Twenty-Fifth Annual
American Mining Hall of Fame Awards Presentation and Banquet
December 1, 2007
Tucson Marriott University Park, Tucson, Arizona

Mining Foundation of the Southwest
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6:30 p.m. Reception
7:00 p.m. Banquet Dinner
8:30 p.m. Ceremony

Welcoming Remarks:
Spencer Titley

Introduction of Head Table and Other Honored Guests:
Spencer Titley

Awards Presentation:
Larry Dykers

Presentation of 2007 Inductees From Mining’s Past:
Herman Ehrenberg
Presented by John Lacy
Th omas Lovering
Presented by Spencer Titley

Presentation of 2007 Medals of Merit:
William Davenport
Presented by William Dresher
Harry Parker
Presented by Donald Earnest

Presentation of 2007 Industry Partnership Award:
M3 Engineering & Technology Corporation
Presented by Martin Kuhn

Presentation of 2007 Inductee:
Dennis R. Washington
Presented by Spencer Titley

Featured Address:
Dennis R. Washington

Adjournment:
Spencer Titley

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.

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 Titeley
1998  David N. Skillings, Jr.
1998  José Rubén Velasco Rodriguez
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
2006  Leonard R. Judd
2006  Roshan B. Bhappu

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

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

SILVER
Arizona Historical Society
ASARCO, LLC
Benefit & Retirement Strategies, Inc.
Caterpillar Foundation
Eaton Electric/Cutter Hammer
Emerson Motors
Errol L. Montgomery & Associates, Inc.
FLSmidth Minerals
Golder Associates Inc.
John Lacy
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
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;
- Funding for transportation of school children to the ASAARCO 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.
- Funding for the exhibit “Set In Stone” at the Arizona State Museum.

December 1, 2007 marks the 25th 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, 132 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 (1983-2006)

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.


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

Dennis R. Washington
2007 Inductee and Guest of Honor

Dennis was born in Spokane, Washington in 1934 and spent his formative years primarily in Missoula, Montana and Bremerton, Washington, with short stints in California. Coming from a broken home, Dennis became self sufficient by the age of 14, at which time he was living with his grandmother whom he credits with providing him the love, stability and the guidance to follow his dreams. He graduated from Missoula High School in 1951 at the age of 17. After graduation, Dennis began his career in the construction industry doing heavy labor in Alaska. With two years experience under his belt, Dennis returned to Montana to work in his uncle’s construction company. His dedication and savvy propelled him to the position of Vice President of the largest construction company in Montana by the age of 26. By the age of thirty, he was in business for himself building roads for the US forest service. By 1969 his construction company was now the largest in Montana and within ten years was one of the largest in the United States.

It was in the growth period of the 1970s that Washington Construction became a serious player in the mining business. Most notable, and for which we honor Dennis Washington, was the purchase of the dormant Anaconda Copper Company/ARCO Continental and Berkley mines in Butte Montana. Though the passionate efforts of a dedicated team, the mining operation, now known as Montana Resources L.L.P., is a viable and profitable enterprise providing local employment, a sound tax base for Montana and the internal resources for further expansion of the Washington’s holdings in the Washington Companies headquartered in Boise, Idaho. The Washington Companies comprise over a dozen affiliated companies in mining, construction, heavy equipment sales, aviation technology, real estate development and the largest privately owned railroad in the U.S. as well as the largest marine transportation company in Canada.

In 1996, Dennis merged his Washington Construction Company with that of Morrison Knudsen and morphed into Washington Group International Inc. with headquarters in Boise, Idaho. The combined organization, which now includes acquired components of Westinghouse and Raytheon, is one of the largest design and build construction companies in the U.S. Washington Group International recently established an Arizona presence with the award of the management of the Pinto Valley copper property by BHP.

An ardent philanthropist, Dennis and his wife Phyllis established the Dennis and Phyllis Washington Foundation in 1998 which focuses on promoting education health and human services community service and the arts and culture throughout Montana and the nation. Washington believes strongly that by reaching out to young people in their formative years and by presenting opportunity to the disadvantaged, our society will see great benefit. “Every person will get a break at some time in their life,” says Washington, “but not everyone will recognize it or have ability to use it. The best you can do is be prepared.”

Dennis R. Washington is listed in the Forbes 400, has received the Ellis Island Medal of Honor, the American Academy of Achievement Gold Plate Award, the 2001 Mole Award and was inducted into the Horatio Alger association of Distinguished Americans in 1995.
Herman Ehrenberg led an extraordinary life of adventure representative of the colorful characters that founded this country and also made significant contributions to the foundations of Arizona’s mining legacy. Ehrenberg was born in Prussia and as a teenager traveled to New York. In 1835 he enlisted with the New Orleans Greys on behalf of what would become the Texas Republic. After fighting in the Battle of Bexar, he served under Col. James W. Fannin at the Battle of Coleto where he was taken prisoner and subsequently survived the Goliad Massacre by escaping in the confusion of the mass killing and swimming the San Antonio River. After another capture by Mexican troops, Ehrenberg escaped a second time and after the Texas Revolution worked as a merchant between New Orleans and various Texas ports. During the period 1842-1844 he returned to Germany for health reasons and during this time wrote his memoir of the Texas Revolution, taught English and learned mining engineering and surveying with the help of his brother who was enrolled in the mining school at Eisleben.

Ehrenberg appears to have returned to the United States in early 1844, traveled to Oregon and then on to the Sandwich Islands (Hawaii) where he published a map of the streets of Honolulu in 1845. Ehrenberg returned to the mainland in 1847 working on a merchant ship and traveled to Spanish California during the Mexican-American War where he worked out of La Paz, Baja California. It was during this time that he was jailed for bravery in assisting the American military in rescuing several American sailors held by Mexican guerrillas. He then went north and stayed on in California for the gold rush where he found little success. He did, however, meet Charles Poston in San Francisco in 1854, and it was with Poston’s Sonora Exploring and Mining Company, headquartered in Tubac during 1854-1861, that Ehrenberg made his first contributions to Arizona mining. He worked as a surveyor and mining engineer at the Salado and Cerro Colorado Mines, and prospected the area from the Santa Cruz Valley westward to Ajo and otherwise assisted Poston in his efforts to establish Arizona as a separate territory. As a part of this effort, Ehrenberg drafted the first map of the area of the Gadsden Purchase that resulted in his being hailed as “one of the greatest surveyors and map makers ever to visit the Western United States.”

During 1862 Ehrenberg (having escaped from Arizona to California during the Civil War) returned from California to join the rush to the Colorado River gold placers where he was responsible for the organization of the La Paz and Castle Dome Mining Districts. He took an active part in the development of the Picacho Mine near La Paz and the Harcuvar Copper Mines. In 1866 he was appointed probate judge for Yuma County and also apparently served as an Indian Agent for the Mohave Tribe. He was killed by unknown assailants near Dos Palmas, California, while returning from a trip to San Bernadino in 1866.

Herman Ehrenberg (1818-1866)

2007 Inductee from Mining’s Past

Gold Members

A. Frederick Banfield
Charles F. Barber
Stanley H. Dempsey
Milton M. Evans

Silver Members

William H. Dresher
Ted H. Eyde
John C. Lacy
Frank Milliken
A. Dan Rovig
R. Brantley Sudderth

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Thomas Lovering was born on May 12, 1896 in St. Paul, Minnesota. His career is marked by broad experience in ores that begin with his training as a Naval Aviator in the First World War followed by a return to school where he received an E.M. degree from the Minnesota School of Mines in 1923, and an M.S. and Ph.D. in economic geology in 1926 from the University of Minnesota. His graduate studies at Minnesota were influenced by Frank Grout and John Gruner who stimulated life-long interests in the hydrothermal processes that form ores. His subsequent employment cycled between teaching and government work. After a year of teaching at the University of Arizona, he joined the U.S.G.S. in 1925 to conduct studies of mining districts in the Colorado Front Range under the supervision of B.S. Butler where he refined his interpretations of hydrothermal alteration from studies in the Colorado Tungsten districts. He returned to teaching at the University of Michigan in 1934 but maintained work with the U.S.G.S., ultimately publishing professional papers on the tungsten, precious, and base metal districts. He rejoined the Survey, taking leave from Michigan, during the Second World War to assist the Strategic Metals Program.

His wartime work led to concern about domestic metal resources and a focus on methods of discovery of hidden ore bodies. He studied the alteration of the deeply concealed ore bodies at Tintic, Utah as a full-time Survey employee and the work at Tintic resulted in maps and interpretations of alteration that facilitated discoveries at East Tintic.

He was appointed chief of the U.S.G.S. section of Geochemical Exploration and retired as a senior research scientist in the Geologic Division in 1966 at age 70. During retirement, he was a research Professor at the University of Arizona, and lectured at the University of Texas and the University of Utah.

Tom Lovering was a member of the National Academy of Science, a recipient of the Distinguished Service Medal of the U.S. Department of the Interior, the Penrose Gold Medal of the Society of Economic Geologists, the D.C. Jackling Award of the American Institute of Mining and Metallurgical Engineers, and the Achievement Award of the University of Minnesota. Tom Lovering was a conscientious teacher and scientist who brought to colleagues and students the personal and professional habits of dedicated work, high ethical standards and intellectual honesty. He made fundamental contributions to the knowledge of ores, geology of mineral regions and mineral exploration.
William G. Davenport, Professor, Extractive Metallurgy, Department of Mining and Geological Engineering, College of Engineering, the University of Arizona is considered to be among the top two or three academics in the world in the application of thermodynamics and process engineering principles to extractive metallurgical processes. His interest and expertise is in the smelting of copper, nickel and lead concentrates with the objective of maximization of sulfur dioxide strength, smelting rate and metal recovery with minimum energy consumption. Southwest U.S.A. smelters produce more sulfuric acid than metal.

While an American citizen today, Professor Davenport was born in the gold mining community of Bralorne, British Columbia, Canada. He received his first two degrees in metallurgical engineering at the University of British Columbia, finishing with a Ph.D. from the Royal School of Mines, University of London and a D.I.C. from Imperial College. He began his teaching career at McGill University in Montreal in 1964 where he rose to full professor and Associate Dean of the Faculty of Engineering. He came to the University of Arizona in 1981 as Professor and Head of the Metallurgical Engineering Department.

Professor Davenport is best known for his textbook, Extractive Metallurgy of Copper, which is now in its 4th printing in both English and Spanish. In addition he has published a number of other books: The Iron Blast Furnace: Theory and Practice, which was published in English, Russian, Chinese, Japanese and Spanish; Flash Smelting - Analysis, Control and Optimization, which is now in its 2nd printing; and Sulfuric Acid Manufacure - Analysis, Control and Optimization. He is currently writing Extraction of Nickel, Cobalt and Platinum Group Metals, and has also had numerous scholarly publications resulting from his research in the fields of flash smelting, leaching and solvent extraction, electrowinning and electrowinning. He holds a number of Canadian and U.S. patents in the plating and purification of metals.

Professor Davenport has been recognized by a number of the international professional societies in his field and has received a number of professional awards including being named as the AIME Extractive Metallurgy Lecturer in 1983 and received the AIME Mineral Industry Educator of the Year Award in 2003. He was made a fellow of the Canadian Institute of Mining, Metallurgy and Petroleum in 1991.

Professor Davenport has an extensive consulting practice that has included Union Carbide Corporation, Duval Corporation, Phelps Dodge Corporation, Codelco-Chile, ENAMI-Chile and has been an advisor to the World Bank. He currently works with EHP Consulting, here in Tucson.

Harry Parker is widely known and respected as a foremost authority and expert in the field of resource modeling and geostatistics. He has emphasized preparation of resource models that reflect both local geological controls on grade and orebody geometry as well as the degree of selectivity implicit in the mining method.

Harry received his B.Sc. in Geology with departmental honors from Stanford University in 1967, followed by his AM in Geology from Harvard University in 1969. Between 1965 and 1975 he worked as an Exploration and Staff Geologist for the Hanna Mining Company, focusing on exploration for nickel laterites, nickel-copper-cobalt sulfide deposits, volcanogenic massive sulfide deposits, and Mississippi Valley-type zinc deposits. While working for Hanna, he obtained his M.Sc. in Statistics in 1974 and his Ph.D. in Geology in 1975 from Stanford University.

From 1975 through 1989, Harry served as a Mining Geologist and Geostatistician for Fluor Corporation. During his tenure at Fluor he was involved in a wide variety of consulting assignments on six continents that focused on coal, uranium, copper and gold deposits and the development of state-of-the art geostatistical and mine planning software. He was a member of first U.S. mining delegation to China in 1977.

From 1989 to the present, Harry has been Technical Director of AMEC and its predecessor firms (MRDI, H.A. Simons, and Agra), and has been actively involved in the resource modeling of copper, molybdenum, gold, zinc, iron, silver, nickel, and PGE deposits worldwide. He has trained operations staff and implemented computer-based orebody and resource modeling systems on the Zambian Copperbelt in Africa, and has led or advised teams responsible for providing Qualified Person’s reports in connection with the change in ownership of major mining assets around the world.

Harry is a Professional Geologist (California, Arizona), a Chartered Professional Geologist and Fellow of the Australasian Institution of Mining and Metallurgy (AusIMM), a Fellow of the Society of Economic Geologists (SEG), an Honorary Life Member of the Geostatistical Association of Australasia, and a member of Phi Beta Kappa. He currently serves as the Chairman of the Registered Member Admissions Committee of the Society for Mining, Metallurgy and Exploration (SME), as Co-chairman of the SME Resources and Reserves Committee, and is a U.S. representative on the International Committee for Resources and Reserves Reporting. He is the author of numerous published technical papers. Harry currently resides in Incline Village, Nevada, with his wife Susan.