



Eighteenth Annual

American

Mining Hall of Fame

Awards Presentation

and Banquet

December 2, 2000
The Westin La Paloma, Tucson, Arizona

Sponsored by
Mining Foundation of the Southwest



PROGRAM

Reception 6:30 p.m.

Banquet Dinner ... 7:15 p.m.

Ceremony 8:45 p.m.

Welcoming Remarks: *Susan F. Wick*

Introduction of Head Table
and Other Honored Guests: *Susan F. Wick*

Awards Presentation: *Martin R. Wiggins*

Presentation of 2000 Inductees: *James Colquhoun*
From Mining's Past: *Presented by Timothy R. Snider*

Edward H. Wisser
Presented by Charles R. Sewell

Presentation of 2000 Medals of Merit: *Leonard Harris*
Presented by Martin C. Kuhn

Pedro Sanchez-Mejorada
Presented by Martin R. Wiggins

Presentation of 2000 Industry Partnership Award: *Modular Mining Systems, Inc.*
Presented by William H. Dresher

Presentation of 2000 Inductee: *Ronald C. Cambre*
Presented by Charles G. Preble

Featured Address: *Ronald C. Cambre*

Adjournment: *Susan F. Wick*



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MINING FOUNDATION OF THE SOUTHWEST

The goal and purpose of the Mining Foundation of the Southwest is to promote public understanding of and education related to the mining industry. Toward this goal, the Foundation has funded a number of projects from donations and fund-raising activities.

Examples of projects funded by the Mining Foundation of the Southwest are:

- Computers for use by students in the Department of Mining and Geological Engineering at the University of Arizona and University of Sonora
- Funding a new sound system for the mining exhibits at the Arizona Historical Society Museum's Mining Hall in Tucson
- Funds for the purchase of books and publications at the libraries at the Colorado School of Mines, Mackay School of Mines and New Mexico Tech
- Funding geology—and mining—related interpretive signs at San Pedro Vista and Aspen Vista on the Mt. Lemmon Highway in Arizona
- Donation of mineral and rock collection to Arizona-Sonora Desert Museum
- Donation of books, manuscripts and journals relating to the mining industry to Arizona Geological Survey
- Donation of mineral and rock collection and old mining equipment to ASARCO's Mineral Discovery Center
- Publication of 3 volumes of History of Mining in Arizona
- New Mexico Tech to assist with development Masters Degree in Geology
- Asociación de Mineros de Sonora to help sponsor the First Gems and Minerals Exhibition in Hermosillo, Sonora, Mexico

The Hall of Fame Awards Banquet serves a dual purpose in educating people about prominent persons associated with the mining industry, both present and past, and raising funds to continue projects of the Foundation.

The Mining Foundation of the Southwest was incorporated in 1993 with the merger of the Mining Club of the Southwest and the Mining Club of the Southwest Foundation. The Mining Club was started in 1971 and the Club's Foundation began in 1983 with the first American Mining Hall of Fame Awards.

The Hall of Fame honorees, both living and deceased now number 79. The plaques which commemorate their induction are on display at the Arizona Historical Society's Museum at 949 East Second Street in Tucson.



AMERICAN MINING HALL OF FAME

2000 INDUCTEE

RONALD C. CAMBRE

Ronald Cambre is a native of New Orleans, Louisiana and a graduate of Louisiana State University, with a degree in Chemical Engineering. He also attended the Harvard Business School Program for Management Development.

Cambre began his professional career with the International Paper Company doing technical work in its pulp and paper operation. In 1964 he joined Freeport-McMoRan and worked with that organization for 30 years. During this period he was involved in many of the businesses Freeport operated, including its sulfur, phosphate and nitrogen fertilizers, as well as its nickel, cobalt, uranium, gold, and copper units. He served as Operations Manager of Queensland Nickel, a Freeport joint venture in Australia, during the mid-seventies. In 1986 Freeport spun off Freeport-McMoRan Resource Partners and appointed Cambre as first president and CEO of the new entity. In 1993 Freeport acquired Rio Tinto Minera, the Spanish mining and smelter group, and named him as Chairman.

Cambre retired from Freeport-McMoRan in late 1993 and joined Newmont as Vice Chairman and CEO. He has served as Chairman since 1995. Under his leadership Newmont has grown to be the second largest gold producer in the world, with operations in the U.S., Peru, Indonesia, and Uzbekistan. Newmont is recognized as a technical and environmental leader in the mining industry and supports a worldwide exploration effort

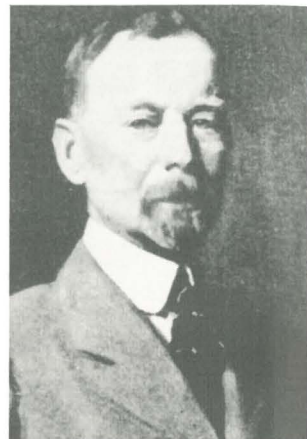
Cambre is a member of the Society for Mining, Metallurgy and Exploration and the American Institute of Chemical Engineers. He serves on numerous boards including the World Gold Council, the Louisiana State University College of Engineering Advisory Council, Harvard University's John F. Kennedy School of Government and W. R. Grace & Co. He is also Vice Chairman of the National Mining Association and past Chairman of the Gold Institute.



AMERICAN MINING HALL OF FAME

2000 INDUCTEE FROM MINING'S PAST

JAMES COLQUHOUN 1857-1954



James Colquhoun may be the least acknowledged and appreciated minerals industry titan in American mining history. Born in England and educated mainly in Scotland and Ireland, Colquhoun (pronounced “Coh-hoon”) left Glasgow at age 25 to fill a position with the Scottish-owned Arizona Copper Company (ACC) at Clifton in Territorial Arizona. Beginning with the ACC as an assayer, his talents and interests swiftly propelled him into superintendency of metallurgy and then to general managership of ACC Morenci operations. With the ACC in serious cost/profit trouble, Colquhoun proposed a plan to “concentrate and leach the low-grade porphyry ore of the Metcalf...”. He devised, designed, and built an acid plant to convert pyrite to sulfuric acid for batch-leaching oxide copper ores, a 100 tpd gravity-jig riffle-slurry table plant to concentrate the oxide minerals, and a leaching plant to extract the copper. Production began in November, 1893 and was so successful that company profits increased 1000% from 1893 to 1896 and quadrupled again by 1903. This oxide-mineral success led Colquhoun to try concentrating and leaching low-grade chalcocite ores. In June 1896, a gravity-based sulfide concentrator was completed and, in its first 6 months, produced 30,000 tons of concentrates running 40% copper, with tailings at 1.25% copper. Thus, “porphyry copper” production was initiated by Colquhoun at Morenci 12 years before the 1905 date marking the start-up at Bingham Canyon, often called the first “porphyry copper” mining operation.

After his Morenci years, Colquhoun accepted a position with the Caucasus Copper Company, in the current Republic of Georgia, rehabilitating mines that were captured, looted, and disabled by the Turks during World War I. The Bolshevik Revolution in 1917 forced closure of the mines and Colquhoun survived a harrowing 73-day escape with his staff, retiring to England at age 60.

Colquhoun made massive and profoundly significant contributions to the American, European, and world mining scene as an assayer, geologist, metallurgist, mining engineer, inventor, and manager. He is a true hero of American mining.



AMERICAN MINING HALL OF FAME

2000 INDUCTEE FROM MINING'S PAST

EDWARD H. WISSER

1895-1970

Edward Hollister Wisser was born on July 28, 1895 at Fort Hamilton, New York. A combination of his military family heritage and his own service as a second lieutenant in World War I gave him a respect for order, discipline, and hard work that would typify his career.

Wisser graduated from the University of California at Berkeley with a B.S. in mining engineering in 1917 and, after four years working as a mining engineer, returned to Berkeley for graduate studies. In 1926, he went to Pachuca, Mexico, and worked for Compañía Real del Monte y Pachuca, and was soon appointed Chief Geologist of Mexican operations for the company. He conducted mine mapping, petrographic studies and exploration and property examination work throughout Mexico, including Sombrerete, Guanajuato, Santa Maria del Oro, Concepción del Oro, Matahuala, and Cinco Minas. His well thought-out work leading to the discovery of rich silver ore deposits at Pachuca and Real del Monte in Central Mexico is particularly noteworthy. In 1936, Wisser began to practice as an independent consulting geologist and, during the next 19 years, covered a wide variety of assignments for many different mining companies and was associated with the discovery of major ore bodies within the mining districts of Southern Arizona, Mexico, and the Philippines.

In 1946 Wisser became a Lecturer in Mining at Berkeley and then Professor of Mining in 1947. After retiring in 1962 he joined the Department of Mining and Geological Engineering at the University of Arizona as Visiting Scholar. He authored 22 papers during his academic career, including GSA Memoir 77 "Relation of Ore Deposition to Doming in the North American Cordillera." His publications on economic geology and his writings on structural geology are timeless classics.

Wisser was a successful ore finder, a dedicated teacher and a tireless and successful student of the rocks and the geology of ore deposits. He strove throughout his career to impart his respect for order, disciplined field observations and thoughtful presentation of data as a path to success, both to his profession and to his students.



AMERICAN MINING HALL OF FAME

2000 MEDAL OF MERIT RECIPIENT

LEONARD HARRIS

Leonard Harris was born in Yeppoon, Queensland, Australia and received a Diploma in Metallurgy in 1949 from Mount Morgan Technical College, Australia. His professional career has taken him throughout the world where he has made significant contributions to operations in Australia, Ghana, Peru and, for about twenty years, Newmont Mining Corporation operations throughout the world. His most recent managerial role as President/General Manager, Newmont Peru Limited has resulted in international recognition for the startup and operation of Yanacocha, the largest gold mine in Peru. With his wife Rosa he has provided international leadership in recognizing and implementing a far reaching social program in and around the Yanacocha area.



Presently he is a consultant in several mining and mining related companies and is President of B & H Mine Services, Director of Corriente Resources Inc., Sociedad Minera Berenguela, Solitario Resources, Alamos Minerals Ltd, Glamis Gold Ltd., Resources Development Inc. and Cardero Resource Corp.

In addition to his numerous technical accomplishments he continues to contribute to the betterment of the profession as recent past chairman of the Denver Section of the Mining and Metallurgical Society of America and as recent past Chairman of the Mineral Processing Division of the Colorado Mining Association. He has been recognized by the Society for Mining, Metallurgy and Exploration as a Henry Krumb Lecturer, Distinguished Member and received the Sanders Gold Medal Award.



AMERICAN MINING HALL OF FAME

2000 MEDAL OF MERIT RECIPIENT

PEDRO SÁNCHEZ-MEJORADA

Pedro Sánchez-Mejorada was born in Mexico City in 1915 but grew up in the mining center of Pachuca in the Mexican state of Hidalgo. He was educated at the National University of Mexico (UNAM), graduating in 1937 with a degree in Mining and Metallurgical Engineering. He also holds a Masters degree in Business Administration from the Massachusetts Institute of Technology. Upon graduation from UNAM, he went to work in the Engineering and Geology Department of the Real del Monte & Pachuca Company, a subsidiary of U.S. Smelting, Mining, and Refining Company.



In 1948 he joined Industrias Peñoles, S.A. de C.V., the predecessor of Industrias Peñoles, S.A. de C.V. as a mining engineer. This was the start of a long and successful career with Peñoles that saw him rise successively to positions as Chief Geologist, Director of Exploration, Vice-President New projects and Development, and, for the last 10 years of his career there, President of Industrias Peñoles. During his years with Peñoles Ing. Sánchez-Mejorada played an important role in the exploration and development of numerous company mining properties including the Reforma zinc-silver mine in Chihuahua, La Negra silver-lead-zinc-copper mine in Querétaro, La Minita zinc-silver-barite mine in Michoacán, and the vast Laguna del Rey chemical complex in northern Coahuila (which annually produces 600,000 tonnes of sodium sulphate and more than 80,000 tonnes of high grade magnesium oxide).

One of Sánchez-Mejorada's principle achievements was the discovery and development of the "New Fresnillo" vein system. Discovery of this totally new and "blind" system converted the Fresnillo Mine from a net money loser into the world's largest and most profitable silver mine. In addition to being deeply involved in exploration and development of mining properties he sought to develop the company's human resources as well. Peñoles has for many years followed the practice of sending selected employees abroad to obtain university degrees in their fields of work.

Ing. Sánchez-Mejorada retired from Peñoles in 1988 and assumed a post as a Director of Cia. Minera Mexicana de Avino S.A. de C.V. and, in 1992, became Chairman of Avino. He is still active as a mining consultant and is a member of the Society for Mining, Metallurgy, and Exploration; the Society of Economic Geologists, and the Mexican Academy of Engineering.



AMERICAN MINING HALL OF FAME

2000 INDUSTRY PARTNERSHIP AWARD

MODULAR MINING SYSTEMS, INC.

Founded in 1979 by James Wm. White, Michael J. Arnold and Mark R. Baker, Modular Mining Systems, Inc. developed, demonstrated and marketed a novel product, named DISPATCH®. The system, (custom hardware and software), optimized the assignment of trucks to loading and dumping points in an open pit mine and produced operating reports during the shift. Modular developed and installed a prototype system in a major Southwestern mine. Using the prototype system as a base, Modular began its successful introduction of this technology to the minerals industry worldwide.

Today Modular is developing or supporting systems for over 130 open pit client sites throughout the world. DISPATCH®, recently renamed INTELLIMINE™, yielded productivity increases of 7 to 32%. Currently, they enjoy an 85% market share. In 1990 Modular expanded its product line to underground operations and now serves more than a dozen underground client sites. In 1998, Modular began work on development of a rail management system for a large mine in South America.

Recently, Modular joined with Komatsu to develop the world's first commercial driverless truck haulage system. Designed to provide significant returns to clients in large scale operations, these systems, which should be available for purchase within the next few years, will further revolutionize open pit mining as we know it today.

Under the leadership of the Modular founders, Modular has been an active supporter and participant in the Mining Foundation of the Southwest, SME and numerous other industry related societies and organizations. Modular's success is a splendid example of innovation, perseverance and excellence in product development and support.



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AMERICAN MINING HALL OF FAME

1983 Inductee
George E. Atwood

1989 Inductee
G. Robert Durham

1994 Inductee
J. Burgess Winter

1984 Inductee
Charles F. Barber

1990 Inductee
Harry M. Conger

1995 Inductee
Douglas C. Yearley

1985 Inductee
George B. Munroe

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Kenneth J. Barr

1996 Inductee
Richard de J. Osborne

1986 Inductee
John C. Duncan

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Milton H. Ward

1998 Inductee
Charles G. Preble

1988 Inductee
Simon D. Strauss

1999 Inductee
Irl F. Engelhardt

Medal of Merit Recipients

Ralph J. Roberts, 1989
Victor H. Verity, 1989
John S. Livermore, 1990
George D. Argall, Jr., 1991
Arthur A. Brandt, 1992
William C. Epler, 1992
Walter E. Heinrichs, Jr., 1993

Willard C. Lacy, 1993
Donnell W. Agers, 1994
J. David Lowell, 1994
Ronald R. Swanson, 1994
Warren Kay Pincock, 1995
Richard W. Hutchinson, 1996
Charles L. Pillar, 1996

Hugo T. Dummett, 1997
Spencer Rowe Titley, 1997
David N. Skillings, Jr., 1998
José Rubén Velasco
Rodríguez, 1998
Paul S. Allen, 1999
William C. Peters, 1999

Industry Partnership Award

Caterpillar, Inc. - Glen A. Barton, 1995
Amigos (Arizona Mining & Industry Gets Our Support), 1996
Colorado School of Mines, 1997
Stephen D. Bechtel, Jr. and Bechtel Corporation, 1998
Mineral Information Institute, 1999



AMERICAN MINING HALL OF FAME

1983-1999 Inductees from Mining's Past

Maxie L. Anderson
1934-1983

Bert S. Butler
1877-1960

Nellie Cashman
1849-1925

Louis S. Cates
1881-1959

William Andrews Clark
1839-1925

John Van Nostrand Dorr
1872-1962

James Douglas
1837-1918

James Stewart Douglas
1868-1949

Charles F. Fogerty
1921-1981

Antoine M. Gaudin
1896-1974

Wesley P. Goss
1899-1985

William C. Greene
1853-1913

John C. Greenway
1872-1926

Meyer Guggenheim
1825-1905

Hal W. Hardinge
1855-1943

George Hearst
1820-1891

Joseph Austin Holmes
1859-1915

Herbert C. Hoover
1874-1964

Daniel C. Jackling
1869-1956

H. Myles Jacob
1913-1997

Ira B. Joralemon
1884-1975

Henry Krumb
1875-1958

John Cromwell Lincoln
1866-1959

Waldemar Lindgren
1860-1939

Curtis H. Lindley
1850-1920

John William Mackay
1831-1901

Donald H. McLaughlin
1891-1959

Seeley W. Mudd
1861-1926

Jorge Larrea Ortega
1912-1999

Charles Debrille Poston
1825-1902

Frederick Leslie Ransome
1868-1935

Rossiter W. Raymond
1840-1918

Robert H. Richards
1844-1945

Thomas A. Rickard
1864-1953

Louis D. Ricketts
1859-1940

Reno H. Sales
1876-1969

Harrison Ashley Schmitt
1896-1966

Fred Searls, Jr.
1888-1968

Antonio Siraumea
1710-1760

Arthur F. Taggart
1884-1959

William Boyce Thompson
1869-1930

Arthur Redman Wilfley
1860-1927



MINING FOUNDATION OF THE SOUTHWEST

The American Mining Hall of Fame Committee of the Mining Foundation of the Southwest would like to thank Modular Mining Systems, Inc. for its continued support by typesetting and printing this evening's programs. Modular has provided this contribution for many years.



MINING FOUNDATION OF THE SOUTHWEST



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Mining Foundation of the Southwest

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