



MINING FOUNDATION OF THE SOUTHWEST

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CONCENTRATES

HOF Awards Banquet to Induct Honorees on December 1

The 36th Annual American Mining Hall of Fame Awards Presentation Banquet & Fundraiser will be held December 1 at the JW Marriott Starr Pass Resort & Spa in Tucson, Arizona beginning at 6 PM. The banquet has sold-out with a record number of sponsors supporting the Mining Education Outreach Program overseen by the University of Arizona's Lowell Institute of Mineral resources.



This year's Inductee is Harry M. (Red) Conger IV, President and Chief Operating Officer - Americas for Freeport McMoRan. This includes nine mining operations in North America, two in South America, and the associated downstream processing facilities. These operations employ more than 15,000 people and have annual copper production of 2.7 billion pounds and annual molybdenum production of 92 million pounds from mines operated by Freeport-McMoRan. He also has environmental and corporate social leadership responsibilities in North and South America.



Also, being honored is Medal of Merit Honoree, Dr. Hugh B. Miller, an Associate Professor in the Mining Engineering Department at the Colorado School of Mines (CSM), where he teaches courses and conducts research in a variety of subjects including mine design & operations, project feasibility, occupational safety, and hydro-excavation. Dr. Miller will be the 2019 President of SME. I



Medal of Merit under 40 Honoree is Marian LaLonde is an Attorney and Partner for Quarles & Brady LLP in Tucson, Arizona in the Energy, Environment & Natural Resources Practice Group. Her practice focuses on real estate, public and tribal lands, natural resources, mining, environmental, energy, corporations, tax-exempt organizations, and equine law. She has been on Southwest Super Lawyers® magazine Rising Stars list from 2014 – 2017.



The Industry Partnership Award goes to Sundt Construction, Inc. Founded in 1890, Sundt is one of the country's largest and most respected general contractors. The 100 percent employee-owned company was named the nation's safest construction company by the Associated General Contractors of America in 2006 and 2016. Sundt serves clients in the mining, water, waste water, power, cement, chemical and manufacturing industries.



A Special Citation Award goes to the Southern Arizona Business Coalition, founded in 2012 by Bill Assenmacher, and Rick Grinnell. SABC's mission is to support the development of new, expanding and relocating industries with an emphasis on mining and related technology in Arizona.

HOF Awards Banquet to Induct Honorees on December 1

This year's Inductees from Mining's Past include a hero, a trail blazing woman, an explorer and two metallurgical innovators who all made their mark on mining's history.



Andrew J. Prichard was born in Connecticut in 1830 and served in the Union Army. After the Civil War, he prospected his way through New Mexico, Colorado, Montana and on into Idaho. In 1883, Prichard announced the discovery of gold in the creeks and tributaries of the Coeur d'Alene River. In addition to working placers along the creeks, Prichard also has the distinction of locating the oldest lode claim in the Coeur d'Alenes, the "Evolution", staked and recorded in 1882.



Medora Hooper was born in 1905 in Ticonderoga, N.Y. She earned her bachelor's degree in geology from Vassar College in 1928, then attended Columbia University for her master's and PhD degrees. Krieger joined the USGS in 1944. At that time the Survey did not allow women to work in the field, thinking the work was too hard and rough for a woman. In 1947, the Survey began to send its workers to various field locations. She became one of the first female Field Geologist when she was sent to the Southwestern Geology branch in Prescott, AZ.



Born in 1865, William H. Peirce was an American civil engineer and metallurgist. Pierce Graduated from Stevens Institute in 1884, just before he was nineteen, and finishing in one year the requirements of his Junior and Senior years. Pierce joined the Baltimore Copper Smelting & Rolling Company in 1890, becoming vice president in 1895 and later, president of the company. E. A. Cappelen Smith was born in 1873 in Norway. He grew up as the eldest son among nine children. He was educated as a chemist at the Norwegian University of Science and Technology. He immigrated to the United States in 1893. Cappelen Smith was employed as head metallurgist for the company from 1901–10.



In 1908, the first experiment for the treatment of copper matte was made in a basic lined 25-ton reverberatory furnace with blow pipes through the side walls and roof. All was very crude, but the indications of success led to the design of the Peirce-Smith converter. The process allowed an increase from 10 to 2500 tons of copper produced without relining the converters. The Peirce-Smith converter quickly replaced the Manhès–David converter. The process has been significantly improved over the years and Peirce-Smith converters refine 90% of the copper matte produced in the world today.



Robert Scanlan was born and grew up in the southern Idaho farming town of Gooding. In 1955, he moved to Wallace. He advanced his career at the Sunshine Mine from mucker to miner to hoistman. On May 2, 1972, a crew of 178 was working underground. Operations continued normally until about noon, when fire was reported. Smoke soon appeared in the hoist room. Self-rescuers were donned, but smoke began to overpower the hoistmen. Bob Scanlan continue to operate the hoist and heroically gave his life in attempting to hoist the crew to safety.

MFSW Recognizes Pam Wilkinson on December 1



For the last decade, Pam Wilkinson has made it her mission to teach everyone about how we use minerals in our lives, where minerals come from, and what modern mining really is. Pam has visited countless schools and civic organizations throughout Arizona to ensure that the public understands the importance of mining to our economy, our lifestyle and our quality of life. Pam presents her program to over 10,000 students and adults during every school year. Pam's ability to match the message to her audience has made her presentations on mining, minerals, and earth science interesting and engaging. She speaks their language and knows what will get kids and young adults interested in science, and opens their minds through fun, hands-on activities. In addition to her traveling museum of mineral specimens, Pam's repertoire –includes presentations

on minerals, mining, and the distribution of mineral resources in Arizona. Specifically, Arizona Mining: What, Where, How and Why?; Chemistry and Mining; Rocks and Minerals: What do you do with them?; Environmental Impacts of Mining; History of Mining in Arizona. Hands-On Activities include Birdseed Mining; Cookie Mining; Mineral Deposits and the Rock Cycle; Mineral Extraction; Rocks vs. Minerals and Careers in Mining. Pam received her B.S. in Geology from the College of William and Mary where she also became a certified Earth Science teacher, and her M.S. in Geology from Eastern Kentucky University.

The Mining Foundation of the Southwest thanks Pam Wilkinson for her dedication and her years of service to our industry and to the next generation. We wish Pam all the best as she retires in the spring of 2019.

Here is a list of the major awards Pam has received. .

- 2012 Society for Mining, Metallurgy and Exploration President's Citation recognizing members of the GEM/Mii Ad Hoc Committee members "for their service in the review of the GEM and Mii programs and the development of recommendations and plans to consolidate these important programs as the SME Minerals Education Coalition".
- 2014 Prazen Living Legend of Mining Award given by the National Mining Hall of Fame and Museum for an individual or entity that has demonstrated ongoing, innovative work educating the public, policy makers, educators, or related institutions about the importance of the mineral and mining industry to our everyday lives. Pam's citation is "for excellence in educating the public about the vital importance of mining and minerals". Pam is only the second individual to receive this award.
- 2016 Ivan B. Rahn Education Award given by the Society for Mining, Metallurgy and Exploration (SME) recognizes distinguished contributions to the educational activities within SME. Her citation is "For years of dedicated and passionate effort to educate the school children and adults of Arizona about the facts of responsible mining and the role minerals play in their daily lives".
- 2018 Minerals Education Coalition (MEC) Leadership Award which recognizes individuals who provided leadership assistance to advance the mission of MEC. Her citation is: "For her knowledgeable and passionate sharing of the vital importance of mining in our society and to mining's importance in shaping our standard of living".

Outreach Corner by Pam Wilkinson

MFSW Outreach Coordinator Activities: Mid-September- Mid-November 2018

School visits continue at a hectic pace, see the numbers below. In addition the Boy Scout Merit Badge workshops, AzSELA meetings, ASTA meeting and the mid-year SME meeting have kept me traveling and enjoying the last months of full time employment. I want to take the opportunity to express to all the members and supporters of the Mining Foundation of the Southwest my deepest gratitude for the support you have provided me. It has been such a pleasure taking the message of mining in society around the state of Arizona and elsewhere. Without your financial support I could not have done what I have done. It is truly rewarding to watch the light bulb come on in the eyes of students and adults when they realize how important mining is to them and their way of life.

New state science standards have been adopted and so it will be necessary to make the presentations applicable to the new standards. I am certain this is possible. Teachers who are familiar with the outreach program and recognize its value will continue to welcome presentations about mining into their classrooms. And as things continue to change, it becomes ever more important to take the message directly into the classrooms around the state. If I can get into biology classrooms where none of the standards are about mining, I am certain the new standards will not prevent the program from moving forward.

Molly accompanied me to the AZ Science Teacher Association meeting. We handed out many of the excess publications that I have been giving out over the years. (These were acquired when the AZ Dept. of Mines was shut down and when the AZGS office in Phoenix was closed.) We had the opportunity to talk to about 50-75 teachers and I was able to introduce Molly to the teachers I know who were in attendance.



Outreach Corner by Pam Wilkinson (cont.)

My schedule for classroom visits is completely booked between now and December 21st! And I have secured school visits for most of the weeks beginning in January, when I will go part time.

I was notified that I will be receiving the 2018 Minerals Education Coalition (MEC) Leadership Award. I will receive the award at the 2019 annual SME meeting in Denver, Colorado. It is the MFSW's continued support of this program that has resulted in the awards I have received, thank you all so very much. I have also been appointed to the SME Nominating Strategic Committee. This is the committee responsible for nominating the officers of the society. It is truly an honor to be nominated for this prestigious position.

Work on the Boy Scout subcommittee of the MEC continues. It looks as though MEC/SME will have a booth during the World Scouting Jamboree at the Bechtel Summit Reserve in West Virginia. The booth will have activities to help the scouts from around the world understand the importance of mining in their lives. We will be looking for volunteers to staff the booth. So, if you would like to attend please let me or other members of the MEC committee know. The dates for the event are July 22-August 2, 2019.

I have accepted a request from the University of Arizona Gem and Mineral Museum manager, Eric Fritz, to participate in editing of the story boards for the new museum. This is an incredible honor and I look forward to working with Eric and the museum development team.

School	City	Students	Adults	Date	days	classes
Aprende Jr Hi	Mesa	109	2	10/1/2018	1	4
Sunrise Mountain HS	Peoria	90	1	10/9/2018	1	3
Mountain Ridge HS	Glendale	279	2	10/10/2018	2	10
Betty Fairfax HS	Laveen	150	2	10/18-19/2018	2	9
Desert Vista HS	Ahwatukee	131	1	10/22/2018	1	5
Show Low HS	Show Low	161	1	10/24/2018	1	6
Alta Loma	Phoenix	94	1	10/31/2018	1	3
St. Eliz. Ann Seton	Tucson	34	1	11/5/2018	1	2
Desert Shadows	Scottsdale	398	3	11/7-9/2018	3	14
Total		1446	14		13	56

Outreach Corner by Molly Radwany

Over the past 4 months I have had the opportunity to meet with quite a few people to learn about different aspects of mining and education. It's exciting to consider the many ways we can utilize the university and external resources to help our outreach program grow even more.

Much of my time has been spent developing the digital aspect of our engagement program. I hope you will take the chance to see some of our progress at Minerals.Arizona.edu/engagement and [Facebook.com/Lowell.IMR](https://www.facebook.com/Lowell.IMR). A stronger web presence will make it easier for us to develop and maintain connections with students, teachers and organizations and to reach more people overall. Some people go entire lifetimes without ever considering the role that minerals play in their lives. While each social media post may seem small and fleeting, if the goal is to increase the visibility of mining, then social media is incredibly important and gives us the ability to reach thousands of people on a daily basis. There is still a lot of growth that needs to happen, but we are at a great launching-off point.

I have attended and tabled at a few events so far this fall and have quite a few more scheduled for the remainder of the year. Similar to social media, a science fair only allows you a brief window to interact with a person, yet it's incredibly important to maintain a presence at these events. Festivals and fairs give us the opportunity to expose people of all ages including kids, parents and grandparents to the importance of minerals. Mining should be the first thing to come to mind when people think of a high-tech and science-focused career, but this industry isn't well represented at the events I've attended so far. Each event is a chance to refine and revise what we do, in order to make the best impression.

We have quite a few exciting collaborations in the early stages that I hope to be able to have updates on soon. Another big project being tackled is aligning our outreach curriculum with new state science standards.

Event	Date	Number of attendees
Summer Engineering Academy	July, 2018	79
Pima Community College	September, 2018	20
Bear Down Friday	September, 2018	~50
Engineering Student Council Tour of San Xavier mine	October, 2018	30
TGMS Family Fun Day	October, 2018	~200
Flowing Wells Science Night	October, 2018	~75
BearDown Friday	October, 2018	~30
Total		484

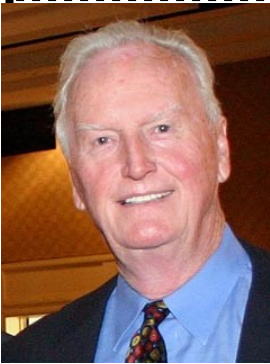
Outreach Corner by Molly Radwany (cont.)



Students from several universities across the Western U.S. were given a tour of San Xavier mine as part of the Engineering Student Council Western Conference at UofA.

Outreach intern Alejandro at September's
"Bear Down Friday"





IN MEMORIAM

J. Bruggess Winter

We are sad to record the death, on Monday 17 September 2018, of J. Burgess Winter who served the mining industry with honour and distinction for 45 years – a veritable industry icon. During his most successful career, Burgess received many other accolades and awards. In 1994 he was inducted into the American Mining Hall of Fame, whilst by 1995 he had won the two highest awards offered by the Society for Mining Engineers, namely the William Lawrence Saunders Gold Medal Award and also the Daniel C. Jackling Award. The former quoted “For his innovative leadership in bringing union and management together as a team that revitalised Magma Copper Company as an efficient and low cost copper producer.” Notably also, he was one of 10 finalists nominated by readers of Chief Executive journal for the 1995 Chief Executive of the Year award and received the Financial World CEO of the Year Award. He had also, in his career, held directorships of the American Mining Congress, the American Business Conference, the National Mining Hall of Fame and the Tucson Electric Power Company.

HALL OF FAME COMMITTEE MEETING

Date: Tuesday, Dec 11, 2018

Time: 3:30 p.m. — 4:30 p.m. HOF Committee Meeting

Place: ASARCO Training Center, 1150 N. 7th Ave., Tucson, AZ

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