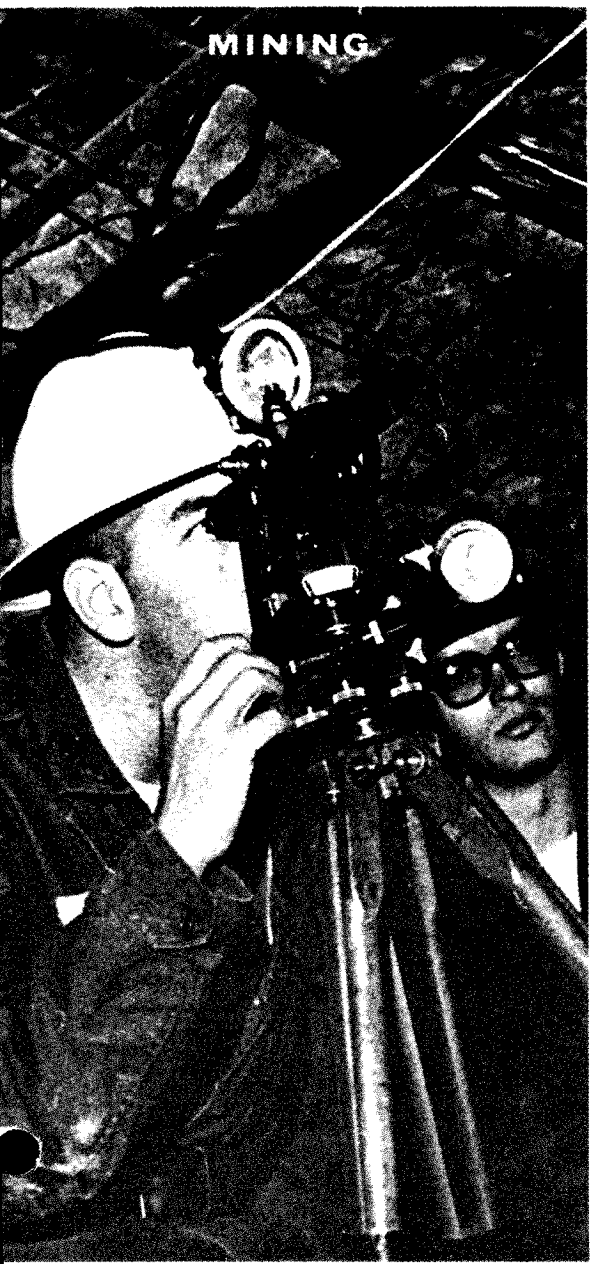
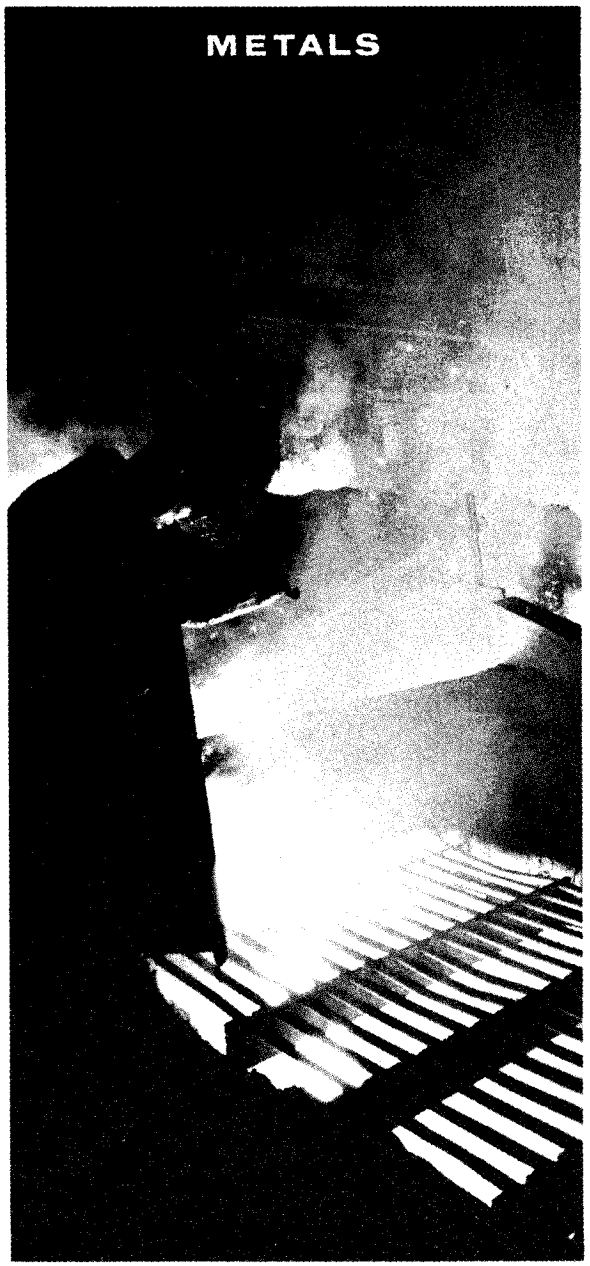
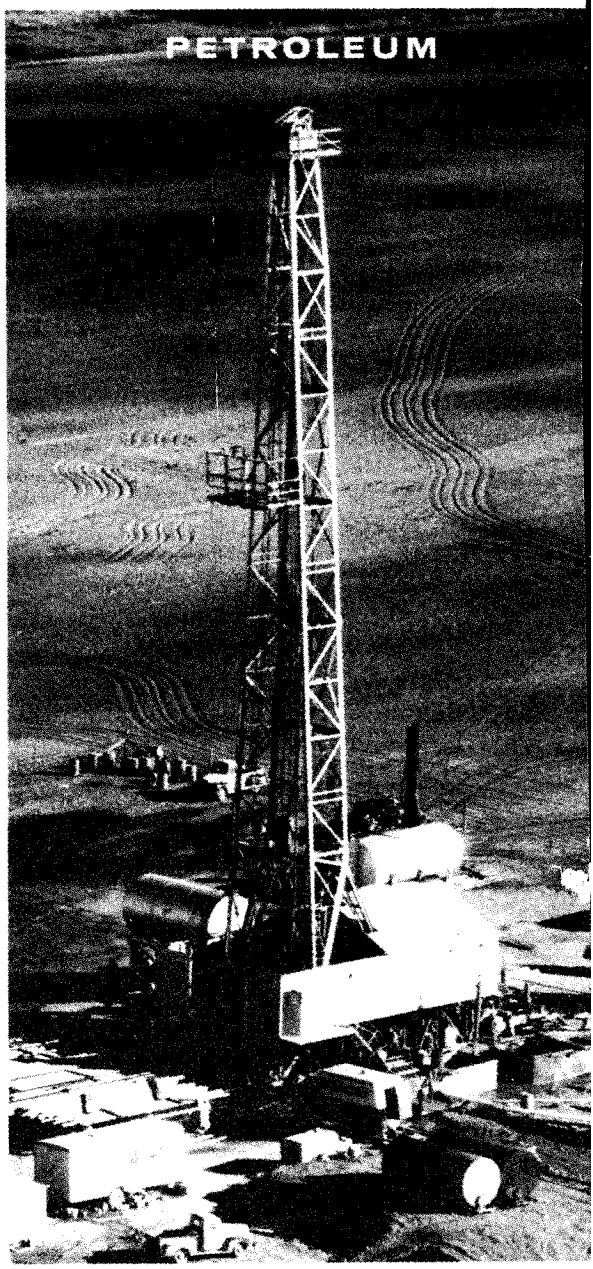
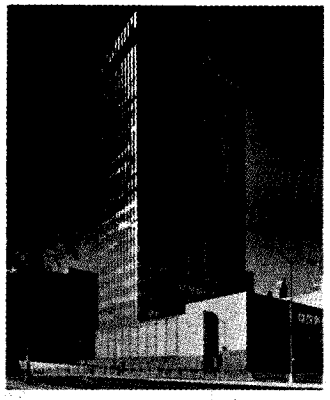
Mineral Engineers of Today
Form the World of Tomorrow

ANNUAL REPORT 1963 AIME









1963-a good year for AIME

by Roger V. Pierce, President, AIME

There is good reason for pride in our accomplishments during 1963. The Institute grew and gained stature during the year, but of greatest importance was the inauguration of a new program to inform the public of the vital importance of mineral engineering and to affirm among members the value of their own work. ☐ Because other industries are dependent on the power and natural resources we supply, the minerals industry is the number one industry in the world today. Our organization of some 37,000 members serves the minerals industries in many capacities. Always, our major function is to represent the engineers who make possible the production of basic materials for our modern civilization. ☐ The material from our constituent societies contained in this report illustrates the importance of mining, metallurgical and petroleum engineering to the world's progress; it describes the many ways AIME, through its individual members, is striving to meet this challenge.

ROGER V. PIERCE

MEMBERSHIP—Because of great advances in technology and because of new tools and methods which increase production and efficiency with fewer personnel, the necessity for creative engineers should continue upward. Yet the challenge and attraction of our profession has hardly diminished. Now more than ever, the need for capability in recovering basic minerals from the earth for use by mankind is critical to progress. It is gratifying to note that membership in all our constituent societies has increased.

STUDENT ACTIVITY—One of our major jobs and primary goals is to reach and attract leading high school graduates to the mineral engineering professions. Competition for these young men is keen throughout the fields of engineering and science. We of AIME realize that we must demonstrate dramatically the importance of our work if we are to obtain the best students. This we have strived to do in 1963 through our "Engineers of Tomorrow" program sponsored by the AIME Women's Auxiliary. This program includes distribution of booklets, showing of films to secondary school students, and activities in AIME Student Chapters throughout the nation. We have established a program to support financially participation of AIME Sections in Science Fairs. We have encouraged more students to enter the AIME Student Prize Paper Contest by increasing our prize to $500 for each of six divisions.

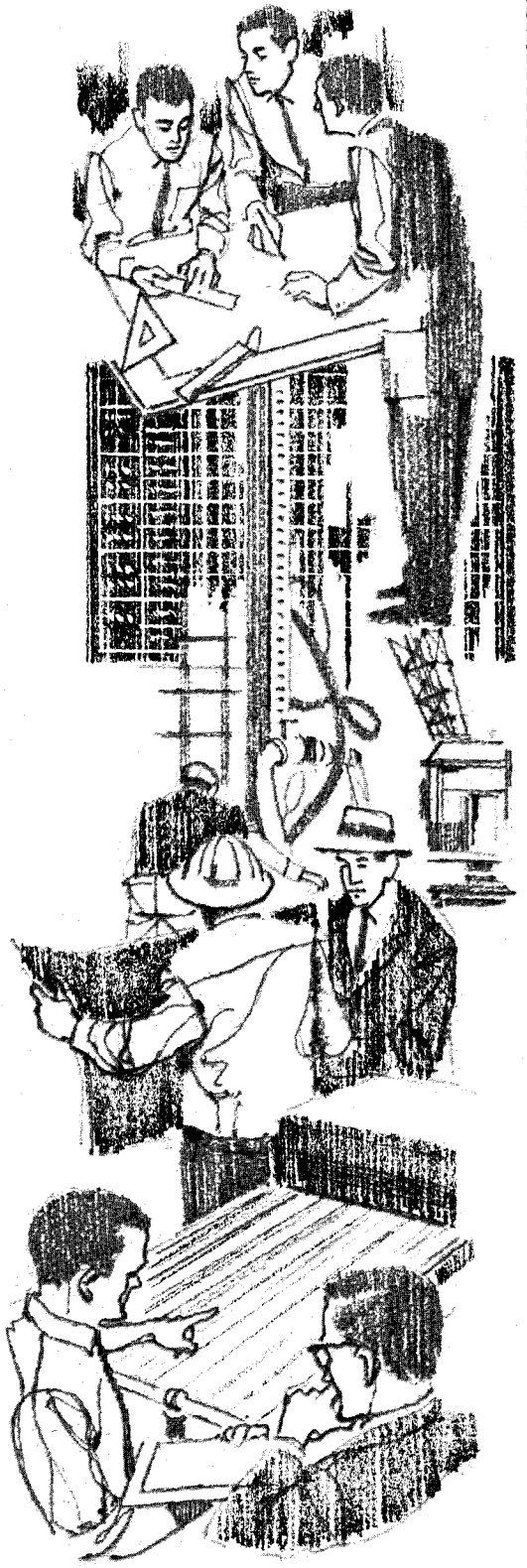
FINANCES—Profits are not the goal of AIME. Rather, the goal is to use our resources for the greatest benefit of our members and the mineral engineering profession as a whole. Uses of the funds available to us include: The publication of important technical literature; the fostering of meetings designed to provide forums for the exchange of engineering ideas. To do this effectively, we must have capable staffs at the Institute level and in each of our constituent societies. In 1963, our expenses and income were virtually equal, which is our aim. The financial statement to be found on the back cover of this report details expenditures and activities for which monies were spent.

OPERATION—The initiation of our image program was one of our most far-reaching decisions of 1963. In the belief that one of our greatest challenges of the future is to tell effectively the story of mineral engineering to the public and to students, a committee of the industry's best public relations experts was appointed. They will guide us in the use of money appropriated by the AIME Board to inform the public of the importance of and opportunities in engineering. They will show us ways to gain wider interest in mineral engineering and to instill greater pride among persons working in this field.

Such a program is a great challenge to AIME. Its success will depend upon the efforts of our members and their willingness to use the materials provided to tell our story to the world. We seek your ideas and wholehearted support in making it successful.

It was my great privilege as 1963 president of AIME to visit 45 of our sections throughout the nation. In each section, I found many devoted members working diligently for the good of the Institute and the mineral engineering industry. We are greatly indebted to the many energetic members who make our organization vital and strong.

Dr. KARL L. FETTERS,
President-Elect



AIME | Society of Mining Engineers

by Edward G. Fox, President

To achieve success, it is important to associate with people who seek the goals you do. The professional society provides the opportunity to exchange experiences and ideas with others. Active participation leads to a truer measure of individual knowledge and ability, encourages higher achievement and fosters self confidence.

The Society of Mining Engineers of AIME, including mining geologists, is the professional society for those engaged in locating, mining and beneficiating metal ores, industrial minerals and fossil fuels. Our members participate actively in the AIME Annual Meeting in February and the SME Fall Meeting in September. They appear on the programs of regional meetings and carry the role of leadership in meetings of an international nature.

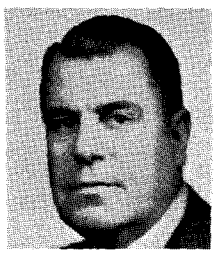
At these meetings, each member profits according to his contribution of time and effort. He broadens his acquaintance with those who are on the way up and those who have "arrived." As his circle of acquaintances grows, so do opportunities for advancement.

Many of the papers presented at these meetings are published in MINING ENGINEERING magazine or the TRANSACTIONS of the Society of Mining Engineers of AIME. Both periodicals have world wide circulation. Thus, members' achievements are broadly publicized.

Engineers and scientists as professional people are custodians of a specialized fund of knowledge. This unique role entails three responsibilities: to generate new knowledge for the fund; to use this knowledge for the benefit of mankind; to extend knowledge to others, especially younger engineers. The members of AIME know that tomorrow's positions of major responsibility will be filled by young men who have developed creative engineering potentials early in their careers. It is their professional obligation to instruct and encourage the young men who will succeed them. There is no better way for a young man to benefit from this instruction than through active participation in his professional society.

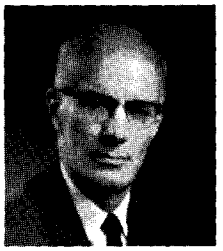
Truly, for anyone working in the minerals industry, membership in his professional society, The Society of Mining Engineers of AIME, is an opportunity, a privilege, and a necessity.

EDWARD G. FOX
President

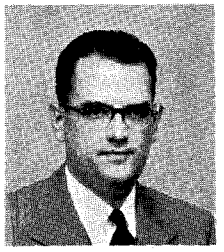


SANDFORD S. COLE
President-Elect

W. B. STEPHENSON
Past President



JOHN G. HALL
Treasurer



SELECTED EDITORIAL MATERIAL

from 1962-63 Transactions and from MINING ENGINEERING

Borehole Camera, *January 1963*

A borehole TV camera developed by the Lawrence Radiation Laboratory was described as the next best thing to a miniature geologist. The camera can be lowered into drill holes to scan for minerals and other geological information.

Review of Accomplishments, *February 1963*

Technical accomplishments in the field of mining during 1962 were reviewed in this issue. It provided a handy idea reference for operating engineers and presented mineral production statistics for 1962.

Self-fluxing Iron Pellets, *March 1963*

Self-fluxing pellets were reported as the latest step in the technology to improve iron ore mining and smelting. The ore is reduced to a powder, upgraded and put back together in rich pellets which make a high-grade, amenable burden for blast furnaces. The advance was reported by a Cleveland-Cliffs Iron Ore Company engineer.

Fuel Oil Explosive Danger, *April 1963*

The little-known dangers of prepared ammonium nitrate-fuel oil explosives were disclosed for the first time by a duPont engineer. It was another step in the constant effort of the industry to remove hazardous conditions in mining through broader safety education.

Erie Mining Company Profile, *May 1963*

Erie Mining Company was the first to manufacture pellets from ores rather than search for naturally rich ores abroad. While other companies sought fields abroad, Erie engineers expanded production from low-grade, untouched ores in Minnesota.

Bacteria Promote Effective Leaching, *June 1963*

The use of bacteria to promote effective leaching of copper minerals was described by U. S. Bureau of Mines engineers, demonstrating the depth of research prevalent in the mining industry today.

New Lead Resources, *July 1963*

The discoveries of lead and other metals during an exploratory boom necessitated by dwindling resources of lead in the United States was discussed. Almost every major mining company in the United States was involved in the discovery and development of the new mines situated about 40 miles from the old Lead Belt in Missouri.

Arthur Bunker Interview, *August 1963*

The dynamic and colorful past of mining engineering was brought to life by an interview with Arthur Bunker who was chairman of the board of American Metal Climax. Bunker, in an interview with Henry Carlisle, another famous mining engineer, told the story of the development of radium from Colorado ores and of its preparation and sale to hospitals, one of his first great achievements.

Digital Computers for Mines, *September 1963*

The use of digital computers for solving mine ventilation problems is an example of technology developed in other fields of engineering which can be applied to the problems of the mineral industry.

"State of the art," *October 1963*

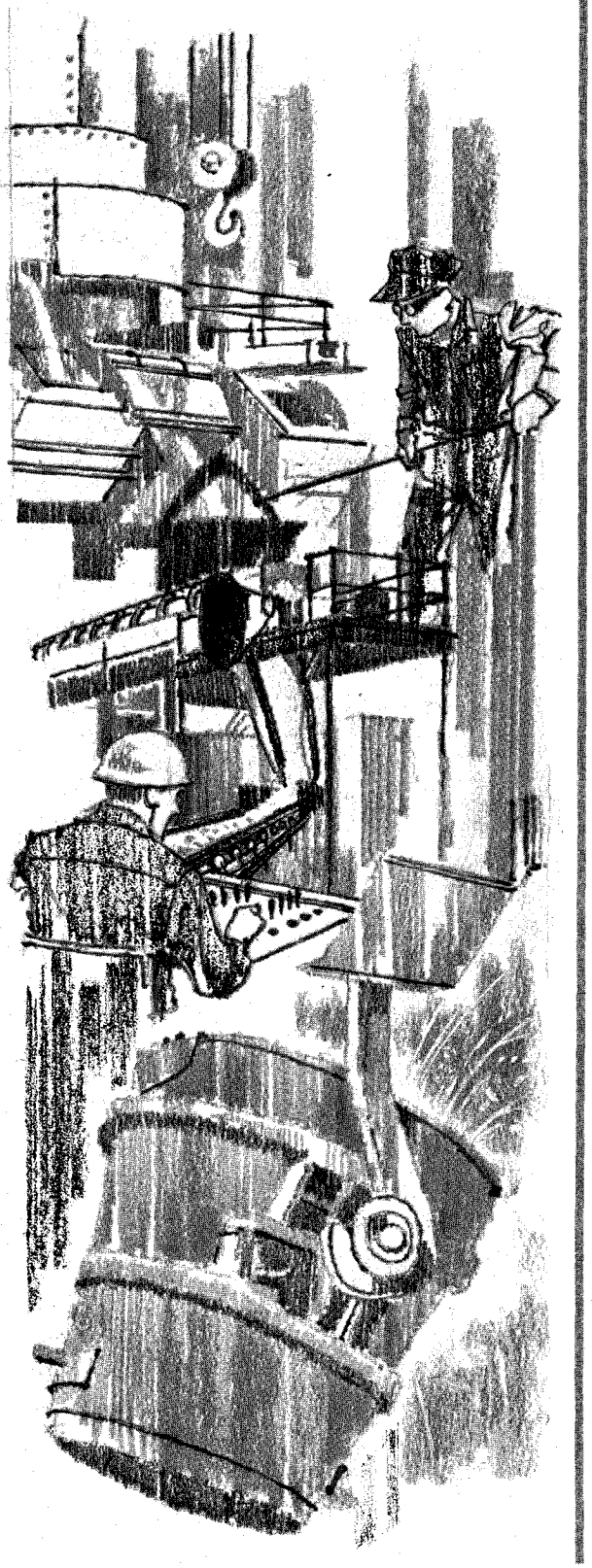
A roundup of cyclone applications and engineering data for hydrometallurgical purposes by an Australian metallurgist provided an indication of the extent of knowledge and measurement in this field.

Coal Research Spurs Expansion, *November 1963*

A census and status report of research demonstrated that it was largely responsible for the new period of expansion in the coal industry. A shift in outlook toward the consumer aided intensive research and technological improvement in bringing about the expansion.

Look at Past and Future, *Fall 1963*

A definitive study of the new mining boom in British Columbia told what has happened in this vital mining area and what may be expected in the future.



AIME | *The Metallurgical Society*

by Richard C. Cole, President

Quality meetings and quality publications are key words in The Metallurgical Society. Meetings include technical conferences, regional meetings, symposia and regularly scheduled sessions at annual and fall meetings.

During 1963, The Metallurgical Society sponsored 12 major meetings at which 925 papers were presented. Of international importance was the symposium on "The Blast Furnace—Theory and Practice," from which a definitive book will be published. Technical conferences were held on "Deformation Twinning" and on "Refractory Metals."

To make advances in metals science and engineering permanently available, The Metallurgical Society has sponsored a series of books on metallurgy. In 1963, 11 books were published for the Society. Of particular significance is the two-volume work on "Electric Furnace Steelmaking," which gives basic information on the theory and fundamentals, and on the design, operation and practice of electric arc furnaces. The Society itself published several works.

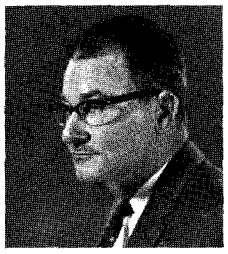
The Society recently concluded an agreement with Gordon and Breach, Science Publishers, Inc., to publish proceedings of Metallurgical Society conferences and symposia. Most books will be published in paper bound editions as well as hard bound. The paper bound editions will be sold at low prices to members and conference registrants. This is part of the effort to bring maximum service to members at minimum cost.

The Society believes that the needs of its members can be met best by developing a concept of "total programming." Within this concept, most of the conferences and symposia on process metallurgy in 1964 will be grouped together and presented during one week. Both for its educational value and for revenue to meet increasing expenses, an exposition will be held in conjunction with the conference.

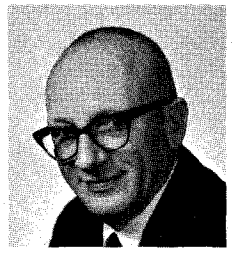
The Metallurgical Society, through AIME, continues to support Engineers Joint Council and Engineers Council for Professional Development in search of the best means of information retrieval, career guidance, engineering manpower and accreditation of curricula. Support is lent through a variety of committees, particularly those on education and on the metallurgical profession.

On all fronts, much has been accomplished, but much more needs to be done. Support and active participation by members of the metallurgical profession are urgently needed if goals are to be reached.

R. C. COLE
President

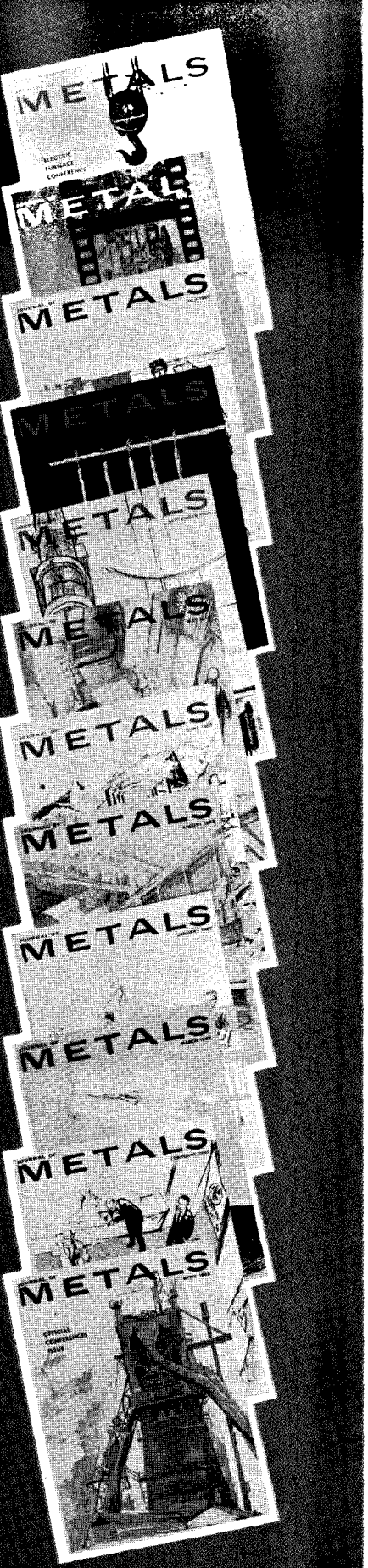


J. H. SCAFF
President-Elect



K. L. FETTERS
Past President

R. L. HENNEBACH
Treasurer



SELECTED EDITORIAL MATERIAL
from 1962-63
JOURNAL OF METALS

Steelmaking in the Ukraine, *Translated by Walter Carroll (p. 29)*
A survey of expansion and modernization schemes during the past three years of the seven-year plan for the steel industry of the Ukraine.

Around the World for 800 Days, *B. C. Giessen and N. J. Grant (p. 32)*
On September 5, 1962 a fragment, believed to be part of the Sputnik IV satellite launched on May 15, 1960, was found in a street in Manitowoc, Wisconsin. This paper presents a metallurgical evaluation of the material recovered.

Residual Elements in Maraging Steels, *C. J. Novak and L. M. Diran (p. 200)*
A review of the present state of knowledge on the compositional limits and the alloy purity requirements for maraging steels. (The Electric Furnace Conference Award Paper)

Kaldo Operations in North America, *R. C. Oswald (p. 285)*
A description of the operations of the two-furnace Kaldo basic oxygen steelmaking facility of Sharon Steel Corp. —the only one of its kind on the North American continent.

Blast Furnace Practice With Very Low Slag Volume, *J. C. McKay and J. A. Peart (p. 288)*
An outline of the blast furnace trial test carried out at The Steel Co. of Canada in which the slag volume produced was the lowest level known to have been attempted on a commercial blast furnace. (The Hunt Award Paper)

Oxygen Lances and the Thermochemistry of the Open Hearth, *P. J. Koros (p. 304)*
A review of the effects of the use of high-purity oxygen on the chemical and thermal limitations of the open-hearth process, with particular emphasis on the control and economics of the operation. (The McKune Award Paper)

Powder Metallurgy in Aerospace Applications, *J. C. Barrett (p. 349)*
A survey of aerospace applications of Be, W, Mo, and Ta components made by powder metallurgy. Army, Navy, and Air Force R & D is reviewed, and consideration is given to potential areas of development.

Steel for Mexico's Economic Development, *F. Weston Starratt (p. 421)*
A survey of the Mexican steel industry, starting with the first plant in Monterrey and following developments to the present day. Future demand and production are also considered.

World Bank and World Mineral Development, *James F. McDivitt (p. 486)*
A description of the lending policies, sources of capital, and operations of the International Bank for Reconstruction and Development, this article gives examples of the direct and indirect financing activities of the Bank in mineral development.

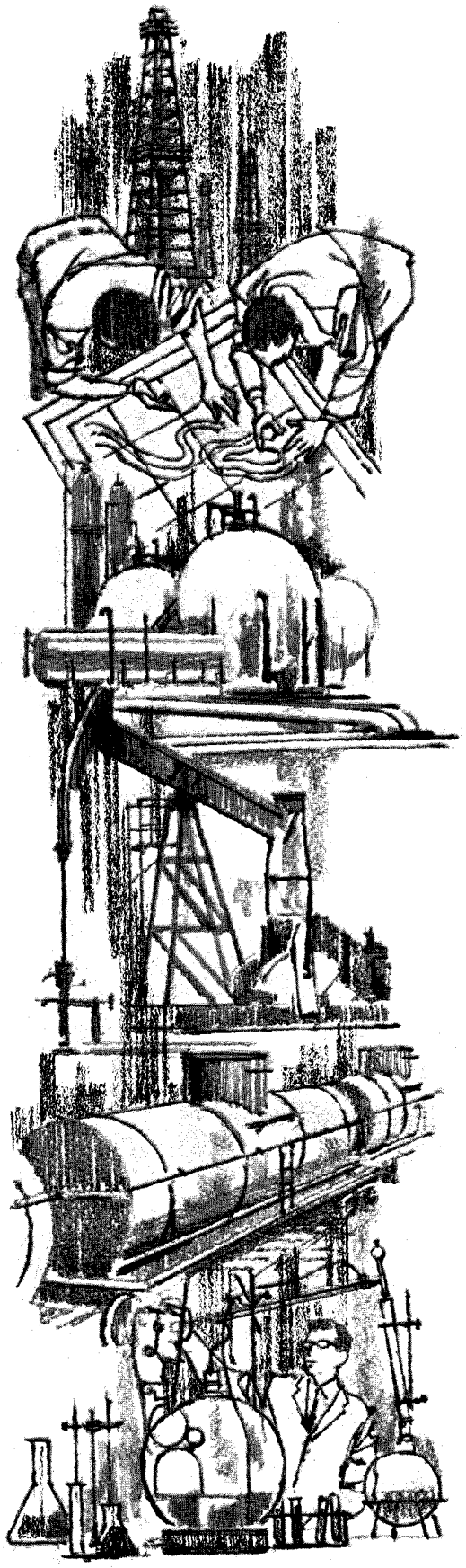
Basic Oxygen Progress at Cleveland, *J. A. Glasgow (p. 572)*
A discussion of operating experience with the basic oxygen steelmaking furnaces at Jones & Laughlin's Cleveland works.

Steelmaking Heat Potentialities Point Toward Continuous Processing, *George B. Alexandrovsky (p. 585)*
A comparison of heat balances for LD, Kaldo, and open-hearth practice with and without oxygen lancing indicates improvement in techniques through pretreatment and finally continuous steelmaking.

Lead Blast Furnaces Continuously Tapped, *J. T. Roy and J. R. Stone (p. 827)*
The design and operation of ASARCO's continuous tapper for lead blast furnaces. This article points out the advantages of this technique over conventional tapping practice.

Electrothermal Recovery of Zinc at Duisburger Kupferhuette, *Alfred Dietrich (p. 830)*
A description of the furnace and the process used by Duisburger Kupferhuette to recover metallic zinc from zinc oxide clinker. Included are descriptions of the two experimental furnaces used to develop the commercial furnace, which is now in operation.

Diffusion Today, *F. R. Winslow and K. H. Osthagen (p. 855)*
A review of the information published during 1962 in the field of diffusion in solids; this study includes both published papers and technical reports.



AIME | Society of Petroleum Engineers

by L. P. Whorton, President

1963, the fiftieth anniversary year for the Society of Petroleum Engineers of AIME, was one of its finest years. The anniversary commemorated the half century since 1913, when the first committee on oil and gas was formed in AIME. Out of that committee, has grown the present SPE.

A new method of generating the technical programs for the Society's Annual Fall Meeting in October paid rich dividends; the finest of all programs was presented in 1963. Ten technical committees developed the program, which covered all phases of technology encompassed by the Society. The result: a record attendance for the New Orleans meeting.

Regional meetings, conducted by individual sections or groups of sections in the Society, continued to advance in their popularity and service to members. The geographical distribution of these meetings enabled attendance by many members who were unable to attend the Annual Fall Meeting.

Considerable attention was devoted by the Society management in 1963 to improving the prestige, programming and scheduling of regional meetings.

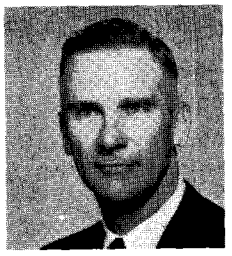
A major step during the year was taken when the Society Board of Directors endorsed a resolution aimed at strengthening petroleum engineering education by encouraging a period of engineering study longer than the traditional four years.

During the year, it was the privilege of your president to visit 28 local sections. It was deeply gratifying to find these sections as strong elements of the Society, serving their members well locally, and contributing their share to the good health of the Society and the growth of the engineering profession.

The future of petroleum engineering will indeed be bright with the continued interest and work of individual members, committees and local sections.

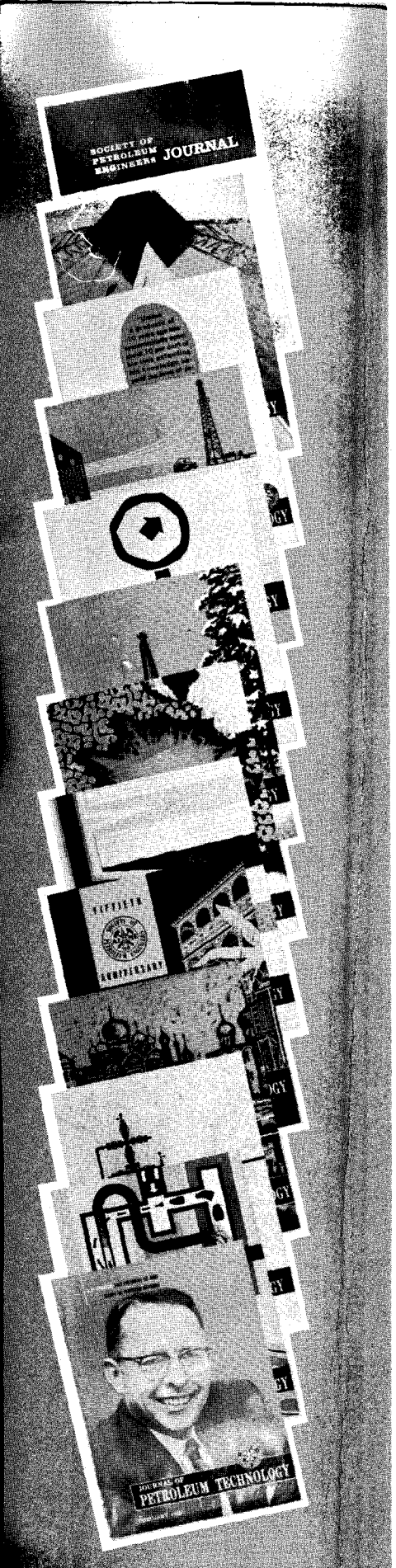
L. P. WHORTON
President

ROBERT G. PARKER
Vice President



HAL M. STANIER
Vice President

ROBERT H. McLEMORE
Treasurer



SELECTED EDITORIAL MATERIAL

from 1962-63 Society of Petroleum Engineers Journal and JOURNAL OF PETROLEUM TECHNOLOGY

Cyclic Water Flooding the Spraberry Utilizes "End Effects" to Increase Oil Production Rate, *Lincoln F. Elkins and Arlie M. Skov*

A new cyclic operation is now producing an increased amount of oil from the fractured, very low permeability Spraberry sand. This method will produce oil at a 50 per cent faster rate than by imbibition.

Determination of Formation Characteristics from Two-Rate Flow Tests, *D. G. Russell*

Formation permeability, skin effect and average reservoir pressure may now be estimated by a simple method. The estimate is obtained by analyzing flowing bottomhole pressure data from two-rate flow tests in oil and gas wells.

Acoustic Character Logs and Their Applications in Formation Evaluation, *G. R. Pickett*

A new formation evaluation tool is introduced to estimate: (1) quality control of transient-time logs, (2) improvement of porosity predictions, (3) lithology determination, (4) improvement of fracture detection, and (5) improvement of cement-bond evaluation.

Effect of Linear Discontinuities on Pressure Build-Up and Drawdown Behavior, *H. C. Bixel, B. K. Larkin and H. K. van Poollen*

This new study relates to wells located near a linear discontinuity. It shows that on either side of the discontinuity, values of permeability, viscosity, compressibility and porosity are uniform but may differ from those on the other side.

Oil Displacement Using Partially Miscible Gas-Solvent Systems, *L. L. Handy*

This research brings forth a new qualitative theory for estimating the amount of dry gas required to move a solvent through a reservoir in an inert, gas-driven solvent slug process of oil recovery.

Predicting the Behavior of Sucker-Rod Pumping Systems, *S. G. Gibbs*

The behavior of sucker-rod pumping systems may now be predicted by use of this new method. The data generated from the new technique are useful in refining the criteria for design and operation of sucker-rod systems.

A Variable-Rate Procedure for Appraising Wellbore Damage in Waterflood Input, *C. R. Johnson, R. A. Greenkorn and G. W. Widner*

This paper presents a quick test method for appraising wellbore damage in water-input wells. No special equipment is required.

A Study of Forward Combustion in a Radial System Bounded by Permeable Media, *G. W. Thomas*

This paper presents a general solution for the temperature distribution caused by radial movement of the combustion front in the recovery of oil by underground burning.

Mechanics of Static and Dynamic Filtration in the Borehole, *H. D. Outmans*

The mechanics of filtration are analyzed in this paper. It explains the observed high resistance of dynamically deposited filter cakes against erosion and the connection between filtration rate and viscosity of drilling fluid.

A Review of Diffusion and Dispersion in Porous Media, *T. K. Perkins and O. C. Johnston*

This critical review of the literature and "state of the art" related to diffusion and dispersion phenomena in porous rocks considers porous media as a network of flow chambers having random size and flow conductivity, connected by openings of smaller size.

Design of Laboratory Models for Study of Miscible Displacement, *Anthony L. Pozzi and Robert J. Blackwell*

The importance of scaled models for study of performance of a miscible flood in a horizontal reservoir is presented, along with primary factors to be considered in designing such models.

Mathematical Model of an Unstable Miscible Displacement, *E. L. Dougherty*

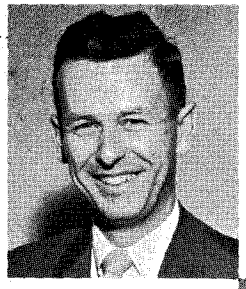
This paper presents a phenomenological theory for a one-dimensional unstable miscible displacement including the effects of mixing. The results indicate that the rate of dispersive mixing is proportional to volumetric flow rate.

AIME *Society of Petroleum Engineers at Work*

AWARDS OF THE YEAR, 1963

CEDRIC K. FERGUSON MEDAL

Awarded annually for the best technical paper on any phase of petroleum engineering by an SPE member not over 33 years of age. Established in 1954.

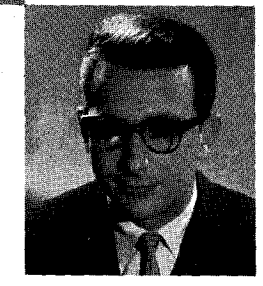


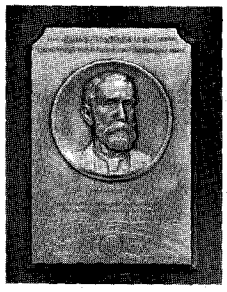
Awarded to

O. GERALD KIEL

and

GEORGE W. SWIFT



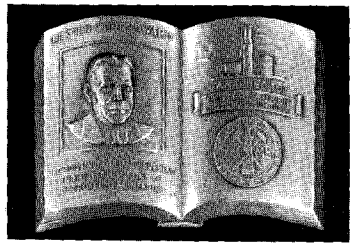


JOHN FRANKLIN CARLL AWARD

For distinguished contribution to petroleum engineering. The award may be given for technical achievements or for other less direct contributions to the profession. Established in 1956 through a gift from a senior member.

Awarded to

ROBERT E. HARDWICKE



LESTER C. UREN AWARD

To recognize distinguished achievements in the technology of petroleum engineering. The recipient must be under 45 years of age when he completes the work that merits recognition.

Established in 1963.

Awarded to

LESTER C. UREN
(Posthumously)

ENGINEERING ACHIEVEMENTS

During the past twenty years, the technology of petroleum engineering has advanced with mammoth strides. Major achievements during this period have been:

Improved rotary drilling, permitting the drilling of wells to great depths in less time and at less cost. Drilling can now be accomplished at a rate 1600 times faster than the first commercial oil well drilled in the United States in 1859.

Increased importance of well completion as a vital element of the engineering art. Many new techniques have been developed. It has been estimated that one of these, hydraulic fracturing, will add seven billion barrels of oil to the reserves of the United States and Canada.

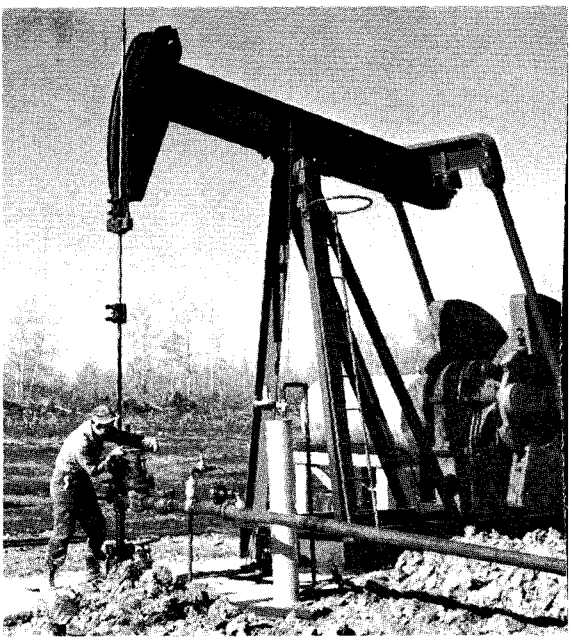
Development of water flooding as the primary technique of supplementing primary oil recovery. It is now being used in more than 5,000 oil fields in the United States; some 25 per cent of oil production in this country now comes from water flooding.

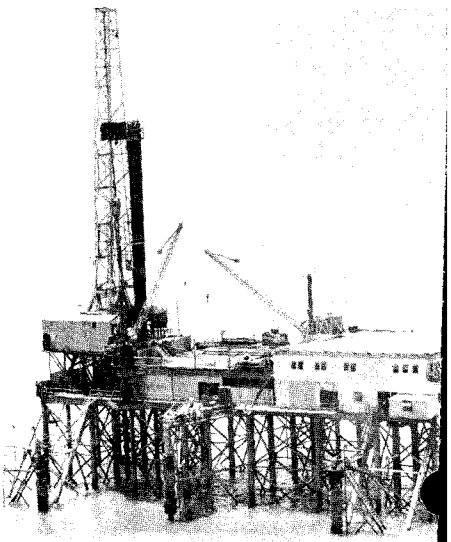
Creation of new processes for reservoir injection to supplement oil recovery hold much promise. Miscible displacement, the technique of "washing" crude oil from reservoirs with light hydrocarbon fractions as solvents, is now being tested and used in 39 fields in the United States. Thermal recovery is being developed as a technique for lighting fires in well bores then driving this through the reservoir with compressed air, lowering the viscosity of the oil for easier production.

The total result: In twenty years oil recovery has increased from an average of less than 25 per cent to about 50 per cent. The nation's oil reserves have been doubled in the process, an achievement of petroleum engineering that will bring substantial benefits to multitudes of people.

AIME at work in Petroleum

From the conference room to the research lab to the front line production force, it was a fiftieth anniversary year of great achievement! The demands were great—and our response to the challenge was equal to it. Once again, ours was a role of leadership throughout the world. By example, by productivity, we again set a new standard of progress.





AIME

The Metallurgical Society at Work

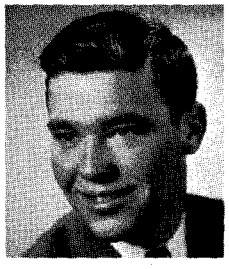
AWARDS OF THE YEAR, 1963

ROBERT W. HUNT AWARD

Given for the best original paper or papers on iron and steel contributed to AIME during the period under review.

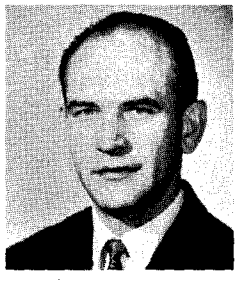
Awarded to

ROBERT B. SCHLUTER **GUST BITSIANES**



J. E. JOHNSON, JR., AWARD

Given to encourage young men in creative work in the metallurgy or manufacture of pig iron. The recipient must be under 40 when he completes the work that merits recognition.



Awarded to

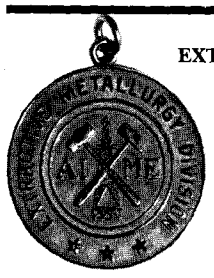
EDWARD J. OSTROWSKI

MATHEWSON GOLD MEDAL

Bestowed on an author or authors of a paper, or a series of closely related papers, with at least one common author, and considered the most notable contribution to metallurgical science during the period under review.

Awarded to

WILLIAM W. MULLINS



EXTRACTIVE METALLURGY DIVISION AWARD

Given for the best paper in the field of extractive metallurgy within a two-year period.

Awarded to

WILLIAM K. SPROULE
(deceased)

GEORGE HARCOURT

LOUIS RENZONI

ROBERT LANSING HARDY GOLD MEDAL

Recognizes exceptional promise, rather than accomplishment. To be given to a metallurgist who has not reached his 30th birthday before the end of the calendar year during which the selection of the recipient is made.

FRANK B. McKUNE AWARD

Given for the best paper on open hearth or basic oxygen steelmaking written by authors under 40 years of age.

OPEN HEARTH CONFERENCE AWARD

"Runner-up" paper to the McKune Award.

CHARLES H. HERTY, JR., AWARD

Given for the best paper at the annual Open Hearth Conference.

ACID CONVERTER AND BASIC OXYGEN STEEL AWARD

Given in recognition of outstanding contributions to pneumatic steelmaking processes.

IRONMAKING CONFERENCE AWARD

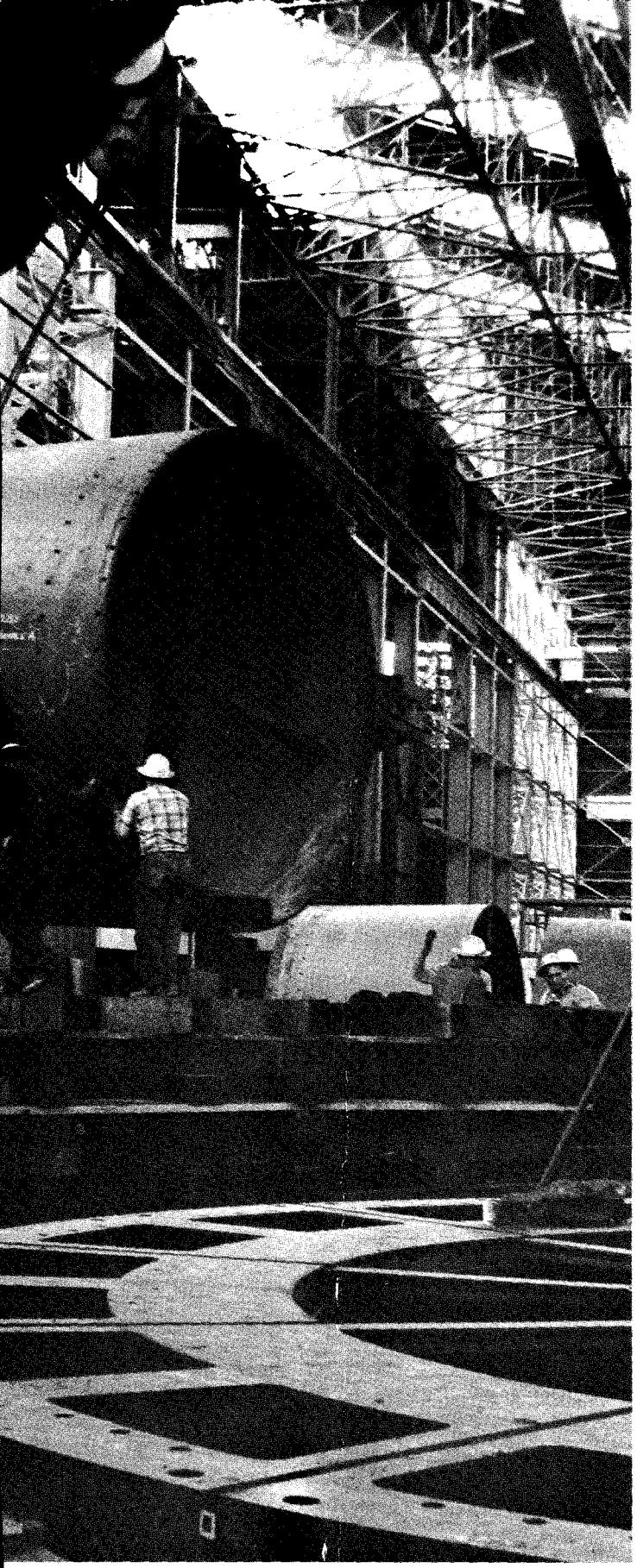
Given for the best paper at the annual Conference.

JOSEPH BECKER AWARD

Given for distinguished achievements in coal carbonization.

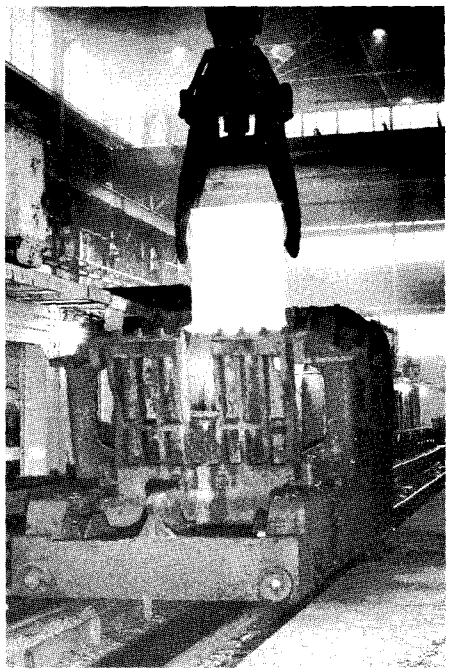
ELECTRIC FURNACE CONFERENCE AWARD

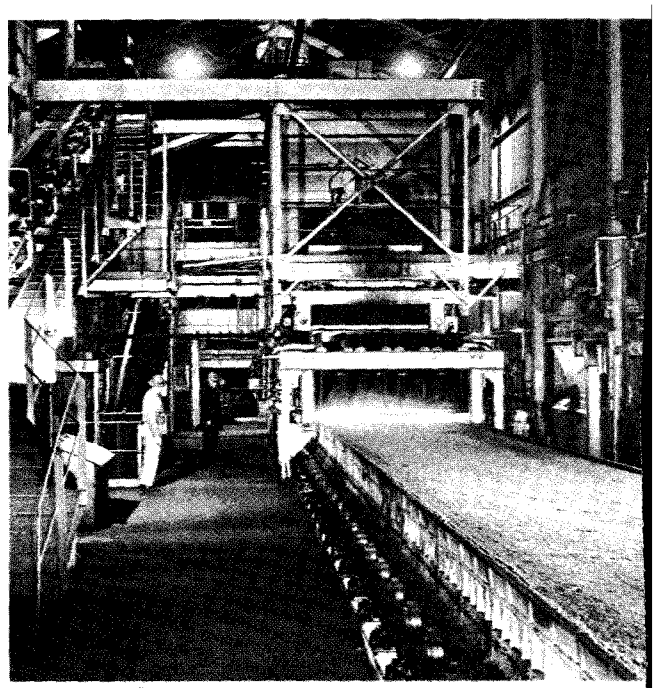
Given for the best paper at the annual Conference.

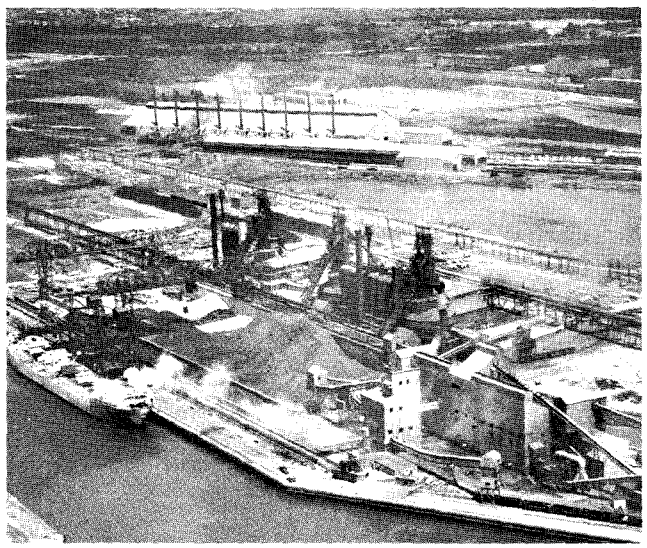


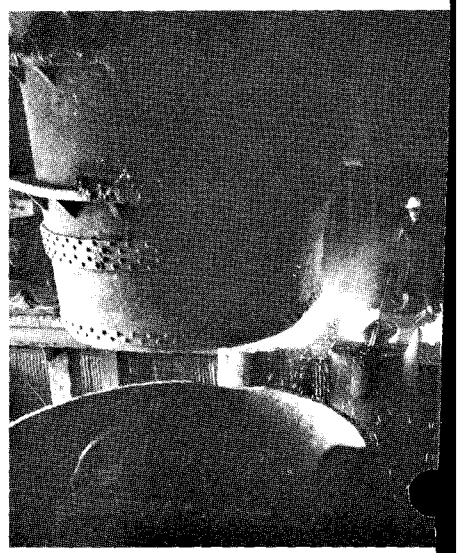
AIME at work in Metallurgy

The challenge, again, was enormous: develop and expand the world's metal-producing facilities; apply new technology to keep pace with progress; seek new and improved methods and equipment for greater quality—and volume production. It was a continuation of responsibility, and one we assumed readily—for our profession—and the people of the world, the beneficiaries of our efforts.









AIME

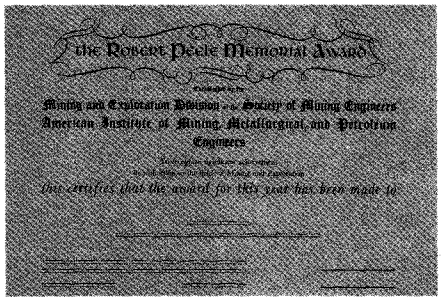
Society of Mining Engineers at work

AWARDS OF THE YEAR, 1963

DANIEL C. JACKLING AWARD

Presented by the Mining and Exploration Division of the Society of Mining Engineers to a man who has made his mark in mineral exploration, mine development, mine operation, or mine management and for his lecture on a pertinent subject of his own choosing to be delivered at the February AIME Annual Meeting.

Awarded to
ALLAN B. BOWMAN



ROBERT PEELE MEMORIAL AWARD

Named after the late Robert Peele, educator, editor, author, and presented to a man, under 40, who in the opinion of a committee has contributed the best paper of the year to MINING ENGINEERING or the Mining Transactions. The Mining and Exploration Division of the Society sponsors this award to encourage younger men to contribute to the mining literature. No recipient was named in 1963.

AID FOR STUDENTS

In an age when minerals are an important element behind almost every scientific achievement, the demand for well-trained mineral engineers continues to increase.

To help ensure a supply of properly trained engineers for the future, the Women's Auxiliary of AIME for many years has operated its Scholarship Loan Fund. In the past ten years, it has awarded more than $150,000 in scholarship loans to deserving students.

Each recipient is given the money he needs, and is asked to repay half of it after graduation.

The Coal Division of SME of AIME also provides a number of scholarships each year. Each awardee receives aid for as many as four years according to his need. Eighteen students in the past ten years have received these grants. No repayment is asked. Some former Coal Division Scholarship students now hold responsible positions in the coal industry.

Many University-administered financial aids to students at graduate and undergraduate levels have been established by members of the Society and the Institute.

Aside from financial aid, AIME and its Societies help young engineers in many other ways. The Seeley W. Mudd Fund gives to each Student Member, when he advances to Junior Member, the start of his own professional library. Total value of the books is several times Junior Member dues.

Institute and Society officers often help students find summer employment; later, permanent employment.

Through membership on the Education and Accreditation Committee of the Engineers Council for Professional Development, SME helps ensure quality education for students interested in mineral industry careers.

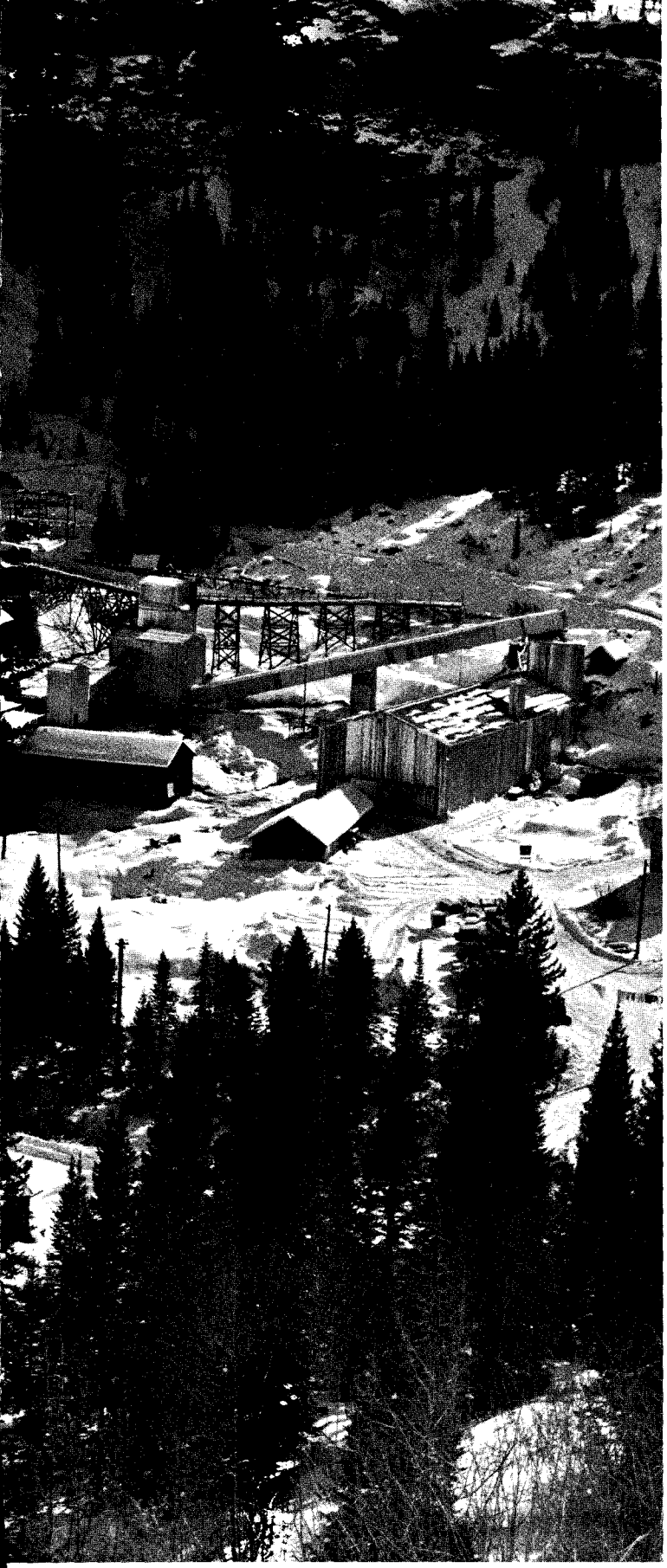
ENGINEERING ACHIEVEMENTS

Mineral industry engineers and scientists are shaping the future through research and development programs supported by industry, the government and universities. Some projects underway are: Experimental use of bacteria to help in the liberation of copper from its ores; work on processes for economical extraction of petroleum products from oil shales and tar sands; the scientific approach to design of underground openings through application of rock mechanics; application of operations research to open pit and underground mining methods; experimental use of atomic explosives in mining operations; studies on rock permeability with an eye to solution mining in the future.

Concurrently with this research, work progresses on improvement of conventional equipment and methods. In open pit coal mines, bucket wheel excavators of tremendous size have been developed and are in use. Huge electric shovels with the operator's control room ten stories above the ground have been developed. Underground conveyor belts miles long are fed by trucks which in turn have been loaded by machines.

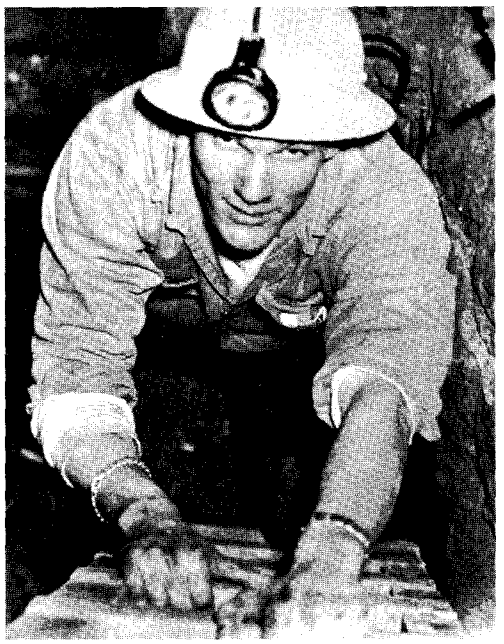
Beneficiating plants are in use in which one man at a console may control tons per hour operation; and he need not exert himself except when a situation arises that the electric computers have not been programmed to handle. Computers and other electronic equipment now help the mining engineer and geologist in his search for new deposits. They help him reduce field data to determine size, shape, grade and value of the mineral deposits he finds.

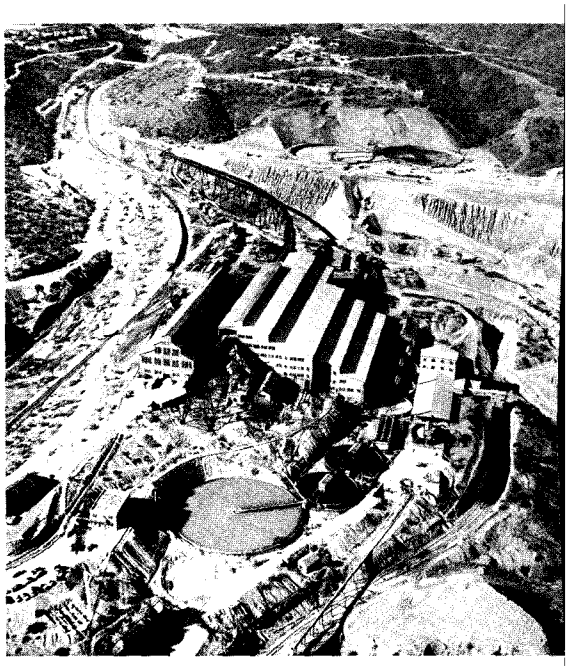
All these and more are being accomplished by the engineers, geologists and geological engineers who are members of the Society of Mining Engineers of AIME.



AIME at work in Mining

There was strength and progress in our world of mining. Our activities have been varied—and fruitful. New technology, new methods, equipment—and new skills—have helped us take giant steps forward in many areas of endeavor. More than ever, our industry has contributed in large measure to the welfare of the world. It's continuing effort of which we can be vastly proud.





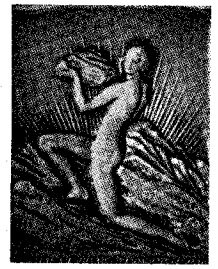
All-Institute Honors, AIME, 1963

JAMES DOUGLAS GOLD MEDAL

Recognizes distinguished achievement in nonferrous metallurgy, including both beneficiation of ores and alloying and utilization of nonferrous metals. Established in 1922 in honor of Dr. James Douglas, twice President of AIME.

Awarded to

CYRIL S. SMITH

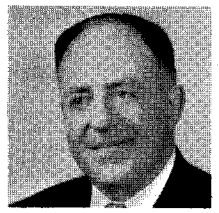


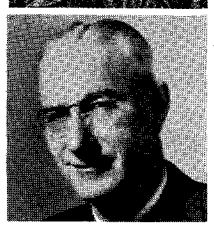
WILLIAM LAWRENCE SAUNDERS GOLD MEDAL

Recognizes distinguished achievement in mining, other than coal. The term "mining" includes production of metals and non-metallic minerals. Established in 1927 through a gift by Mr. Saunders, a former President of AIME.

Awarded to

EDWARD I. RENOUARD



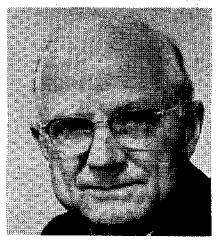


CHARLES F. RAND GOLD MEDAL

Recognizes distinguished achievement in mining administration, the term "mining" including metallurgy and petroleum production. Established in 1932 through a fund presented by friends as a memorial to a former President of AIME.

Awarded to

JAMES BOYD



ANTHONY F. LUCAS GOLD MEDAL

Recognizes distinguished achievement in improving the technique and practice of finding and producing petroleum. Established in 1963 through a fund contributed in 1922 by an anonymous donor.

Awarded to

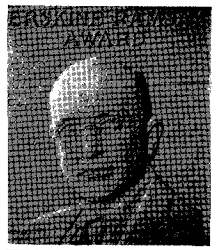
LYON F. TERRY

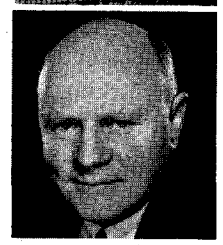
ROSSITER W. RAYMOND MEMORIAL AWARD

For the best paper published by a member of AIME under thirty-three years of age. Established in 1945 through a fund to honor one of the founders of the Institute, who also served as President and Secretary.

Awarded to

HARVEY D. ATTRA





ERSKINE RAMSAY GOLD MEDAL

Recognizes distinguished achievement in mining both bituminous coal and anthracite. Established in 1948 through a fund contributed by Mr. Ramsay, a former AIME Director and Saunders Medal recipient.

Awarded to

GEORGE H. LOVE

MINERAL INDUSTRY EDUCATION AWARD

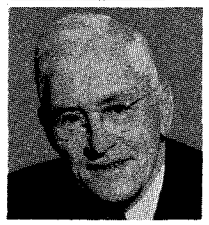
For distinguished contributions to the advancement of mineral industry education. Established in 1950 through contributions.

Awarded to

CURTIS L. WILSON

BENJAMIN F. FAIRLESS AWARD

Recognizes distinguished achievement in iron and steel production and ferrous metallurgy. Established in 1954 through a fund provided by the U. S. Steel Corporation in honor of Mr. Fairless.

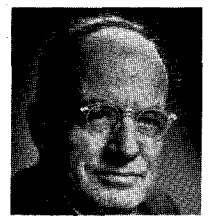


Awarded to

JOHN CHIPMAN

HAL WILLIAMS HARDINGE AWARD

Recognizes outstanding achievement which has benefited the field of industrial minerals. Established in 1958 by Mrs. Hal Williams Hardinge in memory of her late husband, a former Douglas Medalist.



Awarded to

JOSEPH L. GILLSON

ROBERT H. RICHARDS AWARD

Recognizes distinguished achievement in any form which unmistakably furthers the art of minerals beneficiation. Established with funds accumulated in 1947 by individual contributions to honor the memory of a former President and Honorary Member of AIME. No recipient was named in 1963.

1963 CONDENSED FINANCIAL STATEMENT

INCOME	*Mining*	*Metals*	*Petroleum*	*AIME Total*
Membership Dues & Fees	$227,464	$168,326	$255,592	$ 651,382
Publications Sales	46,131	107,904	33,883	187,918
Advertising	141,063	80,428	165,989	387,480
Other	5,2˝0	4,820	5,325	15,415
TOTAL	$419,928	$361,478	$460,789	$1,242,195
EXPENSE				
Sections & Student Chapters	$ 16,115	$ 11,168	$ 24,019	$ 51,302
Society Secretaries' Offices	49,010	46,817	84,454	180,281
Institute Activities	13,470	13,506	9,527	36,503
Publicity	4,545	3,657	4,818	13,020
Special Membership Activities	3,450	2,001	9,597	15,048
Library Support	4,591	3,478	5,240	13,309
Cost of Advertising Pages	90,847	38,550	90,430	219,827
Publications — Editorial and Production	157,327	197,528	160,124	514,979
General Secretary's Office	16,785	12,713	19,154	48,652
Business Office	34,243	27,152	31,910	93,305
Western Field Secretary's Office	14,494	2,791	1	17,286
Provision for Depreciation	3,477	2,688	3,118	9,283
Pensions and Related Expenses	15,684	11,797	14,767	42,248
ECPD and EJC Assessments	4,901	3,712	5,593	14,206
Miscellaneous Expenses	5,791	4,386	6,609	16,786
TOTAL	$434,730	$381,944	$469,361	$1,286,035
Net Income or (Expense)	($ 14,802)	($ 20,466)	($ 8,572)	($ 43,840)
Metals Research Publication Fund	....	$ 8,396	....	$ 8,396
Henry Krumb Endowment Fund	$ 4,080	$ 3,791	$ 6,534	$ 14,405
NET BALANCE OR (DEFICIT)	($ 10,722)	($ 8,279)	($ 2,038)	($ 21,039)

FUNDS AND MEMBERSHIP

In addition to operations income and expense detailed above, AIME benefited from contributions from various funds which were applied as follows:

Name of Fund	*Applied To*	*Amount*
Met. Soc. Conference	Reimburse for Services	$ 17,009
Various Endowment & Custodian	Reimburse for Services	13,023
SPE Activities	Various Services	5,000
SPE Activities	Contribution UET Bld'g Fund	15,000
Daniel C. Jackling Building	Reduce space charge	10,483
Daniel C. Jackling Building	Contribution UET Bld'g Fund	20,000
Various Awards	Awards	8,402
Rocky Mountain Club	Salt Lake City office	6,000
James Douglas Library	Reduce Library Assessment	4,044
Charles Hayden Memorial	Student Services	1,818
Karl Eilers Memorial	U. S. Comm., World Power Conf.	267
George D. Barrow	Nat'l Conf. State Bd. of Engrs.	500
	Total From Funds	$101,546

As in the past, certain meetings and publications received advances from conference and endowment funds. In practice, money advanced by these funds is usually returned to the fund by the proceeds of these self-supporting activities. Availability of this capital, however, makes possible many worthwhile activities that could not otherwise be undertaken. Advances in 1963 amounted to approximately $138,000.

MEMBERSHIP

As of January 1, 1964, corporate and student membership totals were:

Society of Mining Engineers	12,436
The Metallurgical Society	10,421
Society of Petroleum Engineers	14,270
AIME (Total)	37,127

The Engineering Profession

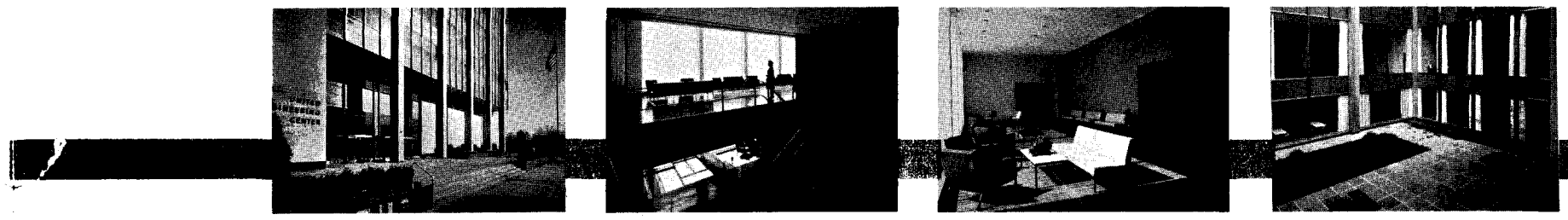
by Herbert Hoover

It is a great profession. There is the fascination of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings jobs and homes to men. Then it elevates the standards of living and adds to the comforts of life. That is the engineer's high privilege.

The great liability of the engineer compared to men of other professions is that his works are out in the open where all can see them. His acts, step by step, are in hard substance. He cannot bury his mistakes in the grave like the doctors. He cannot argue them into thin air or blame the judge like the lawyers. He cannot, like the architects, cover his failures with trees and vines. He cannot, like the politicians, screen his shortcomings by blaming his opponents and hope the people will forget. The engineer simply cannot deny he did it. If his works do not work, he is damned.

On the other hand, unlike the doctor, his is not a life among the weak. Unlike the soldier, destruction is not his purpose. Unlike the lawyer, quarrels are not his daily bread. To the engineer falls the job of clothing the bare bones of science with life, comfort and hope. No doubt as the years go by people forget which engineer did it, even if they ever knew. Or some politician puts his name on it. Or they credit it to some promoter who used other people's money. But the engineer himself looks back at the unending stream of goodness which flows from his successes with satisfactions that few professions may know. And the verdict of his fellow professionals is all the accolade he wants.

National Engineers' Week — February 16-22, 1964



AIME OFFICERS AND DIRECTORS (1963-1964)

PRESIDENT AND DIRECTOR

*Roger V. Pierce, '65
Salt Lake City, Utah

PAST PRESIDENT AND DIRECTOR

*Lloyd E. Elkins, '64
Tulsa, Oklahoma

PRESIDENT-ELECT AND DIRECTOR

*Karl L. Fetters, '66
Youngstown, Ohio

DIRECTOR AND TREASURER

George I. Brigden
New York, New York

VICE PRESIDENTS AND DIRECTORS

*Richard C. Cole, '65
White Pine, Michigan

*Robert B. Gilmore, '64
Dallas, Texas

*Carleton C. Long, '64
Monaca, Pennsylvania

*Richard A. Morse, '64
Pittsburgh, Pennsylvania

*William B. Stephenson, '64
Paoli, Pennsylvania

*Norman L. Weiss, '65
Tucson, Arizona

*Terms of Officers are for one year only; terms as Directors expire in February of year indicated.

DIRECTORS

Thomas A. Atkinson, '66
Los Angeles, California

John C. Calhoun, jr., '66
Washington, D. C.

Sandford S. Cole, '66
South Amboy, New Jersey

Wayne L. Dowdey, '66
Salt Lake City, Utah

Harold B. Emerick, '65
Pittsburgh, Pennsylvania

Edward G. Fox, '65
Washington, D. C.

William J. Harris, jr., '66
Washington, D. C.

Douglas Ragland, '65
New York, New York

Jack H. Scaff, '66
Murray Hill, New Jersey

Clarence E. Sims, '64
Columbus, Ohio

L. Preston Whorton, '65
Dallas, Texas

Clark L. Wilson, '64
Washington, D. C.

GENERAL SECRETARY

R. William Taylor

ASSISTANT SECRETARIES

Joe B. Alford, Dallas, Texas

H. Newell Appleton, AIME, New York

John C. Fox, AIME, New York

Clifford J. Hicks, Salt Lake City, Utah

R. W. Shearman, AIME, New York

ASSISTANT TREASURER

John F. Lynch, AIME, New York

American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.
345 East 47th Street • New York, New York 10017

OFFICIAL AIME ANNUAL REPORT FOR 1963

AMERICAN INSTITUTE OF
MINING, METALLURGICAL, & PETROLEUM ENGINEERS
345 EAST 47TH STREET
NEW YORK 17, N. Y.

OFFICIAL AIME ANNUAL REPORTS COVERING THE YEAR 1963

INDEX

REPORT

of the

GENERAL SECRETARY

OF AIME

Each year brings many changes in the operation of AIME and its Constituent Societies as we constantly seek ways to better serve our members and to cooperate more fully with other engineering organizations. In 1963, progress continued through a number of new activities and programs.

One of the most significant happenings of the year was the loss of the services of Dr. Ernest Kirkendall as General Secretary. Dr. Kirkendall resigned after eighteen years of service to the Institute, eight of which he served as General Secretary, to become Secretary and General Manager of the United Engineering Trustees.

This report presents additional information concerning 1963 progress on several previously started projects, as well as highlights of important changes which have taken place. Appreciation is expressed to Dr. Kirkendall who collaborated with the new General Secretary in preparing this report.

Addressing and Data Processing

This was the first year for AIME to handle its addressing and data processing through the Data Processing Center (DPC) a subsidiary organization of the American Institute of Chemical Engineers, which is located in the United Engineering Center. With financial assistance from the Henry Krumb Endowment Fund, the conversion of the new system was carried out by March of 1963. Experience with the new system has been satisfactory although, as anticipated, it has resulted in higher costs for each of the three Societies. New services not available in the old system are expected to more than justify the additional cost and may permit economies elsewhere.

In accordance with Board instructions, a "minimum package plan" was arranged with DPC at a rate of 65¢ per member. This plan did not include the keypunching necessary for placing all Directory information in the system. After investigating costs, the Society of Petroleum Engineers decided to have its Directory work done by the Service Bureau Corporation in Dallas, in a manner which would permit their system to be brought back into

the DPC operation at a future date. The Society of Mining Engineers and The Metallurgical Society again decided to use typed-card systems which they had used in the past rather than the IBM printout method offered by DPC. The Society of Mining Engineers has decided to use the DPC system for its 1964 Directory. The Metallurgical Society will not issue a Directory in 1964, and has made no decision concerning its 1965 Directory production plans.

Adoption of the new addressing and data-processing system was instrumental in reducing the size of the Business Office staff by three persons, one of whom had served in a supervisory capacity. Additional ways to use the DPC system are continually being investigated by the Societies and by the Business Office in an effort to obtain all possible value from the system.

Rental of Space in United Engineering Center

To reduce rental costs of the space taken by AIME in order to permit expansion through 1975, offices were rented to engineering organizations who qualify for occupancy in the building by virtue of their 501 (c) (3) tax classification. One new tenant, within the AIME space, is the New York Alumni Center of the Massachusetts Institute of Technology. In addition, a larger office (formerly AIME's IBM Room) has been rented to Tools for Freedom. Other tenants now renting space from AIME and its Societies in the United Engineering Center are Junior Engineering Technical Societies, the Corrosion Research Council, and one of the activities of Engineers Joint Council.

In December, the AIME Executive Committee appointed a special committee to study AIME's space in the United Engineering Center, to see if any additional areas might be offered for rent to qualifying organizations.

All-Institute Finances

Financially this was not a good year for AIME because deficits were experienced by the three Constituent Societies. Expenses have risen in recent years in many respects, but AIME dues have remained the same although they have been raised by many other Societies. Factors which have affected our increased expenses are many. Two of them are: (1) the greater amount of rent paid in the new United Engineering Center, and (2) the necessity for paying Engineers' Council for Professional Development and Engineers Joint Council dues for AIME from our Operations Budget. Prior to 1962 EJC and ECPD assessments were paid from Institute funds, but they no longer have sufficient reserve to cover these

expenses. Taking note of these increased costs, the Board appropriated $16,500 in 1962 from the Krumb Fund to ease the financial burdens caused by these additional expenses. The financial losses of 1963 have consumed the Krumb Fund appropriation and forced the Societies to go into other reserve funds to balance their budgets.

Another factor in the deficits experienced by the Societies was the failure of advertising income from the monthly journals to increase as had been anticipated. Advertising income lagged in all mineral engineering publications, with our Society journals performing more satisfactorily than most other publications of the industry.

The Rocky Mountain Fund again contributed $6,000 for the operation of the Western Field Office, a most important connecting link between the Institute and its members in the Western United States. During the year AIME received a final settlement from the Jackling Estate. Cash and securities valued at $56,641 were added to the Jackling Award Fund, bringing the total contributed from the Jackling Estate to this Fund to $323,197. Similarly, the Jackling Building Fund received cash and securities valued at $84,986, increasing the total granted from the Jackling Estate to this Fund to $487,891. AIME also received an additional distribution of $20,392 from the Aldridge Estate to bring the total contributed to the Aldridge Fund to $86,790.

The Institute and its Societies are faced with the problem of reducing their costs of operation and increasing income in order to finish each year with a balanced budget. Each Society made a concerted effort to do this in 1963, but the results were not good. The AIME headquarters office reduced expenses in 1963 through a reduction in the Business Office staff. Further economies in this area will be realized.

Financing United Engineering Center

AIME had the distinction of being the first of the Societies in the United Engineering Center to contribute in excess of 10% of its original $500,000 goal as its share of additional funds needed to install a fifth elevator, to finish the final two unoccupied floors in the Building, and to eliminate the $560,000 outstanding debt against the new Center. Rather than again approaching every member the Board appropriated $20,000 from the Jackling Building Fund, and the Society of Petroleum Engineers appropriated $15,000 from its Activities Fund. A letter was sent in November to each of the original large donors requesting a supplementary gift. Once again these loyal supporters of AIME have exhibited

generosity with returns totalling $26,117 by year end.

A total of $900,000 is required. The Ford Foundation agreed to contribute up to $300,000 by providing $1.00 for each new contribution of $2.00 received by the United Engineering Trustees in 1963 and 1964. This makes AIME's $61,117 contribution worth $91,675. Other Societies occupying space in the United Engineering Center are working to raise funds at this time. When the final two floors are finished, they will be occupied by groups qualifying in the 501 (c) (3) tax category.

AIME's Image Program

A total of $36,000 was appropriated by the AIME Board to be used in programs to improve the image of the mineral engineer. The money to support this new program was appropriated from the Barron Fund, the Aldridge Fund, the Jackling Award Fund, and the Unrestricted Contributions Fund.

A Public Relations Advisory Committee was appointed to aid AIME's Image of Mineral Engineers Committee in planning a workable program. Included on the Advisory Committee were the public relations directors of several large international firms. None of the money from this appropriation has been spent to this time, although several projects are being considered.

A product of the new Image Program is the 1963 Annual Report which is to be distributed at the 1964 Annual Meeting in New York City. This booklet presents information on the work of the Institute and its three Societies in a form designed to convey the vigorous nature of our organization.

Student Activities

In order to encourage participation of AIME Sections in Science Fairs, the Board appropriated money from which Sections may draw up to $25 annually to be used in purchasing publications as prizes. To cover the costs of this program the Board appropriated $2,000 annually for the mining and metallurgical fields from the David C. Jackling Award Fund and gained permission from the Henry L. Doherty Memorial Fund to use up to $1,500 annually from that fund for awards in the petroleum production field.

The cash prizes offered in the AIME Student Prize Paper Contest were increased from $100 to $250 for each of the Contest's six categories. In addition the Board agreed to pay travel costs up to $250 each to permit these students to attend the AIME

Annual Meeting, and receive their prizes at the Welcoming Luncheon. To cover the costs of this program, money was made available from the Doherty Fund for petroleum prizes, and from the Jackling Award Fund for mining and metallurgical awards.

Considerable attention to our student programs was given by the several committees involved in this activity. A special Board committee conducted a study of this area and reported that the Institute must assume the responsibility of recruiting young people into mineral engineering. An Ad Hoc Committee on Student Chapters was formulated to attack the problem, including chairmen of the Council of Section Delegates, the Section Affairs Committee, the Student Affairs Committee, the All-Institute Membership Committee, and the Student Chapters Committee of the Council of Education.

Other Innovations

The Annual Business Meeting of the Institute was rescheduled to immediately follow the AIME Board Meeting held on Sunday of the AIME Annual Meeting. Also an All-Institute Program Committee was formed to arrange sessions at the Annual Meeting of interest to all members.

Following the recommendation of the President's Committee on Function and Organization of AIME, it was decided that a separate budget would be established in 1964 for the functioning of the Institute headquarters office.

Payment of AIME dues will automatically be eliminated for AIME Legion of Honor Members (members who have fifty or more years of continuous membership in the Institute). In addition the Institute will give more publicity to procedures for election to Senior Membership. Members may request this grade, which requires no payment of dues, when their age and years of membership equal 100.

To comply with new reporting procedures required by the Internal Revenue Service, all AIME Sections and other constituent groups were asked to report their income and funds to the Institute Business Office. This will permit the filing of one comprehensive IRS Form 990A report for all of AIME.

The Lester C. Uren Award to recognize professional engineering achievement was established by the Society of Petroleum Engineers. Its first recipient was, posthumously, Lester C. Uren, an outstanding educator and textbook author.

Revised rules were approved for simplifying the selection procedure of AIME's major medalists.

Inter-Engineering Society Cooperation

AIME cooperates closely with many organizations which are engaged in programs of benefit to the entire engineering profession. Accomplishments in 1963 of some of these organizations are explained here.

AIME members have had the opportunity to learn about activities of ENGINEERS JOINT COUNCIL throughout the year from the quarterly newspaper ENGINEER which is sent to the more than 300,000 members of Societies supporting EJC. AIME's cost for support of EJC is 26¢ per member. Following are some of EJC's 1963 activities:

1. In April, 1963, the National Academy of Science, as a result of a joint committee effort with EJC, approved the creation of a new National Academy of Engineering to function in a manner similar to the National Academy of Science. This effort to establish a better balance of scientists and engineers in a National Academy framework stemmed from the recognition that a mechanism is needed to provide greater participation and contribution by engineers in resolving broad technological problems and policies of the nation.

2. Progress continues on the development of the EJC Engineering Thesaurus, designed to encourage uniform procedures in information storage and retrieval. The editing has been completed and the Thesaurus is in press.

3. A pilot program was initiated by EJC to study the feasibility of establishing a permanent Meetings Coordination Center. The goal of this activity is to minimize duplication and conflict among technical and professional meetings.

John S. Bell, an AIME representative to EJC, made the following report at the September Institute Board Meeting: "EJC is now at its crossroad. It has existed in its present form about ten years and in this time has advanced rapidly. There is now strong conviction that the voice of EJC should be heard more and more, that it should give more advice to governmental agencies, that it should have more voice in the various engineering Board meetings, give more advice in developing and applying technology, encourage engineers to discharge their social responsibilities, and speak for engineers where a consensus can be obtained. EJC

is performing a tremendous volume of diversified tasks with a very limited staff. This situation should be corrected as it is impossible to expect this small group of employees to supervise and perform all the functions that are becoming expected of EJC. More money should be allocated to EJC so that it can operate properly. Everyone would have to accept the proposition that this organization and others like it must be supported better; otherwise obtaining more recognition for engineers and doing our share towards our country is just a dream that should be forgotten."

The working relationship of AIME and UNITED ENGINEERING TRUSTEES has grown even closer in recent months through the acceptance by Ernest Kirkendall of the position of Secretary and General Manager of UET. In addition to its activities in fund-raising and managing of the United Engineering Center, UET also is in charge of the Engineering Societies Library and Engineering Foundation. In its first full year in the United Engineering Center, the Library experienced a substantial increase in use of its Reading Room. Moreover, of the 64,000 persons who used the Library during this year, 66% did so by mail or phone. Engineering Foundation continues to initiate and sponsor research and other projects in various fields of engineering.

ENGINEERING SOCIETIES PERSONNEL SERVICE moved and re-organized its San Francisco office to better serve engineers on the West Coast. The New York and Chicago offices of ESPS also had a successful year. The ESPS was established forty-five years ago to make it possible for the Founder Societies to better serve their members in job placement. AIME pays no subsidy to ESPS, the Service being self-supporting through fees paid by either the employer or employee. The current Director, A. H. Meyer, has served for twenty-eight years and is approaching retirement. Walter Kelly, new to ESPS, but with considerable personnel placement experience, will become the Director on January 1, 1964.

In 1963 ENGINEERS COUNCIL FOR PROFESSIONAL DEVELOPMENT completed its incorporation, and a new Constitution and Rules for Procedure are being submitted to its constituent societies for approval. ECPD's primary activity is in inspecting and accrediting curricula of engineering schools. AIME contributes about 20¢ per member to support ECPD. During 1963, the AIME Board approved ECPD's revised Canons of Ethics. Walter R. Hibbard, Jr., one of AIME's representatives to ECPD, made the following report at the September Institute Board Meeting: "The work of ECPD is very important in that it presents a way of feeling the pulse for

engineering education. It is the way of bringing to bear professional standards in engineering education."

The NATIONAL COUNCIL OF STATE BOARDS OF ENGINEERING EXAMINERS is working toward gaining acceptance of its Model Law and the possibility of providing uniform examinations with questions in each of the fields of engineering, including those represented by AIME. On the basis of this effort AIME's Board re-endorsed the Model Law in its revised form.

Ernest Kirkendall attended the EUSEC Meeting (Conference of Engineering Societies of Western Europe and the United States), held in Munich, Germany, June 23-28.

The Board submitted a recommendation to the AMERICAN GEOLOGICAL INSTITUTE stating that AIME is in favor of AGI assuming responsibility to establish an effective approach to the problem of professionalism in geology.

Meetings

Information on some of the more important AIME Society and Division meetings of the year is given below:

MEETING	PLACE	DATE		APPROX. ATTEND.
Minnesota Sec. Annual Mtg.	Duluth	Jan	14-16	725
ISD 5th Mech. Working Conf.	Pittsburgh	Jan	15-16	300
AIME Annual Meeting	Dallas	Feb	24-28	2668
Deformation Twinning Conf.	Gainesville	Mar	21-22	62
NOH & BO Steel Conf.	Buffalo	Apr	1-3	1324
Ironmaking Conf	Buffalo	Apr	1-3	526
11th Symp. on Exploration Drill.	Golden,Col.	Apr	8-10	166
16th Pac.N.W.Met. & Min. Conf.	Portland	Apr	25-27	440
4th Bien.Permian Basin Oil Rec. Conf.	Midland,Tex.	May	9-10	500
Met.Soc.17th New Eng.Reg. Conf.	Boston	May	16-17	115
Met.Soc.Research Management Conf	Harriman,NY	May	19-21	36
9th Ann. Jt. Mtg. Rocky Mt. Petr. Sec.	Denver	May	27-28	350
8th Ann. Uranium Symp.	Riverton,Wym.	June	13-15	360
IMD Electronic Mat. Conf.	Boston	Aug	26-28	300
SME Fall Mtg. in coop. with Rocky Mt. Minerals Conf.	Salt Lake City	Sept	11-13	762
SPE Fall Mtg.	New Orleans	Oct	6-9	3535
Met.Soc. Fall Meeting	Cleveland	Oct	20-24	1263
33rd Ann.Calif.Reg.Mtg.,SPE	Santa Barbara	Oct	24-25	425
Pitts. Off-the-Record Mtg.	Pittsburgh	Nov	1	800

MEETING	PLACE	DATE		ATTEND.
Ann.Mtg.C.A.Sec. & W.Va. Coal Min. Inst.	White Sul. Spgs.	Nov	8-9	250
Arizona Sec. Ann. Mtg.	Tucson	Dec	2	740
Electric Furnace Conf.	Chicago	Dec	4-6	1094
Refractory Met. Symp.	Los Angeles	Dec	9-10	625

Bound Volumes Published in 1963

AIME Transactions:	
Society of Mining Engineers	- Vol. 223 - 1962
The Metallurgical Society	- Vol. 224 - 1962
Society of Petroleum Engineers	- Vol. 225 - 1962
Open Hearth Proceedings	- Vol. 45 - 1962
Electric Furnace Proceedings	- Vol. 20 - 1962
*Blast Furnace, Coke Oven & Raw Mat. Proceedings	- Vol. 21 - 1962
*Electric Furnace Steelmaking Theory and Fundamentals	- Vol. II
*Refractory Metals and Alloys II	- Vol. 17
*Electronic Structure and Alloy Chemistry of the Transition Elements	
*Iron and Its Dilute Solid Solutions	
*High Temperature Materials II	- Vol. 18
*Metallurgy of Advanced Electronic Materials	- Vol. 19
*Fracture of Solids	- Vol. 20
*Recovery and Recrystallization of Metals	

*Interscience Publishers Series

Honors and Awards

The following Major Awards were presented at the 1963 Annual Meeting held in Dallas, Texas:

The JAMES DOUGLAS GOLD MEDAL to Cyril Stanley Smith, "For outstanding contributions in nonferrous physical metallurgy, particularly through stimulating research in metallography and the origins of microstructures, and through leadership in the metallurgy of nuclear materials."

The BENJAMIN F. FAIRLESS AWARD to John Chipman, "His brilliant career in teaching and research has contributed immeasurably to the education of many men and to our knowledge of steelmaking processes."

The HAL WILLIAMS HARDINGE AWARD to Joseph Lincoln Gillson, "For pioneer work in industrial mineral resources for wide dissemination of useful data thereon, and for generating systematic effort within this field."

The ANTHONY F. LUCAS GOLD MEDAL to Lyon Frank Terry, "For untiring efforts to promote development and application of sound engineering principles for reserve studies, processing, financing and developing of oil and gas projects."

The ERSKINE RAMSAY GOLD MEDAL to George Hutchinson Love, "For his outstanding leadership and contributions in establishing through research, development, and marketing programs, coal as an undisputed basic source of energy."

The CHARLES R. RAND MEMORIAL GOLD MEDAL to James Boyd, "For his distinguished service and devotion to our nation and the minerals industry. With true understanding and a sincere dedication to fundamental principles and moral concepts, he has given inspirational leadership and made outstanding accomplishments as a geologist, educator, public servant, soldier, and mining executive."

The WILLIAM LAWRENCE SAUNDERS GOLD MEDAL to Edward Ignatius Renouard, "For major contributions to improved mining methods, conservation of resources and perpetuation of the Butte Mining District through imaginative planning, strong leadership and sound administration."

Other AIME Awards and Honors presented at the Annual Meeting:

The EXTRACTIVE METALLURGY DIVISION AWARD to Louis S. Renzoni, George A. Harcourt and William K. Sproule (posthumously), for their paper, "Treatment of Nickel-Copper Matte."

The ROBERT W. HUNT SILVER MEDAL to R. Schluter and G. Bitsianes for their paper, "The Combustion Zone in the Iron Ore Sintering Process."

The J. E. JOHNSON, JR., AWARD to Edward J. Ostrowski, "For pioneering efforts in the design, construction and operation of small-scale experimental blast furnaces and in the development of practices utilizing auxiliary injected fuels and high blast temperatures."

LEGION OF HONOR INSIGNIA were conferred upon the following thirty-four members: Robert Ammon, Earl Smith Bardwell, Alan Mara Bateman, Percy Gordon Beckett, John Edward Brantly, Charles Adrian Burdick, Russel B. Caples, Guilliam H. Clamer, Simeon Stansifer Clark, Christopher G. Dobson, Cleveland Earl Dodge, Ernest William Ellis, Edward L. Estabrook, George M. Fowler, Arthur W. Gittins, John Alden Grimes, Clarence M. Haight,

Charles M. Heron, Zay Jeffries, Frederick Laist, Robert Howland Leach, posthumously; David Douglas Moffat, Carl F. Moore, Frederick William O'Neil, Wallace Everette Pratt, George Anthony Prochazka, Jr., Henry Matthias Schleicher, William Charles Schmidt, Kenneth Seaver, William Joel Turner, Francis Edward Vaughan, Robert Keeler Warner, Alfred Leo Wise, Aloys H. Wohlrab.

The MATHEWSON GOLD MEDAL to William W. Mullins for his paper, "Grain Boundary Grooving by Volume Diffusion."

METALLURGICAL STUDENT PAPER AWARD to Robert W. Hendricks, graduate student, Cornell University, for a paper entitled, "Crystal Orientation in the Cylindrical X-Ray Camera."

The MINERAL INDUSTRY EDUCATION AWARD to Curtis Laws Wilson, "Distinguished metallurgical engineer, educator, author and speaker, whose untiring efforts have built an outstanding engineering school, and whose diligent participation over many years as a member and officer of AIME has furthered the cause of mineral industry education."

The ROSSITER W. RAYMOND MEMORIAL AWARD to Harvey David Attra, for his paper, "Nonequilibrium Gas Displacement Calculations."

STUDENT PRIZE-PAPER AWARDS in the Graduate Division to: Wei-Kao Lu, University of Minnesota, for a paper entitled "The General Rate Equation for Gas-Solid Reactions in Metallurgical Processes", entered by the Minnesota Section; Riley Goldsmith, University of Oklahoma, for a paper entitled "Non-Newtonian Technology in the Oil Industry", entered by the Northern Oklahoma Section.

Undergraduate Division to: Lawrence Jungman, St. Louis University, for a paper entitled "The Saddle Reefs of Bendigo, Victoria, Australia, as Related to Its Geologic Structure", entered by the St. Louis Section; Albert Sipler, Texas Western College, for a paper entitled "An Investigation of Reflected Polarized Light on Metals", entered by the El Paso Section; Ted Duane Autry, University of Tulsa, for a paper entitled "A Study of the Isochronal Method for Determining the Back-Pressure Behavior of Natural Gas Wells", entered by the Mid-Continent Section.

The following gave Lectures during the Annual Meeting:

EXTRACTIVE METALLURGY DIVISION LECTURER - Lloyd M. Pidgeon

HOWE MEMORIAL LECTURER - J. F. Elliott

INSTITUTE OF METALS LECTURER - Harvey Brooks

Other national awards made during the year, but not presented during the Annual Meeting were:

ACID CONVERTER AND BASIC OXYGEN STEEL COMMITTEE AWARD to F. J. McMulkin.

JOSEPH BECKER AWARD to Joseph Van Acheren.

ELECTRIC FURNACE CONFERENCE AWARD to Loris M. Diran and Charles J. Novak.

ROBERT LANSING HARDY GOLD MEDAL to Ronald W. Armstrong.

CHARLES H. HERTY JR. AWARD to F. O. Altimore, Peter J. Koros and Harry W. Meyer for their paper, "Effect of Design Modifications on Flow Distribution in Operating and Cold Open Hearth Furnace Regenerators."

IRONMAKING CONFERENCE AWARD to Julius H. Strassburger, Edward J. Ostrowski and J. Reginald Dietz for their paper, "Solid Fuel Injection at the Hanna Furnace Corporation."

F. B. McKUNE MEMORIAL AWARD to Peter J. Koros for his paper, "Effect of the Use of Oxygen Lances on the Thermochemistry of the Open Hearth Process."

OPEN HEARTH CONFERENCE AWARD to L. I. Field, Jr. for his paper, "Effect of Improved Raw Materials on Open Hearth Operations."

LEO F. REINARTZ AIME-NOHC SCHOLARSHIP to Ronald R. Bidula.

COAL DIVISION AIME SCHOLARSHIPS were awarded to the following students: Donald Carlin, William E. Lindquist, Stephen C. Rapchak, and George W. Strong.

PERCY W. NICHOLLS AWARD (Joint Award of the Coal Division of the Society of Mining Engineers of AIME and Fuels Division of ASME) to James Ross Garvey.

JOHN FRANKLIN CARLL AWARD to Robert E. Hardwicke, "In recognition of dedicated effort and outstanding service to industry, government and the public as legal counselor, advisor, author and historian whereby the law of oil and gas and modern petroleum engineering were brought into better understanding to advance effective petroleum conservation policy."

CEDRIC K. FERGUSON MEDAL to G. W. Swift and O. G. Kiel for their paper, "The Prediction of Gas-Well Performance Including the Effect of Non-Darcy Flow."

LESTER C. UREN AWARD (First Time) to Lester C. Uren, posthumously, "In recognition for his lifetime of distinguished leadership in petroleum engineering education and for his enduring contributions to the permanent literature of petroleum engineering, which have widely influenced the development of the engineering profession."

Appreciation

The unselfish and voluntary work by thousands of members makes it possible for AIME to continue to achieve its goals. Our members contribute in many ways: through Section activity, through authorship of papers, through work on committees and councils and through service on our Institute and Society Boards, to name a few. We express our appreciation to these members who do so much for the Institute and the mineral engineering profession.

Also, we salute the outstanding leadership and untiring work of President Roger V. Pierce. President Pierce received his call to duty early when 1962 President Lloyd E. Elkins was injured and unable to fulfill his AIME commitments for a short while. As President-Elect, Mr. Pierce did extensive travel at that time, then resumed a heavy travel schedule when he assumed the presidency in February, 1963. Altogether he attended forty-eight meetings in behalf of the Institute, including thirty-six Sections, two Student Chapters and ten Conferences and Regional Meetings. In addition to his large expenditure in time and money on Institute affairs, President Pierce made excellent contributions in formulating plans to improve the image of AIME and the mineral engineering profession. The Institute is greatly indebted to him for his inspiring work in 1963.

Respectfully submitted,

R. William Taylor

R. William Taylor
General Secretary

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

REPORT OF THE TREASURER

FOR

YEAR ENDED DECEMBER 31, 1963

February 11, 1964
New York, N. Y.

Respectfully Submitted

GEORGE I. BRIDGEN
TREASURER

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

BALANCE SHEET

DECEMBER 31, 1963 AND DECEMBER 31, 1962

ASSETS	DECEMBER 31, 1963		DECEMBER 31, 1962	
WORKING FUND				
Cash Unappropriated		$ 109,526		$ 252,305
Cash Interest Bearing Savings A/C		247,699		158,582
Accounts Receivable		95,583		75,081
Inventories:				
Publications on hand	$ 25,792		$ 25,301	
Postage, Stationery & Supplies	8,313	34,105	9,768	35,069
Equip. Furniture & Fixtures	116,833		113,703	
Less: Reserve for Depreciation	52,061	64,772	42,778	70,925
Prepaid Exp., Deferred Charges		86,026		63,558
TOTAL WORKING FUND		$ 637,711		$ 655,520
ENDOWMENT & CUSTODIAN FUNDS				
Investments at cost	$2,486,931		$2,429,447	
Cash in Savings Accounts	529,258	3,016,189	302,518	2,731,965
PROPERTY FUND				
Founder's interest in Real Estate & Other Assets of U.E.T.		265,000		265,000
		$3,918,900		$3,652,485

LIABILITIES AND RESERVES				
WORKING FUND				
Accounts Payable - General		$ 127,237		$ 136,518
Nat'l. Science Foundation Grant				2,700
Life Membership Fund		22,280		24,060
Special Fund for Publications		26,690		26,690
Annual Meeting Surplus Fund		63		701
Deferred Income, Members Dues:				
Received in Advance	$ 318,346		$ 292,305	
Other Deferred Credits	73,780	392,126	82,192	374,497
Surplus beginning of year	90,354		45,688	
Unexpended Income	(21,039)		9,444	
Fund Transfers	-	69,315	35,222	90,354
TOTAL WORKING FUND		$ 637,711		$ 655,520
ENDOWMENT & CUSTODIAN FUNDS				
Endowment Funds	$2,671,290		$2,408,168	
Custodian Funds	344,899	3,016,189	323,797	2,731,965
PROPERTY FUND				
AIME portion of contribution from A. Carnegie & Others		265,000		265,000
		$3,918,900		$3,652,485

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

INCOME AND EXPENSE STATEMENT

TWELVE MONTHS ENDING DECEMBER 31, 1963

	MINING	METALS	PETROLEUM	TOTAL
INCOME:				
Membership:				
Current dues	$210,883	$150,192	$227,036	$ 588,111
New membership dues	7,883	9,131	13,373	30,387
Entrance Fees	8,699	9,002	15,183	32,884
TOTAL	$227,465	$168,325	$255,592	$ 651,382
Publications:				
Monthly Journal Adv.(net)	$130,346	$ 79,298	$160,733	$ 370,377
Directory Adv.	10,717	1,131	5,256	17,104
Monthly Journal Sales	10,006	21,221	6,461	37,688
Non-Monthly Journal Adv.	-	-	1,105	1,105
Non-Monthly Journal Sales	9,276	44,089	3,160	56,525
Transactions Volume Sales	19,008	22,150	16,724	57,882
Reprint Sales (5)	3,342	20,444	6,434	30,220
Mining Preprint Sales	4,499	-	-	4,499
TOTAL	$187,194	$188,333	$199,873	$ 575,400
Other Income:				
Interest & Dividends, Misc.	$ 3,271	$ 2,560	$ 3,733	$ 9,564
Annual Meeting	1,999	2,260	1,592	5,851
TOTAL	$ 5,270	$ 4,820	$ 5,325	$ 15,415
TOTAL INCOME	$419,929	$361,478	$460,790	$1,242,197
EXPENSES				
Membership and Sections:				
Local Section Student Chapter	$ 16,115	$ 11,168	$ 24,019	$ 51,302
Society Offices	49,010	46,818	84,454	180,282
Special Membership Activities	3,451	2,001	9,597	15,049
Institute Activities (2)	13,470	13,506	9,527	36,503
Public Relations	4,545	3,657	4,818	13,020
Library Assessment (1)	4,591	3,478	5,240	13,309
E.J.C. & E.C.P.D. Expenses (1)	4,901	3,712	5,593	14,206
TOTAL	$ 96,083	$ 84,340	$143,248	$ 323,671
Publications:				
Journal Advertising Exp.	$ 90,847	$ 38,550	$ 89,789	$ 219,186
Monthly Jnl.-Prod. & Edit.	106,953	99,523	119,950	326,426
Non-Monthly Jnl.-Adv.	-	-	641	641
Non-Monthly Jnl.-Prod.&Edit.	17,808	72,278	10,475	100,561
Transactions Volume Expense	12,575	9,777	18,800	41,152
Reprint Expenses (5)	2,069	11,534	5,474	19,077
Mining Preprint Expense	8,641	-	-	8,641
Directory	9,281	4,418	5,425	19,124
TOTAL	$248,174	$236,080	$250,554	$ 734,808
General and Administrative:				
Secretary's Office - N.Y.(1)	$ 16,785	$ 12,712	$ 19,154	$ 48,651
Secretary's Office - S.L.C.(3)	14,494	2,791	1	17,286
Business Office (4)	34,243	27,152	31,910	93,305
Pensions & Related Exp.	15,684	11,797	14,767	42,248
Provision for Depreciation(1)	3,477	2,688	3,118	9,283
Miscellaneous Expense (1)	5,791	4,386	6,609	16,786
TOTAL	$ 90,474	$ 61,526	$ 75,559	$ 227,559
TOTAL EXPENSE	$434,731	$381,946	$469,361	$1,286,038
Excess (deficiency) of income over expense for the year	$(14,802)	$(20,468)	$(8,571)	$(43,841)
From Metals Res. Pub. Fund		8,396		8,396
From H. Krumb Fund	4,081	3,791	6,534	14,406
Balance(deficiency) to Surplus	$(10,721)	$(8,281)	$(2,037)	$(21,039)

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

NOTES TO INCOME AND EXPENSE STATEMENT

TWELVE MONTHS ENDED DECEMBER 31, 1963

1. These items are being pro-rated to the societies based on the percentage of membership as at 12/31/62 as follows:

   MINING - 34.50% METALS - 26.13% PETROLEUM - 39.37%

2. Institute Activities expenses are net after certain items chargeable against Annual Meeting. The use percentage for 1963 is:

   MINING - 36.9% METALS - 37.0% PETROLEUM - 26.1%

3. Secretary's Office - Salt Lake City - Distributed as follows:

   MINING - 84.2% METALS - 15.8% PETROLEUM - $1.00

4. Business Office Expense - allocated on use basis:

   MINING - 36.7% METALS - 29.1% PETROLEUM - 34.2%

5. Metals Reprint Sales and Expenses includes the following:

	SALES	EXPENSES
Bi-monthly Reprint.....	$17,182.60	$ 9,763.57
Journal of Metals Reprints....	3,261.54	1,770.67
	$20,444.14	$11,534.24

STATEMENT OF ENDOWMENT & CUSTODIAN FUND BALANCES
FOR THE YEAR ENDED DECEMBER 31, 1963

Balance - January 1, 1963		
Endowment Funds	$2,408,168	
Custodian Funds	323,797	$2,731,965
Receipts and Credits		
Cash and Securities received from estate of Daniel C. Jackling	$ 141,602	
Cash received from the estate of Walter H. Aldridge	21,230	
Other Cash Contributions	2,426	
Net Income from Sales of Securities	31,430	
Net Income from investments and interest on savings accounts	125,347	
Income from Oil Royalties	6,027	
Sales of Books, volumes etc.	54,822	
Income from conferences and meetings	82,998	
Income from Royalties-Book Publishers	13,655	
ASM participation in Metallurgical Society Fall Meeting	9,128	
Sundry Income and Receipts	2,365	491,030
		$3,222,995
Less: Disbursements, expenses etc.		
Scholarship Awards	$ 1,525	
Other awards, medals, plaques and related expense	6,877	
Publication of books, volumes etc.	32,161	
Expenses of Conferences and meetings	79,853	
Daniel C. Jackling Fund contribution to U.E.T. Building Fund	20,000	
Custodian Fund contribution to U.E.T. Building Fund	333	
Sundry Expenses and payments	5,284	
Transfers:		
For business and other services	13,023	
Of Investment income to cover portion of Library Assessment	4,044	
Of Investment income to other income - Dividends and Interest	1,818	
Of Investment income to cover portion of rent expenses	10,483	
For Metallurgical Society Services	17,009	
To defray a portion of the cost of Salt Lake City Office	6,000	
To cover a portion of 1963 Transactions Expense	8,396	$ 206,806
Balance of fund accounts, December 31, 1963 per balance sheet:		
Endowment Funds	$2,671,290	
Custodian Funds	344,899	$3,016,189

REPORT
OF THE
BUSINESS MANAGER

The Business Office functions as a service organization for the Institute and its constitutient societies. Nineteen hundred sixty three was a year of major changes, one of which was the combining of the duties of the Business Manager and Chief Accountant into one position. Another major change was the conversion of our old addressing system to that of centralized services offered by the Data Processing Center of AIChE. The new system, a 1401 IBM card system, necessitated many changes in various clerical duties. A tremendous job had to be done in realigning the duties of various staff personnel as well as educating staff, sections and committees about our new system.

Although the conversion to the DPC operation has been more costly than our previous system, more detailed data and statistics are available. Data Processing prepares all member and subscriber labels for monthly, bi-monthly and quarterly journals as well as annual volumes. In addition other services of DPC include the annual dues billing, dues analysis listings for receipts each month, cash disbursements and sales journal distribution, all done monthly. Also special requests are handled such as meeting notices, special listings, etc.

A very important function of the business office is maintaining up to date changes of address, changes of divisional affiliations and other data for both members and non-member subscribers. More than 25,000 changes were made during the past year.

Other services include accounting for all income and expenses for the Institute and the Societies. Detailed records are maintained for the various Endowment and Custodian Funds now totaling over $3,000.000. Reports are issued as requested to various committees such as Investment, Mudd Fund, Open Hearth, Ironmaking and Electric Furnace conferences, Rocky Mountain Fund and other funds and divisions.

The AIME mailroom handles incoming and outgoing mail of the Institute and the Societies. They also mail Journals each month to new members, fill book orders and maintain inventories of books, journals and supplies.

Also the Business Office does the billing for book orders, advertising, Multilith services and other areas of other income producing activities. Purchasing is done for all supplies and equipment for the Institute and Societies. In addition records are maintained for ABC and BPA circulation audits and reports filed periodically.

Multilithing, Xeroxing, collating and stapling were services offered by AIME's Business Office as an income producing operation. This service was utilized by the AIME Societies as well as all the Societies in the United Engineering Center. These services offered are of the highest quality and have been so well received by other Societies that the workload increased to the point where a second Multilith machine was needed. This second machine was ordered in December 1963 after undertaking the monthly responsibility to print the Junior Engineering Technical Society journal.

In conclusion, I sincerely feel an efficient job has been done by the Business Office in 1963, especially when considering: the volume of work to be done on a daily basis, the major changes which took place, and the reduction in staff from 19 to 17 people. I wish to thank the entire staff of the Business Office for their cooperation and I especially am in debted to Mr. George I. Bridgen, Treasurer for his helpful assistance and direction.

Respectfully submitted,
Dominic A. Lisanti
Assistant Treasurer
Business Manager

REPORT

of the

INSTITUTE ACTIVITIES DEPARTMENT

Membership

The data in succeeding pages details the gains and losses in 1963 affecting AIME and its constituent Societies.

In briefest form, 1962 and 1963 comparison is:

	SME	SPE	MET. SOC.	AIME
1962 Corporate	11,998	13,634	8,805	34,437
1962 Students	524	465	868	1,857
1962 Total	12,522	14,099	9,673	36,294
1963 Corporate	11,913	13,854	9, 071	34,838
1963 Students	523	416	1, 350	2,289
1963 Total	12,436	14,270	10,421	37,127

Overall, there has been a gain, not significant, but in the right direction.

Meetings

The many meetings in 1963 were, for the most part, self-supporting. There was no strain on the Institute treasury so far as the meetings were concerned.

Student Relations

Much remains to be done in this area. Significantly, the joint Met. Soc. - ASM membership has increased the Student Member total in the Metallurgical Society.

Council of Section Delegates

Six Regional meetings were held in 1963. Results of points raised will be finalized at the 1964 Annual Meeting.

Council of Education

The newsletter continues. Future programs in the Student Relations area will require the assistance of this Council.

Council of Economics

Not only has this Council expanded on its newsletter distribution but also it has taken an enlarged area of the Annual Meeting program.

The Institute has gained some gound in 1963. This has, as always, been due to the efforts of a great many persons.

Respectfully submitted,

H. N. Appleton
Assistant Secretary

REPORT

of the

CHAIRMEN OF THE ADMISSIONS COMMITTEES

Applications for new memberships, reinstatement and change of status, to the number of 2688 came before the Committee during 1963.

The statistical record of Committee actions is given in the following tabulation.

The Chairmen gratefully acknowledge the painstaking work of the Committee.

J. W. Hanley
Metallurgical Society

H. Rush Spedden
Society of Mining Engineers

Edmond F. Egan
Soceity of Petroleum Engineers

Classification of Applications Received and Elections Made by the Admissions Committees

New Applications and Reins.:	1962	1963	Mining 1963	Metals 1963	Petr. 1963
Members	1,111	1,241	317	291	633
Associates	376	358	103	87	168
Juniors	479	470	68	128	274
	1,966	2,069	488	506	1,075
Applications for C/S					
Associate to Member	355	401	95	68	238
Junior to Member	43	34	15	8	11
Junior to Associate	---	2	2	--	--
Student to Junior	1	9	2	3	4
Associate to Student	--	2	--	2	--
Associate to Junior	1	--	--	--	--
Member to Student Mbr.	2	2	--	1	1
Junior to Student Mbr.	1	3	1	1	1
Junior to Joint Student	--	4	--	--	4
Student to Joint Student	--	161	--	161	--
Joint Student to Student	--	1	1	--	--
	403	619	116	244	259
Applications for Student Mbrs.	841	1,373	275	882	216
Grand Total	3,210	4,061	879	1.632	1,550

Automatic Changes of Status are not included in above figures due to the fact that applications are not necessary.

Table No. 1

MEMBERSHIP GAINS AND LOSSES FOR YEAR 1963

Corporate	Total	Mining	Metals	Petroleum
On record 1/1/63	34,554	12,026	8,823	13,705
Gains:				
Elections & Reinstatements	2,276	548	539	1,189
Change of Status - Student to Junior	1,238	305	680	253
Less Reversion to Student after Election to Corporate Grade	3		1	2
TOTAL GAINS	3,517	853	1,220	1,444
Losses:				
Deaths	234	126	71	37
Resignations	471	163	153	155
Failure to Accept Election	98	22	15	61
Failure to Accept Change of Status	457	113	106	238
Nonpayment	1,555	464	357	734
Adjustment to Balance with IBM	418	78	270	70
TOTAL LOSSES	3,233	966	972	1,295
Net Gain (Loss)	284	-113	248	149
Total Corporate Members on Record 1/1/64	34,838	11,913	9,071	13,854

Students	Total	Mining	Metals	Petroleum
On record 1/1/63	1,857	524	868	465
Total Gains	1,430	227	970	233
Total Losses	1,481	396	749	336
Net Gain or (Loss)	-51	-169	221	-103
Adjustment to Balance with IBM	483	168	261	54
Total Students on Record 1/1/64	2,289	523	1,350	416
Total Membership - 1/1/64	37,127	12,436	10,421	14,270

Table 2

Corporate Members, AIME

	1961	1962	1963
Total January 1.	34,852	34,368	34,554
Total Gains, 12 Months	3,524	3,159	3,517
Total Losses, 12 Months	4,008	3,090	3,233
Net Gains or Losses	-484	69	284
Total Jan. 1 of following year	34,368	34,437	34,838

Table 3

Student Membership, AIME

	1961	1962	1963
Total January 1	1,893	1,633	1,857
Total Gains, 12 Months	1,355	1,300	1,913
Total Losses, 12 Months	1,615	1,076	1,481
Net Gain or Loss, 12 Months	-260	224	432
Total Jan.1 of following year	1,633	1,857	2.289

Table 4

Total Corporate and Student Members, AIME

	1961	1962	1963
Total January 1	36,745	36,001	36,411
Total Gains, 12 Months	4,879	4,459	5,430
Total Losses, 12 Months	5,623	4,166	4,714
Net Gain or Loss, 12 Months	-744	293	716
Total Jan. 1, of following year	36,001	36,294	37,127

Table No. 5

Total AIME Membership 1961 through 1963

Classification of Members

	1961	1962	1963	1963		
				SME	MET.SOC.	SPE
Honorary Members	19	15	21	9	7	5
Members	21,259	21,800	22,305	8,498	5,516	8,291
Associates	5,232	5,234	5,435	1,763	1,542	2,130
Juniors	7,839	7,349	7.061	1,627	2.006	3,428
Rocky Mountain	19	19	16	16	---	---
Student Members	1,633	1,857	2,289	523	1,350	416
	36,001	36,294	37,127	12,436	10,421	14,270

Table No.6

Summary of Council of Education Membership

and

Summary of Council of Economics Membership

	Education	Economics
Society of Mining	80	199
Metallurgical Society	52	25
Society of Petroleum	14	26
TOTALS	146	250

Table No. 7

Distribution of Members in Societies
During Last Decade as Approximate Percentage

Date	Mining Members %	Metallurgical Members %	Petroleum Members %
December 31, 1954	46.4	25.7	27.9
December 31, 1955	44.7	24.8	30.5
December 31, 1956	42.2	24.0	33.8
December 31, 1957	39.1	23.0	37.9
December 31, 1958	37.5	22.8	39.7
December 31, 1959	36.0	23.5	40.5
December 31, 1960	35.6	24.1	40.3
December 31, 1961	35.3	25.4	39.3
December 31, 1962	34.5	26.7	38.8
December 31, 1963	33.6	28.0	38.4

Table 8
Membership Data

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

1871 to 1963

Year	Members	Year	Corporate Members	Student Members	Total
	22				
1871	157	1917	6,597		
1872	254	1918	7,237	619	7,856
1873	273	1919	7,385	1,041	8,426
1874	345	1920	8,388	1,920	10,308
1875	554	1921	8,879	1,326	10,205
1876	628	1922	8,085	1,328	9,413
1877	732	1923	7,813	1,315	9,128
1878	734	1924	7,555	1,263	8,818
1879	788	1925	7,569	1,157	8,726
1880	832	1926	7,385	1,131	8,516
1881	1,031	1927	7,434	1,004	8,438
1882	1,213	1928	7,488	1,000	8,488
1883	1,345	1929	7,823	1,033	8,856
1884	1,467	1930	7,831	1,162	8,993
1885	1,439	1931	7,843	1,131	8,974
1886	1,504	1932	7,685	975	8,660
1887	1,615	1933	7,155	672	7,827
1888	1,714	1934	6,887	628	7,515
1889	1,857	1935	6,916	1,006	7,922
1890	2,000	1936	7,326	1,620	8,946
1891	2,134	1937	8,279	2,147	10,426
1892	2,258	1938	9,005	2,898	11,903
1893	2,392	1939	9,614	3,760	13,374
1894	2,391	1940	10,828	4,171	14,999
1895	2,437	1941	11,334	4,179	15,513
1896	2,390	1942	11,675	3,489	15,164
1897	2,455	1943	12,081	2,707	14,788
1898	2,562	1944	12,334	1,497	13,831
1899	2,564	1945	12,910	1,088	13,998
1900	2,450	1946	14,119	1,737	15,856
1901	2,897	1947	15,000	3,117	18,117
1902	3,262	1948	15,580	4,069	19,649
1903	3,741	1949	16,315	4,952	21,267
1904	3,530	1950	17,082	4,534	21,616
1905	3,886	1951	17,482	2,229	19,711
1906	4,048	1952	18,643	1,964	20,607
1907	4,191	1953	19,718	2,195	21,913
1908	4,241	1954	21,816	2,179	23,995
1909	4,284	1955	23,723	2,825	26,548
1910	4,210	1956	26,298	3,415	29,713
1911	4,169	1957	28,823	3,974	32,797
1912	4,290	1958	30,553	3,757	34,310
1913	4,284	1959	33,378	2,332	35,710
1914	4,150	1960	34,852	1,893	36,745
1915	4,650	1961	34,368	1,633	36,001
1916	5,880	1962	34,437	1,857	36,294
		1963	34,838	2,289	37,127

MEMBERSHIP STATISTICS December 31, 1963

No.	SECTION	SOCIETY OF MINING ENGINEERS								THE METALLURGICAL SOCIETY							SOCIETY OF PETROLEUM ENGINEERS														GRAND TOTAL
		Min. & Explor. A	M.B.D. B	Coal F	Ind. Min. H	Educ. J	Econ. K	Un-class	Total	Iron & Steel C	Extr. Met. D	Inst. of Met. E	Educ J	Econ K	Un-class	Total	Drilling & Well Complet. N	Educ. & Prof. O	Eco. & Eval. P	Form. Eval. R	Gas Tech. S	Geol. Eng. T	Manage-ment U	Prod. Oper. V	Reservior Eng. W	Fl. Mech. & Oil Rec Proc. X	Educ J	Econ K	Un-class	Total	
1	ALASKA	15	1	3		1		7	27																			1	1	28
2	ARIZONA	512	114	3	10	9	5	97	750	7	39	9		2	25	82	2											10	12	844
3	BLACK HILLS	27	8		3	2	1	7	48		3	2			4	9	1				1								2	59
4	BOSTON	41	14	7	6	2	1	14	85	24	20	185		1	53	283	1		1			3			1			1	20	27	395
5	CARLSBAD	35	15		2	1		1	54						2	2														56
6	CENTRAL APPALACHIAN	44	8	244	13	3	3	25	340	7	3	16	2		10	38													1	1	379
7	CHICAGO	70	44	74	30		1	43	262	460	28	205		1	110	804															1,066
8	CLEVELAND	54	43	28	9		1	20	155	288	9	188	2		43	530															685
9	COLORADO	241	125	24	10	5	2	65	472	21	16	21			22	80															552
10	COLUMBIA	176	27	1	11		5	28	248	2	27	22	1		7	59						1							2	3	310
11	CONNECTICUT	13	4	3	5			9	34	32	20	170	2	4	21	249													2	2	285
12	DELTA	8	2		2			4	16	2	1	5			3	11	92	3	18	28	10	3	44	60	48	3	1		352	662	689
13	DETROIT	33	6	1	6	1	2	16	65	155	10	167	2		56	390	2		3		6		1	1	4	1			18	36	491
14	EAST TEXAS	8	4	1				2	15								14		6	1	2		6	30	11	3			121	194	209
15	EL PASO	40	16	1	1	1		17	76	3	32	7	2		13	57			1	1	1	1	3	1	11				16	35	168
16	GULF COAST	2						2	4	1	1					2	173	6	88	61	38	15	108	123	110	37		1	970	1,730	1,736
17	WICHITA PETROLEUM	5			3	1		3	12	3		7			2	12	7	1	7	3	6	1	5	22	6	5			83	146	170
18	LEHIGH VALLEY	69	31	18	17		1	21	157	65	19	61	1		36	182			1		1		1						2	5	344
19	MID CONTINENT	10		6	1		1	2	20	1	1	2			1	5	48	6	44	18	11	8	49	63	47	44		3	387	728	753
20	MINNESOTA	229	144	1	4		7	49	434	9	5	21	1		20	56							1						4	5	495
21	MONTANA	90	18	2	7	3		34	154	2	46	5	2		10	65													1	1	220
22	NEVADA	165	31		14		3	30	243		12	11			11	34	1					1							7	9	286
23	NEW YORK	412	150	31	58	7	37	147	842	171	194	442	2	21	150	980													5	5	1,827
24	NORTH TEXAS	1						1	2			1				1	11		7	3		1	9	31	11				168	241	244
25	NORTH PACIFIC	126	13	8	6	3	1	33	190	9	24	47			25	105	1			1			1						10	13	308
26	OHIO VALLEY	29	10	38	15	2	2	24	120	106	18	162		1	36	323			1					1				1	3	6	449
27	OKLAHOMA CITY	5	1		2			4	12	1		7			1	9	38	2	26	5	5	1	28	69	38	8	1		232	453	474
28	OREGON	52	9	1	8		3	17	90	6	24	18			17	65													2	2	157
29	PENN. ANTHRACITE	29	6	128	4		1	7	175	8	1	4			4	17									1					1	193
30	PERMIAN BASIN	8						8	16		1					1	57		28	14	3	11	44	103	69	4			441	774	791
31	PHILADELPHIA	57	35	14	21	3	3	33	166	141	14	129			40	324		1					5		1	1	1	1	13	23	513
32	PITTSBURGH	95	36	270	19	1	7	55	483	670	49	361	1	3	82	1,166	17	3	6	6	1	3	2	6	8	13			66	131	1,780
33	ST. LOUIS	141	27	90	27	6	2	44	337	76	39	53			37	203															540
34	SAN FRANCISCO	377	139	3	48	1	12	73	653	48	39	123		1	61	272	6	1	8	2	1	2	10	4	11	8			80	133	1,058
35	SOUTHEAST	81	16	110	16	2	4	24	253	46	9	19			11	85			2		1	1		4					10	18	356
36	SOUTHERN CALIFORNIA	219	43	5	38	2	5	77	389	55	30	188		1	53	327	1												2	3	719
37	SOUTHWEST TEXAS		1						1								41	1	11	4	10	4	19	64	26	3	1		304	488	489
38	SOUTHWEST. NEW MEXICO	38	7		1		1	11	58		4	1		1	1	7															65
39	TRI-STATE	29	5	3				5	42	1	3	1			2	7													3	3	52
40	UPPER PENINSULA	117	40		2	1	1	19	180	2	2	6		1	4	15													1	1	196
41	UTAH	292	81	12	9	3	3	76	476	16	45	13		3	27	104	2					1	3		1				16	23	603
42	WASHINGTON, D.C.	142	14	45	20	1	24	38	284	31	28	100		3	20	182	1		8	1	5	3	7	3	5	2			48	83	549
43	WYOMING PETROLEUM																6	1	4	5	2	4	7	25	74	4			140	212	212
44	SPINDLETOP							1	1			1				1	14	1	2	6	1		9	41	10				127	211	213
45	FLORIDA	85	63	7	31	3	4	23	216	7	6	29		1	9	52			2		1		3	1				1	26	34	302
46	PHILIPPINE	48	3	3	1		1	10	66	5	3	3				11						2	1						2	5	82
47	MEXICO	96	12	2	4	2	7	13	136	18	6	4		1	4	33	4		1				2	2	4	2	1		32	48	217
48	SOUTHWESTERN ALASKA	40		5		1		8	54					1	2	3	4					2	2	1					10	19	76
49	WEST CENTRAL TEXAS	2						3	5		1					1	9	1	2	1	1	5	6	15	8				85	133	139
50	ADIRONDACK	54	13	1	11	1		4	84	3	1	16		1	7	28													1	1	113
51	LIMA, PERU	113	30		3		9	26	181	2	17	1		1	6	27	2					1	2		5				14	24	232
52	LOU. - ARK.	4	1		1			1	7	2		1				3	14	1	12	4	6		13	27	16	1			119	213	223
53	SOUTH PLAINS	1							1								2			1	1		2	12	4				41	63	64
54	FORT WORTH	3			1		1	2	7			2			2	4	23		15	1	4	1	16	16	10	2			113	201	212
55	DALLAS	8	1		3			8	20			4			1	5	47	1	82	14	10	6	49	70	86	24		1	429	819	844

NO.	SECTION	SOCIETY OF MINING ENGINEERS								THE METALLURGICAL SOCIETY							SOCIETY OF PETROLEUM ENGINEERS														GRAND TOTAL
		Min. & Explor. A	M.B.D. B	Coal F	Ind. Min. H	Educ. J	Econ. K	Un-class	Total	Iron & Steel C	Extr. Met. D	Inst. of Met. E	Educ J	Econ K	Un-class	Total	Drilling & Well Complet. N	Educ. & Prof. O	Eco. & Eval. P	Form. Eval. R	Gas Tech. S	Geol. Eng. T	Manage-ment U	Prod. Oper. V	Reservior Eng. W	Fl. Mech. & Oil Rec Proc. X	Educ J	Econ K	Un-class	Total	
56	MISSISSIPPI	2	3		2			3	10	1		1				2	10	3	3	5	2	2	11	28	7	2			124	197	20
57	COLORADO PLATEAU	104	22	5	1		4	15	151		3				2	5														156
58	ARKANSAS	25	3	4	6		1	8	47	2	1	1				4		1						2					3	6	57
59	SAN JOAQUIN	27	3		4		1	6	41		1	1			1	3	21		10	8		3	10	40	28	13			148	281	325
60	CENTRAL NEW MEXICO	109	20	2	2	3	2	21	159	1	3	19			10	33			1										17	18	210
61	HOBBS PETROLEUM	1							1								10		5	3	2	1	8	31	7	1			122	190	191
62	ANADARKO BASIN											1				1	10		2	2	4		4	4	4				73	103	104
63	PANHANDLE	1	1						2	2	4					6	18		8	4	8	1	9	29	12	1			103	193	201
64	NIAGARA FRONTIER	9	6	2	5	1	1	9	33	79	25	72	1		12	189							1						9	11	233
65	DENVER PETROLEUM																20		19	9	5	3	25	41	30	11		3	191	357	357
66	BILLINGS PETROLEUM																6		7	3		1	8	10	5				49	89	89
67	NEW YORK PETROLEUM																7	1	41	10	2	3	42	12	8	4		2	202	334	334
68	ILLINOIS BASIN PETROLEUM									1						1	13	2	9	5	4	5	11	34	25	7		1	143	259	260
69	LOS ANGELES BASIN									1						1	57	1	32	17	8	10	44	59	39	29	1	1	375	673	674
70	E. VENEZUELA PETROLEUM	19		2	1			5	27	3						3					3		3	7	3				38	54	84
71	EVANGELINE	3			3			2	8								53	1	9	6	3	2	10	52	22	3	1	1	213	376	384
72	W. VENEZUELA PETROLEUM	1							1								6		4	3			10	22	10	1		1	103	160	161
73	GREAT BEND																2					1	3	25	1				38	70	70
74	UPPER MISSISSIPPI VALLEY	18	1		1			2	22			2				2													2	2	26
75	URANIUM	37	12		2	1		6	58		3				1	4															62
76	CARACAS	11						5	16	3					2	5	2	1	5	4			9	5	8	1			70	105	126
77	FOUR CORNERS PETROLEUM	1							1								8		5		1	1		5	3		1		60	84	85
78	CALIFORNIA COASTAL														1	1	11	1	2	2		3	6	11	12	2			54	104	105
79	CIM - AIME CALGARY PETR.	3		2	1			1	7		1					1	13		24	5	11	2	21	26	32	3			140	277	285
80	SNYDER																3			1			1	5					29	39	39
81	ROSWELL PETROLEUM	1		1					2								3		3	2		1		9	1				30	49	51
82	CIM - AIME EDMONTON PET.	1	3						4	2		1			1	4	8	1	3	2	1		1	8	7	2	1		66	100	108
83	WYOMING MIN. & MET.	69	11	7	4			9	100		1					1															101
84	BALCONES				1				1								13	3	6	3	2	2	3	16	9	2	1		80	140	141
85	HUDSON MOHAWK	7	4		7			4	22	19	4	117			25	165							2						3	5	192
86	WILLISTON BASIN	1							1								6			2			2	5	1			1	44	61	62
87	SAUDI ARABIA																3		1	1		1	2	1	2				62	73	73
88	APPALACHIAN PETROLEUM	1							1								10	1	3	2	2	1		3	3	1			24	50	51
89	NORTHERN PETROLEUM	2							2		5	1				6	9	1	2	6	3		4	10	4	9			44	92	100
90	UTAH COAL	2	1	45				3	51																						51
91	NORTHERN WEST VIRGINIA																13		1	1			3	2	1				17	38	38
92	CAROLINAS	29	15	2	19	1		17	83	1	3	18			4	26										1			9	10	119
93	WISCONSIN	29	37	7	5			9	87	26	3	42			15	86				1									4	5	178
94	NETHERLANDS	10	2	2		1		1	16	5	5	4			2	16	2				3		6	2	3	1		1	65	83	115
95	EAST TENNESSEE	60	14	7	9			10	100	10	14	40			6	70							1							1	171
96	COASTAL BEND										1					1	11		2	3	2	1	2	9	1				49	80	81
97	RICHMOND	13	3	6	3		2			3	2	24	1		3	33										1			6	7	40
98	LONE STAR MET.							2	29	13	2	15	1		5	36															65
99	TEXAS COAST MIN. & MET.	56	10		6		1	17	90	21	6	18	1		8	54															144
100	UINTAH BASIN	1						1	2								6				1		2	6	2	1			19	37	39
101	NORTHERN PLAINS																		1	2	10		7	6	6			1	22	55	55
102	BARTLESVILLE	5					1		6		6	1				7	1	1	8	1	5		3	12	14	12			52	109	122
103	EAST KENTUCKY														1	1	5				1	1		3	2	2	1		24	39	40
104	BIG HORN BASIN																2		1					8	3				27	41	41
105	OHIO PETROLEUM																7		6	1	3	2	4	5	4				54	86	86
106	CHICAGO PETROLEUM																3	1	3	1		2	10	2	1	2		2	36	63	63
	OUT OF SECTION	825	303	70	44	5	25	242	1,514	356	249	253	3	4	128	993	37		11	6	5	6	40	28	45	7	3	3	474	665	3,172
	TOTALS	6,074	1,885	1,357	629	80	199	1,689	11,913	3,055	1,192	3,471	25	52	1,276	9,071	1,050	48	623	301	219	136	786	1,378	931	285	14	26	8,057	13,854	34,838
	STUDENTS								523							1,350														416	2,289
	TOTAL								12,436							10,421														14,270	37,127

Name of Section	Base	Jan-Dec.	Percent
Group A-00-99			
Alaska	29	1	3.44
Arkansas	60	3	5.
Big Horn Basin	35	10	28.57
Black Hills	66	1	1.51
Calif. Coastal	90	12	12.22
Carlsbad Potash	58	1	1.72
Coastal Bend	87	8	9.08
East Kentucky	49	1	2.04
East Venezuela	85	2	2.35
Four Corners	99	7	7.07
Great Bend	69	10	14.49
Lone Star Met.	43	4	9.30
Netherlands	96	18	18.75
Northern Oklahoma	98	4	4.18
Northern Plains	54	4	7.40
Philippine	79	19	24.05
Richmond	69	0	----
Roswell	56	4	7.14
Saudi Arabia	80	4	5.00
Snyder	40	2	5.00
South Plains	76	3	3.95
Southwest Alaska	76	1	1.31
Southwestern New Mexico	59	10	16.94
Tri-State	54	2	3.70
Uintah Basin	34	7	20.58
Upper Mississippi	27	1	3.69
Uranium	64	3	4.68
Utah Coal	58	1	1.72
Williston Basin	54	8	15.00
Wyoming Min. & Met.	98	9	2.04
TOTAL	1942	162	
Group B-100-199			
Adirondack	108	2	1.85
Appal. Petroleum	169	8	4.73
Balcones	152	3	1.97
Bartlesville	109	11	10.09
Billings Petroleum	107	1	.93
Caracas	141	15	10.63
Carolines	127	5	3.93
Colorado Plateau	169	5	2.95
East Tennessee	166	3	1.80
CIM-AIME Edmonton	133	7	5.26
El Paso	153	9	5.88
Hudson-Mohawk	186	5	2.68
Hugoton (Anadarko	122	11	9.01
Kansas	170	8	4.70
Mississippi	192	23	11.45
Oregon	147	6	4.08
Penn Anthracite	199	7	3.51
Texas Coast Min. & Met.	150	11	7.33
Upper Peninsula	192	6	3.12
West Central Texas	144	5	3.47
Western Venezuela	152	26	17.10
Wisconsin	162	10	6.16
Wyoming Petroleum	192	18	9.37
TOTAL	3542	205	

Name of Section	Base	Jan.-Dec.	Percent
Group C-200-299			
CIM-AIME Calgary	272	8	2.94
Central New Mexico	222	14	6.30
Connecticut	286	9	3.14
East Texas	211	16	7.58
Florida	283	8	2.82
Fort Worth	213	6	2.81
Hobbs	230	17	7.26
Ill. Basin Petroleum	278	12	4.31
Lou-Ark	223	10	4.48
Mexico	209	15	7.17
Montana	234	5	2.13
Nevada	264	8	3.03
Niagara Frontier	248	11	4.43
North Pacific	298	4	1.35
North Texas	235	32	13.61
Panhandle	202	27	13.36
Peru	241	14	5.80
San Joaquin	281	49	17.43
Spindletop	234	11	4.70
TOTAL	4664	276	
Group D-300-599			
Boston	402	13	3.23
Central Appalachian	378	22	5.89
Columbia	311	7	2.25
Delta	593	101	17.19
Denver Petroleum	372	19	5.10
Detroit	449	33	7.43
Evangeline	366	32	8.74
Lehigh Valley	325	13	4.00
Minnesota	488	10	2.04
New York Petroleum	331	17	5.13
Ohio Valley	437	20	4.34
Oklahoma City	444	25	5.63
Philadelphia	516	20	3.80
St. Louis	567	24	4.23
Southeast	371	10	2.68
Southwest Texas	445	63	14.15
Washington, D.C.	549	16	2.91
TOTAL	7339	445	
Group E-600 & over			
Arizona	813	51	6.27
Chicago	1127	89	7.98
Cleveland	662	39	5.89
Colorado	544	16	2.94
Dallas	831	53	6.37
Gulf Coast	1718	90	5.23
Los Angeles Basin	657	36	5.49
Mid-Continent	711	52	7.31
New York	1775	90	5.12
Permian Basin	754	72	9.54
Pittsburgh	1780	107	6.01
San Francisco	1067	27	2.53
Southern California	694	18	2.59
Utah	643	21	3.26
TOTAL	13776	954	
OUT OF SECTION	3174	193	6.07
Ohio Petroleum		2	

1963 AIME Student Chapter Contest

University	Base	Jan-Dec.	Percent
Group A-60 and Above			
Colorado School of Mines	73	111	152.05
Missouri School of Mines	88	97	110.22
Montana School of Mines	103	32	31.06
Group B-40-59			
University of Arizona	54	33	61.11
Pennsylvania State University	45	57	126.66
Group C-20-39			
University of Alabama	28	12	42.85
University of California	24	20	83.33
Carnegie Inst. of Tech.	25	29	116.00
Colorado School of Mines (Petr.)	31	8	25.80
University of Houston	21	1	9.04
Louisiana State University	22	30	136.36
Massachusetts Inst. of Tech.	23	41	178.26
University of Minnesota	21	11	52.38
New Mexico Inst. of Min. & Tech.	30	28	93.33
University of Oklahoma	21	13	61.90
South Dakota School of Mines	20	9	45.00
Stanford University	24	15	62.5
A & M College of Texas	31	3	9.67
Texas College of Art & Industries	26	2	7.69
University of Texas	36	3	8.33
University of Tulsa	30	24	80.
Group D-10-19			
University of Alaska	11	--	--
City College of New York	17	19	111.76
University of Illinois	15	40	266.66
University of Kentucky	19	16	84.21
Marietta College	13	19	146.15
Michigan College of Min. & Tech.	19	91	478.89
University of Nevada	17	5	29.41
Poly. Inst. of Brooklyn	12	12	100.
University of Southern California	13	6	46.15
University of S. W. Louisiana	11	--	--
Texas Western College	15	13	86.66
University of Utah	14	13	92.85
University of Washington	18	12	66.66
University of Wisconsin	10	35	350.00
University of Wyoming	12	10	83.33

	Base	Jan-Dec.	Percent
Group E-10 and Under			
Case Inst. of Tech.	6	23	383.33
Columbia Univ. School of Mines	9	11	122.22
Cornell University	4	18	450.
University of Idaho	8	12	150.
Illinois Inst. of Tech.	4	18	450.
University of Kansas	7	12	171.42
Lafayette College	4	23	575.
Lehigh University	2	3	150.
Louisiana Poly. Inst.	6	5	83.33
University of Michigan	6	24	400.
New York University	5	6	120.
Oklahoma State University	5	10	200.
University of Oregon	2	--	--
University of Pennsylvania	1	15	150.
University of Pittsburgh	3	20	666.66
Purdue University	2	24	120.00
St. Louis Univ. Inst. of Tech.	9	2	22.22
Texas Technology College	7	19	271.42
Virginia Poly. Inst.	5	6	120.
Washington State College	3	24	800.00
Washington University	3	1	33.33
Wayne University	9	8	88.88
West Virginia University	9	10	111.11
Wisconsin Inst. of Tech.	7	2	28.57
Yale University	5	3	60.
Mapua Inst. of Tech.		37	
Syracuse University		3	
Princeton University		2	
University of New Mexico		22	
North Carolina State College		2	
Dartmouth			
Los Angeles State College			
Oregon State University			
University of Wichita			
Out of Section		406	

PRESIDENT'S BANNER AWARD

Each year the Institute conducts a membership application contest among the Local Sections. The Sections are arranged in five groups, "A" to "E", according to the number of members in the Sections. Results of the contest are shown in Table 10. The following Sections received the highest percentage increase in membership in proportion to their membership and are the recipients of the President's Award. The Membership Chairman is shown for each Section.

Section	Membership Chairman
Group "A" - Big Horn Basin	Daniel H. Gauntt
Group "B" - Western Venezuela	Thomas W. Morris, Jr.
Group "C" - San Joaquin	John G. Cowan
Group "D" - Delta	Joseph B. Stewart
Group "E" - Permian Basin	W. T. Wheeler

These Sections are complimented for the excellent work they have done in obtaining awards.

AIME Student Chapter Contest

The Chapter at Washington State University submitted 24 Student Member applications to win first prize of $100. for the greatest number of applications submitted by a Student Chapter.

Each of the five Chapters submitting the next highest number of Student Member applications receives a pennant in recognition of its efforts. They are:

Colorado School of Mines (Min. & Met.)
Pennsylvania State University
Massachusetts Institute of Technology
Michigan College of Mining and Technology

These Chapters are to be complimented on the fine work they have done in membership.

REPORT

of the

WESTERN FIELD SECRETARY

To provide a geographically appropriate medium of communication, liaison and coordination for the widespread Western Sections, Subsections and Student Chapters, the AIME maintains a Western Field Office at 707 Newhouse Building, Salt Lake City, Utah. This office is staffed by the Western Field Secretary and a stenographer. It is the intent of the Secretary to offer the manifold services of AIME to Western Mining and Metallurgical Society members with a maximum of personal contact and individual attention. So that the functions of the office could be carried out in that spirit during 1963, visits were made to 27 Sections, Subsections and Student Chapters and 14 major conferences plus AIME and Society Boards of Directors and meetings of Regional Councils of Section Delegates. Realizing the importance of a close relationship between an individual member and the officers who represent him, arrangements were made for the attendance of Institute and Society Officers at 32 meetings during the year.

Sections and Subsections Visited During 1963 by C. J. Hicks

1. Arizona Section
2. Arkansas Section
3. Black Hills Section
4. Central New Mexico Section
5. Coeur d'Alene Subsection (Columbia Section)
6. Colorado Section
7. Colorado Plateau Section (2)
8. Minerals Beneficiation Subsection (Colorado Section)
9. Nevada Section
10. Minnesota Section
11. Montana Section
12. Pittsburgh Section
13. St. Louis Section
14. San Francisco Section (2)
15. Snake River Subsection (Columbia Section)
16. Southwest New Mexico Section
17. Spokane Subsection (Columbia Section)
18. Tri-State Section
19. Utah Section (5)
20. Utah Coal Section (2)
21. Wisconsin Section

Conference Assistance

The Western Field Office directly assisted in the planning and execution of five major Western Mineral Conferences held during 1963 and acted in an advisory capacity for several others.

Meetings and Conferences Attended by C. J. Hicks in 1963

1. 24th. Annual Mining Symposium of the University of Minnesota, Duluth, Minnesota
2. National Western Mining Conference and Exhibit, Colorado Mining Association, Denver, Colorado
3. Annual Meeting, AIME, Dallas, Texas
   Including: Committee of Region Representatives
   TMS Board of Directors
   SME Board of Directors
   AIME Board of Directors
   Institute Annual Business Meeting
4. ASM Western Metal Show, Los Angeles, California
5. CIM Annual Meeting, Edmonton, Alberta, Canada
6. 16th. Pacific Northwest Metals and Minerals Conference Portland, Oregon
7. 8th. Annual Uranium and Minerals Symposium Riverton, Wyoming
8. Idaho Mining Association, Wallace, Idaho
9. SME Fall Meeting---Rocky Mountain Minerals Conference Salt Lake City, Utah
   Including: SME Board of Directors
   AIME Board of Directors
10. International Mining Days, El Paso, Texas
11. 1963 Fall Meeting, IMD-TMS, Cleveland, Ohio
    Including: TMS Board of Directors
12. 18th. Annual Off-the-Record Meeting, Pittsburgh, Pennsylvania
    Including: SME Board of Directors
    AIME Board of Directors
13. Engineering Manpower Conference, Houghton, Michigan
14. TMS Refractory Metals Symposium, Los Angeles, California

Monthly Report

A comprehensive monthly report of the activities and plans of the Western Field Office was submitted to the General Secretary with copies to the three Society Secretaries. Included in these reports were comments believed worthy of staff attention gained from correspondence and conversation. These reports will be continued during the coming year.

Student Members

Contact with Student Members awarded degrees from 17 Western Mineral Engineering Colleges was maintained in 1963. One hundred sixtyfive cards requesting new mailing addresses and employers were mailed and 93 returned. Follow-up letters informing each of the students of his appropriate Section and its officers were sent with copies to the involved Section Chairman and Secretary and the New York office. The purpose of this action is to smooth the critical transition between Student Membership and active participation in Section affairs.

A program designed to help students of mineral engineering obtain temporary summer employment was continued by this office. Two hundred fourteen Western companies actively engaged in mining and/or metallurgical operations were contacted requesting that they consider offering summer employment to students of mineral engineering. Ninetytwo companies responded with numerous job openings. Faculty Sponsors of Student Chapters of 22 Western Colleges of Mineral Engineering were simultaneously supplied with the necessary information regarding the openings so that interested students might make application directly to the employer.

Student Chapters Visited During 1963 by C. J. Hicks

1. University of Utah
   Salt Lake City, Utah
2. Montana School of Mines
   Butte, Montana
3. Stanford University
   Palo Alto, California
4. Michigan College of Mines and Technology
   Houghton, Michigan
5. University of Arizona
   Tucson, Arizona
6. Colorado School of Mines
   Golden, Colorado

Membership

In addition to supplying routine aids to Section Membership Chairmen and giving talks familiarizing prospective members and students with the functions and aims of AIME, the Western Field Office has put various other sources of potential members to good use. Conference registration lists were screened for non-member participants. The names, addresses and company affiliations of these men were sent with a letter of transmittal to the appropriate Section Chairman, Secretary and Membership Chairman. The names of prospective members mentioned in trade journals, industrial communications and newspapers were treated in a like manner.

Newsletters

"The Western Miner and Metallurgist", a periodic newsletter emanating from the Western Field Office, was discontinued during 1963 because of distribution problems. Plans are to reactivate it during 1964. Various aids in programming, membership and attendance stimulation and other items and ideas of interest will be published. Distribution will be to Section Chairmen and Secretaries and Student Chapter Faculty Advisors.

Educational Film Compilation

A brochure describing approximately 170 new educational and industrial films and their sources was published by the Western Field Office and distributed to all Western Mining and Metallurgical Sections and Student Chapters. This listing was designed to aid Sections and Student Chapters in obtaining appropriate high-quality films to use as an emergency program or to supplement an established technical program. The brochure is 34 pages long and Multilithed on both sides of good quality letter size stock.

Procedures Manual

A "Procedures Manual for Officers and Committee Chairmen of AIME Sections and Subsections" was prepared by the Western Field Office at the suggestion of President Roger V. Pierce. The manual contains detailed instructions and suggestions for the effective conduct of Sections. It has not as yet had widespread distribution.

Plans for 1964

Plans are to continue and expand all aforementioned services and functions.

Sincerest thanks are offered to the many Institute members whose helpful comments, willing cooperation and warm hospitality made 1963 a successful and rewarding year.

Respectfully Submitted,

CLIFFORD J. HICKS

Western Field Secretary, AIME

REPORT

of the

SECRETARY OF THE SOCIETY OF PETROLEUM ENGINEERS OF AIME

Publications: Journal of Petroleum Technology

A total of 1335 editorial pages were published in the Society's journals during the year, with 979 of these appearing in Journal of Petroleum Technology. This is the largest number of editorial pages ever published in the monthly magazine, comparing to 956 in 1962, 829 in 1961 and 855 in 1960.

Net income from advertising in the monthly magazine and in the 1963-64 Membership Directory was $160,989, a 9% decrease from last year's $177,000. This downward trend in advertising revenues seemed to be prevalent in most other oil industry publications during 1963.

Publications: Society of Petroleum Engineers Journal

This new quarterly publication was started in 1961, and during that year 318 editorial pages were published. In 1963, 356 editorial pages were published while interest in and circulation of the publication continued to grow. Total circulation for the December, 1963 issue was 2,874, compared to 2,510 in December of 1962.

The Journal is sent free of charge to all SPE-AIME members who request it. Total production expense for the quarterly during 1963 was $10,475 Income from sale of advertising and subscriptions amounted to $4,265.

Publications: Transactions

Transactions Volume 228, to be available March 1, 1964, will contain 704 pages, which makes it the second largest ever issued by SPE. It is exceeded in size only by last year's record Volume 225 which contained 720 pages.

One new Transactions reprint booklet was published during 1963: No. 6-Drilling. This new booklet contains 164 pages, the largest published to date. Sales of reprint booklets continued to grow during the year, with net income amounting to $5,793. This compares with a net income of $3,581 in 1962. Net income to the Society Activities Fund during 1963 from sale of reprinted Petroleum Transactions volumes (1925-1953) was $520.

Publications: Society Membership Directory

For the fourth year the SPE Membership Directory was issued in July as a separate publication, rather than being published as a part of Journal of Petroleum Technology. As a result of the SPE-AIME conversion to a data-processing system, the 1963-64 Directory was composed directly from a computer printout and then printed by offset lithography. Excluding primary set-up charges for programming and coding (paid by the Henry Krumb Endowment Fund of AIME), production expenses amounted to $5,425. Directory advertising income totaled $5,256. The Directory is issued free of charge to all SPE-AIME members who request it.

Publications: Commercial

SPE continued to sell to members, at reduced prices, books printed by commercial publishers. The gross income from this activity was $12,039, with a net income to the Society of $3,100.

Publications: Special

Sales continued for SPE's two recently published books. Income from Anti-trust Laws et al vs Unit Operations of Oil or Gas Pools was $23. Income from Elements of Petroleum Reservoirs amounted to $1,059.

Meetings

The 38th Annual Fall Meeting of the Society was held in New Orleans on October 6-9. Total attendance was 3535, with 2441 men and 1094 ladies. The technical program included 112 papers, more than ever before presented at a Fall Meeting. This enlarged program resulted from the reorganization of the Society Program Committee, which is now composed of a chairman, two vice chairmen, and the chairman of each of the 10 new Technical Committees established in 1962 to create better balance in programming and publications for the Society.

SPE regional meetings were held in the following cities, with attendance as indicated: Denver, Colorado - 498; Austin, Texas - 155; Midland, Texas - 404: Santa Barbara, California - 545; and Norman, Oklahoma - 214. A total of 98 technical papers were presented at these meetings.

The Society Board has given considerable study during the year to the scheduling and rotation of regional meetings with a view to a strengthening of these meetings and making it possible for more members to attend. A rotation plan has been developed and is now under consideration by the sections.

Membership

New member applications received by the Society in 1963 numbered 1,118, as compared with 950 for 1962. After subtracting the member losses during the year for non-payment of dues and other reasons, our net membership increase is 149. Society membership at December 31, 1963 was as follows:

Members	8296
Associate Members	2130
Junior Members	3428
Student Members	416
TOTAL	14270

The following sections were winners in the SPE membership contest:

		Per cent Increase
Group A:	Big Horn Basin	34.28
Group B:	Wyoming Petroleum	24.60
Group C:	San Joaquin Valley	- 19.08
Group D:	Delta	20.15
Group E:	Permian Basin	10.46

Section Development

Two new petroleum sections were established in 1963--the Northern West Virginia Section and the Chicago Petroleum Section. There are now 52 AIME sections and three subsections predominantly petroleum in membership.

Section Visitation

SPE President L.P. Whotton has visited some 30 sections during 1963. A list of these, plus sections visited by SPE staff members, is as follows:

Anadarko Basin
Appalachian Petroleum
Billings Petroleum
Calgary CIM-AIME
California Coastal
Colorado-Nebraska Subsection
Dallas
Delta
Denver
East Kentucky
East Texas
Edmonton CIM-AIME
Evangeline
Four Corners
Great Bend
Gulf Coast
Hobbs
Chicago Petroleum
Illinois Basin
Kansas
Los Angeles
Lou-Ark
Mid-Continent
Mississippi
New York
North Texas
Northern Plains
Oklahoma City
Panhandle
Permian Basin
Pittsburgh Subsection
Roswell
San Joaquin Valley
South Plains
Southwest Texas
Ohio Petroleum

Finance

Society income from membership dues and fees, publication sales, and miscellaneous in 1963 was $460,790, compared with $469,006 in 1962.

Awards

A new Society award, the Lester C. Uren Award, which was established by the Society Board of Directors in 1962, was awarded for the first time, posthumously, to Professor Uren. Mr. Robert E. Hardwicke received the John Franklin Carll Award, and the Cedric K. Ferguson Medal was presented to Mr. G. W. Swift and Mr. O. G. Kiel. The Society Certificate of Service was awarded to Mr. T. V. Moore and, Posthumously, to Mr. Paul Andrews.

Mr. R. L. Johnson, Jr. and Mr. Joe M. Foster earned the 50-Member award.

Special Activities

An SPE Section News Letter was initiated in May, 1963, as a quarterly report to officers and directors of all petroleum sections. Three issues were published in 1963. The news letter has been well received by the sections and will be continued as a means of keeping sections informed on Society affairs.

The Distinguished Lecturer program is now firmly established, and the following lecturers are serving for the 1963-64 season: Messrs. Hallan N. Marsh, Arthur Lubinski, Paul D. Torrey, Lincoln F. Elkins, William S. Eggleston, and M. King Hubbert. Forty-one sections and four student chapters are participating in the current program, with a total of 87 lectures scheduled for the period from September, 1963 through May, 1964.

Staff

1963 was a year of many changes in the SPE staff organization, most noteworthy of which was the resignation of R. William Taylor as Editor and Assistant Executive Secretary. This was a real loss to the Society, but we are fortunate in having an excellent replacement in the person of David L. Riley, who had previously served as Associate Editor. An important addition to the staff was Mr. Harold R. Dorman, who assumed the duties of both the Business Manager and Activities Manager. Other resignations resulted in a total of four new men and four new women on the staff, with three of the veteran staff members in new positions. The new staff members have all done an excellent job, and the office has continued to function smoothly throughout this period of reorganization.

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Our special thanks are due to Mr. L. P. Whorton, who has made an outstanding contribution as president of the Society in 1963.

Respectfully submitted,

JOE B. ALFORD

Executive Secretary, SPE

REPORT

of the

SECRETARY OF THE SOCIETY OF MINING ENGINEERS

This report covers the period from February 1963 to February 1964. This was a successful year on the whole in all but the financial aspect. SME and both her Sister Societies piled up sizeable deficits. For SME the deficit was due to the fact that expected income did not materialize while commitments for expenditures once made are not reducible.

It is our intent here to examine each phase of SME activity during 1963 and to report briefly upon it. The reports of the several committees governing these activities will go into more detail on each.

PUBLICATIONS

Transactions of the Society of Mining Engineers of AIME

During calendar 1963 the Transactions quarterly was issued in March, June, September and November. This publication contained 480 pages of high quality papers. AIME Transactions Volume 226, which is composed of over-run copies of the quarterly, was released in January, 1964 and mailed to all persons who had purchased the previous volume, Volume 223. This is the earliest that the Transactions Volume has been mailed to subscribers in the history of the Institute.

Publication of the Transactions of the Society of Mining Engineers of AIME, the quarterly, was begun in 1962 and has increased Publications Income about $8,000 net.

Preprints

During 1963, 111 Annual Meeting and Fall Meeting papers were preprinted for distribution, compared to 149 in 1962. Throughout the year these papers were available to members who sent in coupons asking for them. A hundred sets were sent to Mining Schools at home and abroad, free of charge. Copies left over at the end of the year will be sent to schools and colleges all over the world via the "People to People" program, again without charge. As in the past, two complete sets are sent to the Engineering Societies Library which stands ready to provide photostat or microfilm copies upon call, at its regular charges, to anyone who orders them.

'Mining Engineering'

The Society's monthly magazine had a good year in 1963. There were 752 pages of articles published and 421 pages of advertising which helped foot the bill. However, advertising sales

were about $8,500 less than expected. On the other hand, despite a 5% increase in printing costs, unexpectedly high charges from the Data Processing Center and increases in the costs of other services, Publication Department expenses were about $1,000 under the previous year.

Two new editorial features were begun in 1963. One is a series of interviews by Henry C. Carlisle, himself a prominent Mining Engineer. Mr. Carlisle interviewed a number of his friends, all outstanding mining men, and has turned over to our editors transcripts of the results of his interviews. This has enabled MINING ENGINEERING to realize a long cherished ambition and comply with one of the recommendations made by the Editorial Board several years ago.

The second new editorial feature was the "Engineers' Reference File", a listing of catalogs and bulletins available from manufacturers of Mining and Metallurgical equipment and those who serve the industry. The ERF file brought in more than 20,000 inquiries, asking for copies of the literature described.

Once more, MINING ENGINEERING devoted a special issue to a particular region where mining activity is at a high pitch. This year it was the December issue, and British Columbia. Managing Editor, Paul C. Merritt, did an excellent job reporting on this busy mining area. The British Columbia mining men authors of the high caliber articles contained in this classic issue also deserve the thanks of the entire membership.

FINANCES

As has been mentioned before, the Society of Mining Engineers, along with her Sister Societies, ended the year 1963 with sizeable excess of expense over income. Expenses were held pretty much to Budget but expected income failed to materialize. Dues and Fees income was $4,000 off, and advertising sales failed to come up to expectations by about $8,500. Income expected from the Dallas meeting was disappointing also, failing to come up to the $3,600 budgeted by about $1,600. These three almost equal the total amount of the deficit which was $14,802. On the other hand expenses were held to $3,382 over the amount budgeted, and $228. under 1962, even though the charges from Data Processing Center appear to greatly exceed the cost of the same service rendered previously by the AIME Business Office and there was 5% increase in printing cost for MINING ENGINEERING.

The outlook for calendar 1964 as far as advertising sales goes, is much brighter. The 1964 budget calls for $155,000 to be derived from this source and at the end of February, 1964 we have sold exactly 20 pages more than in the same period of 1963. Our small sales force produced 33.5% of SME's total income in 1963. It is expected that the percentage and the dollars will be higher in 1964.

MEMBERSHIP

The SME Admissions Committee considered a total of 891 applications during 1963. This figure includes Student Members and Change of Status applications. Actually 551 corporate members accepted election during the year. Losses during the year amounted to 890 for the following reasons:

126	Deaths
165	Resigned
22	Failed to accept election
113	Failed to accept Change in Status
464	Were Dropped for failure to pay dues
890	Total

Thus, the Society suffered a net loss of 155 corporate members, compared to a net loss of 339 in 1962. On the other hand, Student Membership rose from 524 at the beginning of the year to 655 at the end of the year, an increase of 131 Student Members. Total membership at the beginning of 1964 then is 12,522 compared to 12,567 at the beginning of 1963.

Mr. James Bilderback, who was the SME Membership Chairman during 1963, was most energetic. He and the many members who helped him are responsible for the improved showing, over last year, of the Society in the membership field.

At the American Mining Congress in Los Angeles, the Society of Mining Engineers manned a membership desk complete with an exhibit of what the Society and AIME has to offer members. This was quite a successful venture. Ninety applications were handed to prospective members at this meeting. Many of them have already been completed and submitted. The exhibit was set up this year at Duluth Meeting of the AIME Minnesota Section where about 35 new potential members were contacted.

We also had an exhibit at the Spring Meeting of the Coal Division at Morgantown, West Virginia and a meeting of the Illinois Mining Institute, as well as the Fall Meeting of the Appalachian Section at White Sulphur Springs. Mr. Bilderback was at most of these meetings personally. How many members these efforts of the Membership Committee will produce is unknown as yet but based on the Duluth and Los Angeles experience, we should, in the coming year, experience a continuing upsurge in SME membership.

MEETINGS

During 1963 the Society of Mining Engineers took a very active part in the AIME Annual Meeting in Dallas. There were more members of the Society of Mining Engineers present than members of either of the other two constituent societies of AIME. The other big meeting of the year for the Society of Mining Engineers was its joint meeting with the Rocky Mountain Minerals Conference held in Salt Lake City, Utah, Sept. 11-13. Attendance at this meeting was over 700. The Utah Section, host to the meeting, and the Society

of Mining Engineers profited financially from this meeting, and the membership in general enjoyed the exercise of the basic philosophy of the SME Fall Meetings to bring AIME to the members who do not normally get to the Annual Meeting.

The staff of the Society attended more than 20 Local Section meetings. Staff members were the principal speakers at six of these.

The Society of Mining Engineers was represented by Staff and members at:

Date	Meeting	Place
April 8-10	Eleventh Symposium on Exploration Drilling	Golden, Colo.
April 19-20	Coal Div. Annual Field Meeting held jointly with the Central Appalachian Section, AIME and W. Va. Coal Mining Institute	Morgantown, Va.
April 25-27	16th Pacific Northwest Metals and Minerals Conference	Portland, Ore.
May 5-8	American Mining Congress Coal Convention	Pittsburgh, Pa.
May 26-June 2	Sixth Intern'l. Conference on Mineral Preparation	Cannes, France
June 4-16	Eighth Annual Uranium Symposium sponsored by the Wyomining Mining & Metals Section, AIME	Riverton, Wyo.
Sept. 11-13	SME Fall Meeting and Rocky Mountain Minerals Conference	Salt Lake City, Utah
Sept. 15-18	American Mining Congress Metal Mining Convention	Los Angeles, Cal.
Sept. 22-25	National Power Conference	Cincinnati, Ohio
Oct. 17-18	Illinois Mining Institute Annual Meeting	Springfield, Ill.
November 1	Pittsburgh Section, AIME, Off-the-Record Meeting	Pittsburgh, Pa.
November 17	Manpower Conference sponsored by the Michigan Technological University	Houghton, Mich.
Nov. 18-20	Geological Society of America Annual Meeting	New York, N.Y.
December 2	Annual Meeting of the Arizona Section, AIME	Tuscon, Ariz.
December 6-7	Northwest Mining Association's 69th Annual Convention	Spokane, Wash.

In addition, staff members traveled all over the country as far as British Columbia in one direction and Birmingham, Ala. in the other. The Managing Editor of MINING ENGINEERING visited many of the major mines in British Columbia. Out of his trip grew the notable December issue of MINING ENGINEERING Magazine. Altogether the staff visited about 20 AIME Sections and a number of Student Chapters.

AWARDS

At the 1964 Annual Meeting and during the year, SME members received the awards listed below.

James Boyd - - Charles F. Rand Medal
George H. Love - Erskine Ramsay Gold Medal
Curtis L. Wilson - Mineral Industry Education Award
Charles E. Lawall - Percy W. Nicholls Award
Edward I. Renouard - William Lawrence Saunders Medal
Joseph L. Gillson - Hal Williams Hardinge Award
Allan B. Bowman - - Daniel C. Jackling Award

In addition to this, 22 of the 34 members installed in the Legion of Honor of AIME, Class of 1913, are SME members. They are:

Bateman, A. M.
Beckett, P. G.
Burdick, C. A.
Clarke, S. S.
Dobson, C. G.
Dodge, C. E.
Ellis, E. W.
Fowler, G. M.
Grimes, J. A.
Haight, C. M.
Heron, C. M.
Laist, F.
Leach, R. H.
Moffat, D. D.
Moore, C. F.
O'Neil F. W.
Prochazka, G. A., Jr.
Schmidt, W. C.
Turner, W. J.
Warner, R. K.
Wise, A. L.
Wohlrab, A. H.

ORGANIZATION

On November 2, Dr. E. O. Kirkendall resigned his position as General Secretary of AIME. He was replaced by Mr. R.W.Taylor. Mr. Taylor was formerly Editor of Jounral of Petroleum Technology and Assistant Secretary of Society of Petroleum Engineers.

On January 8, 9 and 10, 1964, the Secretaries of the three Societies of AIME, together with the new General Secretary of AIME and the Manager of Institute Activities, met in Birmingham, Alabama, for exhaustive discussion covering all phases of AIME operations. Under the Chairmanship of Dr. Karl Fetters, incoming AIME President, the following subjects were discussed:

1. How to achieve better liaison with Local Sections.
2. How to improve AIME and Society public relations and publicity.
3. AIME Student relations, and how to improve them.
4. AIME member relations, and how to improve them.
5. Modus Operandi for the General Secretary's office.
6. Exchange of experience and plans in connection with future meetings of the Institute and of the Societies.

In addition to the conferences, the group met with the Executive Committee of the Southeast Section and attended the Southeast Section's regular monthly meeting. The AIME Staff provided the evening's program. Each staff members presented a brief talk on the functions of his office and the outlook for AIME and its Societies. It was the consensus that this was a most productive meeting.

During 1963 SME Published the Society of Mining Engineers and Divisions Bylaws and Procedure Manuals. This pamphlet includes the Bylaws of the Society and all four Divisions together with a Manual of Duties and Responsibilities of Officers and Standing Committees of the Society of Mining Engineers, the Industrial Minerals Division and the Mining and Exploration Division. During the year the Coal Division drew up a manual of duties and responsibilities for its officers and committeemen.

There were a number of staff changes during the year. Misses Marianne Snedeker and Diane Gerlough, Mrs. Vera Dailey and Mr. J. J. O'Brien left the staff during the course of the year. Additions to the staff were: Misses Jean G. Blair, Susie Kransz, Fairley Muehleck, and Mr. Richard W. Hoppe.

In behalf of the SME Staff I would like to express thanks to the many members who gave so freely of their time and effort to further the aims of the Society and the Institute. For myself, I wish to reiterate their thanks and in turn thank a most loyal and helpful SME Staff. We all appreciate the good relations and help of the General Secretary's Office, the Business Office and the Institute Activities Office. We pledge ourselves to continue to cooperate for a stronger Institute and Societies.

Submitted,

John C. Fox

February 7, 1964

John Cameron Fox
Secretary - SME

REPORT

of the

SECRETARY OF THE METALLURGICAL SOCIETY OF AIME

Summary

Better technical meetings and better technical publications continue to be the prime objectives of The Metallurgical Society. During 1963, The Metallurgical Society sponsored 12 major meetings at which 934 technical papers were presented at 164 sessions before a total audience of 6,786. Pages of printed material in books and periodicals numbered 9,400.

Membership passed the magic figure of 10,000, with an end-of-year total of 10,431 members and student members.

Arrangements have been made to continue publication of the Metallurgical Society Conference series of books through Gordon and Breach, Science Publishers Inc. The unique feature of the arrangement is that most books will be published in a paperbound edition, in addition to standard cloth binding. The paperbound books will be sold to AIME members at the low price of 1.5 cents per printed page.

A major decision was made during the year to hold, under Society sponsorship, an Annual Conference on Operating Metallurgy, with an Exposition. The first Conference and Exposition will be held in Pittsburgh, December, 1965.

Staff Changes

A new position was created during the year, that of Assistant Secretary, and has been filled by Leslie S. Wilcoxson. His primary duties will include service as Secretary-Treasurer of the Iron and Steel Division, and staff liaison with the important technical committees of that Division. Mr. Wilcoxson formerly was employed by International Nickel Company. (Donald A. Parks continues as an Assistant Secretary of the Society, and is serving as Secretary-Treasurer of the Institute of Metals Division.)

Marlowe G. Teig was appointed Assistant Editor of JOURNAL OF METALS in July, succeeding Edward J. Fitzgerald. Effective January 1, 1964, Mr. Teig was promoted to Associate Editor. He was formerly with Prentice-Hall Publishing Company.

Susan Healey, Editorial Assistant on the staff of JOURNAL OF METALS, resigned effective December 15. Her replacement is Dahlia Blanco, who will begin employment on January 6, 1964.

Finances

As of December 31, 1963, "Income Over Expenses" stood at $12,072. Operating expenses were substantially higher than in 1962 due to increased services, staff salaries, and printing costs. Exclusive of TRANSACTIONS, operating expenses for 1963 totalled $307,136 vs. $294,801 in 1962.

Dues income continues to be the major source of Society income, and increased modestly in 1963 to $168,325 from $165,947 in 1962. The Society, based on its proportion of total membership, receives 26.13 per cent of Institute dues income. However, the Society has been required to pay its share of certain Institute departments at a higher rate, viz. Business Office, 29.1 per cent; and Institute Activities, 37.0 per cent. These expenses are charged on a use basis.

In order to meet the share of expenses, in excess of its means from dues, the following additional sources of funds are noted:

1. The three Iron and Steel Division Conferences, combined, paid for staff office services, $12,676 in 1963 ($10,358 in 1962).

2. The Institute of Metals Division paid for staff office services, $4,333 in 1963 ($4,000 in 1962).

3. Net income from 1963 AIME Annual Meeting, $2,260 ($3,907 in 1962).

4. An appropriation from the Krumb Fund of $3,791 ($400 in 1962), and $8,281 from other AIME sources.

The final income and expense statement for The Metallurgical Society in 1963 compared with 1962 is shown in Appendix A. Income and expenses for TRANSACTIONS are recorded separately.

Metals Research Publications Fund

The Metals Research Publications Fund has continued to finance the publication of technical papers in TRANSACTIONS beyond what subscription income alone could provide. Contributions to the Fund are no longer solicited. Income to the Fund accrues from interest and from royalty payments from sale of the Society's books.

The status of the Metals Research Publications Fund as of December 31, 1963, is shown as Appendix B. Balance in the Fund at the end of the year totalled $133,894.47 (vs. $123,966.06 at the end of 1962.)

TRANSACTIONS

TRANSACTIONS continued to increase in size, reflecting the constantly enlarging research program of industry and government. Published pages of technical papers and notes in 1963 was 1,472, with six additional pages of masthead, a total of 1,478 pages (vs. 1,300 pages in 1962). A comparison with 1962 is given below by Divisions:

Division	No. of Papers and Notes		Pages	
	1963	1962	1963	1962
Extractive Metallurgy	22	25	141.50	147.50
Institute of Metals	210	182	1,116.00	978.00
Iron and Steel	34	27	214.50	168.50
	266	234	1,472.00	1,294.00
Masthead pages	-	-	6.00	6.00
Annual Index	-	-	30.00	14.00
Total:	266	234	1,508.00	1,314.00

JOURNAL OF METALS

During 1963, JOURNAL OF METALS published 960 pages as compared with 932 pages for 1962. Most of these additional pages were taken up with the more extensive Annual Meeting and Fall Meeting programs, which are included in these figures. Also, for the first time, the index for the current year was included in the December issue.

The number of copies of each issue averaged about 13,500, an increase over the previous year's figure reflecting growth in the Society's membership. Non-member subscriptions numbered 2,250 as compared with 2,343 for 1962. Of these subscriptions, 1,486 were foreign (vs. 1,528 for 1962).

JOURNAL OF METALS published its usual three issues on ferrous metallurgy: April on ironmaking and open hearth steelmaking, August on basic oxygen steelmaking, and December on electric furnace steelmaking. In January, the educators were given an opportunity to discuss their problems. The June issue, which featured first-hand reports on the Mexican steel industry by the editors of JOURNAL OF METALS, was distributed to all registrants of the Latin American Iron and Steel Institute at its Caracas meeting. In July, the articles were largely those papers presented at meetings sponsored by the AIME Council of Economics.

Also during 1963, JOURNAL OF METALS recognized the space age with articles describing ultrahigh strength structural materials, metals for the supersonic transport, powder metallurgy for space craft, nonferrous metals in aerospace, liquid

metals for aerospace electric power systems, and superalloys for aerospace applications.

Advertising, JOURNAL OF METALS

Advertising, in spite of vigorous sales efforts, declined in 1963. Comparisons are indicated below for 1963 and 1962:

	1963	1962
Number of Pages of Advertising	210.0	226.5
Advertising Income	$80,428	$71,817
Advertising Expense	38,550	35,185
	$41,878	$36,632

Solicitation and sale of advertising for JOURNAL OF METALS is handled by Dolan-Kent Company, Inc.

Publications Through Interscience Publishers

Our cooperative agreement with Interscience Publishers, a Division of John Wiley & Sons, Inc., was terminated during 1963. Eleven books were published by Interscience, and copyrighted by AIME (see Appendix C):

Volume 17 - Refractory Metals and Alloys

(Proceedings of a Technical Conference sponsored by the Refractory Metals Committee of the Institute of Metals Division and the Chicago Section; Chicago, April 12-13, 1962.)
480 pages.

Volume 18 - High Temperature Materials II

(Proceedings of a Technical Conference sponsored by the Refractory Metals Committee and the High-Temperature Alloys Committee of the Institute of Metals Division, and the Cleveland Section; Cleveland, April 26-27, 1961.)
858 pages.

Volume 19 - Metallurgy of Advanced Electronic Materials (Proceedings of a Technical Conference sponsored by the Electronic Materials Committee of the Institute of Metals Division, and Philadelphia Section; Philadelphia, August 27-29, 1962.)
366 pages.

Volume 20 - Fracture of Solids

(Proceedings of an International Conference sponsored by the Institute of Metals Division; Maple Valley, Washington, August 21-24, 1962.)
718 pages.

Blast Furnace, Coke Oven, and Raw Materials - 21st Proceedings Volume

(Proceedings of the 21st Conference sponsored by the Blast Furnace, Coke Oven, and Raw Materials Committee of the Iron and Steel Division; Detroit, April 9-11, 1962.)
568 pages.

Recovery and Recrystallization of Metals

(Proceedings of a Symposium sponsored by the Physical Metallurgy Committee, Institute of Metals Division; New York, February 20-21, 1962.)
400 pages.

Iron and Its Dilute Solid Solutions

(Proceedings of a Conference sponsored by the Ferrous Metallurgy Committee of the Institute of Metals Division; Detroit, 1961.)
340 pages.

Electronic Structure and Alloy Chemistry of the Transition Elements

(Based on a Symposium sponsored by the Institute of Metals Division, New York, February 22, 1962.)
252 pages.

Extractive Metallurgy of Aluminum - Volume 1 - Alumina; Volume II - Aluminum

(Based on an International Symposium sponsored by the Extractive Metallurgy Division; New York, February 18-22, 1962.)
Vol. I - 368 pages; Vol. II - 588 pages.

Electric Furnace Steelmaking - Volume II: Theory and Fundamentals

(Book sponsored by Physical Chemistry of Steelmaking Committee, Iron and Steel Division.)

Other Publications (See Appendix C)

The National Open Hearth and Basic Oxygen Steel Committee published Volume 45 (678 pages) of its Proceedings.

The Electric Furnace Committee published Volume 20 (552 pages) of its Proceedings.

Nuclear Metallurgy, Volume 9 (292 pages) was published as Number 12 of the IMD Special Report Series.

New Publication Arrangement With Gordon and Breach

In an effort to break through the cost-price barrier of sky-rocketing printing and publishing costs, The Metallurgical Society concluded an agreement with Gordon and Breach, Science Publishers, Inc. Most books will be published in both paperbound and hardbound editions. Members of AIME will be able to purchase paperbound books at the rate of 1.5 cents per printed page.

Hardbound editions will be sold to non-members at normal list prices. As heretofore, members will be able to purchase hardbound editions at a 20 per cent discount.

Publications of proceedings by Gordon and Breach will begin with Volume 21 of the Metallurgical Society Conference series. Eleven Proceedings from 1963 activities will launch the new series, and are expected to be published in 1964:

1. Mechanical Working of Steel

   (Proceedings of the 5th Technical Conference sponsored by the Mechanical Working and Steel Processing Committee of the Iron and Steel Division; with the cooperation of the Pittsburgh Section, AIME; Pittsburgh, January 15-16, 1963.) Edited by Phillip H. Smith, LaSalle Steel Company.

2. Unit Processes in Hydrometallurgy

   (Proceedings of an International Symposium sponsored by the Extractive Metallurgy Division, The Metallurgical Society, and the Minerals Beneficiation Division, Society of Mining Engineers; Dallas, Texas,

February 25-28, 1963.) Edited by M. E. Wadsworth, University of Utah, and F. T. Davis, Colorado School of Mines Research Foundation, Inc.

3. Metallurgy at High Pressures and High Temperatures

(Proceedings of a Symposium sponsored by the Physical Chemistry of Steelmaking Committee of the Iron and Steel Division, the Physical Chemistry of Extractive Metallurgy Committee of the Extractive Metallurgy Division, and the Alloy Phases Committee of the Institute of Metals Division; Dallas, Texas, February 25-26, 1963.) Edited by Karl Gschneider, Jr., University of Illinois, and Los Alamos Scientific Laboratory, N. A. D. Parlee, Stanford University, and M. T. Hepworth, Colorado School of Mines.

4. Deformation Twinning

(Proceedings of a Technical Conference sponsored by the Physical Metallurgy Committee, Institute of Metals Division, The Metallurgical Society, and the Metallurgical Research Laboratory, Engineering and Industrial Experiment Station, College of Engineering, University of Florida; Gainesville, Florida, March 21-22, 1963.) Edited by R. E. Reed-Hill, University of Florida, J. P. Hirth, Ohio State University, and Harry Rogers, General Electric Company.

5. Ironmaking

(Proceedings of the 22nd Conference sponsored by the Ironmaking Committee, Iron and Steel Division; Buffalo, N. Y., April 1-3, 1963.) Edited by D. E. Regelin, Zimmermann and Jansen, Inc., and W. D. Gifford.

6. The Blast Furnace - Theory and Practice

(Volume based on a Symposium sponsored by the Physical Chemistry of Steelmaking Committee and the Ironmaking Committee, Iron and Steel Division; Pittsburgh, June 18-20, 1963.) Edited by J. H. Strassburger, National Steel Corporation, D. C. Brown, Jones & Laughlin Steel Corporation, T. E. Dancy, Jones &

Laughlin Steel Corporation, and R. L. Stephenson, United States Steel Corporation.

7. History of Metallurgy

(Proceedings of the Sorby Centennial Meeting sponsored by The Metallurgical Society, the American Society for Metals, and the Society for the History of Technology; Cleveland, October 22-23, 1963.) Edited by Cyril Stanley Smith, Massachusetts Institute of Technology.

8. Alloying Behavior and Effects in Concentrated Solid Solutions

(Proceedings of a Symposium sponsored by the Alloy Phases Committee and the Chemistry and Physics of Metals Committee, Institute of Metals Division; Cleveland, October 21, 1963.) Edited by T. B. Massalski, Mellon Institute.

9. Precipitation From Iron-Base Alloys

(Proceedings of a Symposium sponsored by the Ferrous Metallurgy Committee, Institute of Metals Division; Cleveland, October 21, 1963.) Edited by A. J. Lena, Allegheny Ludlum Steel Corporation, and G. R. Speich, United States Steel Corporation.

10. Powder Metallurgy II

(Proceedings of a Symposium sponsored by the Powder Metallurgy Committee, Institute of Metals Division; Cleveland, October 24, 1963.) Edited by H. Hausner, Consulting Engineer and Adjunct Professor, Polytechnic Institute of Brooklyn.

11. Refractory Metals and Alloys III

(Proceedings of the 3rd Technical Conference sponsored by the High Temperature Alloys Committee, Institute of Metals Division, with the cooperation of the Southern California Section; Los Angeles, December 9-10, 1963.) Edited by Marion Semchyshen.

Meetings

Data on 12 major conferences held during 1963 and sponsored by The Metallurgical Society and its units are listed in Appendix D. At these 12 meetings, a total of 934 technical papers were presented at 164 technical sessions before an audience of 6,786. The National Open Hearth and Basic Oxygen Steel Committee, through its nine local sections, conducted a comprehensive series of technical meetings.

Planning proceeded during 1963 for these national technical conferences and regional meetings to be held in 1964, in which The Metallurgical Society will be directly concerned:

1. January 30-31, Sixth Mechanical Working and Steel Processing Conference, Drake Hotel, Chicago.

2. February 16-20, 93rd AIME Annual Meeting, Astor and Statler Hilton Hotels, New York.

3. April 13-15, 47th National Open Hearth and Basic Oxygen Steel Conference, Penn-Sheraton Hotel, Pittsburgh.

4. April 13-15, 23rd Ironmaking Conference, Penn-Sheraton Hotel, Pittsburgh.

5. May 4-7, First World Conference on Electron and Ion Beam Science and Technology, Royal York Hotel, Toronto, Ontario, Canada (in cooperation with the Electrochemical Society).

6. May 14-15, 18th New England Regional Conference, Van Curler Hotel and General Electric Research Laboratories, Schenectady, N. Y.

7. August 3-5, Conference on Intermetallic Compounds of Potential Interest in Nuclear Reactor Technology, University of Colorado, Boulder, Colorado.

8. August 30-September 2, Conference on Electronic Materials, (tentative dates).

9. October 18-22, Fall Meeting of The Metallurgical Society of AIME, Sheraton Hotel, Philadelphia.

10. December 2-4, 22nd Electric Furnace Conference, Statler Hilton Hotel, Buffalo, N. Y.

Of major significance was the decision for The Metallurgical Society to hold an Annual Conference on Operating Metallurgy, beginning in 1965. The first Conference will be held in Pittsburgh, November 30-December 3, 1965, utilizing the Penn-Sheraton Hotel and the Civic Auditorium. The Operating Conference will include the Electric Furnace Conference, the Ironmaking Conference, the Mechanical Working and Steel Processing Conference, and symposiums sponsored by committees of the Extractive Metallurgy Division and the Institute of Metals Division.

Membership

Growth of The Metallurgical Society continued at a steady rate. The gain in the number of Student Members is due to increased recognition of the availability of joint membership for students in both The Metallurgical Society and the American Society for Metals.

Membership statistics for 1963 in comparison with 1962 are shown in the following tabulation:

	Totals as of December 31	
	1963	1962
ISD	3,055	3,073
EMD	1,192	1,346
IMD	3,471	3,459
Council of Education	25	24
Council of Economics	52	56
Unclassified and Non-Society	1,276	847
Total Corporate:	9,071	8,805
Student Members	1,350	868
Grand Total:	10,421	9,673

Awards

The following awards were made by The Metallurgical Society or its units during 1963:

1. Robert W. Hunt Award

   Given for the best original paper or papers on iron and steel contributed to AIME during the period under review. Presented to Robert B. Schluter and Gust Bitsianes for their paper, "The Combustion Zone in the Iron Ore Sintering Process."

2. J. E. Johnson, Jr. Award

   Given to encourage young men in creative work in the metallurgy or manufacture of pig iron.

The recipient must be under 40 when he completes the work that merits recognition. Presented to Edward J. Ostrowski: "For pioneering efforts in the design, construction and operation of small-scale experimental blast furnaces and in the development of practices utilizing auxiliary injected fuels and high blast temperatures."

3. Mathewson Gold Medal

Bestowed on an author or authors of a paper, or a series of closely related papers, with at least one common author, and considered the most notable contribution to metallurgical science during the period under review. Presented to William W. Mullins for his paper, "Grain Boundary Grooving by Volume Diffusion."

4. Robert Lansing Hardy Gold Medal

Recognizes exceptional promise, rather than accomplishment. To be given to a metallurgist who has not reached his 30th birthday before the end of the calendar year during which the selection of the recipient is made. Presented to Ronald W. Armstrong, whose research includes work on deformation and fracture, crystal diffusion, and crystal X-ray diffraction.

5. Extractive Metallurgy Division Award

Given for the best paper in the field of extractive metallurgy within a two-year period. Presented to William K. Sproule (deceased), George Harcourt, and Louis Renzoni for their paper, "Treatment of Nickel-Copper Matte."

6. Frank B. McKune Award

Given for the best paper on open hearth or basic oxygen steelmaking written by authors under 40 years of age. Presented to P. J. Koros for his paper, "Oxygen Lances and the Thermochemistry of the Open Hearth."

7. Open Hearth Conference Award

"Runner-up" paper to the McKune Award. Presented to L. I. Field, Jr., for his

paper, "Improved Raw Materials in Open Hearth Operations."

8. Charles H. Herty, Jr., Award

Given for the best paper at the 1962 Open Hearth Conference. Presented to F. O. Altimore, P. J. Koros, and H. W. Meyer for their paper, "Effect of Design Modifications on Flow Distribution in Operations and Cold Open-Hearth Regenerators."

9. Acid Converter and Basic Oxygen Steel Award

In recognition of his outstanding contributions to pneumatic steelmaking processes, this award was presented to F. J. McMulkin.

10. Ironmaking Conference Award

Given for the best paper at the 1962 Conference. Presented to J. H. Strassburger, E. J. Ostrowski, and J. R. Dietz, for their paper, "Solid Fuel Injection at Hanna Furnace Corporation."

11. Joseph Becker Award

For distinguished achievements in coal carbonization, this award was presented to Joseph Van Ackeren.

12. Electric Furnace Conference Award

Given for the best paper at the 1962 Conference. Presented to C. J. Novak and L. M. Diran for their paper, "Residual Elements in Maraging Steels."

Acknowledgments

Without the time and devoted efforts by officers, directors, committee members, and volunteer book editors, progress to report for 1963 would indeed be slight.

The financial support of the National Science Foundation is gratefully appreciated. Speakers traveled from abroad to three symposiums supported by NSF funds: (1) Unit Processes in Hydrometallurgy; (2) Deformation Twinning; and (3) Alloying Behavior and Effects in Concentrated Solid Solutions.

Grateful acknowledgment is due the hard-working staff

of The Metallurgical Society for loyalty and superior performance, sometimes under trying circumstances.

Respectfully submitted,

R. W. Shearman, Secretary
The Metallurgical Society of AIME

RWS:as

APPENDIX A

The Metallurgical Society of AIME
Income and Expense Statement

Metallurgical Society Income	1963	1962
Members dues and fees received:		
Current	$150,192	$147,665
New	9,131	8,041
Entrance Fee	9,002	10,241
Total	$168,325	$165,947
Publication Sales:		
Journal of Metals - Advertising	$ 79,298	$ 79,995
Journal of Metals - Sales	21,221	22,170
Directory Advertising	1,131	-
Reprint Sales	3,261	5,613
Total	$104,911	$107,778
Other Income:		
From ISD Conf. Funds	$ 12,676	$ 10,358
From IMD Fund	4,333	4,000
Dividends and Interest	2,560	2,411
Annual Meeting Credit	2,260	3,907
Total	$ 21,829	$ 20,676
Total Income	$295,065	$294,401
Metallurgical Society Expenses		
Membership and Sections:		
Local Sect., Stud. Chap., Travel	$ 11,168	$ 12,001
Society Offices	62,327	56,336
Special Membership Activity	2,001	3,279
Institute Activities	13,506	13,634
Public Relations	3,657	3,571
Library Assessment	3,478	3,412
Total	$ 96,137	$ 92,233
Publications Expenses:		
Journal of Metals - Advertising	$ 38,550	$ 39,655
Journal of Metals - Regular	101,023	90,715
Reprint Expenses	1,770	3,055
Directory	4,418	3,109
Total	$145,761	$136,534
General and Administrative:		
Secretary's Office, New York	$ 12,712	$ 11,932
Secretary's Office, Salt Lake City	2,791	2,874
Business Office	27,152	28,870
Pensions and Related Expense	11,797	10,835
EJC and ECPD Assessments	3,712	4,121
Provisions for Depreciation	2,688	3,021
Miscellaneous Expense	4,386	4,381
Total	$ 65,238	$ 66,034
Total Expenses	$307,136	$294,801
Transfer from Krumb Fund	$ 3,791	$ 400
Net Income Over Expenses	$ (8,280)	$ -

THE METALLURGICAL SOCIETY OF AIME

INCOME AND EXPENSES FOR TRANSACTIONS

	1963	1962
TRANSACTIONS INCOME:		
Bi-Monthly Transactions	$44,089	$43,171
Transactions Volumes	22,150	20,838
Transactions Reprints	17,183	12,108
From Metals Res. Pub. Fund	8,396	3,319
Total	$91,818	$79,436
TRANSACTIONS EXPENSES		
Bi-Monthly Transactions	$72,277	$63,058
Transactions Volumes	9,777	9,116
Transactions Reprints	9,764	7,262
Total Expenses	$91,818	$79,436
Income over Expenses	-	-

APPENDIX B

Metals Research Publications Fund

Status as of December 31, 1963

INCOME:

a. Contributions Received:

During 1954	$42,225.00	
During 1955	17,500.00	
During 1956	51,600.00	
During 1957	33,350.00	
During 1958	16,200.00	
During 1959	11,850.00	
During 1960	37,325.00	
During 1961	8,150.00	
During 1962	13,650.00	
Total Contributions		$231,850.00

b. Transferred from Metallurgical Society Operating Fund (1957 and 1958) 1,806.36

c. Gain on Sale of Securities:

To 12/31/62 (Cumulative)	$ 1,829.05	
To 12/31/63	1,639.90	
		3,468.95

d. Interest:

To 12/31/62 (Cumulative)	$16,977.62	
To 12/31/63	4,457.41	
		21,435.03

e. Royalties

Income:

Interscience (1961 & 1962)	$14,737.17
Interscience (1963)	11,557.80
John Wiley & Sons (1961 & 1962)	685.32
John Wiley & Sons (1963)	219.01
Johnson Reprint Corp. (1963)	737.28
	$27,936.58

Expenses:

Semiconductor Proceedings	$ 26.03
Blast Furnace Book	30.50
Continuous Casting	63.00
Book Ads in JOURNAL OF METALS	47.08
Book Catalog	146.85
	$ 313.46
	27,623.12
Total Income:	$286,183.46

EXPENSES:

1954 - 140 pages (2 Supplements)	$ 7,149.98	
1955 - 512 pages (5 Supplements)	23,184.00	
1956 - 656 pages (4 Supplements)	39,786.98	
1957 - 576 pages (4 Supplements)	36,576.00	
1958 - 896 pages (6 issues)	15,000.00	
1959 - 1064 pages (6 issues)	11,445.48	
1960 - 1152 pages (6 issues)	1,994.92	
1961 - 1274 pages (6 issues)	0.00	
1962 - 1300 pages (6 issues)	3,318.97	
1963 - 1478 pages (6 issues)	8,395.56	
Total Charges		$146,851.89
Transferred to Metallurgical Society Projects Fund (per item 3, Met Soc Board Minutes, 2/21/62):		5,437.10
Total Expenses		$152,288.99

Balance, 12/31/63: $133,894.47

Summary of Publications of The Metallurgical Society

Comparison of Pages Published, 1963 and 1962

	Pages, 1963	Pages, 1962
A. Periodicals:		
JOURNAL OF METALS	960	932
TRANSACTIONS OF THE METALLURGICAL SOCIETY OF AIME	1,508	1,300
Total:	2,468	2,232
B. ISD Proceedings:		
Open Hearth	678	-
Blast Furnace	-	708
Electric Furnace	552	632
Total:	1,230	1,340
C. IMD Special Report Series:		
Nuclear Metallurgy, Vol. 9	292	-
Nuclear Metallurgy, Vol. 8	-	208
Total:	292	208
D. Interscience Books		
Electric Furnace Steelmaking (Vol. II)	472	-
Electronic Structure and Alloy Chemistry	252	-
Iron and Its Dilute Solid Solutions	340	-
Recovery and Recrystallization of Metals	400	-
Blast Furnace Proceedings	568	-
Extractive Metallurgy of Aluminum (Vol. I)	368	-
Extractive Metallurgy of Aluminum (Vol. II)	588	-
Fracture of Solids (Vol. 20)	718	-
Metallurgy of Advanced Electronic Materials (Vol. 19)	366	-
High Temperature Materials II (Vol. 18)	858	-
Refractory Metals and Alloys II (Vol. 17)	480	-
Agglomeration	-	1,126
Direct Observations of Imperfections In Crystals	-	630
Decomposition of Austenite by Diffusional Processes	-	634
Superconductors	-	162
Continuous Casting	-	264
Electric Furnace Steelmaking (Vol I)	-	420
Flat Rolled Products III (Vol. 16)	-	172
Metallurgy of Semiconductor Materials (Vol. 15)	-	424
Management of Materials Research (Vol. 14)	-	182
Total:	5,410	4,014
Total Pages Published During Year	9,400	7,794

Technical Conferences and National Meetings of The Metallurgical Society, 1963

			Attendance	Number Technical Sessions	Number Papers Scheduled
1.	January 15-16 Pittsburgh	5th Mechanical Working Conference	296	6	22
2.	February 24-28 Dallas	92nd AIME Annual Meeting (Met Soc)	730	48	277
3.	March 21-22 Gainesville, Florida	Conference on Deformation Twinning	62	4	15
4.	April 1-3 Buffalo	46th National Open Hearth and Basic Oxygen Steel Conference	1,324	10	53
5.	April 1-3 Buffalo	22nd Ironmaking Conference	526	9	36
6.	May 16-17 Boston	17th New England Regional Conference	115	3	9
7.	May 26-29 Harriman, N. Y.	3rd Engineering Management Conference	36	3	3
8.	June 18-20 Pittsburgh	Symposium on the Blast Furnace - Theory and Practice	498	4	19
9.	August 26-28 Boston	2nd Conference on Electronic Materials	239	5	29
10.	October 21-25 Cleveland	Fall Meeting of The Metallurgical Society	1,283	49	351
11.	December 4-6 Chicago	21st Electric Furnace Conference	1,263	9	32
12.	December 9-10 Los Angeles	Conference on Applied Aspects of Refractory Metals	414	14	88
		Total:	6,786	164	934