



*Twenty-Sixth Annual*

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**American  
Mining Hall of Fame  
Awards Presentation  
and Banquet**

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**December 6, 2008**

**Tucson Marriott University Park, Tucson, Arizona**



# 2008 Program

**6:30 p.m.**

**Reception**

**7:00 p.m.**

**Banquet Dinner**

**8:30 p.m.**

**Ceremony**

Welcoming Remarks:

**Larry Dykers**

Introduction of Head Table  
and Other Honored Guests:

**Larry Dykers**

Awards Presentation:

**Robert Metz**

Presentation of 2008  
Inductees From  
Mining's Past:

**Samuel Heintzelman**

*Presented by  
John Lacy*

**R.A.F. Penrose**

*Presented by  
Spencer Titley*

Presentation of 2008  
Medals of Merit:

**Barbara Filas**

*Presented by  
Roshan Bhappu*

**Paul Hodges**

*Presented by  
William Dresher*

Presentation of 2008  
Industry Partnership Award:

**Atlas Copco**

**CMT USA, LLC**  
*Presented by  
Donald Earnest*

Presentation of 2008  
Inductee:

**Timothy R. Snider**

*Presented by  
Larry Dykers*

Featured Address:

**Timothy R. Snider**

Adjournment:

**Larry Dykers**



## **PLATINUM**

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Freeport McMoRan Copper and Gold Inc.  
Hanlon Engineering & Associates, Inc.  
M3 Engineering & Technology Corporation  
Newmont Mining Corporation

## **GOLD**

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Boart Longyear Co.  
Call & Nicholas, Inc.  
Cognis Corporation  
Empire Southwest  
Freeport-McMoRan Exploration Co.  
Geotemps, Inc.  
Independent Mining Consultants  
Lowell Mineral Exploration  
Montana Resources  
Southwest Energy  
SRK Consulting  
Washington Group International

## **SILVER**

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Arizona Historical Society  
ASARCO, LLC  
Benefit & Retirement Strategies, Inc.  
Caterpillar Inc.  
Eaton Electric/Cutler Hammer  
Emerson  
Errol L. Goggin & Associates, Inc.  
FLS  
Gold Associates Inc.  
John Deere  
Laron Incorporated  
Layne Christenson Company  
Meridian Engineering  
Mintec, inc.  
Mountain States R & D International, Inc.  
Pipeline Systems Inc.  
Resolution Copper Mining  
Rosemont Copper  
Royal Gold  
T.A. Caid  
URS  
Wells Fargo Bank

# 2008 Sponsors

**2008 Sponsor List TBD  
Due Monday, Nov. 24**





## **Mining Foundation of the Southwest**

### **Mission and Educational Outreach Program**

The Mining Foundation of the Southwest (MFSW) was incorporated in 1983. The purpose of the Foundation is to promote public understanding and education related to mineral resources and the mining industry, both in the U.S. and abroad. Toward this goal, the Foundation has been able to help fund a number of projects each year in the southwest, including Mexico, from donations and fund-raising activities.

Beginning this year the Foundation is embarking on a major fundraising activity for the purpose of developing a MFSW Educational Outreach Program in cooperation with the Arizona Department of Mines and Mineral Resources (DMMR). The program will center on the Arizona Mining and Mineral Museum in Phoenix. MFSW will share the cost with the DMMR of operating the MFSW Educational Outreach Program by providing the funds to hire and support a person to be “MFSW Education Curator” at the Museum. As part of the Program an extension of the American Mining Hall of Fame will be established at the Museum.

In addition, the Foundation has arranged for a privately funded permanent museum Mining Diorama to be part of the MFSW Educational Program. There will also be a mobile exhibit for use by the DMMR or other organizations outside the museum premises. The MFSW Educational Outreach program will also include Mineral Resource Class Room Kits that can be used by other than museum staff in making school presentations. The Museum estimates that the program would include 30-60 school visitations/presentations per year, 15-30 of which would be within southern Arizona in the expanded MFSW Educational Outreach Program

Currently the museum receives approximately 20,000 adults and 25,000 student visits per year. This does not include students in the expanded classrooms visitations. We anticipate that the addition of the MFSW Educational Outreach Program will enable these numbers to increase to at least 100,000 people per year.

December 6, 2008 marks the 26<sup>th</sup> anniversary of the Foundation’s American Mining Hall of Fame Awards Ceremony and Banquet. The American Mining Hall of Fame serves to educate the public about prominent persons associated with the mining industry in both past and present times by inducting one living honoree and two deceased luminaries, awarding medals of merit to outstanding individuals, and honoring 1 supporting organization. Including 2008 inductees, 138 persons and organizations have been honored by the Foundation. Plaques commemorating each of these inductions are on display at the Arizona Historical Society Museum at 949 East Second Street, Tucson, Arizona.



A third-generation Phelps Dodge employee, Tim Snider began his career as an underground mine laborer in the Copper Queen operation in Bisbee, Arizona. He received his B.S., Geology and Chemistry at Northern Arizona University in 1979, and in 1996 attended the advanced Management Program at the Wharton School, University of Pennsylvania.

During his 37 years with Phelps Dodge, he held numerous operational, technical, and exploration positions. During the 1980s and early 1990s, he led Phelps Dodge's development of large scale, low-cost, solution extraction-electrowinning process technology. Later, he launched the Candelaria mine development project, which was Phelps Dodge's first major mine and concentrator in South America. Also, he led the operation and modernization of the company's largest mining operation in Morenci.

In 1998, Tim was appointed President of Phelps Dodge Mining Company and in 2003 was promoted to President and Chief Operating Officer of Phelps Dodge Corporation. In these roles, he led the operational and technical integration of Phelps Dodge's Cyprus-AMAX acquisition and helped to establish Phelps Dodge as one of the industry leaders in technology development and operational excellence. In early 2007, he assumed the role of President and Chief Operating Officer of Freeport-McMoran Copper and Gold, Inc. upon Freeport's acquisition of Phelps Dodge, a position he held until his retirement from full time work at the end of the first quarter of 2008.

He is a director of Compass Minerals International, Inc. based in Overland Park, Kansas, and a board member of various non-profit organizations, namely Northern Arizona University Foundation and The University of Arizona Science Center and Mineral Museum.

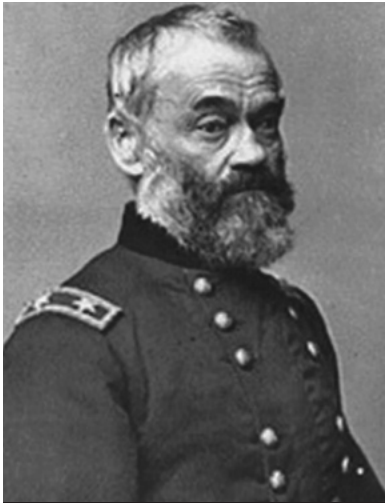
Tim is a member of the Colorado School of Mines Visiting Committee and a director of the Mineral Information Institute. He is a member of SME and the National Association of Corporate Directors.



**Timothy R.  
Snider**

**2008  
Inductee and  
Guest of Honor**





**Samuel Peter  
Heintzelman**  
(1805-1880)

**2008  
Inductee from  
Mining's Past**

Samuel Peter Heintzelman was a soldier, speculator and promoter and one of the few hardy, spirited pioneers who made a substantial contribution to the establishment of Arizona's mining development. He was born in Manheim, Pa., in 1805, and after graduating from West Point in 1826, was cited for gallantry during service in the Mexican War.

Heintzelman arrived in the Southwest in 1850 as a major in the United States Army, with the mission to establish Fort Yuma. From that position became involved in all aspects of the settlement of what was then the Northwest frontier of Mexico. In 1856, he asked for and received an extended leave from active duty, and was successful in promoting the necessary capital for the organization of the Sonora Exploring & Mining Company, one of the earliest and historically most significant companies formed to exploit Arizona's mineral resources at the Santa Rita and Cerro Colorado Mines in the Santa Cruz Valley. From his position of president of the company his journal entries from August, 1858 to January, 1859, provide invaluable insight into the difficulties that faced Arizona's first mineral entrepreneurs. In 1859, Samuel Colt, the arms manufacturer, rescued the company from bankruptcy, and took over the presidency as Heintzelman resumed active duty in the army.

With the advent of the Civil War, Heintzelman received a commission of colonel and was quickly promoted to brigadier general. At the First Battle of Bull Run he fought with his usual valor, suffering a wound while vainly trying to rally his broken division in a rout of Union forces. He remained in divisional command throughout fall 1861 and winter 1862 and was promoted to major general. His remaining service was undistinguished because of his natural caution and penchant for magnifying the difficulties before him. He was characterized as a stern man of blunt speech and abundant energy. He retired from the army in 1869 and died in the District of Columbia in 1880.



Richard Alexander Fullerton Penrose, Jr. was born in Philadelphia on December 17, 1863, the 4<sup>th</sup> son of Dr. and Mrs. Richard Alexander Fullerton Penrose. He entered Harvard at the age of 17, graduated Summa cum Laude at the age of 21 and was awarded a doctorate at the age of 23. His career as a geologist was inspired at Harvard by Nathan Shaler. Following graduation, he worked as a field and mining geologist, as both an employee and consultant, and published papers on projects in Texas, Arkansas, and Colorado. He taught for a brief period at Stanford before starting the most critical years of his career.

Between 1891-1903, Penrose established his credentials and was to amass the beginning of a fortune that he augmented continuously through the remainder of his life. His studies of gold at Cripple Creek, Colorado resulted in co-authorship of two U.S. Geological Survey papers with Whitman Cross in 1898. He was sought by W.H. Emmons in 1896 to study the Telluride region of Colorado with the U.S.G.S. but he had earlier chosen to accept the offer from T.C. Chamberlin in 1892 to become an Associate Professor in the first faculty of geology at the new University of Chicago. He continued his consulting and field activities while remaining at Chicago as Professor of Economic Geology until 1911. He was a member of the first editorial staff of the Journal of Geology.

In the 1890s he carried out intermittent consulting in the southwest through the next 5 years and in 1895 made a deal to acquire the Commonwealth mine in Pearce, AZ for \$50,000 in gold. In 18 months the mine produced a net of \$1 million and over the next 4 years it netted \$6 million. When the ore stopped paying \$100,000 per month after 5 years of production, Penrose sold his interest for slightly less than \$1,000,000.

During these years in the southwest, Penrose had developed high skills in administrative ability and established a warm friendship with Herbert Hoover and over a period of ten years through the turn of the century, his contacts in Arizona, New Mexico and Utah and his influence on the mining industry are marked and important. His geological and business decisions on mining properties influenced corporate patterns for the next century on deposits in Arizona from Globe to Santa Rita and ultimately, Bingham Canyon. In 1901 he and partners organized the Utah Copper Company, in which he deferred election as president but served as a Director with D.C. Jackson as general manager.

He was the first President of the Society of Economic Geologists and funded and designed the Penrose medal for that society in 1923, and he funded the Penrose Medal for the Geological Society of America in 1925-26. He left a bequest to SEG for continued publication of its journal and a bequest of nearly \$4,000,000 to both the GSA and the American Philosophical Society. His generosity was unmatched in his time.

We honor his memory and recognize him here as a pioneering Economic Geologist, an entrepreneur, an extraordinarily successful business man, a teacher, a philanthropist, and a benefactor of three of the nation's major scientific and professional societies.



**Richard Alexander  
Fullerton  
Penrose, Jr.  
(1863-1931)**

**2008  
Inductee from  
Mining's Past**







**Barbara A. Filas**

**2008  
Medal of  
Merit Recipient**

Barbara A. Filas is a third generation miner, a second generation mining engineer, and a licensed professional engineer. Her grandfather emigrated from Finland to work in the copper mines in Bisbee, and her father, Carl Appelin, worked in those same mines from the age of 15. Like her father, Barbara earned her Mining Engineering degree from The University of Arizona.

Filas started her career in the underground coal mines. She joined the coal industry shortly after passage of the Federal Surface Mining, Control and Reclamation Act. At the time, this new law shifted emphasis toward obtaining permits for the coal mines and preparation plants she had been working for, which resulted in her unplanned specialization in the environmental and compliance aspects of mining. In 1987, Filas left a soft coal market to apply her environmental expertise to the booming gold mining business in Nevada.

In 1989, Filas opted to leave active mine operations to join the Denver-based consulting firm Knight Piésold and Co. to specialize in permitting, compliance, and the preparation of international social and environmental impact assessments, action plans and management systems. Her consulting work has taken her to six continents for projects in coal, metals, and industrial minerals. She is currently President of Knight Piésold's U.S. operations and serves on its global Board of Directors.

Filas has volunteered thousands of hours to the mining industry. She has worked with the World Bank, mining associations, regulatory authorities and other interest groups to influence the direction of laws, rules and guidance documents to assure that the industry remains politically and economically viable into the future.

Through her active involvement with the Society for Mining, Metallurgy and Exploration Inc. (SME), she has served in numerous positions and committees. Notably, she was instrumental in helping to create the Environmental Division in 1997, the Student Mentor Program in 1999, and served as the Society's 49<sup>th</sup> President and its first female President in 2005.



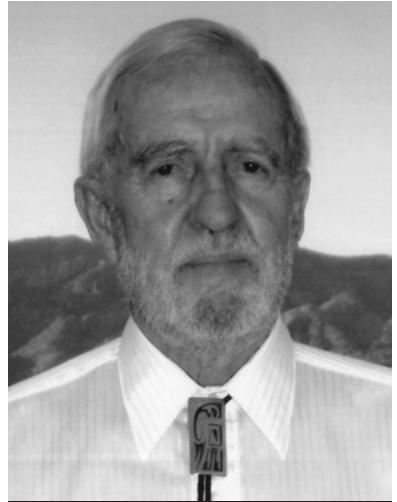


Paul Hodges has had over fifty years of service to the mining industry. He has a degree in Mining Engineering from the Colorado School of Mines and is a registered professional engineer in Arizona. In his career he has served in all capacities from laborer to locomotive driver; from General Manager to Director in underground mines and open pit mines, in North America, South America and Africa. He has mined copper, lead and zinc, molybdenum, uranium, arsenic and diamonds. His responsibilities have covered exploration, project startups, operations management and financing. He has worked for Anaconda, Asarco, RTZ, St. Joe and most recently, Compañía Minera El Indio.

While with RTZ he was directly involved in or consultant to the Palabora Mining Company in South Africa, the Rossing Uranium Project and other exploration projects in southern Africa, the Letseng-la-Tarel diamond Project in Lesotho, Bougainville in the Solomon Islands, Lornex in Canada, Cerro Colorado in Panama, Udoken in the USSR and Coed-y-Brenin in Wales.

In his career, Paul has held a number of executive positions. He has been Director of Mining Operations, Rio Tinto Management Services, President of Anamax Mining Company at Twin Buttes, Arizona and President of Compañía Minera El Indio. He has been a member of the Board of Directors of AZCO Minerals and has been a director of Lac Minerals Limited. He is currently a consultant to the mining industry.

Out of these career experiences he developed the expertise for which he is best known – the design, development and operation of open pit mines.



**Paul Arthur  
Hodges**

**2008  
Medal of  
Merit Recipient**



The logo for Atlas Copco, featuring the company name in a stylized, italicized serif font. The text is centered between two thick, solid black horizontal bars.The Atlas Copco logo, consisting of the company name in a bold, white, sans-serif font, centered on a solid black rectangular background.The text for the award, with "2008" in a large, bold, white serif font, and "Industry Partnership Award" in a smaller, bold, white sans-serif font below it, all centered on a dark grey background.

AB Atlas was founded in 1873 as a manufacturer of railway equipment. The company branched into the manufacture of steam engines and fixed steel constructions for bridges, buildings, and church steeples, quickly becoming the largest manufacturing company in Sweden. However, the decline of orders for railway equipment resulted in a restructuring of the company and an expansion into the manufacture of pneumatic tools. The first pneumatic tools produced by Atlas were actually intended for the company's own workshops, but word soon spread of their greater efficiency and reliability, creating demand from other major Swedish workshops and manufacturers. Development of these early pneumatic products included riveting hammers and drills in 1901, piston compressors in 1904, and rock drilling equipment in 1905, with the introduction of the first pneumatic rock drill – an event which revolutionized surface and underground mining.

After World War II, Atlas engineers combined a light pneumatic rock drill with a pusher leg consisting of a pneumatic cylinder. This forerunner to the famous "jackleg" drill proved superior to other rock drills, enabling one man to operate a single machine and greatly increasing productivity and efficiency in underground mines and tunneling projects world-wide. Atlas was also a leader in the introduction of tungsten carbide drill bits. Together, these innovations provided major productivity and cost saving contributions to the mining of lower grade underground deposits.

Other innovations utilized by the mining industry quickly followed. Now called Atlas Copco, the company delivered its first screw compressor in 1954, and in 1967 introduced the first oil-free compressor. These oil-free compressors opened up new markets and applications for Atlas Copco, and by the early 1980s, the Compressor and the Mining and Construction divisions were world leaders within their fields of operation.

Today, Atlas Copco Construction and Mining Technique USA LLC is headquartered near Denver, Colorado, and employs more than 300 people. The company is responsible for the sales, aftersales service and rental of equipment for surface and underground rock excavation, rock reinforcement, water well and exploration drilling, oil and gas industry drilling, and ground engineering. The company's range of products is designed to help its clients and customers achieve the highest possible productivity with the lowest possible maintenance costs. Atlas Copco's historical importance to the mining industry, its world class mining products, its drive for groundbreaking technical innovations, and its commitment to customer service make it a proud choice of the Mining Foundation of the Southwest for the 2008 Industry Partnership Award.



## ***Board of Governors***

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Larry G. Dykers - *President*

Robert A. Metz - *Vice President*

Susan F. Wick - *Secretary/Treasurer*

Douglas C. Austin

A. Frederick Banfield

Roshan B. Bhappu

William H. Dresher

Donald F. Earnest

Milton M. Evans

Richmond L. Fenn

Walter E. Heinrichs, Jr.

Corolla Hoag

Martin C. Kuhn

John C. Lacy

Terry McNulty

P. K. Medhi

Charles P. Miller

David E. Nicholas

Albert J. Perry

Charles G. Preble

Ronald J. Roman

Spencer R. Titley

Milton H. Ward

Herbert E. Welhener

William H. Wilkinson

James Wm. White

## ***Honorary Board Members***

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Michael Canty

Walter E. Heinrichs

Marvin Hustad

William C. Peters

Jack E. Thompson, Sr.

## ***Hall of Fame Committee***

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Robert A. Metz - *Chairman*

Larry G. Dykers - *ex officio*

Roshan B. Bhappu

Michael Canty

William H. Dresher

Donald F. Earnest

William Hawes

Walter E. Heinrichs, Jr.

Martin C. Kuhn

M. C. (Bud) La Barr

John C. Lacy

Charles G. Preble

Spencer R. Titley

Milton H. Ward

Susan F. Wick

## ***Gold Members***

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A. Frederick Banfield

Charles F. Barber

Alex Chisholm

Milton M. Evans

Leonard Judd

Daniel H. Neff

Jack E. Thompson, Sr.

J. Steven Whisler

William H. Wilkinson

## ***Silver Members***

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Roshan B. Bhappu

Stan Dempsey

William H. Dresher

Ted H. Eyde

John C. Lacy

Stuart T. Peeler

Frank Milliken

A. Dan Rovig

Mark Sutton

Lynn Thomas

Milton H. Ward

Susan F. Wick

Zonge Engineering &  
Research



# **Mining Foundation of the Southwest**

## **2008**





## American Mining Hall of Fame

### Inductees and Industry Partnership Awards

#### *Inductees (1983-2007)*

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1983	George E. Atwood
1984	Charles F. Barber
1985	George B. Munroe
1986	John C. Duncan
1987	Plato Malozemoff
1988	Simon D. Strauss
1989	G. Robert Durham
1990	Harry M. Conger
1991	Kenneth J. Barr
1992	T S Ary
1993	Milton H. Ward
1994	J. Burgess Winter
1995	Douglas C. Yearley
1996	Richard de J. Osborne
1997	James R. Moffett
1998	Charles G. Preble
1999	Irl F. Engelhardt
2000	Ronald C. Cambre
2001	A. Dan Rovig
2002	J. David Lowell
2003	Thomas J. O'Neil
2004	J. Steven Whisler
2005	Pierre Lassonde
2006	Jack E. Thompson, Jr.
2007	Dennis R. Washington

#### *Industry Partnership Awards (1995-2007)*

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1995	Caterpillar, Inc. - Glen A. Barton
1996	Amigos (Arizona Mining & Industry Gets Our Support)
1997	Colorado School of Mines
1998	Stephen D. Bechtel, Jr. and Bechtel Corporation
1999	Mineral Information Institute
2000	Modular Mining Systems, Inc.
2001	Mintec, inc.
2002	Senator Larry Craig
2003	Aker Kvaerner
2004	Mining and Metallurgical Society of America
2005	Northwest Mining Association
2006	Mountain States Legal Foundation
2007	M3 Engineering & Technology Corporation



## *Inductees From Mining's Past (1983-2007)*

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Maxie L. Anderson	1934-1983
Frank William Archibald	1920-1987
James Boyd	1904-1987
Bert S. Butler	1877-1960
Nellie Cashman	1849-1925
Louis S. Cates	1881-1959
William Andrews Clark	1839-1925
James Colquhoun	1857-1954
James Harold Courtright	1908-1986
John Van Nostrand Dorr	1872-1962
James Douglas	1837-1918
James Stewart Douglas	1868-1949
Herman Ehrenberg	1818-1866
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
Thomas S. Lovering	1896-1991
John William Mackay	1831-1901
Hugh Exton McKinstry	1896-1961
Donald H. McLaughlin	1891-1959
Charles Meyer	1915-1987
Seeley W. Mudd	1861-1926
Georges Ordoñez	1907-1982
Jorge Larrea Ortega	1912-1999
Charles Debrille Poston	1825-1902
Frederick Leslie Ransome	1868-1935
Rossiter W. Raymond	1840-1918
Kenyon E. Richard	1915-1993
Robert H. Richards	1844-1945
Thomas A. Rickard	1864-1953
Louis D. Ricketts	1859-1940
Bernhardt Rohe	1909-1992
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
Howard Allen Twitty	1909-1989
Thomas F. Walsh	1850-1910
Norman L. Weiss	1902-1986
Arthur Redman Wilfley	1860-1927
Forbes Kingsbury Wilson	1910-1990
Edward H. Wisser	1895-1970



## **American Mining Hall of Fame**

### **Inductees from Mining's Past**





# American Mining Hall of Fame

## Medal of Merit Recipients

### *Medal of Merit Recipients (1989-2007)*

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1989	Ralph J. Roberts
1989	Victor H. Verity
1990	John S. Livermore
1991	George O. Argall, Jr.
1992	Arthur A. Brandt
1992	William C. Epler
1993	Walter E. Heinrichs, Jr.
1993	Willard C. Lacy
1994	Donnell W. Agers
1994	J. David Lowell
1994	Ronald R. Swanson
1995	Warren Kay Pincock
1996	Richard W. Hutchinson
1996	Charles L. Pillar
1997	Hugo T. Dummett
1997	Spencer Rowe Titley
1998	David N. Skillings, Jr.
1998	José Rubén Velasco Rodríguez
1999	Paul S. Allen
1999	William C. Peters
2000	Leonard Harris
2000	Pedro Sánchez-Mejorada
2001	William H. Dresher
2001	Warren E. Fenzi
2002	Richard D. Call
2002	Kenneth L. Zongge
2003	Stanley H. Dempsey
2003	James William White
2004	Edward S. Frohling
2004	Dr. Joaquin Ruiz
2005	Larry McBiles
2005	Wayne C. Hazen
2006	Leonard R. Judd
2006	Roshan B. Bhappu
2007	William G. Davenport
2007	Harry Parker



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/design and printing this evening's programs. Modular has provided this contribution for many years.



# Special Thanks







## **Mining Foundation of the Southwest**

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