



MINING FOUNDATION OF THE SOUTHWEST

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JULY, 2015

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# CONCENTRATES

## Presenting 33rd American Mining Hall of Fame Honorees



### 2015 INDUCTEE

**Conrad Huss**

**Co-Founder & Chairman of the Board**

**M3 Engineering & Technology Corporation**

Conrad E. Huss attended the University of Illinois and earned Bachelor's degrees in English and Mathematics along with extensive course work in Engineering. After undergraduate school, Huss became an oceanographer doing mainly bathymetry for 30 months followed by duty as an officer in the United States Navy.

Graduate school took Huss to the University of Arizona where he earned a M.S. and then a Ph.D. in Engineering Mechanics, later accepting a professorship to Northern Arizona University. Deciding to put his education to practical use, Huss next worked design engineering jobs for 15 years at Raytheon, RGA and Mountain States Engineers where he served as chief engineer.

In 1986, Huss helped found M3 Engineering & Technology Corporation and has been its Chairman of the Board for its entire 30 year history. The company has now completed more than 10,000 projects, has over 1,000 employees, and operates five permanent offices.

The guiding principle of the company has always been "excellent and innovative engineering." In the early years assistance was provided to the mines in the Southwest to modernize, to expand, and to become the most cost effective in the world. Over time M3 emerged to a full discipline firm offering complete project execution through engineering, procurement and construction management (E.P.C.M.) procedure. Hecla's La Cholla, a gold operation in Sonora, Mexico was M3's first project and was also the first Mexican mining project built under new government regulations with foreign ownership. To date, more than half of the Mexican mining projects completed in the last 25 years have been managed by M3 with the Goldcorp's Peñasquito project among its proudest achievement.

Ongoing developments include projects in Argentina, Canada, Chile, Guatemala, Honduras, Peru and the United States with a major current project overseeing the expansion of Buenvista at Cananea. When complete, Buenvista will be one of the largest copper-molybdenum operations in the world mining more than 1,000,000 metric tons of rock daily.

Huss' innovative planning and management has helped various operations cope with governmental requirements. Many of these guidelines have now been adopted by other mines. His vision has also catapulted M3 to become a major engineer of large observatories around the world and his University of Arizona associates to become world leaders of observatory design. Huss has five children, four sons and a daughter.



## **2015 MEDAL OF MERIT HONOREE**

**Charles Michael (Mick) Lownds**  
**Founder, Mick Lownds Consulting**  
**Salt Lake City, Utah**

Charles Michael (Mick) Lownds was born in South Africa and earned his undergraduate degree from Rhodes University and a Ph.D. in Physical Chemistry from the University of Cape Town. He immigrated to the USA in 1988, becoming a citizen in 2001. Lownds has published many technical papers and has been awarded 12 US patents. He was the recipient of the President's Award from the International Society of Explosives Engineers in 2000. Recently, he retired after 42 years in commercial explosives following tenure with Sasol as Explosives R&D Manager and at Orica as Manager in charge of the electronic detonator business. Lownds now owns Mick Lownds Consulting in Salt Lake City offering expertise and guidance in commercial explosives.

A pioneer in electronic detonator development, Lownds searched for ways to perfect detonators and spent years in blasting research, concentrating on explosive-rock interaction. This work has resulted in better contained blasts, where an undulating surface is now observed, rather than rock flying from the blast.

The early years of perfecting new detonator technology proved challenging for both the producer and the customers. Lownds chased problems to their cause. His openness with customers convinced many mine operators to overcome traditions and realize the benefits of precise blasts.

Over the years, Lownds has made significant advancement on electronic initiation systems. He is a much sought-after speaker and generously shares his knowledge at mining schools across the country. His determination on improving the safety, reliability and efficiency in large scale blasting has earned him unparalleled kudos among explosives manufacturers and mining companies.



## **2015 MEDAL OF MERIT UNDER 40 HONOREE**

**Fiorella Giana**  
**Mine Manager, Bagdad**  
**Freeport-McMoRan Inc.**

Born in Argentina, Fiorella Giana left the small cattle ranch where she grew up in 2001 to attend college in the United States. Immediately following graduation in Mining Engineering from Missouri University of Science and Technology in 2005, she joined Phelps Dodge (later acquired by Freeport-McMoRan Inc.) at Chino Mines in Bayard, New Mexico as an entry level Mine Engineer.

For the past decade, as a result of Giana's extraordinary combination of technical skill, leadership, commitment and quest for excellence, she has attained positions of progressively greater responsibility ascending the corporate ladder at rapid pace. While working at Chino Mines, she was instrumental in the operation of the dispatch system, quickly becoming Senior Mine Engineer. Shortly after being transferred to Morenci in 2009 as a Senior Mine Engineer, Giana again demonstrated unparalleled ability and became the Chief Engineer. In her new role, she was pivotal in creating long range mine plans to increase mine production and instituted "Technical Sessions" for the less experienced engineers. In 2014, Giana was named Mine Manager of Bagdad, a position rarely held by women. As Mine Manager, Giana now helps to develop and mentor future leadership.

Along with her meteoric rise within the Freeport-McMoRan organization, Giana is an active member of SME and is also involved with the Thunderbird International Consortia. When away from work, she most enjoys spending time with her husband, Cory Demieville, and her two young daughters, Alana and Cora, and somehow still finds time to participate in triathlons and mud runs in addition to pursuing a new interest in woodworking.

## OUTREACH CORNER by Pam Wilkinson

### MFSW Outreach Coordinator Activities: May 2015 - July 2015

The 2014-2015 school year was a record breaking year for the program, as predicted in the last report presentations, topped 10,000 students in classrooms. Ninety-one days were spent in classrooms and 376 classes were taught. The schools visited during this time covered in this report are in the table below.

School	City	Students	Teachers	Date
Bogle Jr Hi	Chandler	326	3	4/20-21,23/2015
Thatcher MS	Thatcher	120	1	4/28/2015
Pima Jr Hi	Pima	131	1	4/27/2015
Linden Elem.	Linden	30	1	4/29/2015
Granite Mountain MS	Prescott Valley	230	2	5/7-8/2015
Wilson K-8	Oro Valley	201	2	5/13-14/2015
CDO HS	Oro Valley	50	1	5/15/2015
<b>Total</b>		<b>1088</b>	<b>11</b>	

The integrated engineering summer camps at the U of A were held the last three weeks of June. The high school students spent two hours in the mining engineering department where they were introduced to underground tunneling, rock mechanics and the shovel simulator. A total of 135 students attended the three camps and as usual one of the highlights of their week was their introduction to mining engineering.



The Mining in Society merit badge workshops hosted by FMI at Morenci and Sierrita were spectacular. A total of 72 scouts did the work to complete the badge. With each workshop our activities continue to improve and we look forward to the workshops in the fall at Bagdad and again at Miami. These workshops would not be possible if it weren't for all the amazing volunteers from FMI and SME.



Tour at Morenci



Tour at Sierrita

## OUTREACH CORNER, cont.

I participated in the Math and Science Experience at Cochise Community College again this year, but instead of doing the event in partnership with FMI, I reserved a classroom and did my activity with smaller groups for 45 minutes at a time. This is a much more rewarding experience for me and I think provides the students with a better understanding of mining, the impact it has on their lives and the importance of taking care of the environment. Reformatting the program affected student enrollment and only 60 participated this year as compared to 450 last year, but the contact is far more meaningful.



Mary Poulton and I met with ARPA leaders to discuss how they can assist our outreach program. They have purchased materials (aggregates posters) from MEC for me to distribute to teachers. I encouraged them to attend the annual banquet and to become members of MFSW. I also attended a meeting they organized with their Community Relations and Human Resources Committees and the Arizona School Counselors Association. I made some great contacts there and hope to be invited to present at an AzSCA event this year. If we can get the school counselors to promote careers in mining that would be wonderful.

Laurie Suter, Mineral Resources Administrator for the Tohono O'odham tribe, organized a Mining Education Day for middle and high school students this month. The event took place in two of the districts: San Xavier and Sif Oidak, one day in each from 8:30-3:30. I was invited to participate and took a short power point presentation (Mining: It's in Everything), my traveling museum and a quick birdseed mining activity. A total of 57 youths participated in the two events, 37 in the south, and 20 in the north. The program was a bit challenging, but was a great effort on the part of everyone involved. The hope is that the take away was positive regarding the need for safe and responsible mining. The group from the U of A that is developing mining modules for the Tohono Tribe for use at the Community College also participated in the events of the day.



Pam and Laurie Suter



Denise Ramirez, Pam, Dr. Karletta Chief, Lydia Jennings, Dr. Sarah Wilkinson, Laurie.



## MEMBERS' CORNER

### New Member

#### Kyle Johnson, Geologist, SLR

Johnson earned his B.S. in Geology from the University of Arizona in 2010. Since graduation, he has worked in extreme climatic conditions from the Arizona desert at Freeport-McMoRan Sierrita Mine to the Alaskan Arctic at Sumitomo Pogo Gold Mine and Northern Dynasty Pebble Project to his current position at SLR. Johnson is an avid mineral collector and serves as Vice President of the Chugach Gem and Mineral Society of Anchorage, AK.

**ALL  
ARE  
WELCOME**

#### 33RD AMERICAN MINING HALL OF FAME AWARDS BANQUET

December 5th, 2015

JW Marriott Starr Pass

Tucson, AZ

**Please note only members in voting, silver and gold levels in good standing will be extended member rate at the annual awards banquet.**

If you have not renewed your 2015 membership, please renew now. <http://miningfoundationofthesouthwest.wildapricot.org/join> or access the QR code below. Checks should be sent to P.O. Box 42317, Tucson, AZ 85733.



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Please help our fundraiser effort and be a sponsor for our  
 33<sup>rd</sup> American Mining Hall of Fame Awards Banquet

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### SPONSORSHIP LEVELS

DIAMOND	\$10,000	_____
PLATINUM	5,000	_____
GOLD	2,500	_____
SILVER	1,000	_____

MFSW appreciates your commitment to support our 2015 Awards Banquet & Fundraiser to be held on December 5, 2015. Payments can be made anytime between now and December, 2015 by either sending your check to P. O. Box 42317, Tucson, AZ 85733 or pay by credit card through our website.

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## Where does your support go?

In addition to funding the Outreach Education Program, MFSW also supports various organizations as well as SME and SEG student chapters. This past year, your support afforded students of the University of Nevada, Reno to attend the SME national convention and also to participate in the International Mining Competition in Australia. Below is the acknowledgement from the officers of the John Mackey Club.



College of Science  
University of Nevada, Reno

Jeffrey S. Thompson Ph.D.  
Dean

May 13<sup>th</sup>, 2015

Mining Foundation of the Southwest  
PO Box 42317  
Tucson, AZ 85733

Dear Mining Foundation of the Southwest,

We are writing to express our deepest thanks for your recent donation to the John Mackay Club. Generous gifts from donors like you provide the financial and moral support needed to continue to accomplish our goals.

With your financial contribution, you've demonstrated your deep commitment to our work of introducing and maintaining student relations with the industry.

Your support has played a key role in our successes in sending 26 students to the SME national convention, top placing SME/NSSGA Mine Design team, and an 2<sup>nd</sup> place Intercollegiate Mining Competition team.

There is no way to fully express our gratitude for your loyalty. The students in John Mackay Club are continually inspired by the dedication and generosity of donors like yourself who answer the call to donate.

We would like to extend an invite to come and present to our club next year to help give our members further insight to the industry. If you would also like to share any ideas for the club that would help our students be proactive with the industry and community, we are open for any suggestions. To contact us, the new president elect is Corey Comeaux, [corey.comeaux2@gmail.com](mailto:corey.comeaux2@gmail.com). We look forward to a continuing partnership with you.

Sincerely,

August Greth  
B.S. Mining Engineering, 2015  
John Mackay Club, President

Gunnar Young  
B.S. Mining Engineering, 2015  
John Mackay Club, Treasurer

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