



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

**December 5, 1992**

**Sponsored by**

**Mining Club of the Southwest Foundation, Inc.**

**The Westin La Paloma, Tucson, Arizona**

# Program

Reception .....	6:30 p.m.
Banquet Dinner .....	7:30 p.m.
Ceremony .....	9:00 p.m.

Welcoming Remarks - A. Frederick Banfield, Jr.

Introduction of Head Table and Other Honored Guests - Mike Greeley

Presentation of 1992 Inductees - J. S. Douglas by John Lacy  
A. R. Wilfley by Herb Welhener

Presentation of 1992 Medal of Merit - A. A. Brant by Walt Heinrichs  
W. C. Epler by Mike Canty

Introduction of 1992 Recipient - T S Ary by Mike Greeley

Featured Address - T S Ary

Adjournment

## **Reception Hosted by**

ASARCO Incorporated

Capitol Castings, Inc.

Chemstar Lime, Inc.

Cyprus Copper Company

E.L. Montgomery & Associates

Empire Machinery Company

Filter Products Corporation

Henkel Corporation

Independent Mining Consultants

Industrial Motor & Control, Inc.

Magma Copper Company

Mintec, Incorporated

M3 Engineering & Technology, Inc.

Oracle Ridge Mining Partners

Peabody Coal Company

Phelps Dodge Corporation

Venture Drilling

Western States Engineering &  
Construction

Western States Tire Co.

## **1992 MCSW Officers**

A. Frederick Banfield, Jr. President

Herb E. Welhener, 1st VP

John W. Cassarino, 2nd VP

Susan F. Armijo, Sec.-Treas.

## **1992 Hall of Fame Committee**

Mike Greeley, Chairman

Mike Canty

Jerry Dorlac

Milt Evans

Walt Heinrichs

John Lacy

Dave Ridinger

Cal Rooker

Jack Thompson

Herb Welhener



## American Mining Hall of Fame 1992 Recipient



### **T S Ary**

T S Ary began his career in the minerals industry in 1951 with The Anaconda Mining Company at Butte, Montana, where he served as a shift boss and assistant superintendent of several mines on the Butte Hill before moving to Anaconda's Geology Department. Prior to that time Ary had been a navy carrier pilot in World War II and was released from active duty in 1947. He received his Bachelors Degree in Mineral Sciences (Mining Engineering) from Stanford University and has completed graduate work in mineral law, land management, international studies and business.

In 1953, Ary joined Union Carbide Corporation as a mining engineer and Superintendent of a vanadium mine in Rifle, Colorado. He was named Vice President of Union Carbide Exploration Corporation in 1967. In 1975 he joined Utah International, Inc., as Vice President of Exploration and Director of Development and in 1980 was appointed President of Kerr-McGee Corporation's Minerals Exploration Division in Oklahoma City, Oklahoma. While at Kerr-McGee he was responsible for worldwide hard-mineral and coal exploration, as well as land acquisition and management functions of all operating divisions, except oil and gas.

In 1988 Ary was sworn in as the 18th Director of the United States Bureau of Mines. Ary has served on the National Strategic Materials and Minerals Program Advisory Committee to the Secretary of the Interior for four years, was on the United States State Department Task Force to the United Nations Law of the Sea Convention and served on the Mineral Advisory Committee to the Department of Commerce. During Ary's distinguished career he has been Chairman of the Minerals Availability Committee of the American Mining Congress, Chairman of the Natural Resources Committee of the National Association of Manufacturers, Director of the American Indian Science and Engineering Society, Chairman of the Colorado Plateau Section of the American Institute of Mining, Metallurgical and Petroleum Engineers and Director of the Colorado Public Expenditures Council.



**Mining Club of the Southwest Foundation  
Tucson, Arizona**

## **American Mining Hall of Fame 1992 Inductee**



### **James Stuart Douglas 1868 - 1949**

James S. Douglas was born at Harvey Hill Mine, Megantic Township, Quebec, and moved to Pennsylvania at age seven. His drive for independence first showed itself at age 17 when he returned to Canada to work in the construction of the Canadian National Railroad. He began his mining career working in an assay office in Bisbee, Arizona, but was soon appointed as Superintendent of three small mines operated by the Phelps Dodge Co.

During the first decade of the 20th century, Douglas, from his position of manager of Phelps Dodge's Moctezuma Copper Company mine and smelter in Sonora, oversaw the establishment of the smelter town of Douglas, Arizona (named for his father, Dr. James Douglas), the construction of a railroad from Douglas to the mines, and the organization of the Bank of Bisbee and the Bank of Douglas. While in Mexico, Douglas showed his practical bent in earning his nickname of "Rawhide Jimmy" when he ordered the use of rawhide to protect the rollers of an incline from damage by cables. With the onset of World War I, Douglas volunteered his services as a "dollar-a-year" man in supervising the Red Cross stores in France for the entire Western Front for which he was decorated by the French government as a Chevalier of the Legion of Honor.

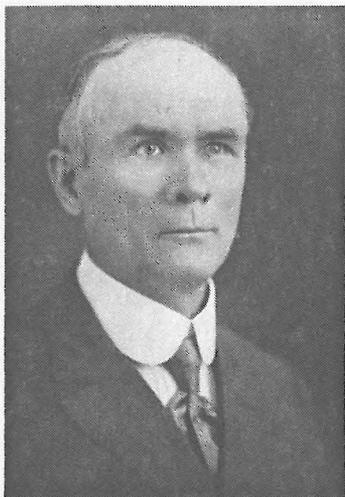
In 1922 Douglas took over the reorganization of the United Verde Extension mine in Jerome, and after four years struck the bonanza that made the UVX famous. Douglas guided the UVX through labor unrest, the Great Depression and unstable copper prices to a 20-year production record of \$130 million, paying stockholders more than \$50 million in dividends.

James S. Douglas was a superb practical mine operator, a man sensitive to the culture of Mexico, a patriot, and one who was eager to share the rewards of an enterprise with others.



**Mining Club of the Southwest Foundation  
Tucson, Arizona**

## American Mining Hall of Fame 1992 Inductee



### Arthur Redman Wilfley 1860 - 1927

Arthur Wilfley was born in Maryville, Missouri, and moved to Kokomo, near Leadville, Colorado, with his family when he was 18 years old. Here the family hoped to set up a lumber mill to supply building materials for the gold rush boom towns. Wilfley took work as a mineral survey assistant, and to supplement his grade-school education learned assaying from a chemist and in the evenings studied books on mining engineering. In 1883 he passed an examination to qualify as a United States deputy mineral surveyor and went into partnership with his employer as an engineer.

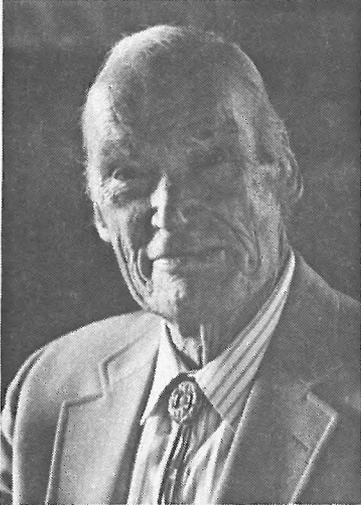
As recoverable silver played out in 1884, Wilfley, one of the few who stayed in Kokomo, believed that advances in mining technology would eventually make extraction of silver sulfides economical. After three years of experimentation he leased a claim, built a smelter, and began to make a profit. To improve the performance of this smelter in processing the Kokomo ores, Wilfley began working on a new type of concentrator, one that operated by separating minerals according to differences in their specific gravities rather than by application of heat. In ten years he had perfected the Wilfley Table, a sloping riffled surface that was agitated to separate particles in a solution of pulverized ore and water. Often installed to rework tailing dumps, the table helped to raise mineral recovery 35 to 40 percent beyond previous processes and was in use around the world by the end of the century.

Wilfley developed an ore-roasting furnace, another table to recover minerals from slimes, a centrifugal pump to transfer heavy, abrasive slurries, and, combined with his son George's mechanical insight, a pump of unique design for handling corrosive solutions. This last invention, completed in 1913, was as successful as the Wilfley Table and led to the creation of A.R. Wilfley and Sons in 1919. By 1924, Wilfley had a total of 24 patents to his name and his name is listed in *Webster's Dictionary* in conjunction with the mineral separating table he invented.



**Mining Club of the Southwest Foundation  
Tucson, Arizona**

## **American Mining Hall of Fame 1992 Medal of Merit Recipient**



### **Arthur A. Brant**

Arthur Brant was born in Toronto in 1910 and first showed signs of a distinguished academic career upon graduation from the University of Toronto in 1932 by winning the gold medal in mathematics and physics. His post-graduate training included an M.A. at Toronto in 1933, a scholarship to Princeton and a German Exchange Fellowship at the University of Berlin, where, while earning his Ph.D (awarded in 1936), he also applied his considerable skills as a two-time intercollegiate championship hockey player when he coached the German Olympic hockey aspirants during the winter of 1934-35.

His geophysical credentials came to public attention in 1938, when, as an Assistant Professor of Physics at the University of Toronto, using a crew of his students, he traced a newly discovered high-grade hematite deposit through the ice of Steep Rock Lake using electrical methods. From these beginnings he built up a wide consulting practice. In 1947 Brant joined Newmont Mining Corporation in a program whereby Newmont sought to convert wartime marine near-shore mine detection technology into a tool for detection of mineral deposits. Brant designed and implemented a program of experimentation that eventually resulted in the successful development of the induced polarization geophysical technique, the use of which culminated in the discovery of significant mineralization at Cuajone, Peru. Under Brant's leadership at Newmont, his group's extensive theoretical and experimental work established useful applications and instrumentation for ground and aerial electromagnetic surveys and in-hole operational techniques.

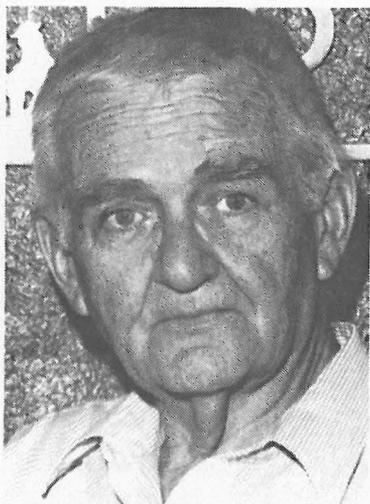
In 1976 Brant was again associated with developing technology when he served as chairman of the newly formed Geosat Committee. This committee provided the link between private enterprise, NASA and the government in the use and application of Landsat development. He subsequently served on NASA's Space Applications Board.

Throughout his professional career, Brant has continued to share his interest through 22 published professional papers, participation in 14 patents, and lectures at leading educational institutions throughout the world. The greatest tributes to Brant are those established by former students and associates in the form of the Arthur Brant lecture series at Columbia University initiated in 1985, and the Brant Chair of Geophysics at the Mackay School of Mines at the University of Nevada-Reno established in 1989.



**Mining Club of the Southwest Foundation  
Tucson, Arizona**

## American Mining Hall of Fame 1992 Medal of Merit Recipient



### William C. Epler

William Epler, a native of Hanford, California, obtained his degree in journalism from San Jose State College. During World War II he served 3½ years with the Air Force both stateside and in Italy. Epler's early journalism career included reporting assignments with the *Wyoming State Journal* and the *Arizona Daily Sun* in Flagstaff. He moved to Bisbee in 1958 to work at the *Bisbee Gazette* and bought the paper in 1959. In 1968 he was approached by members of the Arizona Small Mine Operators Association (ASMOA) to see if he might be interested in acquiring and resuming publication of *Pay Dirt* magazine, the official publication of the organization. Epler took up the challenge and greatly expanded the coverage of the periodical eventually terminating the official connection with ASMOA but continuing and expanding the periodical's news coverage and political commentary on matters

relevant to the mining industry. *Pay Dirt* today continues to have one of the best in-depth coverage of the mining industry in the Western United States. While the bulk of *Pay Dirt's* circulation of 10,000 stays within the Western United States, a significant number of subscribers are located in other parts of the United States and overseas.

In addition to sustaining a policy of providing comprehensive news coverage of mining issues, Epler's editorials in *Pay Dirt* supporting the mining industry have been and are a reliable and eloquent source of strength for the mining industry during a time of significant change. In 1990, Epler was awarded the Ben F. Dickerson Award by the Mining and Exploration Division of the Society for Mining, Metallurgy and Exploration.



**Mining Club of the Southwest Foundation  
Tucson, Arizona**

**Mining Club of the Southwest**  
**and**  
**American Mining Hall of Fame**

The Mining Club of the Southwest opened its doors on the first day of February of 1971 as a place where miners in the Tucson area could get together and discuss the trials and tribulations of their industry. Originally limited to mining engineers, metallurgists and geologists, the Club now welcomes as members those who supply services to the mining industry, or those who simply consider themselves as friends.

In the early eighties the Club established the Mining Club of the Southwest Foundation to allow tax deductible contributions to be used for charitable and educational purposes. On December 3, 1983, the American Mining Hall of Fame was inaugurated by the Foundation to honor those who have made significant contributions to the industry, to provide a forum for better understanding of the industry, and to raise funds to endow the Foundation's charitable and educational activities. The Hall of Fame honorees, both living and deceased, now number 45. The plaques which commemorate their induction are on display at the Arizona Historical Society's Museum at 949 East Second Street in Tucson.



**Mining Club of the Southwest Foundation**  
**Tucson, Arizona**

## American Mining Hall of Fame

### 1983 Recipient

George E. Atwood

### 1984 Recipient

Charles F. Barber

### 1985 Recipient

George B. Munroe

### 1986 Recipient

John C. Duncan

### 1987 Recipient

Plato Malozemoff

### 1988 Recipient

Simon D. Strauss

### 1989 Recipient

G. Robert Durham

### 1990 Recipient

Harry M. Conger

### 1991 Recipient

Kenneth J. Barr

## 1983-1991 Inductees

Maxie L. Anderson 1934-1983	Waldemar Lindgren 1860-1939
Williams Andrews Clark 1839-1925	Curtis H. Lindley 1850-1920
James Douglas 1837-1918	John William Mackay 1831-1901
Charles F. Fogerty 1921-1981	Seeley W. Mudd 1861-1926
Antoine M. Gaudin 1896-1974	Charles Debrille Poston 1825-1902
Wesley P. Goss 1899-1985	Rossiter W. Raymond 1840-1918
William C. Greene 1853-1913	Robert H. Richards 1844-1945
John C. Greenway 1872-1926	Thomas A. Rickard 1864-1953
Hal W. Hardinge 1855-1943	Louis D. Ricketts 1859-1940
Herbert C. Hoover 1874-1964	Reno H. Sales 1876-1969
Daniel C. Jackling 1869-1956	Fred Searls, Jr. 1888-1968
Ira B. Joralemon 1884-1975	Arthur F. Taggart 1884-1959
Henry Krumb 1875-1958	William Boyce Thompson 1869-1930

## Medal of Merit Recipients

Ralph J. Roberts, 1989	Victor H. Verity, 1989
John S. Livermore, 1990	George D. Argall, Jr., 1991

