

### Mining Foundation of the Southwest

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Twenty-Fourth Annual

# American Mining Hall of Fame Awards Presentation and Banquet

December 9, 2006
El Conquistador Golf & Tennis Resort, Tucson, Arizona



### 2006 Program

6:30 p.m. Reception 7:00 p.m. Banquet Dinner 8:30 p.m. Ceremony

Welcoming Remarks: William Dresher

Introduction of Head Table and Other Honored Guests:

William Dresher

Awards Presentation: Spencer Titley

Presentation of 2006 Inductees From Mining's Past: Hugh McKinstry
Presented by
Willard Lacy

Norman Weiss Presented by Martin Kuhn

Presentation of 2006 Medals of Merit: Roshan Bhappu Presented by Brent Hiskey

**Leonard Judd**Presented by
William Dresher

Presentation of 2006 Industry Partnership Award: Mountain States Legal Foundation

Presented by Donald Earnest

Presentation of 2006

Jack Thompson, Jr.

Inductee:

Presented by Mary Poulton

Featured Address: Jack Thompson, Jr.

Adjournment: William Dresher

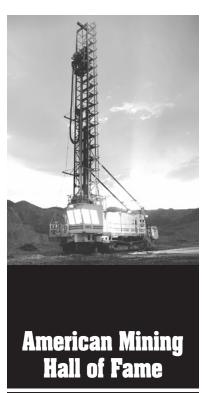
The American Mining Hall of Fame Committee of the Mining Foundation of the Southwest would like to thank Modular Mining Systems, Inc. for its continued support by typesetting/design and printing this evening's programs. Modular has provided this contribution for many years.











### **Medal of Merit** Recipients



Medal of Merit Recipients (1989-2005)		
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. Zonge	
2003	Stanley H. Dempsey	
2003	James William White	
2004	Edward S. Frohling	
2004	Dr. Joaquin Ruiz	
2005	Larry McBiles	
2005	Wayne C. Hazen	

### **PLATINUM**

Resource Capital Funds Phelps Dodge Mining Company **Newmont Mining Corporation** 

### GOLD

Call & Nicholas, Inc. **Empire Southwest** Independent Mining Consultants, Inc. Layne Christensen Company M3 Engineering & Technology Corp. Southwest Energy Peru Copper Inc.

### SILVER

Aker Kværner Asarco, LLC Augusta Resource Corporation Benefit & Retirement Strategies, Inc. Boart Longyear Company Caterpillar Inc. **Cognis Corporation** Eaton Electric/Cutler Hammer Emerson/US Motors Errol L. Montgomery & Associates, Inc. FFE Minerals Freeport-McMoRan Copper & Gold Inc. Geotemps, Inc. Golder Associates Inc. Industrial Motor & Control Inc. Joseph Hardy Krebs Engineers Laron Incorporated Leonard Judd

Mountain States R & D International, Inc. Phelps Dodge Exploration Pipeline Systems Inc. **Purcell Tire Company** Royal Gold SRK Consulting T.A. Caid Industries, Inc. **URS** Corporation

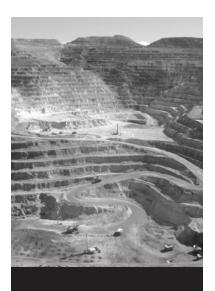
Meridian Engineering Co.

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**2006 Sponsors** 



# Mining Foundation of the Southwest

## Mission and Accomplishments



The Mining Foundation of the Southwest was incorporated in 1983. The purpose of the Foundation is to promote public understanding and education related to 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 from donations and fund-raising activities, the most recent of which include:

- Funding for student recruitment and other projects at the University of Arizona, Colorado School of Mines, Mackay School of Mines at the University of Nevada, New Mexico Tech, La Universidad de Sonora in Hermosillo, Sonora, Mexico, and Arizona Historical Society Museum;
- Publication and sale of a three-volume set of the History of Mining in Arizona;
- Publication and distribution of an information bulletin about the impact of mining and minerals on Arizona to Arizona decision-makers;
- Provision of guest speakers on geology and mining-related topics for southern Arizona schools and other organizations;
- Funding for transportation of school children to the ASARCO Mineral Discovery Center south of Tucson;
- Funds for the preparation of self-guided tour brochures for the University of Arizona Mineral Collection at the Flandrau Science Center;
- Funding to La Asociación de Mineros de Sonora to help sponsor the First Gem and Minerals Exhibition in Hermosillo, Sonora, Mexico;
- Funding for a cooperative effort with the U. S. Forest Service for installation of geology-related interpretive signs on the Mount Lemmon Highway near Tucson.

December 9, 2006 marks the 24<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 three living honorees, two deceased luminaries, and one supporting organization or person into the Hall of Fame each year. Including this year's inductees, 126 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.

### Inductees From Mining's Past (1983-2004)

Inductees From Mining's Past	(1983-200
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
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
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
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

# Inductees and Industry Partnership Awards

### Inductees (1983-2005)

George E. Atwood

1983

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

### Industry Partnership Awards (1995-2005)

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
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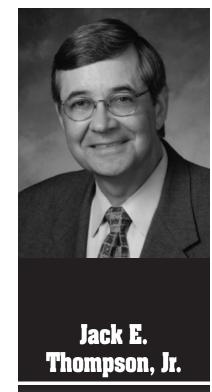
Jack E. Thompson, Jr. was born in Havana, Cuba where his father worked in the chemical industry. He received his B.S in Mining Engineering at the University of Arizona in 1971, and at Stanford graduated in the Executive MBA Program. He has also twice attended the Director's College, given at the Stanford Law School.

Following his graduation from university he began his career with Newmont at the San Manuel mine. In the ten years he worked for Newmont he held a variety of jobs with increasing responsibilities in copper and uranium mining operation. From 1981–1988 he was General Manager of McLaughlin Mine, Homestake Mining Company. In this role he led the team that permitted and built in one of the most environmentally sensitive areas of the country, a mining operation that is widely recognized as setting the industry standard for environmental excellence. He continued that record at Prime Resources with his role in the development of the Eskay Creek mine in northern British Columbia. This model mine set a new standard in building a strong working relationship with the local aboriginal community.

In his twenty years with Homestake Mining Company and under his leadership Homestake became a more aggressive and important player in the gold industry. He was involved in a variety of acquisitions, public offerings and financing activities, from both management and board perspectives. He was part of the management team at Homestake that expanded the company from a one gold mine operation to one that had 14 operations in five countries when it merged with Barrick Gold Corp. Once one of the world's highest cost producers, the company brought its costs down to the lowest quartile of the industry in cash cost of production, involving closure of high cost operation, manpower reductions, restructuring of operations, investment in existing operations, development of new discoveries and the acquisition of lower cost mines. This work was done while improving the company's safety and environmental record to the point that it was one of the best in the industry.

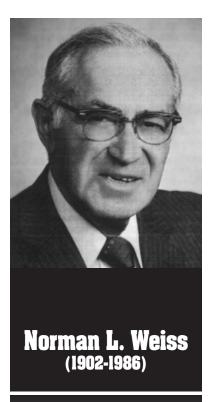
Thompson is currently serving on the boards of directors of Phelps Dodge Corp., Rinker Ltd., Tidewater Inc., and Century Aluminum Co. Some of the other boards he currently serves on are the advisory board of Capital Resource Fund III L.P, a venture capital fund that invests in development stage mining companies world wide, the Industrial Advisory Council of the College of Engineering and the Industry Leadership Board for the Department of Mining and Geological Engineering at the University of Arizona, and the Minerals Information Institute.

In 2006 Thompson was awarded the "Alumnus of the Year Award" from the University of Arizona, College of Engineering. In 2002 SME awarded him a "Distinguished Member Award" and from the S.D. School of Mines in 2001 he received an Honorary Doctorate in Mining Management.



2006 Inductee and Guest of Honor





2006 Inductee from Mining's Past



Norman L. Weiss, former Director of Milling for American Smelting and Refining Company, joined ASARCO in 1924 and retired in 1967, after 43 years, excluding a brief leave of absence with Dow Chemical.

Norman received his B.S. degree in Metallurgical Engineering from M.I.T. followed by a year at Penn State as Graduate Assistant to E. A. Holbrook and instructor in mine safety and ventilation, ore dressing and coal preparation including original research in cleaning and analysis of coals using heavy media separation.

His first 22 years were spent with Asarco where he served a number of capacities. During this period, he made many contributions to the milling of complex base and precious metal ores and was particularly proud of safety and labor management records.

Norm took a brief leave of absence as Field Metallurgist with Dow Chemical from 1946-1947 and wrote a complete report on Cerro de Pasco milling operations which resulted in significant improvements. He returned to ASARCO in 1947 as Chief Milling Engineer of Western Mining Department in Salt Lake City with responsibility for all milling activities in the Western Hemisphere except Mexico. In 1962 as Director of Milling he assumed responsibility for all ASARCO milling worldwide, including testing, research, design start ups and operation. In this period 1947-67 he designed and placed in operation a score of concentrators and major enlargements among which best known was Toquepala, Silver Bell and Mission. He was lent by ASARCO to other associated companies for design of Triumph mill in Idaho, Mount Isa #2 in Australia, and major changes to Granby Consolidated primary crushing plant at Copper Mountain and mill at Allenby. Also, when Toquepala became Southern Peru Copper Company, he was lent to the latter in 1956 to supervise preparation of construction drawings from his earlier designs.

Norman opened an office in Tucson for consulting practice after retirement and performed advisory and design services for 50-odd mining and mine-associated firms.

Norm was a member of SME-AIME as well as Canadian Institute of Mining and Metallurgy, a registered professional engineer in Colorado, Arizona, California. He was the recipient of the Roberts H. Richards Award of AIME in 1960, Legion of Honor in 1974 and Honorary Member of AIME in 1980. His major contribution to SME-AIME includes Editor of the SME Mining Engineering Handbook and SME Mineral Processing Handbook. His final contribution to the mining library is his classic book, "Memoir of a Mill Man"

### **Board of Governors**

William H. Dresher - President Spencer R. Titley - Vice President Susan F. Wick - Secretary/Treasurer

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Marvin A. Hustad Jack E. Thompson, Sr. William C. Peters

### Hall of Fame Committee

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Donald F. Earnest Charles P. Miller
Walter E. Heinrichs, Jr. Charles G. Preble
Martin C. Kuhn Milton H. Ward
John C. Lacy Susan F. Wick

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Milton M. Evans William H. Wilkinson
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R. Brantley Sudderth
Mark Sutton

Lynn Thomas
Milton H. Ward
Susan F. Wick
Zonge Engineering &
Research



2006





### **Mountain States Legal Foundation**

2006 **Industry Partnership** Award

The Mountain States Legal Foundation (MSLF) was founded in 1976 as a non-profit public interest law firm. The organization provides advocacy to further the cause of individual liberties, particularly in the realm of economic and property rights. The organization represents clients on a pro bono basis or files "friend of the court" arguments in ongoing legal proceeding where matters of significant concern to its mission are at issue.

In matters of concern to the mining and mineral exploration industry, the MSLF has been involved in many cases related to attempts to restrict access to and the use of public lands for mining. The MSLF represented the Northwest Mining Association in its successful challenge to the Clinton Administration's bonding requirements and the resulting decision sent a clear message to federal agencies that the failure to adequately analyze the impacts of proposed rules on small miners and prospectors could result in a remand of the rules.

The MSLF has drawn praise for its efforts from President Ronald Reagan and Supreme Court Justice Ruth Bader Ginsberg.

Hugh Exton McKinstry was born in West Chester, Pennsylvania, on May 5, 1896. He graduated from Haverford College in 1917 and went to France to do relief work with the American Red Cross. He entered the Massachusetts Institute of Technology where, under the influence of Waldemar Lindgren, he earned a Master's Degree in 1921. During the next three years he was employed by Cerro de Pasco and devoted his work to the study of ores in the Andes under the influence of Donald H. McLaughlin, Chief Geologist of Cerro de Pasco. He returned to school at Harvard where he was a part-time instructor under Professor L. C. Graton and was awarded a doctor's degree from Harvard in 1926.

The next twenty years of McKinstry's career were characterized by worldwide travel and a variety of studies that included ores of South Africa, Australia, and Canada. He carried out many evaluations of mining properties and in 1933, he joined Case, Pomeroy and Co. in New York, and became an independent consultant in New York in 1937. These years of travel and study of a great spectrum of ore deposits and deposit styles established an unequaled background of understanding of ore deposits during a time of expansion of the mining industry in the Americas and prepared him for teaching, the career in which he spent the rest of his life. Shortly after McKinstry started teaching at the University of Wisconsin, the nation became involved in the Second World War and he entered government service, first as Chief of the Minor Ferro-Alloys Division of the Board of Economic Warfare (1942-1944) and later as Chief of the Minerals Division of the Foreign Economic Administration (1944-1945). Following the war, he returned to his first love, teaching, this time at Harvard. He subsequently served as president of the Society of Economic Geologists and was a fellow of the American Academy of Arts and Sciences.

The decades following the war witnessed almost unparalled in the knowledge of ores that McKinstry assimilated as fast as its results appeared. It was this knowledge, coupled with his extensive background in the field study of ores that formed the background for the textbook, Mining Geology that became, and remains, a touchstone of practical knowledge on the practice of Mining Geology at both exploration and operation levels. This book, together with a generation of Harvard students, many of whom ultimately became teachers, stands as McKinstry's monumental contribution to the study and interpretation and discovery of ore deposits.











2006 Medal of Merit Recipient



Leonard (Len) R. Judd, served as President, Chief Operating Officer and Director of Phelps Dodge Corporation. He was born 1939 in Butte, MT, at a time when his father was a diamond driller in the Anaconda mines. Len attended the Montana School of Mines, but transferred in 1959 to the University of Arizona's new aerospace engineering program. After one semester, the Dean of the College of Mines offered Len an attractive scholarship leading to his graduation with a B.S. in Metallurgical Engineering in 1962. He later returned to the University of Arizona where he completed his Masters of Business Administration program in 1968.

Len and his new bride, Gloria, journeyed to Douglas, AZ in 1961 where he began his first job in the industry working as a summer student at Phelps Dodge's Douglas Reduction Works. Phelps Dodge was researching copper precipitate agglomeration alternatives at the time. Upon graduation the following year, the work experience gleaned that summer provided Len a basis to join Bechtel Corporation in San Francisco. Bechtel was heavily involved in the design/construction of iron ore palletizing facilities at the time. But two years later copper called once again, and Len returned to the Douglas smelter. Over the ensuing years, Len's Phelps Dodge vocational journey included thirteen different operational and staff positions from Playas, NM, to New York City. Although a health issue provoked his early retirement at the end of 1991, Len continued to provide consulting services to Phelps Dodge into 2002.

In the copper recession years of the early 1980's, Len was a major player in the development of Phelps Dodge's 'turnaround plan'. That plan included an aggressive commitment to solvent extraction-electrowinning (SXEW) technology, which helped to pull the company out of its recession and remains a cornerstone in the Phelps Dodge operating portfolio worldwide today. As a result Phelps Dodge became the first major copper company to adopt SXEW technology. The success of the venture has caused this to be a major technological influence in copper production in the industry across the world.

Len has served on various corporate boards in addition to Phelps Dodge including Southwest Gas Corporation, Washington Group International, United Bank of Arizona, and Primerit Bank. Roshan Bhappu was born September 14, 1926 and received his early education at the University of Bombay in India. He received a B.S. in metallurgical engineering in 1950, an M.S. in 1951 and D.Sc. in 1953, all from the Colorado School of Mines.

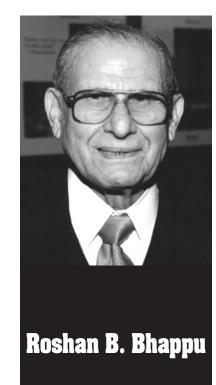
He started his engineering career as a resident metallurgist for Miami Copper in Globe, Arizona. He then spent 14 years as senior metallurgist at the New Mexico Bureau of Mines. He also served as research professor and vice president for research at the New Mexico Institute of Mining and Technology. In 1972, he joined Mountain States Engineers group in Tucson, AZ to start the Mountain States R & D Division. This was spun off as a separate company in 1987. Bhappu is the founder and remains as president of Mountain States R & D International, Inc.

During the last 33 years, Bhappu has worked on hundreds of mining projects concerned with the extraction of base metals, precious metals, industrial minerals, coal and uranium and has provided special expertise in the preconcentration of minerals using Heavy Media Separation concept, heap and dump leaching, in-situ extraction of copper and uranium and projects related to environmental considerations.

Bhappu was president of SME in 1990, president of AIME in 1992 and president of the Mining Foundation of the Southwest in 2005. He was editor-in-chief of the Minerals and Metallurgical Processing journal from 1986-97 and and co-editor of the Handbook on Mineral Processing. He also has more than 100 technical articles and several patents to his credit.

Bhappu received the Van Diest Gold Medal from Colorado School of Mines in 1968 and the Robert H. Richards Award from AIME in 1983. He is a Distinguished Member and a Legion of Honor member of SME and is a registered professional engineer in the states of Arizona and New Mexico and consultant to the United Nations and the World Bank.

This year the AIME Honorary Membership was presented to Bhappu for more than 50 years of dedication and outstanding service to the international mining industry, in academia, research and operations.



2006 Medal of Merit Recipient

