadness that we announced the passing of Robert H. Marcrum, AIME's four-teenth chief staff officer, who died of cancer on February 22 after a prolonged illness. His 8-year service and many contributions to the Institute will always be remembered.

#### IN APPRECIATION

It has been an honor for me to serve as your AIME President, to have had the opportunity to associate with and be assisted by many fine people who comprise the AIME family; and to have had the privilege to represent AIME at many occasions. I reflect with great affection on my visits to the local sections and on the opportunity to firm up AIME's ties with its Member Societies.

I extend my sincere appreciation to the AIME Board of Trustees, the Society Boards of Directors, the staffs of AIME and the Member Societies, committee members and others for their dedicated support during the past year. I also congratulate and pledge my full support to 1994 President Noel D. Rietman and the new Board of Trustees, all of whom are depicted on the following pages.

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# OFFICERS AND TRUSTEES 1994

#### OFFICERS

#### PRESIDENT AND TRUSTEE



**Noel D. Rietman** has been Senior Vice President, Production, with Maxus Energy Corp. since 1989. He joined the firm's predecessor, Diamond Shamrock Exploration Co., in 1957 as a junior engineer, subsequently becoming Chief Petroleum Engineer; Manager of Drilling & Production; Vice President and General Manager, Northern Division; and Group Vice President, Continental U.S. A graduate of Texas Tech University with a BS in Petroleum Engineering and a B.A. in Geology, he also holds an MS in Mathematics from West Texas State University. A Distinguished Member of SPE, Mr. Rietman has served SPE on numerous committees, as Amarillo Petroleum Section Chairman, and as President of the Society in 1987. He has been an SPE Foundation Trustee since 1987 and currently serves as Vice President. Mr. Rietman served on the AIME Board in 1982-85 and was the 1991 Chairman of the AIME Distinguished Service Award Committee.

#### PRESIDENT-ELECT AND TRUSTEE



Frank V. Nolfi, Jr. co-founded Beacon Venture Management Corporation in 1990 and is a Managing Director. He is a Director of Blue Oak Materials Corporation and Li Technology, Inc., is the TMS representative to the Federation of Materials Societies, and is Chair of the AIME Public Issues Committee, which has produced Transformations, a video-based supplement to middle-school science education. He was Vice President-Technology for Alcan Aluminum Corporation in 1988-90. While at Alcan, he was also Chairman of Technical Ceramics Laboratories (TCL) and served on the Boards of Advanced Forming Technology, Inc., TCL, Manlabs, C-Axis Technologies and Co-Spray, and was technical liaison between Alcan and Duralcan Corporation, Lanxide Corporation, Alanx Corporation and Superconducting Technology, Inc. From 1983-88 he managed DOE's Metallurgy and Ceramics Program, and has held research and management positions at Argonne National Laboratory and Ames Laboratory, where he founded and was the first Director of the Materials Preparation Center. He was 1988 TMS President and has been active on the Boards of both TMS and AIME. He holds a BS from Drexel University and an MS and Ph.D. from Carnegie-Mellon University.

#### PAST PRESIDENT AND TRUSTEE



**G. Hugh Walker** received his Bachelor's degree in Civil Engineering from Queen's University (Canada) in 1954 and his Master's in Business Administration from the University of Western Ontario in 1959. Mr. Walker joined Dofasco that same year and worked in the Engineering Department until 1961 and in Mechanical Maintenance until 1963. He then held the following positions in the Coke and Iron Division: Engineer, Division Foreman, Superintendent, and Manager. In November 1991, he became Works Manager; in September, 1992, was named Vice President, Manufacturing. Mr. Walker received the Ironmaking Conference Award in 1974, the Sidney Gilchrist Thomas Medal in 1976, and the T. L. Joseph Award in 1986. He was Chairman of the Ironmaking Division in 1982 and served on the Society's Board of Directors from 1981-1983. In 1985-86, he served on the AIME Board and in 1986 was President of the Iron and Steel Society. Mr. Walker was named an ISS Distinguished Member in 1989.

#### PRESIDENT-ELECT DESIGNATE AND TRUSTEE



**Donald W. Gentry** heads the Mining Engineering Department at the Colorado School of Mines in Golden, CO. He joined the CSM faculty in 1972 as Assistant Professor of Mining Engineering after working several years in industry. He received a BS in Mining Engineering from the University of Illinois in 1965, as well as an MS from the University of Nevada in 1967 and a Ph.D. from the University of Arizona in 1972, also in Mining Engineering. Dr. Gentry has presented many short courses and published extensively on the financial aspects of project and new mine-property valuation. He is co-author of Mine Investment Analysis and has consulted on investment decision analysis, new property evaluation and project financing. He is past chairman of the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Dr. Gentry was the 1987 AIME Henry Krumb Lecturer and received the 1990 AIME Mineral Industry Education Award. Named a Distinguished Member of the Society for Mining, Metallurgy and Exploration in 1992, he was the 1993 President of the Society.

#### **TRUSTEES**



**E. A. Breitenbach** is chairman, president and CEO of Scientific Software-Intercomp, Inc. (SSI) in Denver; a founder in 1968, of the company which licenses proprietary software and provides consulting, computer processing and other related services to the petroleum industry. He holds BS, MS and PhD degrees in petroleum engineering from Stanford University and completed a management program at Harvard; has more than 30 years experience in the petroleum industry which includes field work and research with Mobil Oil Corp., computer-oriented research and teaching at Stanford and computer-oriented research and planning with Marathon Oil Company. He has written numerous technical articles on reservoir description, reservoir simulation and optimal field development; worked on many international projects and acted as an expert witness before U.S. state and federal courts and in the World Court in The Hague. Active in SPE since 1960, he has served in many positions and chaired several committees; he was a program committee member for several SPE Middle East Oil Shows and was a member of the SPE Reprint Series Committee for Numerical Simulations. Dr. Breitenbach is the 1994 President of the Society.



*J. Keith Brimacombe* holds the Alcan Chair in Materials Process Engineering and is Director of the Centre for Metallurgical Process Engineering at the University of British Columbia (UBC), where he has been a faculty member since 1970. The author of more than two hundred publications in process analysis and design, Dr. Brimacombe has received seventeen best paper awards and numerous other honors including TMS Fellowship, ISS Distinguished Membership, TMS Extractive Metallurgy Lecturer and ISS Howe Memorial Lecturer. He received his undergraduate education at UBC, earning a B.A.Sc. in 1966, and attended graduate school at Imperial College, where he received a Ph.D. in 1970. Dr. Brimacombe is a Fellow of the Royal Society of Canada, a Fellow of the Canadian Academy of Engineering, a Fellow of the CIM and an Officer of the Order of Canada. He is a Past President of CIM Metallurgical Society and was the first Chairman of the TMS Extraction and Processing Division. Dr. Brimacombe was the 1993 President of TMS and in 1995 will be ISS President.



Harry E. Follwell is Technical Sales Advisor with Dominion Castings Limited, formerly the Steel Castings Division of Dofasco Inc. in Hamilton, Ontario, Canada He joined Dominion Castings in June of 1993 after a career of almost 30 years with Dofasco, mainly in the company's Steel Castings Division. He graduated from McMaster University with a certificate in the Metallurgy of Iron and Steel, joined Dofasco's metallurgical department where he performed various functions in the primary steelmaking BOF shop, was Melt Shop Metallurgist in the Electric Furnace melt shop. In 1984 and until his retirement from Dofasco in late 1992, Mr. Follwell served as Project Metallurgist— Specifications, Quality Assurance and Technical Service, Steel Castings Division. Prior to joining Dominion Castings he was a consultant. He has authored and presented several technical papers; has been active in the Electric Furnace Division of ISS since 1973 and became Electric Furnace Conference Chairman in 1986, chairman of the Electric Furnace Division in 1987 and recipient of the Clarence E. Sims Award that year. He has served on the ISS Board of Directors since 1987, been a member of the ISS Foundation Ferrous Metallurgy Grant Committee since 1992 and is the 1994 President of the Society.



**Robert C. Freas** is Senior Vice President, Sales and Marketing, of Franklin Industrial Minerals, Nashville, Tennessee. Mr. Freas joined Franklin in 1985 as Vice President, Marketing and was promoted to his current position in October 1993. Prior to joining Franklin he was Director of Operations and Corporate Secretary of Limestone Products Corporation, Sparta, NJ; he was also Director of Research and Corporate Development before moving into operations. Mr. Freas' prior experience includes Chief Geologist for Dravo Corporation, Pittsburgh, PA and worked as an engineering geologist. He holds a BS in Geology from Baldwin-Wallace College, an MS from Miami University and an MBA from Rutgers University. He has been an active member of SME including being the 1994 President of the Society. He served on the Board of Directors from 1986-1989 and 1991 to the present, was Chairman of the Industrial Minerals Division in 1986; was Chairman of the GEM Committee, *Mining Engineering* Committee, Membership Committee and was Vice President, Finance 1991 and 1992. Freas has also been an active author fro SME and other technical publications including co-authoring three chapters in the *6th Edition of Industrial Minerals and Rocks*. He is a registered professional geologist and an active member of several professional associations.



**Lionel C. Kimerling** is the Thomas Lord Professor of Materials Science and Engineering at the Massachusetts Institute of Technology where he chairs the Electronic Materials Degree Program. Prior to joining MIT he was Head, Materials Physics Research Department at AT&T Bell Laboratories. He has served as Adjunct Professor of Physics at Lehigh University. He earned his bachelor's degree in Metallurgical Engineering and his doctorate in Materials Science at MIT. Prior to joining AT&T he served as Captain, USAF at the Solid State Sciences Laboratory of the Air Force Cambridge Research Laboratories. He conducts an active research program in the structure, properties and processing of semiconductor materials and he has authored over 150 technical articles. Dr. Kimerling is chairman of the editorial board of the *Journal of Electronic Materials*, a Fellow of the American Physical Society, a member of the National Materials Advisory Board, NRC and a member of the editorial board of Applied Physics Reviews. Professional society memberships include TMS, MRS, ASM, ECS, IEEE and AAAS; and the honorary societies Sigma Xi and Phi Lambda Upsilon. Dr. Kimerling is 1994 President of TMS.



**Raja V. Ramani** is professor and head of the Mineral Engineering Department at The Pennsylvania State University. He is a registered professional engineer in Pennsylvania and a certified first class mine manager in India. He has worked for six years in supervisory positions in coal mines and has written more than 150 research papers on mine environment, health and safety, management and computer applications. Ramani has served on mining industry-related expert panels for the National Academy of Sciences, the US Department of Labor and the US Department of Health and Human Services. He is a consultant for National and International agencies on mineral industry issues. Among his awards are a Fulbright Scholarship to the Soviet Union, the SME Howard N. Eavenson Award, the AIME Environmental Conservation Award and the AIME/ASME Percy W. Nichols Award. A Distinguished Member of SME, he is the 1994 SME President-Elect.



Grant P. Schneider is Manager, Traffic, Transportation and Reclamation Service for Rouge Steel Company, Dearborn, Michigan. He received a B/Cere at the Georgia Institute of Technology and an M.B.A. from the University of Detroit. He has taken postgraduate work at the University of Michigan in Metallurgy and Advanced Management. He is a graduate of the Ford Motor Company Senior Executive Program. Mr. Schneider joined the Steel Division of Ford Motor Company (now Rouge Steel) in 1960 and has been in various positions in maintenance, engineering and operations, holding the position of Operations Manager, Finishing Operations before moving over to the commercial end of the steel business, his current assignment. He served as Detroit District Chairman of the Iron and Steel Society from 1970 to 1980 and as Chairman of the Steelmaking Division of the Society from 1989 to 1990. Mr. Schneider has been on the ISS Board since 1989, is a life member of the Association of Iron and Steel Engineers and a member of the Traffic Committee of the American Iron and Steel Institute. He has written ten papers, articles and discussions on steelmaking and management, five of which have been published by ISS. He was the 1993 President of ISS.



John K. Hammes, AIME Vice President-Finance, is Vice President, Metals and Mining Department, Citibank, N.A., New York. He joined Citibank in 1968 as a Mining Engineer and was named a Vice President in 1972. From 1965 to 1968, he was employed by the Metal Mining Division of Kennecott Copper Corp. Prior to that, he worked for the U.S. Bureau of Mines under a fellowship program supporting research on the Lake Superior iron pellet industry. Mr. Hammes received his Bachelor's degree from the University of Missouri and his MS and PhD in Mining Engineering from the University of Minnesota. He is a Past Chairman of the New York Section of SME and has served as AIME Vice President-Finance since 1977. Mr. Hammes was the first recipient of the AIME Distinguished Service Award, presented in 1989.



Alfred Weiss, AIME Executive Director and Secretary, assumed this position in March, 1992, after having served for 13 years as President and Chief Executive Officer of Mineral Systems International in Stamford, CT. His prior experience includes Kennecott Copper Corporation, Exxon Corporation and the U.S. Department of the Interior Bureau of Mines. He received his BS in Mining Engineering and MS in Mining Engineering/Mineral Economics from the Henry Krumb School of Mines, Columbia University, and a DBA in Management, Marketing and International Business from the Lubin School of Business, Pace University. A Distinguished Member of the Society for Mining, Metallurgy and Exploration (SME), Dr. Weiss served as 1981 President of the Society and was named to AIME Honorary Membership in 1987.

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#### **Member Societies**

Society for Mining, Metallurgy, and Exploration PO Box 625002 Littleton, CO 80162-5002

Telephone: 303/973-9550 Fax: 303/973-3945

Gary D. Howell, Executive Director

The Minerals, Metals & Materials Society 420 Commonwealth Drive Warrendale, PA 15086 Telephone: 412/776-9000 Fax: 412/776-3770

Alexander R. Scott, Executive Director

Iron and Steel Society 410 Commonwealth Drive Warrendale, PA 15086 Telephone: 412/776-1535

Fax: 412/776-0430

Charles E. Slater, Executive Director

Society of Petroleum Engineers PO Box 833836 Richardson, TX 75083-3836 Telephone: 214/669-3377

Fax: 214/952-9435

Dan K. Adamson, Executive Director

# Report of the 122nd Annual Meeting Reno, NV – February 1993

The 122nd AIME Annual Meeting was held in Reno, Nevada, February 15-18, 1993 in conjunction with the Annual Meeting of the Society for Mining, Metallurgy and Exploration (SME).

The Reno Hilton was the headquarters hotel for both AIME and SME. All SME technical sessions and Exhibition '93 were held at the Reno Sparks Convention Center.

#### Past Presidents

Annually the Past Presidents meet over brunch and discuss current issues of AIME. This group also constitutes the Advisory Board which reports to the Board of Trustees through the most recent Past President.



1993 Annual Meeting saw the following AIME Past Presidents and 1993 Officers. Front Row: Nelson Severinghaus, Jr. (1984), H. Arthur Nedom (1977), Robert H. Merrill (1981), Wayne L. Dowdey (1978), Lloyd E. Elkins (1962), Wayne E. Glenn (1974), M. Scott Kraemer (1980). Back Row: Frank V. Nolfi, Jr (1995)., G. Hugh Walker (1993), Norman T. Mills (1985), Arlen L. Edgar (1986), Edward E. Runyan (1983), Thomas V. Falkie (1988), Howard N. Hubbard, Jr. (1989), Donald G. Russell (1990), Milton E. Wadsworth (1991), Noel D. Rietman (1994), Roshan B. Bhappu (1992).

AIME Presidents serve only a one year term but that one year provides an intense involvement in all of the varied AIME activities. In the ten years since my presidency, I have had the opportunity of observing AIME modify its governance to accommodate significantly changing circumstances. While change is never simple nor easy, AIME has, I believe, handled it effectively from both an organizational and an accomplishment perspective.

The Past Presidents Brunch at each Annual Meeting creates a pleasant opportunity to renew acquaintances and friendships. The primary function of this meeting, however, is to review activities of and opportunities for AIME from the perspective of experience of those who have helped shape AIME in the recent past. The results of this review, and sometimes intense debate, are then passed on to the current Board as a resource for inclusion in its current Board as a resource for inclusion in its current governance of AIME.

This activity is only advisory, but it adds a viewpoint to the Board deliberations that factors in traditions, prior circumstances and perhaps some longer range continuity. As AIME continues to progress in serving its constituency, those who have led the organization in the past will continue to support it in a variety of ways including this advisory function.

Nelson Severinghaus, Jr. March 1994 Annual Meeting activities designed to appeal to all attendees commenced with AIME Keynote Session on Monday afternoon, February 15 in the South Hall of the Convention Center. Minerals - Civilization's Foundation for the Future was the focus of attention of the three distinguished speakers. Joseph F. Coates, President of Coates & Jarrett, Inc. spoke on the subject of Shaking the Foundations - Minerals Industries in the 21st Century, G. Frank Joklik, President and CEO of Kennecott Corporation presented An Industrial View of the Future of the Minerals Industry. The third speaker was R. Lyn Arscott, General Manager, Health, Environment and Loss Prevention, Chevron Corp. who spoke on What a Businessman and Conservationist Think about Environmentalism. The session was very well received by the audience of over 1,500 members and guests.

The 122nd AIME Annual Banquet and Awards ceremony was held on Monday evening, February 15th at the Reno Hilton. 1992 President Roshan B. Bhappu served as Master of Ceremonies for the Awards program during which the major AIME award were presented and Honorary Memberships conferred. The winners of honors and awards and the honorary members are listed on the following pages. Following the ceremony, Mr. G. Hugh Walker was installed as 1993 AIME President.

The 123rd AIME Annual Meeting will be held in Chicago from March 20 through 23, 1994 in conjunction with the 53rd Ironmaking and 77th Steelmaking Conference of the Iron & Steel Society (ISS). The AIME Annual Banquet and Awards Ceremony will be held on Monday evening, March 21st in the Grand Ballroom of the Hyatt Regency.

# Recipients of Honors and Awards Presented by AIME in 1993

#### 1992 HONORARY MEMBERS

Charles L. Bare

Conoco Inc./SPE

"For his successful efforts to infuse into programs of the Society of Petroleum Engineers the highest of professional standards; and in recognition of major contributions in fiscal issues that have enhanced the Society's financial base and in turn its ability to provide new and enhanced programs for the worldwide membership and the public."

Marvin L. Katz

ARCO and Chief Petroleum Co. (retired)/SPE

"For major contributions in establishing the role and mission of the Institute and its Member Societies to reflect evolving industry and professional society conditions; and for his leadership in creating the framework for the Society of Petroleum Engineers as a worldwide organization."

Charles S. Matthews

Shell Oil Co./SPE

"For important contributions to petroleum engineering technology that have increased understanding of oil and gas reservoir performance; and for his commitment to worldwide information dissemination efforts in the engineering and scientific community."

#### JAMES DOUGLAS GOLD MEDAL

J. Brent Hiskey

University of Arizona/SME

"For his research and teaching contributions to chemical metallurgy with an emphasis on copper leaching and extraction of precious metals from refractory ores."

#### BENJAMIN F. FAIRLESS AWARD

Lenhard J. Holschuh

Secretary General/Director International Iron and Steel Institute

"In recognition of his significant contributions in the coordination of the world steel industry's efforts to maintain steel as a material of today and tomorrow."

#### HAL WILLIAMS HARDINGE AWARD

Colin M. Bristow

English China Clays (retired)

"Prominent economic geologist, author and lecturer. In recognition of his distinguished contributions to the knowledge and development of industrial mineral resources worldwide, particularly kaolin and ball clay."

#### ANTHONY F. LUCAS GOLD MEDAL

**Michael Prats** 

Michael Prats & Assoc./Shell Oil Co. (Retired)/SPE

"For outstanding achievements as a scientist, researcher, educator and consultant in petroleum technology, particularly in the areas of reservoir engineering and thermal recovery processes."

#### ROBERT EARLI McCONNELL AWARD

T S Arv

US Bureau of Mines/SME.

"For his leadership in mineral exploration and development and his championship of economically and environmentally sustainable mineral policies for the nation."

#### ERSKINE RAMSAY MEDAL

## John T. Boyd Co./SME

"For renowned achievement in the mining industry resulting from his role as a mentor to young engineers and finding solutions to arduous situations through the international consulting firm which bears his name."

#### CHARLES F. RAND MEMORIAL GOLD MEDAL

#### Charles Graham Preble

Southern Peru Copper Company

"For his outstanding leadership in developing and maintaining efficient mining operations under extremely adverse political and economic circumstances and for protecting the interests of his company and his employees under these conditions."

#### ROBERT H. RICHARDS AWARD

#### John A. Herbst

Control International, Inc./University of Utah/SME/TMS

"In recognition of his research contributions to mineral processing education and practice with an emphasis on process analysis and control."

#### WILLIAM LAWRENCE SAUNDERS GOLD MEDAL

#### Kenneth J. Barr

Cyprus Minerals Co. (Retired)/SPE

"In recognition of his important role in establishing Cyprus Minerals Company as a major US minerals producer following its spin-off from AMOCO."

#### AIME DISTINGUISHED SERVICE AWARD

H. Arthur Nedom Retired/SPE

"In recognition of years of exemplary and dedicated service to AIME as Director and President, and for his pioneering work which led to the establishment of the American Association of Engineering Societies."

#### Environmental Conservation Distinguished Service Award

#### John E. Barker

Consultant/Armco (Retired)

"For his outstanding service in energy management and environmental control in the metals industry, especially the development of the bubble concept for the containment of plant site dust and emissions."

#### MINERAL ECONOMICS AWARD

#### **Paul Alain Bailly**

Castle Group, Inc./SME

"Is honored for his distinguished career in the mining industry, and the sharing of his knowledge through professional activities and writings on mineral exploration techniques, risks and economics."

#### MINERAL INDUSTRY EDUCATION AWARD

#### **Ernest Peters**

University of British Columbia (Retired)/TMS

"In recognition of his dedication and achievement as a teacher and mentor of students and his efforts to foster continuing education in the field of Hydrometallurgy."

#### **AIME Past Presidents**

| Active List            |      |                      |          |                       |         |
|------------------------|------|----------------------|----------|-----------------------|---------|
| Carl E. Reistle, Jr.   | 1956 | Wayne L. Dowdey      | 1978     | Arlen L. Edgar        | 1986    |
| Lloyd E. Elkins        | 1962 | William H. Wise      | 1979     | Alan Lawley           | 1987    |
| Walter R. Hibbard, Jr. | 1967 | M. Scott Kraemer     | 1980     | Thomas V. Falkie      | 1988    |
| John C. Kinnear        | 1970 | Robert H. Merrill    | 1981     | Howard N. Hubbard, J. | r. 1989 |
| John S. Bell           | 1971 | Harold W. Paxton     | 1982     | Donald G. Russell     | 1990    |
| Wayne E. Glenn         | 1974 | Edward E. Runyan     | 1983     | Milton E. Wadsworth   | 1991    |
| Julius J. Harwood      | 1976 | Nelson Severinghaus, | fr. 1984 | Roshan B. Bhappu      | 1992    |
| H. Arthur Nedom        | 1977 | Norman T. Mills      | 1985     | G. Hugh Walker        | 1993    |

## **AIME Honorary Members**

**Honorary Membership** is awarded in appreciation of outstanding service to the Institute or in recognition of distinguished scientific or engineering achievement in fields embracing, broadly speaking, the activities of AIME and it Member Societies.

#### Active List with Year of Election.

| Frank F. Aplan        | 1991 | Michel T. Halbouty    | 1972 | Albert J. Phillips       | 1972   |
|-----------------------|------|-----------------------|------|--------------------------|--------|
| Nathaniel Arbiter     | 1975 | John P. Hammond       | 1988 | Fred H. Poettmann        | 1984   |
| Charles W. Arnold     | 1991 | Julius J. Harwood     | 1980 | William N. Poundstone    | 1982   |
| Edmund C. Babson      | 1985 | John F. Havard        | 1984 | Michael Prats            | 1989   |
| Charles L. Bare       | 1992 | Claude R. Hocott      | 1974 | Nathan E. Promisel       | 1974   |
| Charles S. Barrett    | 1979 | Howard N. Hubbard     | 1991 | Carl E. Reistle, Jr.     | 1960   |
| John S. Bell          | 1976 | William Hurst         | 1989 | Joseph G. Richardson     | 1987   |
| Kermit E. Brown       | 1989 | Basil P. Kantzer      | 1990 | Kenneth W. Robbins       | 1988   |
| John C. Calhoun, Jr.  | 1975 | Marvin L. Katz        | 1992 | Edward E. Runyan         | 1987   |
| Ben H. Caudle         | 1986 | G. William Knepshield | 1989 | Donald G. Russell        | 1986   |
| Morris Cohen          | 1980 | M. Scott Kraemer      | 1983 | Harrison H. Schmitt      | 1972   |
| Lawrence B. Curtis    | 1986 | Plato Malozemoff      | 1985 | Nelson Severinghaus, Jr. | 1987   |
| Donald A. Dahlstrom   | 1985 | Charles S. Matthews   | 1992 | Cyril Stanley Smity      | 1973   |
| Wayne L. Dowdey       | 1983 | Alexander McLean      | 1991 | T. Don Stacy             | 1990   |
| Robert C. Earlougher  | 1984 | Robert H. McLemore    | 1976 | Marshall B. Standing     | 1990   |
| Arlen L. Edgar        | 1988 | Sir Ian McLennan      | 1971 | Simon D. Strauss         | 1980   |
| Lincoln F. Elkins     | 1977 | Robert H. Merrill     | 1984 | Michael Tenenbaum        | 1979   |
| Lloyd E. Elkins       | 1969 | Stanley D. Michaelson | 1977 | Alfred Weiss             | 1986   |
| Douglas W. Fuerstenau | 1988 | Norman T. Mills       | 1987 | Robert L. Whiting        | 1987   |
| Ted M. Geffen         | 1991 | Morris Muskat         | 1971 | William H. Wise          | 1984   |
| Robert B. Gilmore     | 1985 | H. Arthur Nedom       | 1981 | M. R. J. Wyllie          | 1991   |
| Wayne E. Glenn        | 1979 | Melvin E. Nickel      | 1978 | David A. Zegeer          | 1987   |
| William A. Griffith   | 1986 | Earl R. Parker        | 1982 |                          | 029 25 |
| H. J. Gruy            | 1987 | Harold W. Paxton      | 1991 |                          |        |
|                       |      |                       |      |                          |        |

# Legion of Honor Fifty-Year Members—Class of 1943 83 Society Members added

# Society for Mining, Metallurgy and Exploration 36 members

| Douglas D. Donald     |
|-----------------------|
| Adrian C. Dorenfeld   |
| Ernesto Ferreyros     |
| John W. Gabelman      |
| Gerald E. Gould       |
| William A. Griffith   |
| Gerald B. Hartley, Jr |
| Jack V. Hill          |
| Charles E. Johnston   |
| Peter Joralemon       |
| Fred W. Kirby         |
| George C. McBride     |

Ian M. McLennan
Oliver J. Newell
F. Newton Parks
R. Davidson Piper
John G. Raiselis
John J. Reed
R. V. Taborelli
Ernest W. S. Ward
Robert C. Weagel
Richard F. Wesner
Charles V. Woodard
Warren M. Woodward

# The Minerals, Metals & Materials Society 17 members

| J. Wesley Burgess  |
|--------------------|
| Willis T. Chandler |
| Israel I. Cornet   |
| Robert A. Crosby   |
| E. Ellis Fletcher  |
| Howard J. Godfrey  |

Albert F. Halley Ernest H. Hollingsworth Arnold P. Litman Harold Margolin Robert J. B. Pearson Henry M. Reich George A. Roberts Maurice J. Sinnott Raymond L. Smith John R. Stone J. H. Wernick

# Iron and Steel Society 6 members

Michael Bock Harold B. Emerick T. E. Leontis D. N. Rosenblatt O. G. Specht A. C. Willhelm, Jr.

#### Society of Petroleum Engineers 24 members

| W. A. Alexander     |
|---------------------|
| Douglas Ball        |
| Harold E. Berg      |
| Paul Biggs          |
| Howard B. Bradley   |
| John W. Butler, Jr. |
| P. D. Bybee, Jr.    |
| William R. Cabeen   |

Norman B. Clark, Jr. William O. Crego Ronald K. DeFord Peter E. DesJardins J. A. Fraher Arthur F. Graf Basil P. Kantzer Dick M. Koons

Robert M. Leibrock Marion K. Main Patrick B. McGrath Lee H. Meltzer Frederick F. Murray Louis C. Sass John W. Straker Lee A. Tune, Jr.

# The Moman's Auxiliary to the

## American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.

14th Floor, 345 East 47th Street, New York, NY 10017-2304 212-705-7692

# Report of the WAAIME



Diane Archer, President 1993 WAAIME

In February of 1993, an alternate slate sponsored by **WAAIMEs for Change** was elected on a platform of decentralized management. In order to accomplish change some long standing customs had to be adapted to accommodate a National Board that is for the most part remote from the National Office. The support and advice of the Previous administration are appreciated.

Some of the adaptations of the year have been:

- The fiscal year was changed from September 30 to May 31 to coincide with the change of officers. This will permit timely reporting of our financial affairs in the directory.
- Installation of a new computer system and staffing of the office by an employee who is fully cognizant of updated computer based programs and the membership database.
- Independent accounting located in Nevada has established a financial reporting system. This system is apart from the Administration which is carried out by Committee Chairmen located across the country.
- A consolidated Budget including all WAAIME finances was prepared by the Finance Committee and approved in December.
- The Scholarship Loan Executive Committee, with the full support of their predecessors, are computerizing records and repayment documents. This is an enormous database, and the transition is progressing well. During the fiscal year October 1, 1993 to September 30, 1994, 62 Students were granted Scholarship Loans totaling over \$160,000.
- Library and EFT Committees claim activity in less than half the 30 Sections of WAAIME. The highlight of the year's activities will be a 2-hour joint meeting in Albuquerque which will feature state-of-the-art technology such as CD-ROM.
- A Ways and Means Chairman has been appointed to spearhead raising funds for EFT and Library. These projects require more funds than are currently at their disposal.
- Bylaw revision is underway in order to adapt our procedures to the new decentralized WAAIME organization.
- In response to a recommendation by Round Table 1993, the Board directed that a certified ballot be sent to the membership on the question of moving the National Office from the United Engineering Center in New York to Denver, Colorado. It was the consensus of the Board that such a move would be costly, and not in the best interest of WAAIME.

The **WAAIME Scholarship Loan Fund (SLF)** is a Section program of 27 Sections across the United States as well as two international sections in Mexico and Peru. It is the major project of WAAIME as 67% of our total income is used to provide financial support to University students in the Earth Science or related fields of study. To date the program has assisted over 1700 applicants in completing their college degrees. Since the original loan was granted in 1920, a total of over \$2,900,000 has been awarded on an interest free, 50% repayment basis.

The **Education for Tomorrow (EFT)** program, established in 1959 provides information on the Mineral Industry and Earth Science to students and teachers in Elementary and Senior High Schools. The National EFT Chairman maintains an inventory of audio visual materials including AIME *Transformations*, GeoWorld computer software, teaching modules, as well as notable science textbooks such as Global Science. These resources are available to the Sections in so far as the supply lasts. Section EFT Chairmen work with earth science teachers, and curriculum planners to place these educational aids in the schools. Less than 0.8% of the WAAIME budget is endowed for this project and for this reason, plans are underway to raise funds for EFT and Library.

**Library** – Ten Sections are active in Library activities. Although the income available for Library is less than \$300 yearly, funds have been received from Sections and Members-at-Large as well as a generous donation of \$2,720 by Denver, Colorado 1991 Annual Meeting profit. This has made it possible for the Library Committee to sponsor a Library Fair at the Annual Meeting. Books, videotapes, and rock collections are donated to Schools and Public Libraries through the Sections.

**Newsletter** has a new format and is designed to provide current information on WAAIME activities to the membership. Three issues are published yearly, a Pre-Convention issues in October, a Post-Convention issue in March and finally a Post-Scholarship issue in June. It contains summaries of all National Board meetings and reports, Section activities, and Annual meeting plans.

**Administration costs** – Based on the projected WAAIME budget for 1993-1994, of the total available income, 33% is allocated for Administration.

**Chest Assistance to Students** is a National program designed to provide financial assistance to several students for emergency or summer field trip requirements. Grants totaled \$2,750. On the local level, Section Chest programs included many volunteer hours helping with women's shelters, nursing homes and collecting eyeglasses for the Lighthouse for the Blind.

**Publicity** Chairman supplies articles and information to the magazines of the AIME member societies and other technical publications.

**State of Affairs of WAAIME** – In spite of the best efforts of the majority of the Board, there has been an unsettled element in the organization. It is hoped that when the question of moving the office is laid to rest, that all energies can be devoted to fulfilling our main objective which is enhancing the mineral industry through education.

It is my privilege to thank Dr. Alfred Weiss, AIME Executive Director, and the staff of AIME for their continued support and assistance particularly during this year of transition.

Diane archer

Coopers &Lybrand certified public accountants

#### REPORT of INDEPENDENT ACCOUNTANTS

To the Board of Trustees of the American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.:

We have audited the accompanying balance sheets of the AMERICAN INSTITUTE of MINING, METALLURGICAL and PETROLEUM ENGINEERS, INC. ("AIME") as of November 30, 1993 and 1992, and the related statements of revenue and expenses and surplus in operating fund, changes in endowment and quasi-endowment funds, and cash flows for the years then ended. These financial statements are the responsibility of AIME's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of AIME at November 30, 1993 and 1992, and the results of its operations and its cash flows for the years then ended, in conformity with generally accepted accounting principles.

Coopers + Sylvand

New York, New York December 23, 1993. AMERICAN INSTITUTE OF MINING, METALLURGICAL AND PETROLEUM ENGINEERS, INC.

Financial Statements as of November 30, 1993 and 1992 and for the years then ended

## **BALANCE SHEETS**

November 30, 1993 and 1992 (Note 1a)

| ASSETS:   | 1993              | 1992                 |
|---|-------------------|----------------------|
| Operating fund:<br>Cash   | \$ 36,561         | s 19.308             |
| Accounts receivable, primarily  | 3 30,301          | \$ 19,308            |
| due from Member Societies Equipment, furniture and fixtures, less accumulated depreciation of \$32,150 in 1993 and \$24,325   | 4,120             | 1,736                |
| in 1992 (Note 1d)   | 16,131            | 23,093               |
| Prepaid expenses  | 109,886           | 36,320               |
|   | 166,698           | 80,457               |
| Endowment and quasi-endowment funds: Investments, at cost plus accrued interest (at market quotations plus accrued interest: \$11,390,461 in 1993 and \$10,593,512 in 1992) |                   |                      |
| (Notes 1e and 3)  | 9,608,943         | 8,702,177            |
| Cash and cash equivalents   | 1,061,230         | 1,343,714            |
| Pledges receivable (Note 4)   | 88,000            | 20.246               |
| Due from operating fund Inventories (Note 1c)   | 64,237<br>236,046 | 29,246<br>284,641    |
| Loans receivable from Member Societies plus accrued interest  | 2,50,040          | 204,041              |
| (Note 2)  | 350,851           | 401,550              |
| Prepaid expenses  | 8,658             | 4,814                |
|   | 11,417,965        | 10,766,142           |
| Property Fund:  |                   |                      |
| Founder Society advances to United  |                   |                      |
| Engineering Trustees, Inc. (Note 5)   | 265,000           | 265,000              |
|   | \$11,849,663      | \$ <u>11,111,599</u> |

| LIABILITIES and FUND BALANCES:   | 1993                          | 1992                |
|--|-------------------------------|---------------------|
| Operating fund: Accounts payable and accrued expenses Loan payable on behalf of UET (Note 6) Due to endowment fund | \$ 30,490<br>71,667<br>64,237 | s 25,894<br>29,246  |
| Surplus - unrestricted   | 304<br>166,698                | 25,317<br>80,457    |
| Endowment and quasi-endowment funds: Accounts payable, Member Society  | 27,082                        | 58,722              |
| Deferred support - Transformations<br>Tapes (Note 4)   | 88,000                        |                     |
| Fund balances (Note 1a)  | _11,302,883                   | _10,707,420         |
|  | 11,417,965                    | _10,766,142         |
| Property fund (Note 5)   | <u>265,000</u>                | 265,000             |
|  | <u>\$11,849,663</u>           | <u>\$11,111,599</u> |

The accompanying notes are an integral part of these financial statements

#### STATEMENTS of REVENUE and EXPENSES and SURPLUS in OPERATING FUND

for the years ended November 30, 1993 and 1992 (Note 1a)

|   | 1993       | 1992      |
|---|------------|-----------|
| Revenue:  |            |           |
| Contributions by Member Societies for:<br>Other engineering federations           | \$ 40,507  | \$ 40,745 |
| Administrative expenses   | 16,000     | 16,000    |
| Appropriations from endowment funds   | 419,000    | 328,000   |
| Offshore Technology Conference  | 29,283     | 30,985    |
| Meetings  | 17,723     | 16,160    |
| Interest, primarily from Founder Society advances to United Engineering Trustees, |            |           |
| Inc. (Note 5)   | 13,282     | 14,870    |
| Other   | <u>738</u> | 918       |
|   | _536,533   | 447,678   |
| Expenses:   | 50 107     | E( 2/E    |
| Federation support  | 59,107     | 56,245    |
| Meetings  | 32,546     | 17,225    |
| Other programs and administrative expenses (Note 7)                               | _469,893   | 419,805   |
|   | 561,546    | 493,275   |
| Excess of expenses over revenue   | (25,013)   | (45,597)  |
| Surplus - unrestricted:<br>Balance, beginning of year                             | _25,317    | _70,914   |
| Balance, end of year  | \$ 304     | \$ 25,317 |

The accompanying notes are an integral part of these financial statements.

# STATEMENTS of CHANGES in ENDOWMENT and QUASI-ENDOWMENT FUNDS

for the years ended November 30, 1993 and 1992 (Note 1a)

|   | 1993           | 1992                |
|---|----------------|---------------------|
| Balance of fund accounts, beginning of year   | \$10,707,420   | \$10,055,369        |
| Revenue: Contributions  |                | 6,690               |
| Net gains on sale of investments<br>(Note 1f)   | 1,070,790      | 897,135             |
| Interest and dividends, net of investment advisor and custodian fees of \$82,802 in 1993 and \$78,308 in 1992 (Note 1g) | 268,344        | 319,870             |
| Sale of books, volumes, etc.  | 71,420         | 82,655              |
| Sale of "Transformations" tapes   | 51,297         | 50,158              |
| Royalties from oil and gas deeds  | 13,241         | 14,416              |
|   | 1,475,092      | _1,370,924          |
| Expenses and appropriations: Publication expenses   | 65,787         | 71,849              |
| Public Issues Committee   | 229,501        | 190,670             |
| Other awards  | 63,076         | 92,288              |
| AAES dues and travel expenses   | 74,187         |                     |
| Free books  | 15,197         | 21,909              |
| Sundry expenses   | 12,881         | 14,157              |
| Appropriations to operating funds   | 419,000        | 328,000             |
|   | <u>879,629</u> | 718,873             |
| Balance of fund accounts, end of year   | \$11,302,883   | <u>\$10,707,420</u> |

The accompanying notes are an integral part of these financial statements.

## STATEMENTS of CASH FLOWS

for the years ended November 30, 1993 and 1992

(Note 1a)

|   | 1993  | 1992   |
|---|---|--|
| Cash flows from operating activities:  Excess of expenses over revenue Endowment revenue, excluding net gains on sale of investments, less expenses and appropriations of | (\$ 25,013)                                 | (\$ 45,597)                                  |
| endowment and quasi-endowment funds   | _(475,327)                                  | _(245,084)                                   |
|   | (500,340)                                   | (290,681)                                    |
| Adjustments to reconcile the above to net cash used in operating activities:  Depreciation Changes in assets and liabilities: Decrease in accrued interest                | 7,952                                       | 8,050  |
| on investments (Increase) in accounts receivable Decrease (increase) in inventories (Increase) decrease in prepaid  | 10,941<br>(90,384)<br>48,595                | 2,466<br>(28,733)<br>(93,851)                |
| expenses Increase in accounts payable and accrued expenses  | (77,410)<br>132,623                         | 6,955<br><u>48,254</u>                       |
| Net cash used in operating activities   | 32,317<br>(468,023)                         | (56,859)<br>(347,540)                        |
| Cash flows from investing activities: Purchases of securities Sales of securities Loans receivable from Member Societies Capital expenditures                             | (8,820,796)<br>8,973,879<br>50,699<br>(990) | (5,806,295)<br>7,249,737<br>(2,368)<br>(135) |
| Net cash provided by investing activities   | _ 202,792                                   | 1,440,939                                    |
| Net increase (decrease) in cash   | (265,231)                                   | 1,093,399                                    |
| Cash and cash equivalents Beginning of year   | 1,363,022                                   | 269,623                                      |
| End of year   | \$1,097,791                                 | \$1,363,022                                  |

The accompanying notes are an integral part of these financial statements.

#### **NOTES to FINANCIAL STATEMENTS**

#### 1. Summary of Significant Accounting Policies:

#### a. General:

The financial statements comprise the accounts of the American Institute of Mining, Metallurgical and Petroleum Engineers, Inc. ("AIME"). They do not include the accounts of the Society of Mining, Metallurgy and Exploration Engineers ("SME"), the Society of Petroleum Engineers ("SPE"), The Minerals, Metals and Materials Society ("TMS"), and the Iron & Steel Society ("ISS"), the four Member Societies of AIME.

Quasi-endowment funds of \$8,632,352 and \$8,268,937 at November 30, 1993 and 1992, respectively, represent amounts which have been restricted by AIME's Board of Trustees. The Board of Trustees has also determined that such funds be retained and invested.

AIME's Board of Trustees periodically makes appropriations from interest and dividend income of endowment funds to the operating fund and the individual Member Societies based on their respective operating requirements.

#### b. Cash Equivalents:

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents.

#### c. Inventories:

Salable publications and books are carried at the lower of cost (first-in, first-out) or net realizable value.

#### d. Equipment, Furniture and Fixtures:

Equipment, furniture and fixtures are recorded at cost and are depreciated by the straight-line method over their estimated useful lives. Depreciation expense for 1993 and 1992 was \$7,952 and \$8,050, respectively.

#### e. Investments:

Investments purchased are carried at cost or, if acquired by gift, at market value on date of gift plus accrued interest, where applicable. Purchases and sales of securities are reflected on a trade-date basis.

#### f. Gains or Losses on Sale of Investments:

Gains or losses on sale of investments are determined on the basis of average cost. Such gains or losses related to investments which are part of the endowment commingled pool of investments are allocated to the individual funds on the basis of their relative book values at the end of each quarter.

#### g. Interest and Dividend Income:

Interest from investments is recorded on the accrual basis. Dividends are recorded on the cash basis; however, such basis of accounting does not differ significantly from the generally accepted accounting method of accruing dividends on the ex-dividend date.

#### h. Retirement Income Plan:

The AIME Retirement Income Plan ("Plan"), a defined benefit retirement income plan, covers substantially all full-time employees. Eligible employees receive a non-contributory benefit based on a standard dollar amount per month, irrespective of the amount of compensation, multiplied by the years of benefit service, or may elect to contribute a percentage of their compensation to the Plan and receive an increased benefit. The contributory benefit is based on years of benefit service and the employee's compensation. AIME accounts for the Plan in accordance with the Statement of Financial Accounting Standards No. 87, "Employers' Accounting for Pensions".

#### 1. Summary of Significant Accounting Policies

#### h. Retirement Income Plan

The Retirement Income Committee has contracted with Connecticut General Life Insurance Company ("Connecticut General"), through a Group Annuity Contract, to maintain the assets of the Plan and pay pension benefits to the annuitants. The Plan participates in various investment accounts of Connecticut General and Loomis Sayles. Plan assets are invested in growth common stocks, real estate partnerships, property, mortgage loans, and short-term investments.

The funding policy of AIME is to contribute such amounts as are necessary on an actuarial basis to provide the Plan with assets to meet the benefits expected to be paid to annuitants or their beneficiaries.

The following tables set forth AIME's share of the Plan's funded status and the amounts recognized in AIME's balance sheets at November 30, 1993 and 1992:

|   | 1993                  | 1992                  |
|---|-----------------------|-----------------------|
| Accumulated benefit obligation, including vested benefits of \$563,486 (1993) and \$578,691 (1992)                      | \$565,832             | \$581,123             |
|   |                       | W N 000 00            |
| Projected benefit obligation<br>Plan assets at fair value   | \$596,202<br>_613,686 | \$616,420<br>_610,746 |
| Plan assets (less than) in excess of projected benefit obligation   | 17,484                | (5,674)               |
| Unrecognized prior-service cost<br>Unrecognized net (gain) loss<br>Unrecognized net assets at<br>December 1, 1986 being | 62,861<br>(17,074)    | 70,721<br>13,190      |
| recognized over 12 years  Prepaid retirement income cost  | (50,644)              | (60,774)              |
| included in prepaid expenses  | <u>\$ 12,627</u>      | <u>\$ 17,463</u>      |

Net retirement income cost for 1993 and 1992 included the following components:

|                                  | 1993     | 1992     |
|----------------------------------|----------|----------|
| Service cost                     | \$14,908 | \$18,485 |
| Interest cost                    | 45,174   | 46,368   |
| Projected return on plan assets  | (47,515) | (46,963) |
| Amortization of unrecognized     |          |          |
| prior-service cost               | 7,860    | 7,860    |
| Amortization of transition asset | (10,130) | (10,130) |
| Net retirement income cost       | \$10,297 | \$15,620 |

The weighted average discount rate and rate of increase in future compensation used in determining the actuarial present value of the projected benefit obligation were 8% and 5.5%, respectively. The expected long-term rate of return on plan assets is 8.0%.

#### 2. Financing of TMS/ISS and SME Headquarters Facilities:

#### TMS/ISS Headquarters:

During 1978, TMS/ISS obtained a \$300,055 loan from the endowment fund, payable over twenty years at a floating interest rate based on the endowment fund's prior year's dividend and interest earnings, net of management fees. At November 30, 1993 and 1992, the balance of the loan plus accrued interest at 2.55% (1993) and 3.69% (1992) per annum was \$103,032 and \$123,250, respectively.

#### SME Headquarters:

During 1979, SME obtained a \$467,000 loan from the endowment fund, payable over twenty years at a floating interest rate based on the endowment fund's prior year's net earnings after management fees. At November 30, 1993 and 1992, the balance of the loan plus accrued interest at 2.55% (1993) and 3.69% (1992) was \$197,819 and \$228,300, respectively.

#### SME Foundation:

During 1992, the SME Foundation obtained a \$50,000 loan from the endowment fund. The repayment terms of this loan are currently being negotiated.

#### 3. Changes in Investments:

Endowment and quasi-endowment funds:

|   | 1993                | 1992         |
|---|---------------------|--------------|
| Investments, at cost plus accrued interest, beginning of year | \$ 8,702,177        | \$ 9,250,950 |
| Purchases of securities                                       | 8,820,796           | _5,806,295   |
|   | 17,522,973          | 15,057,245   |
| Sales of securities   | _8,973,879          | _7,249,737   |
|   | 8,549,094           | 7,807,508    |
| Net realized gain on sales of securities                      | 1,070,790           | 897,135      |
| Net change in accrued interest                                | (10,941)            | (2,466)      |
| Investments, at cost plus accrued interest, end of year       | <u>\$ 9,608,943</u> | \$ 8,702,177 |

#### 4. Pledges Receivable:

AIME has received commitments for \$88,000 to be used for the Transformations Tapes project. Funds have been pledged by IEEE and the National Bureau of Mines for \$25,000 and \$63,000, respectively. AIME expects to receive these amounts in fiscal year 1994.

#### 5. Advances to United Engineering Trustees, Inc.:

In accordance with an agreement between AIME and the United Engineering Trustees, Inc. ("UET"), AIME has agreed to maintain permanently its principal offices in the United Engineering Center Building and to pay a pro rata portion of the operating costs of the building. AIME's share of these costs during 1993 and 1992 was \$65,952 and \$65,445, respectively. The advance to UET, made in connection with the erection of the United Engineering Center Building, is repayable only out of available reserve funds on dissolution of UET and earns interest at an annual rate of 4%.

#### 6. **Assumption of UET Debt:**

During September of 1993, the repayment plan for UET's \$1.5 million loan obligation was approved. Under this plan, AIME's share of the repayment is \$71,667 plus 6% interest payable on or before September 30, 1998. AIME has agreed to pay this amount in equal installments over a 5-year period commencing in 1994.

#### 7. Other Programs and Administrative Expenses:

Other programs and administrative expenses consist of the following:

|                                    | 1993              | 1992             |
|------------------------------------|-------------------|------------------|
| Payroll and employee benefits      | \$270,821         | \$223,918        |
| Audit and legal services           | 19,239            | 27,027           |
| Rent                               | 65,952            | 65,145           |
| AIME Board activities              | 26,644            | 25,212           |
| Supplies, postage, and maintenance |                   |                  |
| and repairs                        | 17,978            | 19,192           |
| Insurance                          | 12,400            | 11,751           |
| Depreciation                       | 7,952             | 8,050            |
| Publications and printing          | 3,424             | 8,649            |
| Other                              | <u>45,483</u>     | _30,861          |
|                                    | \$469,89 <u>3</u> | <u>\$419,805</u> |

#### 8. Tax Status:

AIME is a not-for-profit organization exempt from federal income taxes under Section 501(c)(3) of the Internal Revenue Code.

AMERICAN INSITUTE OF MINING, METALLURGICAL, AND PETROLEUM ENGINEERS, INC.

# Transformations:

Science, Technology & Society

The American Institute of Mining, Metallurgical, and Petroleum Engineers is dedicated to advancing the knowledge of engineering in the fields of minerals, metals, materials and manufacturing and energy resources, and to undertaking programs addressing significant needs including education.



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