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November, 2019 www.miningfoundationsw.org admin@miningfoundationsw.org

CONCENTRATES

HOF Awards Banquet to Induct Honorees on December 7

The 37th Annual American Mining Hall of Fame Awards Presentation Banquet & Fundraiser will be held December 7 at the JW Marriott Starr Pass Resort & Spa in Tucson, Arizona beginning at 6 PM. The banquet has over 50 sponsors supporting the Mining Education Outreach Program overseen by the University of Arizona's Lowell Institute of Mineral Resources.



This year's Inductee is Darren M. Pylot, President and Chief Executive Officer and Director -Capstone Mining Corp.. Under his leadership, Capstone has grown from what was a small exploration company in 2002 into a billion-dollar copper producer with mines and projects in the United States, Mexico and Chile, and a portfolio of exploration properties.



Medal of Merit Honoree, Victoria Peacey. Peacey has been with Resolution Copper since 2010 where she is presently the Senior Manager Permitting and Approvals. Vicky manages all federal, state and local agency approvals, agreements and permits while making sure that the company is sensitive to the environment and cultural heritage during the planning process and that the mine will be operated in a way that preserves and protects the natural surroundings.



Medal of Merit Honoree Vicki Seppala is the General Manager of the Climax Mine in Colorado for Freeport-McMoRan. Non-traditional was the label used to describe Vicki when she returned to college and enrolled in the Geological Engineering program at the University of Arizo-In 2006 Seppala moved and was promoted to Freeport's Candelaria operation near Copiapo, Chile, becoming the first woman Mine Manager in Chile.



Medal of Merit under 40 Honoree Bill Sircy serves as the General Manager Processing in Peru at Cerro Verde for Freeport-McMoRan. Sircy worked as a summer intern at Freeport-McMoRan's Hydrometallurgical facility in Morenci, becoming the 5th generation of his family to work at Morenci. Sircy is also co-inventor on a FMI patent that describes a method to minimize solvent extraction interfacial shear and reduce organic entrainment.



Medal of Merit under 40 Honoree Cody Sutherlin has recently, moved to Chicago as the Vice President of US Operations for Coeur Mining, Inc.. On April 10, 2013, a towering wall of dirt and rocks gave way and crashed down the side of the Bingham Canyon Mine, which was described as one of the biggest non-volcanic landslides in North America's modern history. Sutherlin worked with the mine technical team to develop a plan to recover from this massive slide, and a few weeks after the slide he was promoted to manage the entire remediation effort.



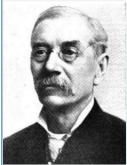
The Industry Partnership Award goes Golder a global, 100% employee-owned consulting firm with over a half century of successful service to clients. The Golder team of over 1,800 dedicated OLDER mining professionals work across all stages of the mine life cycle, from exploration to closure.

HOF Awards Banquet to Induct Honorees on December 7

This year's Inductees from Mining's Past include the first Native American to be inducted into the American Mining Hall of Fame, a mining entrepreneur rail, a prospector and a mining attorney who became the first woman to argue a case unassisted by a male in front of the Supreme Court.



Juan Jose Gradillo, was the Tohono O'odham man who discovered one of the richest silver lodes in Arizona Territory, the Vekol mine in 1879 in the Vekol Mountains about 30 miles southwest of Casa Grande, on land that is now part of the Tohono O'odham Nation. Because of the strong prejudice of most nineteenth-century Anglo-Americans against the Tohono O'odham, Gradillo was given little credit for his discovery of the Vekol, but his contributions as a pioneer miner of Arizona are worthy of remembering and honoring.



Enos Wall live was a prospector and mine operator in Colorado, Montana and Utah. In 1868, he moved to southern Utah, to the newly discovered mines at Silver Reef. Here he discovered and operated the Kinner mine and also met and married his wife, Mary Mayer. The Walls moved to Idaho in 1882 where he operated a mine, and was elected to the legislature. Three years later, they moved back to Utah where Enos successfully owned and operated mines at Mercur and Ophir. Wall noticed widespread low grade copper mineralization elsewhere at Bingham and sampled several abandoned adits, which indicated a large tonnage of low grade copper. With the help of Daniel Jackling, the property was developed over the next four years. Enos Wall retained a 20% interest, but has largely been forgotten as the man who discovered Utah Copper and inherently realized its value.



Charles J Senter made a living by placer mining in the mountains along the Continental Divide in Colorado. In his quest for the source of the gold in the creeks, he came upon a mountain covered with small veinlets of mineral resembling graphite. He finally found out from assayers and from the Colorado School of Mines that the mineral was molybdenite (a sulfide of molybdenum). He staked several claims, which were formally recorded in 1893. The following years saw Senter's hopes rise and fall, with an uncertain outlook for molybdenum. Finally, with the outbreak of the World War, the German discovery of the alloying properties of molybdenum and the discovery of the flotation process for upgrading molybdenite, Senter's discovery finally had value.



Sarah Herring Sorin was Arizona's first woman attorney and was representing mining concerns in 1913 when she became the first woman to try a case in front of the United States Supreme Court unassisted by a male attorney. She was born in New York City in 1861. Sarah finished high school in New York and then went on to obtain her teaching credentials. In 1882 Sarah moved west to join the rest of the family and became the first woman school teacher in Tombstone. In 1892 Sarah quit her teaching job and started working in her father's law firmAfter being admitted to the Bar, Sarah returned to New York City to attend New York University's School of Law. Sarah graduated with an L.L.B.

in 1894. In 1896 the Herring family moved north to the thriving city of Tucson. They were helped in their move by Thomas Sorin, who was to become Sarah's husband. Sarah married Thomas Sorin on July 22, 1898. After her father's death, Sorin moved to Globe, Arizona and specialized in mining law, traveling around Arizona representing mining companies, including Old Dominion Copper Co. and the United Globe mines.







Outreach Corner by Chris Earnest

Funded by the Mining Foundation of the Southwest through the Lowell Institute for Mineral Resources at the University of Arizona



MFSW Outreach Coordinator Activities: Mid-September- Mid-November 2019

Hello from Chris Earnest, the new Education Outreach Coordinator. I started in September and took over from Molly Radwany at the end of October. Since starting as outreach coordinator I have spent six days in four different schools giving outreach presentations, hosted eight Mineral Resource Discovery workshops at Flandrau Planetarium, and visited three STEAM fairs. Two classroom visits, one STEAM fair, and one Mineral Resource Discovery workshop remain scheduled for the end of November. So far, I have logged 36 total class hours with 926 different students and 934 student-hours.

Development of the curriculum in order to bring it inline with the new Arizona standards continues apace. "Rocks and Minerals – Their properties and uses" an outreach presentation targeted at 6th to 8th graders has been completed and deployed. Three presentations are in the field-testing phase and two presentations are still in the design phase. It is my goal to have all presentations in the curriculum updated and field tested by the end of the year.



4th graders learn about copper concentration by searching for 0.007% copper in rice. - Mineral Resource Discovery Workshop

Completed Rocks and Minerals Activity Kit

Outreach Corner by Chris Earnest (cont.)

A new outreach activity, mentioned above, is the Mineral Resource Discovery workshop hosted at the Flandrau Planetarium on the University of Arizona campus. Area students are provided with the opportunity to learn about the journey which Arizona's most famous mineral resource, copper, takes to become part of our everyday lives. They are taught by University of Arizona students enrolled in a course titled "Teaching Geoscience" for which I am the instructor. As they proceed through five stations (ore formation, exploration, mining, metallurgy, and reclamation) the students participate in hands on activities that help them to understand each station's concept.

We have received great positive feedback from the students and teachers who have attended and all the schools who have attended the workshop said that they would like to come back again next year. I would especially like to thank the Mining Foundation of the Southwest for generously providing funds to support Title 1 schools who attend the workshop. It is with your support that we can continue to educate the citizens of Arizona about the importance of mineral resources in their everyday lives.



12th graders try to design a mine site. - Mineral Resource Discovery Workshop



5th graders use a magnetometer to find a copper deposit. - Mineral Resource Discovery Workshop

What We're all about...Lowell Institute for Mineral Resources

A common refrain by miners is "if it can't be grown, it must be mined." We depend on mineral resources for nearly all aspects of our daily lives and as our societies become more technologically developed, we become increasingly dependent on nonrenewable mineral resources. We encourage the next generation of scientists and engineers to become informed about this topic—who knows, one of your students might discover the next big breakthrough in advancing sustainable and responsible mining.

With funding from the Mining Foundation of the Southwest, the Lowell Institute provides educational programming geared towards middle school, high school and college-level audiences. Head to Minerals. Arizona. edu for more details.





I want to express my appreciation to the many individuals, companies and organizations who have contributed to the success of our 37th Annual American Hall of Fame Awards Banquet & Fundraiser coming up December 7 at the JW Marriott Tucson Star Pass Resort & Spa. Our sponsors once again, came through big time going

over \$100,000 for the third time in the last 4 years. This enables the Mining Foundation of the Southwest to fully fund an Outreach Coordinator position through the Lowell Institute of Mineral Resources at the University of Arizona. We welcome our newest coordinator, Chris Earnest, and will give him all of our support to continue the success of this program as we reach up to 10,000 students and adults each year helping stimulate interest in and understanding of mineral resources and the mining industry. I want to thank all the members of the Hall of Fame Committee who worked so diligently to present an outstanding slate of Honorees for this year's program. In a first, we are honoring the most women at a time (3) in the history of this event. It brings the total number of women honored to 12. In Mining past, we are honoring our first Native America, Juan Jose Gradillo, a member of the Tohono O'odham tribe. This event has become the highlight of the year in the mining community. It is a time to greet old friends, to network, to relax and to celebrate outstanding accomplishments in the mining industry. I am honored for this opportunity and looking forward to seeing you there.



THANK YOU 2019 AMERICAN HALL OF FAME SPONSORS



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HALL OF FAME COMMITTEE MEETING

Date: Wednesday, January 8, 2019

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

Place: M3 Engineering, 2051 W. Sunset Rd., Tucson, AZ 85704

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