



American Exploration & Mining Association's

127th Annual Meeting, Exposition, Short Courses & Field Trips



American Exploration &
Mining Association
EST. 1895

Mining's Role in Securing America's Future

December 6-10, 2021

Nugget Casino Resort, Sparks, Nevada, USA

First Brochure & Call for Papers

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2021 Short Course Program

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2021 Technical Session Program

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American
Exploration & Mining
ASSOCIATION

Annual Meeting Program Committee



2021 Program Chairman

Hayley Rambur
Corporate Social Responsibility
Manager
Perpetua Resources
Boise, ID
Hayley.Rambur@Perpetua.us



Hayley Rambur is the Corporate Social Responsibility Manager for Perpetua Resources (formerly Midas Gold). Her role incorporates STEM advocacy, education outreach, community relations, ESG and tribal relations. Hayley uses her background in geology and secondary education to directly communicate with the public and other stakeholders in Idaho about the environmental, ecological, and socioeconomic benefits of the Stibnite Gold Project.

Hayley grew up in Moscow, Idaho and graduated from the University of Idaho with degrees in Geology and Secondary Education. While in college, Hayley gained underground mining experience and worked for the Idaho Geologic Survey, helping to expand the Idaho mines and prospects database. As an Idaho STEM Action Center Foundation Board Member, she advocates and provides resources for rural and industry education throughout the state. Hayley is enthusiastic about leading the next generation of U.S. mining and is an active member and supporter of Women's Mining Coalition, the Idaho Mining Association, and her local Section of SME.



2021 Program Co-Chairman

Todd Glindeman
Mining Market Sector Director
Brown and Caldwell
Boise, ID
TGlindeman@brwnclld.com



Todd Glindeman is the Mining Market Sector Director for Brown and Caldwell (BC) and is based in Boise, Idaho. He has been with BC his entire 21-year career. Todd has been leading and managing large-scale mining compliance and permitting projects in Idaho for more than decade. He works with mining industry partners to develop plans for efficiently addressing regulatory challenges and negotiating the permitting processes. He has more than 20 years of experience in client service, program and project management, and environmental services.

Todd graduated from the University of Idaho with BS and MS degrees in Environmental Science in 1999 and 2006, respectively. He is an active member of the Idaho Mining Association and has participated as a conference planning committee member for the Idaho Mining Conference since its inception in 2018. Todd has also participated in board positions for the Boise Section SME, including serving as the 2018–19 Chair.

2021 Annual Meeting Staff Committee Members & Staff Contacts

Staff Committee Members

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2021 President of AEMA

Jeff Parshley, P.G., C.P.G.
Corporate Consultant
SRK Consulting (U.S.) Inc.
Reno, NV
jparshley@srk.com



Jeff Parshley is the Group Chairman of SRK Consulting and an experienced mine closure strategist and regulatory specialist. He has extensive, global experience working with industry and governmental organizations contributing to the development of several regulatory guidelines for mine closure and closure cost estimating and development of closure-related corporate standards, policies, and guidance documents. He has worked with legal and policy aspects of mining projects since his early career and regularly works on World Bank and IFC compliance projects. A graduate of Dartmouth College, Jeff has nearly 40 years of experience, including more than 30 years in mine closure.

Call For 2021 Technical Session Program Papers

American Exploration & Mining Association's
127th Annual Meeting, Exposition & Short Courses
Technical Sessions December 8 - 10, 2021
Nugget Casino Resort, Sparks, Nevada USA
miningamerica.org

Guide for authors

The deadline to submit abstracts is July 1, 2021

To submit your abstract, please submit as an **attachment to an email**:

- Short Bio of the Speaker
- Session Track and Session you want to present your paper in. This information can be found on the Technical Session Program Schedule.
- Paragraph describing the topic of the paper
- Complete contact information for the speaker

Important Dates

Deadline for submission: **July 1, 2021**

Notification of acceptance: **July 31, 2021**

Preliminary title for your presentation: **August 15, 2021**

Deadline for final abstract for Abstract Book (this is an expanded version of your original abstract. We do not require a formal paper for a proceedings but we do require all authors to submit this for the Abstract Book): **September 24**

Annual Meeting Program Committee:

2021 Program Chairman

Hayley Rambur, Corporate Social Responsibility Manager, Perpetua Resources
Hayley.Rambur@Perpetua.us

2021 Program Co-Chairman

Todd Glindeman, Mining Market Sector Director, Brown and Caldwell
TGlindeman@brwnncald.com

2021 President of AEMA

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Meeting & Exhibit Coordinator

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For any inquiries regarding the program, please contact: pheywood@miningamerica.org

For all general inquiries, please contact: pheywood@miningamerica.org

Call for Papers (Continued)

Technical Sessions Accepting Papers

Submitted abstracts must clearly fit the theme of the session.

MINERAL DEPOSITS, GEOLOGY & EXPLORATION

Sessions

- **Alaska: Where Mining is an Economic Bright Spot**, Chair: *Deantha Crockett, Alaska Miners Association*
- **Rowing, Steamboating or Powerboating the Green Energy River; The Role of Critical Raw Materials (or Minerals) in Navigating the Upstream to Downstream Supply Chain**, Chairs: *Chris Dail, Perpetua Resources and Peter Vikre, U.S. Geological Survey*
- **Large Left Lateral Leaps to Geologic**, Chair: **Looking for someone to chair this session**
- **The Curt Everson Great Basin Exploration Session**, Chair: **Looking for someone to chair this session**

BUSINESS & FINANCE

Sessions

- **Growth Companies**, Chair: *John Antwi, Elim Mining*
- **Finance Session**, Chair: *Tim Alch, TAA Advisory, LLC*
- **Students & Junior Professionals**, Chairs: *Dale Kerner, Perpetua Resources & Norma Angelica Perez, Mining Engineer, Greenfield Talent Program, Nevada Gold Mines*

OPERATIONS

Sessions

- **Sustainable Mining to Support the Renewable Energy Transition**, Chairs: *Dave Ellerbroek, Brown and Caldwell & Ehsan Vahidi, University of Nevada, Reno*
- **New Projects in Old Districts**, Chair: *Doug Stiles, Hecla Mining Company*
- **Mining Hydrology**, Chairs: *Ron Parratt, Jr., Newmont Corporation & Mike Hardy, Sr Project Manager, Lumos & Associates*
- **NEPA at 50+; Will there be a New Normal?**, Chairs: *Ted Boling & Bob Maynard, Perkins Coie LLP*
- **Artificial Intelligence & Data Analytics Applications in Mining Operations**, Chairs: *Javid Sattarvand, University of Nevada, Reno & Ali Soofastaei, Vale-Australia*

ENVIRONMENTAL

Sessions

- **Abandoned Mine Lands- One Step Forward & Two Steps Back, The Challenges Continue**, Chair: *Jay Gear, Coeur Mining, Inc. & Allen Freemyer, Freemyer & Associates*
- **Cultural Resources**, Chair: *Connie Rogers, Terra Law Group*
- **Mine Closure & Remediation**, Chairs: *Nick Rauh, AGRU America & Steve Boyce, Haley & Aldrich, Inc.*

LEGISLATIVE & PUBLIC AFFAIRS

Sessions

- **New Technology**, Chair: *Adam Hawkins, Global External Relations*
- **2021 Public Lands**, Chairs: *Joshua Cook, Crowley Fleck & Laura Granier, Holland & Hart*
- **Building Back Better: Connecting the Dots with Mining**, Chair: *Mark Compton, American Exploration & Mining Association*

STUDENT SPECIAL

AEMA offers full-time student discounts with paid membership of \$25.00

- **Full convention registration \$0.00**
- **50% discount on short courses**
- **Travel assistance is available**



SCHEDULE OF EVENTS

SUNDAY DECEMBER 5

7:00 - 8:00	Sunday Short Course Badge Pickup
8:00 - 5:00	3-Day Short Course
3:00 - 5:00	Registration & Packet Pick Up

MONDAY DECEMBER 6

7:00 - 5:00	Registration & Packet Pick Up
8:00 - 5:00	Short Courses

TUESDAY DECEMBER 7

7:00 - 5:00	Registration & Packet Pick Up
8:00 - 5:00	Short Courses
	Exhibitor, Core Shack & Student Poster Set Up
2:30 - 5:00	AEMA Board Meeting - 3rd Fl. Southern Pacific
6:00 - 8:00	Hosted Awards & Recognition Reception - 5th Fl - Chalet Terrace

WEDNESDAY DECEMBER 8

7:00 - 5:30	Registration & Packet Pick Up
7:00 - 9:15	Burrito Breakfast - <i>hosted by Kappes Cassiday & Florin Analytical Services</i>
8:00 - 11:30	Morning Technical Sessions
9:00 - 6:30	Exhibit Hall & Student Posters
9:35 - 10:20	Exhibit Hall Coffee Break (All sessions break)
Noon - 1:30	Wednesday Keynote Speaker Luncheon - 1st Fl. Celebrity Showroom
	Exhibit Hall Sandwich Lunch
2:00 - 5:30	Afternoon Technical Sessions
3:35 - 4:20	Exhibit Hall Coffee Break (All sessions break)
5:30 - 6:30	Welcoming Reception in the Exhibit Hall
6:30 - 7:30	Students & Junior Professionals Reception

THURSDAY DECEMBER 9

7:00 - 5:30	Registration & Packet Pick Up
7:00 - 9:15	Burrito Breakfast - <i>hosted by Kappes Cassiday & Florin Analytical Services</i>
8:00 - 11:30	Morning Technical Sessions
9:00 - 6:30	Exhibit Hall & Student Posters
9:35 - 10:20	Exhibit Hall Coffee Break (All sessions break)
Noon - 1:30	Thursday Keynote Speaker Luncheon - 1st Fl. Celebrity Showroom
	Students & Junior Professionals Luncheon
	Exhibit Hall Sandwich Lunch
2:00 - 5:30	Afternoon Technical Sessions
3:35 - 4:20	Exhibit Hall Coffee Break (All sessions break)
5:30 - 6:30	Happy Hour Reception in the Exhibit Hall

FRIDAY DECEMBER 10

7:00 - 11:00	Registration & Packet Pick Up
7:00 - 9:15	Burrito Breakfast - <i>hosted by Kappes Cassiday & Florin Analytical Services</i>
8:00 - 11:30	Morning Technical Sessions
9:00 - 11:00	Exhibit Hall & Student Posters
9:35 - 10:20	Exhibit Hall Coffee Break (All sessions break)
11:00 - 5:00	Exhibit Tear Down

AEMA'S 2021 SHORT COURSE PROGRAM

Date	Three Day Short Course		Two Day Short Courses		One Day Short Courses		
SUNDAY DEC 5 8:00 - 5:00	Using SRCE Version 2.0 New & Updated Training Jeff Parshley <i>SRK (U.S.), Inc.</i>						
MONDAY DEC 6 8:00 - 5:00	Using SRCE Version 2.0 New & Updated Training Jeff Parshley <i>SRK (U.S.), Inc.</i>	NEPA Training Matt Petersen <i>SWCA Environmental Consulting</i>	Understanding the SEC's New Mining Disclosure Rule S-K 1300 Greg Gosson <i>Wood & Stella Searston Mine Technical Services</i>	Practical Methods for Geostatistics, Spatial Analysis & Block Modeling Todd McCracken <i>BBA E&C Inc.</i>	Mineral Resource Risk Erik Ronald & Matt Hastings <i>SRK (U.S.), Inc.</i>	Cyanide - To Creditation Or Not To Creditation? Rob Bowell <i>SRK Consulting (UK) Limited & John Barber Mountain Valley Professionals LLC</i>	MSHA Part 48 Annual 8 Hour Refresher Tim Pruitt <i>Pruitt Safety</i>
TUESDAY DEC 7 8:00 - 5:00	Using SRCE Version 2.0 New & Updated Training Jeff Parshley <i>SRK (U.S.), Inc.</i>	NEPA Training Matt Petersen <i>SWCA Environmental Consulting</i>	Understanding the SEC's New Mining Disclosure Rule S-K 1300 Greg Gosson <i>Wood & Stella Searston Mine Technical Services</i>	Practical Methods for Geostatistics, Spatial Analysis & Block Modeling Todd McCracken <i>BBA E&C Inc.</i>	Fundamentals of Mineral & Metallurgical Processing Corby Anderson <i>Colorado School of Mines & Courtney Young Montana Tech</i>	U.S. Mining Law <i>Parsons Behle & Latimer</i>	Data Analytics for Earth Science Professionals using EXCEL Javid Sattarvand <i>University of Nevada, Reno</i>
Tuesday Evening - Hosted Awards & Recognition Reception - Chalet Terrace 6:00 - 8:00							

EXHIBIT HALL HOURS & ACTIVITIES

TUESDAY DECEMBER 7

Exhibitor Set up ~ 8:00 am- 5:00 pm

WEDNESDAY DECEMBER 8 ~ 9:00 am - 6:30 pm

- Exhibits Open ~ 9:00 am
- Morning Coffee Break ~ 9:35 - 10:20
- Sandwich Lunch ~ Noon - 1:30 pm
Sandwich, chips, cookie & soda \$15.00
- Afternoon Coffee Break ~ 3:35 - 4:20
- Welcoming Reception ~ 5:30 pm - 6:30 pm

THURSDAY DECEMBER 9 ~ 9:00 am - 6:30 pm

- Exhibits Open ~ 9:00 am
- Morning Coffee Break ~ 9:35 - 10:20
- Sandwich Lunch ~ Noon - 1:30 pm
Sandwich, chips, cookie & soda \$15.00
- Afternoon Coffee Break ~ 3:35 - 4:20
- Happy Hour Reception ~ 5:30 pm - 6:30 pm

FRIDAY DECEMBER 10 ~ 9:00 am - 11:00 am

- Exhibits Open ~ 9:00 am - 11:00 am
- Morning Coffee Break ~ 9:35 - 10:20
- **TEAR DOWN - 11:00 am - 5:00 pm**

AEMA'S 2021 TECHNICAL SESSION PROGRAM

	MINERAL DEPOSITS GEOLOGY & EXPLORATION		BUSINESS & FINANCE	OPERATIONS	ENVIRONMENTAL	LEGISLATIVE & PUBLIC AFFAIRS	EXHIBIT HALL
DEC 8 WED AM 8:00 - 11:30	State & Province Reports I John Muntean <i>NV Bureau Mines & Geology</i>		Growth Companies John Antwi <i>Elim Mining</i>	Sustainable Mining to Support Renewable Energy Transition Dave Ellerbroek <i>Brown and Caldwell & Ehsan Vahidi University of Nevada-Reno</i>	Mine & Exploration Permitting Ben Veach <i>Stantec</i>	New Technology Adam Hawkins <i>Global External Relations</i>	
NOON - 1:30	WEDNESDAY KEYNOTE SPEAKER LUNCHEON - CELEBRITY SHOWROOM						SANDWICH LUNCH
DEC 8 WED PM 2:00 - 5:30	State & Province Reports II John Muntean <i>NV Bureau Mines & Geology</i>		Finance Session Tim Alch <i>TAA Advisory, LLC</i>	New Projects in Old Districts Doug Stiles <i>Hecla Mining Company</i>	Abandoned Mine Lands Jay Gear <i>Coeur Mining, Inc. & Allen Freemyer Freemyer & Associates</i>	2021 Public Lands Joshua Cook <i>Crowley Fleck & Laura Granier Holland & Hart</i>	
5:30 - 6:30	WEDNESDAY WELCOMING RECEPTION - IN THE EXHIBIT HALL						
6:30 - 7:30	STUDENTS & JUNIOR PROFESSIONALS RECEPTION						
DEC 9 THUR AM 8:00 - 11:30	Alaska Deantha Skibinski <i>AK Miners Association</i>	Critical Minerals Chris Dail <i>Perpetua Resources & Peter Vikre U.S.G.S.</i>	Students & Junior Professionals Session Dale Kerner <i>Perpetua Resources & Norma Angelica Perez University of Nevada, Reno</i>	Mining Hydrology Mike Hardy <i>Lumos & Associates & Ron T. Parratt, Jr. Newmont</i>	Cultural Resources Connie Rogers <i>Terra Law Group</i>		
NOON - 1:30	THURSDAY KEYNOTE SPEAKER LUNCHEON - CELEBRITY SHOWROOM						SANDWICH LUNCH
NOON - 1:30	STUDENTS & JUNIOR PROFESSIONALS LUNCHEON & STUDENT POSTER AWARDS						
DEC 9 THUR PM 2:00 - 5:30	Large Left Lateral Leaps to Geologic			NEPA at 50+ Will There be a New Normal? Ted Boling & Bob Maynard <i>Perkins Coie LLP</i>	Large Left Lateral Leaps for Environmental Professionals Shawn Calendine <i>hydroGEOPHYSICS</i>	What Does MSHA Have In Store Under the New Administration Karen Johnston <i>Jackson Kelly PLLC & Jason Nutzman Fennemore</i>	
5:30 - 6:30	THURSDAY HAPPY HOUR RECEPTION - IN THE EXHIBIT HALL						
DEC 10 FRI AM 8:00 - 11:30	The Curt Everson Great Basin Exploration Session			Artificial Intelligence & Data Analytics Applications in Mining Operations Javid Sattarvand <i>University of Nevada, Reno & Ali Soofastaei Vale-Australia</i>	Mine Closure & Reclamation Nick Rauh <i>AGRU America & Steve Boyce Haley & Aldrich, Inc.</i>	Building Back Better: Connecting the Dots with Mining Mark Compton <i>AEMA</i>	
11:00 - 5:00	EXHIBITOR TEAR DOWN						

2021 Short Course Program

THREE DAY SHORT COURSE | SUNDAY DECEMBER 5, MONDAY DECEMBER 6 & TUESDAY DECEMBER 7

USING SRCE VERSION 2.0 – NEW AND UPDATED TRAINING

Cost: \$675

Instructor: **Jeff Parshley**, P.G., C.P.G., Group Chairman, SRK Consulting (U.S.), Inc., Reno, NV

Course Description

The Standardized Reclamation Cost Estimator (SRCE) is a public domain Microsoft Excel-based tool that has been used in Nevada for more than 10 years to calculate mine closure costs for financial assurance. The SRCE uses straightforward user inputs to create a first-principles estimate of closure costs. In addition to the Nevada-specific version, another version of SRCE is available for use in other states and internationally.

Over the last two years the non-Nevada version has been significantly upgraded with numerous new features and improved performance to create SRCE 2.0. The new features greatly expand the capabilities and functionality of the model - so much that we have completely re-vamped our standard SRCE training short course.

Because so many of the new features focus on things like detailed cost scheduling, filtering, and tracking costs by category, we have completely updated our curriculum to focus on strategizing the model setup based on site or company specific needs, and the type and intent of the cost estimate.

There will still be a heavy emphasis on hands-on training, but after an initial few simple exercises, we will focus on closure cost types, how to set up a closure chart of accounts, developing useful filters, and effective scheduling for project-specific needs.

Attendees will need to bring a laptop computer and engineering scale ruler for the hands-on exercises. If users wish to bring an existing SRCE model from a previous version, we will show them the process of importing that model into SRCE Version 2.0.

About the Instructor:



Jeff Parshley is the Group Chairman of SRK Consulting and an experienced mine closure strategist and regulatory specialist. He has extensive, global experience working with industry and governmental organizations contributing to the development of several regulatory guidelines for mine closure and closure cost estimating and development of closure related corporate standards, policies, and guidance documents. He has worked with legal and policy aspects of mining projects since his early career and regularly works on World Bank and IFC compliance projects. A graduate of Dartmouth College, Jeff has nearly 40 years of experience, including more than 30 years in mine closure.

TWO DAY SHORT COURSES | MONDAY DECEMBER 6 & TUESDAY DECEMBER 7

NEPA TRAINING

Cost: \$450

Instructor: **Matt Petersen**, NEPA Technical Director, SWCA Environmental Consultants, Denver, CO

Course Description:

SWCA is offering a two-day short course on implementing streamlining techniques to deliver defensible NEPA decisions on complex mining projects within current CEQ-mandated timeframes. This class will provide practical instruction on planning pre-work specifically to streamline the NEPA process, early and efficient alternatives development, and collaborative impacts analysis planning to minimize re-work. The course will cover the following:

- 1) Overview of NEPA as a planning tool to expedite mine plan review
- 2) Tips for effective pre-work – Early integration of mine plan development and data gathering work plans with pending NEPA requirements.
- 3) Alternative development – issues-driven alternatives development and defensible elimination of alternatives from detailed analysis
- 4) Systematic planning impacts analysis – Issue identification and planning for concise issues-based analysis
- 5) Flexible NEPA for a changing administration – writing NEPA analysis to conform with existing CEQ regulations while addressing Biden administration EOs and updates to DOI priorities, including climate and environmental justice

About the Instructor:



Matt Petersen is the NEPA Technical Director for SWCA Environmental Consultants. He has 28 years of experience as a NEPA practitioner and has provided National Environmental Policy Act (NEPA) management or oversight for over 40 large-scale EISs, including projects in Nevada, Arizona, Alaska, Colorado, Idaho, New Hampshire, Utah, Vermont, Texas, New Mexico, California, and Wyoming. His NEPA experience includes work with most major federal agencies and encompasses mining, resource management plans, ski areas expansions, fire management plans, oil and gas, pipelines, transmission lines, wind farms, airports, and power plants. He has taught applied NEPA seminars and classes for the Bureau of Land Management (BLM), USDA Forest Service (USFS), Bureau of Reclamation (BOR), U.S. Department of Transportation Maritime Administration, and the Federal Aviation Administration (FAA).

TWO DAY SHORT COURSES | MONDAY DECEMBER 6 & TUESDAY DECEMBER 7... (continued)

UNDERSTANDING THE SEC'S NEW MINING DISCLOSURE RULE: S-K 1300

Cost: \$450

Instructors: **Greg Gosson**, *Technical Director, Geology & Compliance, Wood, Vancouver, Canada and*
Stella Searston, *Consulting Geologist, Mining Technical Services, Denver, Colorado*

Course Description

The new SEC rule rescinds Industry Guide 7 and consolidates all mineral property disclosure requirements into Regulation S-K 1300. The new rule modernizes disclosure requirements since IG 7 dates back to 1982, and provides investors with a more comprehensive understanding of registrant's mineral properties. The new rule more closely aligns the SEC's disclosure requirements and policies for mineral properties with current industry and global regulatory practices and standards. S-K 1300 became effective February 25, 2019 and mining registrants can voluntarily immediately comply with the new rule. All mining registrants with the SEC must comply from January 1st, 2021 onward.

This short course will compare Regulation S-K 1300 disclosure requirements to the current SEC Industry Guide 7 and will cover the following topics on Regulation S-K 1300:

- Those companies that must comply and those that are exempt
- The three defined stages of mining issuers, and of mineral properties
- Requirements for "summary disclosure" and for "individual property disclosure"
- Determining material mineral properties
- Exploration results, mineral resource and mineral reserve disclosure requirements
- "Initial assessment" reports and their required content
- "Feasibility study" and "pre-feasibility study" reports and their required parameters
- "Technical report summary" report triggers and their required content
- Qualified Person definition, registrant's requirements and QP responsibilities
- Commodity price allowances and marketing study requirements
- Reconciliation disclosure
- Internal controls disclosure requirements
- Voluntary disclosure allowances

Course participants will be provided with a course completion certificate.

About the Instructors:



Stella Searston has more than 30 years of worldwide experience in mining consulting, mineral exploration, and regulatory compliance issues, with a focus on Australasia, the Pacific, Africa, and North and South America. Stella's specialties include project and property evaluation; resource development; feasibility study and project management including data room setup; commodity and company reviews; technical reviews, audits, and due diligence; and Technical Reports, Technical Report Summaries and Competent Person's Reports under NI 43-101, SK 1300, JORC, and SAMREC.



Greg Gosson has 36 plus years in the mining industry; five years as Chief Mining Advisor of the BC Securities Commission; Led the project to revise NI 43-101 in 2005; Involved in drafting legislation on Civil Liability under BC Securities Act, and NI 51-102 Continuous Disclosure Obligations; Former chair, current member of the Mining Technical Advisory and Monitoring Committee on NI 43-101: industry advisory group to the Canadian securities regulators; Member of the PDAC Securities Committee; Member of the CIM Committee on Mineral Resources and Reserves (and Best Practices); Member of the CIMCSA Working Committee on NI 43-101; 12 years as Technical Director, Geology & Compliance with Wood, formerly AMEC/Amec Foster Wheeler.

PRACTICAL METHODS FOR GEOSTATISTICS, SPATIAL ANALYSIS AND BLOCK MODELING

Cost: \$450

Instructor: **Todd McCracken**, *P. Geo., Manager – Mining, WSP Canada Inc., Sudbury, ON CANADA*

Course Description

Every resource estimation completed always has an aspect of the job that may not fit within the normal practices and a solution is needed. This 2-day course, geared for geologist, engineers and other mining professional, presents practical methods to overcome the typical "stumbling blocks" for the various stages of a resource estimation while being consistent with industry standards.

continued on next page

Topics to be covered include:

- Data Management
- Solid / wireframe models
- Domain selection
- Top cut / bottom cut
- Sample compositing
- Geostatistics
- Block size selection
- Estimation strategy
- Model validation
- Resource Classification

Top ‘take aways’: There are acceptable methods to overcome every obstacle during the resource estimation process.

Audience: Attendees should have intermediate to advanced level of geological and resource modeling skills. Should have a solid understanding of geostatistics. This is not a software training course.

Course delivery strategy: The course is delivered in a manner where the concepts are presented to the various topics, then draw out examples from the participants to re-enforce the concepts

About the Instructor:



Todd McCracken is a geologist with more than 28 years of experience in mineral exploration, mine operations and resource estimation. His experience is with mine operations and exploration. Todd’s commodities expertise includes gold, base metals, nickel-PGE, lithium pegmatite, and vanadium. Todd has worked on projects across Canada, the United States, Mexico, Ghana, Peru, Madagascar, Nicaragua, and China.

Todd is WSP’s in-house NI 43–101 authority, providing guidance and insight to WSP’s projects. Todd is responsible for the Front-End Mining Group’s activities at WSP; the group provides project management, QA/QC programs, due diligence reviews, resource estimations, mine design, ventilation, rock mechanics, tailing facilities, preliminary economic analysis (PEA), as well as prefeasibility and feasibility studies (PFS and FS).

ONE DAY SHORT COURSES | MONDAY NOVEMBER 30

MINERAL RESOURCE RISK

Cost: \$300

Instructors: **Matt Hastings**, *Principal Resource Geologist, SRK Consulting (U.S.), Inc., Denver, CO*
Erik Ronald, *Principal Resource Geologist, SRK Consulting (U.S.), Inc., Denver, CO*

Course Description:

SRK Consulting (U.S.), Inc., a global leader in geology and mining consulting, is presenting a one-day short course focused on identifying and assessing risk associated with project geology and Mineral Resources within the context of deposit type and ore body complexity. The course will examine fundamental inputs of Mineral Resources, how each aspect contributes to individual project risk or confidence, good industry practice in identifying and assessing resource risk, and the types of assurances recommended to assess and report risk in Mineral Resources. Fundamental inputs discussed in this course include: project geology interpretation, exploration data inputs, drilling & analyses, quality control, domaining & modeling, estimation, and the classification of Mineral Resources.

Audience: This course targets exploration and mining professionals focused on Mineral Resource management, assessing investment risk, and Qualified Persons.

About the Instructors:



Erik Ronald is a geologist with over 20 years of international experience spanning exploration, underground, and open cut operations. Erik has worked extensively across multiple commodities and deposit types including iron ore, porphyry, epithermal, sedex, industrial minerals, mineral sands, and construction aggregates. He has held technical, commercial, leadership, and consulting roles in both corporate and operational environments. Mr. Ronald is a “Qualified Person” for the purposes of NI 43-101 and SEC S-K 1300 in several deposit types and commodities for exploration, geology, and Mineral Resources.



Matthew Hastings is a geologist with 15 years of experience working in exploration and mineral resource definition for precious metals, base metals, iron ore, industrial minerals, and rare earth element deposits worldwide. He has spent most of his working career focusing predominantly in Central and South America. In addition, he has also worked on a wide variety of mining projects in the U.S., Canada, Europe, and the Middle East. Matthew has worked on-site and remotely with projects from initial field evaluation to resource definition, development, and mining. He has worked on independent third-party evaluations of projects ranging from fatal flaws studies to feasibility level and is familiar with many styles of mineralization and deposit types.

TO CREDITATION OR NOT TO CREDITATION? Are there benefits to ICMI accreditation and auditing in improving cyanide management and optimization?

Cost: \$300

Instructors: **Rob Bowell**, PhD C.Chem C.Geol, Corporate Consultant (Geochemistry & Geometallurgy), SRK Consulting (UK) Limited, Cardiff Wales, UK and
John Barber, Owner & Principal Consultant, Mountain Valley Professionals LLC, Reno, NV

Course Description

Since 1860's cyanide has been the most cost effective reagent for precious metal processing. However it is also one of the largest controversies for the mining industry with concern over toxicity and application. Indeed use of cyanide has often been the focal concern and several well documented incidents where cyanide release has occurred has slurred the reputation of most operations for which cyanide is effectively managed and used. Based on concerns, the International Cyanide Management Code was developed as a voluntary initiative for the gold and silver mining industries and the producers and transporters of the cyanide used in gold and silver mining. It is intended to complement an operation's existing regulatory requirements. Compliance with the rules, regulations and laws of the applicable political jurisdiction is necessary; the Cyanide Code is not intended to contravene such laws. However, the objectives and guidelines are far more reaching than simple accreditation and provide the basis for safe and efficient operational management of cyanide in the mining industry.

This workshop aims to review the cyanide in the mining industry from generation, supply and application including disposal and influence on closure issues. The purpose is to provide the participants with a better understanding of the safe management of cyanide that is produced, transported and used for the recovery of gold and silver, and on mill tailings and leach solutions.

Proposed Agenda

1. An international perspective on ICMI in emerging markets
2. ICMI – Background, changes, work ahead
3. Transport and production of CN
4. Reagent grade cyanide Critical Controls
5. ICMI and Jurisdictional perspective
6. Closure and Decommissioning – costing, funding and final ICMI completion options
7. Due Diligence perspective on Accreditation, does it matter?
8. Wrap up and Q&A

About the instructors:



Rob Bowell is a geochemist with 33 years' experience.

Rob has a background in applied geology in tropical and deeply weathered terrains and mining consulting in the fields of due diligence, financial and technical audits, process chemistry, environmental geochemistry, environmental engineering, and mineralogy. He specializes in the application of chemistry and mineralogy to solve engineering problems. He specializes in uranium, lithium, copper, and REE deposits and experience in gold, potash, base metals, nickel-PGE, coal, iron, phosphate, tin, beryllium, fluorite, and manganese. He has experience in North America, South America, Greenland, Africa, and Eastern Europe.

Rob has 207 publications in the field of mineralogy, process chemistry, and applied geochemistry, ARD, contaminated land, and water treatment available on request. He is the co-author of technical publications on gold mineralogy and processing (CRC); water management in the mining industry (UK-EA); and arsenic stabilization (MIRO). Senior Editor Reviews in Mineralogy and Geochemistry v79 on Arsenic geochemistry. Contributor to Encyclopedia of Geochemistry v.13 (Economic Geology).

John Barber, Principal Consultant



John is the business owner and Principal Consultant of Mountain Valley Professionals, LLC. Reno, NV. He is a mining professional with a lengthy and layered career possessing extensive experience in all phases of environmental & safety permitting, mining operations and corporate project management.

PART 48 - MSHA SURFACE REFRESHER TRAINING - (8HR)

Cost: Lunch \$25 - *This class is provided by Legarza Exploration*

Instructor: **Tim Pruitt, CMSP**, *Pruitt Safety, Reno, NV*

Course Description

This class will be an MSHA 8 hr Surface annual refresher. Students must have previously completed a 24-hour new miner class or an 8-hour refresher within the last 5 years to attend this refresher training. Please bring your most recent training certification (5000-23) to class with you even if it is expired.

If you have any questions about the class please contact Tim Pruitt at 775-397-3496.

About the Instructor:



Tim has over 30 years of Industrial Safety and Safety Management Experience. Including all aspects of surface and underground mine safety. Mining support industries including - construction, mechanical, chemical, and mining. Drilling includes - rotary exploration and water well, underground coring and percussive, surface core, and sonic. He has worked with both MSHA and OSHA facilities and regulators.

ONE DAY SHORT COURSES | TUESDAY DECEMBER 1

FUNDAMENTALS OF MINERAL & METALLURGICAL PROCESSING

Cost: \$300

Instructors: **Eur-Ing Dr. Corby G. Anderson** *QP CENG FIMMM FICHEME, Harrison Western Professor, Kroll Institute for Extractive Metallurgy, George S. Ansell Department of Metallurgical and Materials Engineering, Colorado School of Mines, Golden, CO and*

Dr. Courtney Young, *QP, Lewis S. Prater Distinguished Professor, Metallurgical & Materials Engineering, Montana Tech, Butte, MT*

Course Description

This short course is open to anyone wanting to learn about mineral processing and extractive metallurgy operations. It is particularly good as a refresher or introductory course. In this regard, the course begins with simple concepts such as sampling, analysis (mineralogical, chemical and size), material balances and smelter schedules. It then introduces attendees to processing methods and equipment, particularly those utilized in the mining industry (but also the recycling industry as well). Various unit operations are reviewed including comminution (crushing, grinding, screening and classification), mineral separations (flotation, magnetic, gravity and electrostatic), and metal production and purification (hydrometallurgy, pyrometallurgy and electrometallurgy) as well as environmental management (dewatering, tailings disposal, and waste treatment for water, dust and air). Flowsheets of typical operations are reviewed throughout with implications on flowsheet development.

Attendees will need to bring a laptop computer.

About the instructors:



Dr. Corby G. Anderson is a licensed professional engineer with over 40 years of global experience in industrial operations, corporate level management, engineering, design, consulting, teaching, research and professional service. He is a native of Butte, MT. His career includes positions with Thiokol Chemical Corporation, Key Tronic Corporation, Sunshine Mining and Refining Company, H. A. Simons Ltd. and at CAMP-Montana Tech. He holds a BSc in Chemical Engineering from Montana State University and an MSc from Montana Tech in Metallurgical Engineering and PhD from the University of Idaho in Mining Engineering - Metallurgy. He is a Fellow of both the Institution of Chemical Engineers and of the Institute of Materials, Minerals and Mining. He shares 13 international patents and 6 new patent applications covering several innovative technologies, 2 of which were successfully reduced to industrial practice. He currently serves as the Harrison Western Professor in the Kroll Institute for Extractive

Metallurgy as part of the Mining Engineering Department and the George S. Ansell Department of Metallurgical and Materials Engineering at the Colorado School of Mines. In 2009 he was honored by the Society for Mining Metallurgy and Exploration with the Milton E. Wadsworth Extractive Metallurgy Award for his contributions in hydrometallurgical research. In 2015 he was awarded the International Precious Metals Institute's Tanaka Distinguished Achievement Award. In 2016 he received the Distinguished Member Award from the Society for Mining, Metallurgy and Exploration, the Outstanding Faculty Award from the George S. Ansell Department of Metallurgical and Materials Engineering at Colorado School of Mines and also became a Distinguished Member of the U of Idaho Academy of Engineering. In 2017 he received the EPD Distinguished Lecturer Award from The Minerals, Metals and Materials Society. In 2019 he was named as a Henry Krumb Distinguished SME Lecturer. In 2019 he was also appointed as a Visiting Faculty within the Minerals Engineering Department of Central South University in China, the largest program of Mineral Processing and Extractive Metallurgy in the world.



Dr. Courtney Young Dr. Courtney Young is a graduate of three premier mineral/coal processing and extractive metallurgy institutions with a BS in Mineral Processing from Montana Tech in 1984, a MS in Mining and Minerals Engineering from Virginia Tech in 1987, and a Ph.D in Metallurgical Engineering from University of Utah in 1994. He has been a faculty member of Metallurgical and Materials Engineering at Montana Tech since 1993 where he has taught numerous courses in Mineral Processing and Hydrometallurgy. Other related courses include Fire Assay, Materials Handling Design, Flotation, Energy Resources, Gold Processing, and Materials Characterization and Analysis. During this time, Dr. Young has worked on numerous research and consulting projects with various funding sources, particularly mining companies. He has published and presented more than 150 papers. Most of his research has been in flotation, hydrometallurgy, and pyrometallurgy as well as their application to recycling secondary resources including but not limited to waste water, slag, tailings, printed circuit boards, plastics, etc. He recently stepped down from being Dept Head, a position he had for 21 years. As a result, Dr. Young is excited about teaching more and doing more research.

U.S. MINING LAW ONE DAY SHORT COURSE AND HANDBOOK

Cost \$300

Instructor: *Parsons Behle & Latimer, Salt Lake City, UT*

Course Description

This full-day course will provide a comprehensive overview of the mining law in the United States relating to the acquisition, exploration, development, operation and closure of hard rock mining projects on public lands. The course provides in-depth coverage of types of land and mineral ownership in the U.S., types of mineral claims, historical and current issues under the General Mining Law of 1872, the process and issues involved in obtaining, holding and financing mineral tenures, extralateral rights, an overview of environmental permitting, acquiring power, and an overview of water law in the western U.S. The course includes an overview of the typical methods for entering into exploration and development joint venture arrangements, including the revised Rocky Mountain Mineral Law Foundation "Form 5" limited liability company agreement, lease, purchase and sale of exploration and mining project issues, and a discussion of the standard royalty mechanisms including net smelter return and net profits interest royalties. The course also covers current significant environmental issues in the exploration and development of operations, including key air and water discharge issues, environmental impact statements, permitting of tailings facilities, bonding, and mine closure and reclamation issues. The course is ideal for persons who are interested in acquiring mining projects in the U.S., or simply wish to have a refresher on key concepts. The course will include an extensive 200+ page Mining Law handbook and appendices, which include various form royalty and other agreements.

U.S. Mining Law...(Continued)

Schedule:

- **Overview of Land & Mineral Ownership in the U.S.**
- **Overview of U.S. Mining Laws**
- **Detailed Review of the General Mining Law of 1872**
- **Acquisition of Mineral Tenures**
- **Financing the Project & Ancillary Concepts**
- **Structure of US Environmental Laws and Regulations**
- **Power and Energy Issues**
- **Essential Concepts of US Water Law**
- **Current Critical Issues and Proposed Rules**
- **Ethical considerations in multi-jurisdictional mining transaction due diligence, safe harbors of multijurisdictional practice, and essential aspects of a lawyer's ethical duty of confidentiality, the attorney- client privilege and work product immunity**

About Parsons Behle & Lartimer

In 1882, Parsons Behle & Latimer was founded as a mining law firm, and for the past 130 years, we have partnered with hard rock mining clients in the U.S., Canada, Central and South America to guide them through every aspect of some of the largest mining transactions ever completed.

Parsons' Mining attorneys create solid, long-term relationships with national and international mining clients to become a solid partner through every phase of a project from exploration to closure and reclamation. Clients gain exceptional efficiencies from our multidisciplinary teams that provide every mining-related service including environmental and energy law, EPCM, financing, corporate transactions and M&A, real estate, government relations, litigation and employment and labor law.

Parsons' Mining team handles:

- Land and claim acquisition and leasing
- Pre-project, acquisition and divestiture due diligence
- Joint ventures
- Project financing
- Tax structuring
- Project permitting and environmental compliance
- Purchasing
- Refining and smelting arrangements
- Commodity hedging
- Power supply arrangements
- Political advisory services
- Mergers, reorganizations and divestments
- Litigation
- All other legal aspects of mining exploration and development

We partner with clients that range from small junior exploration and mining companies to diversified international mining companies.

DATA ANALYTICS FOR EARTH SCIENCE PROFESSIONALS USING EXCEL

Cost: \$300

Instructor: **Javad Sattarvand, Ph.D.**, Associate Professor, Department of Mining and Metallurgical Engineering, University of Nevada, Reno

Course Description

Requirement:

Students need to have their laptop with MS Excel installed on it. Students need to have a basic knowledge of using spreadsheets and statistics.

Learning Outcomes:

Upon completion of this short course:

1. You will become familiar with the sources of the data in earth science and engineering,
2. You will be able to use Excel for cleaning and preparing the input data
3. You will be able to use Excel for applying statistical calculations
4. You will be able to use Excel for visualizing the data
5. You will be able to apply Excel on time series and perform forecasting

Topics of the Course

1. Data types in exploration and mining operations
2. Excel Introduction, advanced features
3. Data Analytics tools
 - a. Data preparation
 - i. Data sorting
 - ii. Data filtering
 - iii. Pivot tables
 - iv. Power query
 - b. Data Analysis
 - i. Basic Statistics
 - ii. Test Hypothesis
 - iii. Utilize Data Distributions
 - iv. Perform Bayesian Analysis
 - c. Data Visualization
 - i. Charts and Graphs
 - ii. Automation
 - iii. Animation
 - iv. Dynamic Dashboards
 - d. Forecasting
 - i. Errors, Accuracy, and Bias
 - ii. Trendline Forecasting
 - iii. Modeling Exponential Growth
 - iv. Seasonality
 - v. Multiple Regressions

About the Instructor:



Dr. Javad Sattarvand, Ph.D., is an associate professor at the Department of Mining and Metallurgical Engineering, at the University of Nevada, Reno since 2015. Dr. Sattarvand has received his Ph.D. in Mining Engineering from the University of Rheinisch-Westfälische Technische Hochschule Aachen – Germany in 2009. With 17 years of academic appointments as a lecturer, Assistant Professor and Associate Professor in the USA, Germany, Netherlands, and Iran and supervising 34 masters and 3 Ph.D. students, he is the teacher for mining automation and mining robotics courses at the University of Nevada, Reno. Dr. Sattarvand has published 26 journal and over 70 conference papers and has received over three million dollars of federal grants, mostly from NIOSH. He has been also the recipient of the prestigious SME's career development grant (\$300K). Dr. Sattarvand's industrial expertise is in mine planning, optimization algorithms, and programming for different mining applications, mine monitoring, and mine control systems. He has founded two start-up companies and his cooperation with major global consulting companies resulted in more than 20 industrial projects and the commercialization of several software and hardware products for mining automation.

2021 Technical Session Program

MORNING SESSIONS | WEDNESDAY DECEMBER 8

SESSION TIMES: 8:00 - 11:30 COFFEE BREAK 9:35 - 10:20

STATE & PROVINCE REPORTS (Part 1)

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by: **John Muntean Ph.D**, Director, Ralph J. Roberts Center for Research in Economic Geology (CREG) Arthur Brant Chair in Exploration Geology, Nevada Bureau of Mines and Geology, University of Nevada Reno

Session Description:

Want to hear about exploration and mining activities for the past year in Western States and Provinces? In this all-day session, Economic Geologists from Western US States and Canadian Provinces will report on the exploration and development activities in metals and industrials for the past year in their respective areas. These specialists will also provide their insight into new mineral commodities and areas which are experiencing activity, and opportunities and challenges. The afternoon session is finished with a summary of USGS activities and mineral exploration trends.

John Muntean



John Muntean is an Associate Professor with the Nevada Bureau of Mines and Geology (NBMG), at the University of Nevada Reno (UNR). There he serves as the Director of the Ralph J. Roberts Center for Research in Economic Geology, which is a mineral industry associates programs, where annual donations are pooled together to fund graduate student research on Nevada's mineral deposits. He also is also the Arthur Brant Chair in Exploration Geology at UNR, and is currently serving as the Acting Director of the Nevada Bureau of Mines and Geology. In the past he worked for Placer Dome, Homestake, and Santa Fe Pacific.

GROWTH COMPANIES

Area of Interest - Business & Finance

Chaired by: **John Antwi**, President, CEO & Director, Elim Mining, Sparks, NV

Session Description:

Most sectors of the global economies that show significant growth have minimal barriers to entry, the Tech Industry is a typical example. How many startup mining companies survive the market expectations and transition to mid-tier and major mining companies? When they survive startup, how is growth defined for such a junior exploration or mining company? What is the ideal business model for these growth companies to provide maximum shareholder value? What are the barriers to entry and how can startups be encouraged in the mining sector?

In this session we will be looking to explore how to start and grow an exploration and mining company and some success stories in this market.

John Antwi



John Antwi is a mining executive with over 26 years of experience in Mine Technical and Financial Services with a knack for identifying the potential of geologic assets. He is a value driver with expertise in achieving strategic, operational, and financial goals for junior, mid-tier, and senior mining production companies. John is an innovative senior executive with expertise in implementing portfolio optimization initiatives and recommending project development opportunities to support corporate strategic objectives. He began his career by rendering geological services for a gold mining company in Africa and progressed to top performing executive oversee-

ing growth initiatives, mergers and acquisitions with multi-billion-dollar organizations in the United States and Canada. Until the acquisition of Klondex Mines by Hecla, John was the Senior Vice President for Corporate Development and Planning for Klondex.

John currently serves on the American Exploration and Mining Association board and is a founder, President and Director of Elim Mining Limited. Mr. Antwi has a bachelor's degree in Geological Engineering from KNUST, Ghana and a Masters degree in Mineral Economics from the Colorado School of Mines.

SUSTAINABLE MINING TO SUPPORT THE RENEWABLE ENERGY TRANSITION

Area of Interest - Operations

Chaired by: **David A. Ellerbroek**, Vice President for Client Service and Strategy, Brown and Caldwell, Lakewood, CO & **Dr. Ehsan Vahidi**, Assistant Professor and John N. Butler Endowed Professor University of Nevada, Reno

Session Description:

Massive investment in renewable energy technologies is required to support the transition to lowcarbon technologies for producing electricity and to prevent the worst impacts from climate change. This investment needs to occur not only in developed countries, but also developing countries where approximately 2 billion people still don't have access to reliable electric power. Large-scale deployment of renewable wind and solar power will reduce demand for carbon-emitting fossil fuels, but requires a rapid increase in the production of the minerals that form the basis of a low-carbon technologies. The challenge for the mining industry is to convert mineral development into a low- or zero-carbon process, so that the benefits of installing renewable energy projects is not offset by carbon emissions from mineral development.

Mineral production is currently an energy intensive process with production of industrial metals accounting for over 10 percent of global greenhouse gas (GHG) emissions (Fazian and Court 2015).

Copper, iron, lithium, cobalt, iridium, aluminum, nickel, and zinc are basic requirements of the renewable energy-based economy. Renewable energy technologies, including solar panels, wind turbines, and electric batteries, require these metals to be available at low cost to compete with fossilbased alternatives. The world will require as much copper in the next 25 years as was produced in the past 5 millennia in order to support new renewable energy projects. To meet this demand and cap global warming at 1.5°C, global production of nearly every base metal (including copper, aluminum, magnesium, nickel, and lead) is expected to increase by 225 to 250 percent in the next 30 years, according to the World Bank (Elshaki et al. 2018).

The challenge for the mining industry in the context of supporting the renewable energy transition is obvious: increase output of strategic minerals while decreasing inputs of fossil fuels that support all aspects of mineral development including exploration, mining, mineral processing, mine closure, and use of metals upstream in the value chain. Decarbonizing mineral production also offers an opportunity for mining companies to lower energy costs, increase reliability, provide operating cost certainty, and develop long-term revenue streams that will exist after mining ceases by developing renewable energy projects that support mineral development. In fact, renewable energy projects offer the opportunity to support mine closure and community development after the mine is closed by providing long-term revenue streams after mining has ended. Social capital will also be developed as mining companies use renewable energy to lower GHG emissions, provide rural power, improve working conditions for miners, help States meet emissions targets, and work with local communities. Several of the largest mining companies, such as BHP and Rio Tinto, have committed to lowered carbon emissions while supplying the minerals that drive the low-carbon economy.

continued on next page

2021 Technical Session Program... (continued)

David A. Ellerbroek



Dave Ellerbroek works at Brown and Caldwell as Director of Client Service and has more than 30 years experience working in the environmental, water and engineering industries leading technical teams at the project, program and executive levels. His technical background includes working in the mining and oil and gas industry solving problems related to hydrology, geochemistry and environmental engineering. He also teaches part time at Western

Colorado University with a focus on environmental management related to sustainability transitions and mine reclamation.

Dr. Ehsan Vahidi



Dr. Ehsan Vahidi received his B.Sc. and M.Sc. degrees in Metallurgical Engineering, from Sharif University of Technology and the University of Tehran, respectively. After earning his second master's degree in Environmental Engineering from the University of South Florida, he obtained his Ph.D. from Purdue University in Environmental & Ecological Engineering. His Ph.D. research on the sustainability assessment of rare earth production sponsored by the Department

of Energy led to several awards including the first- ever *Ecological Sciences and Engineering (ESE) Outstanding Research Award*, the *2018 College of Engineering Outstanding Graduate Student Research Award*, and the prestigious *Donnan Dissertation Fellowship* from the Purdue Graduate School

MINE AND EXPLORATION PERMITTING: SUCCESS STRATEGIES FOR A CHANGING PROCESS

Area of Interest – Environmental

Chaired by: **Ben Veach, PE**, U.S. Mining Sector Leader, Stantec, Reno, NV

Session Description:

The changes in administration have ushered in a new process for permitting mines and exploration projects. Policies and Procedures for permitting on federal lands have and continue to change. How are others finding success amid all the uncertainty? What are the results and how are they impacting our industry?

This session will explore how the changes to permitting and environmental regulations have impacted the landscape for mining and exploration. Learn from the experts how to avoid painful delays in permitting. Topics will include NEPA, USFWS Permitting, Mine Planning and Groundwater Successes and Failures.

Ben Veach, PE



Ben, a Principal in the Environmental Services group, is responsible for the operations within the Stantec Mining footprint in the US. He brings more than 30 years of Nevada consulting experience as a project manager, engineer, and land use planner. His primary responsibility is to provide environmental mining support to the Stantec staff and clients across the US. His duties include being the responsible safety officer, financial lead, and all things related to the operation and maintenance of the Stantec Quality Management program.

He leads a group of NEPA specialists, Wildlife biologists, Geologists, and Water specialists, all focused on serving the mining industry. Ben brings a unique mixture of civil engineering and land use planning to the team that is useful at improving communications and focus to the project team. He has proven the ability to lead diverse teams of professionals from project inception through build-out on a wide range of projects.

OLD MEETS NEW: SOLVING OLD SCHOOL PROBLEMS WITH NEW TECHNOLOGY AND MODERN TACTICS - Positive Strategies for Social Media, Community Engagement, and Social License

Area of Interest - LEGISLATIVE & PUBLIC AFFAIRS

Chaired by: **Adam Hawkins**, President, Global External Relations, Phoenix, AZ

Session Description:

You will learn from industry experts on how to build and maintain a coalition of support around your operation. This session will show you how to use modern tactics for growing your project's support base. This will include:

- Back to the Basics: A quick refresher of how to communicate in a way that gets measurable results.
- Simplifying Data Analytics: Understanding and using public opinion research to help you identify audiences and communicate with them effectively.
- Maxing Out the Numbers with Positive Comment Letters: Using online comment generators for public comment periods.
- Making Your Message Viral: Learn the tricks of the trade that social media influencers use to engage and energize your support base.
- Grassroots 101: Learn how to build traditional support coalitions and keep supporters engaged and on message.

Adam Hawkins



Adam is one of the leading practitioners in social license to operate – the support needed from the community to develop and sustain large-scale projects. He lectures frequently on the subject and has helped clients across the globe develop successful community engagement plans. A fixture in the public affairs, communications, and lobbying community for over a decade, Adam's insight is sought after and trusted by clients across the globe. Adam started his career as a staffer in the United States Senate. Prior to launching Global, Adam worked in house for Rio Tinto and within two leading public policy firms, assisting clients on issues that included environment; water, natural resources, taxation, HR, commerce, transportation, and public lands. All of this experience has made Adam adept at working with key regulators such as the Environmental Protection Agency, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Mining Safety and Health Administration, and Army Corps of Engineers. Adam graduated with honors from Thunderbird School of International Business with a MBA and holds a BA/ BS from Arizona State University.

Meal Tickets

Be sure to order your lunch tickets early. On site ticket sales will be limited.



2021 Technical Session Program... (continued)

AFTERNOON SESSIONS | WEDNESDAY DECEMBER 8

SESSION TIMES: 2:00 - 5:30 COFFEE BREAK 3:35 - 4:20

STATE & PROVINCE REPORTS (Part 2)

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by: **John Muntean Ph.D.**, Director, Ralph J. Roberts Center for Research in Economic Geology (CREG) Arthur Brant Chair in Exploration Geology, Nevada Bureau of Mines and Geology, University of Nevada Reno

Session Description:

Want to hear about exploration and mining activities for the past year in Western States and Provinces? In this all-day session, Economic Geologists from Western US States and Canadian Provinces will report on the exploration and development activities in metals and industrials for the past year in their respective areas. These specialists will also provide their insight into new mineral commodities and areas which are experiencing activity, and opportunities and challenges. The afternoon session is finished with a summary of USGS activities and mineral exploration trends.

See State & Province Reports Part 1 to learn more about John Muntean

ACCESSING CAPITAL FOR EXPLORATION, DEVELOPMENT & OPERATIONS

Area of Interest - Business & Finance

Chaired by: **Tim Alch**, Financial Analyst, Managing Partner, TAA Advisory LLC, Edgewater, NJ

Session Description:

Where in The Cycle Are We? 2021 started with robust prices and a favorable outlook with producers amassing profits with some saying M&A is coming thou Covid limits site visits and jurisdictional and changing rules and adapting to ESG regulations present risks to industry players. What are successful miners doing to access capital during the Pandemic? What can owners and operators do to increase their odds of attracting investors and capital? Join us for a lively discussion and q&a with leading experts about the latest issues, trends and ways to get the right attention. Get your questions answered.

Tim Alch



Tim is Managing Partner of TAA Advisory. Tim is known for project management, team building, corporate and business development and financial and investment and minerals market advisory. His career spans equity, investment analysis, executive placement and event management. He is a Senior Associate of and was a Managing Director of Behre Dolbear; SVP of Anderson & Schwab; Equity Analyst at Paine Webber, Prudential Securities, and Dean Witter Reynolds and Senior Consultant: Industry Analyst at CRU International (London), World Steel Dynamics (New York) and Resource Strategies (Philadelphia). He is an Honors Geology graduate and John Mason Clarke fellow Amherst College and studied Mineral Economics at Penn State. Tim is a member of SME, AEMA, PDAC & NCUSCR; an Executive Committee Member (2008-16) and Executive Director (2016-21) of NY SME; and an SME Finance Strategic Committee Member (2017-20). In 2020 Tim was selected as the 2020 recipient of the SME President's Citation for Local Section Service Award.

NEW PROJECTS IN OLD DISTRICTS

Area of Interest - Operations

Chaired by: **Doug Stiles**, General Manager, Hecla Montana, Hecla Mining Company, Coeur d'Alene, ID

Session Description:

Old mining districts can offer a wealth of opportunity for the right project including but not limited to new mines. As the regulatory landscape continually changes, so do the opportunities and challenges presented by historic mining districts. This session will host presentations by those who are pioneering new projects in old mining districts. Projects range from new mines taking advantage of the same commodity the area was known for, to projects with no connection to the districts' original claim to fame.

Doug Stiles



Doug Stiles is the General Manager for Hecla Montana, a wholly owned subsidiary of Hecla Mining Company, with responsibility for Troy Mine closure and permitting the nearby Rock Creek and Montanore projects. Doug graduated from Montana Tech with a degree in Environmental Engineering and a minor in Chemistry. He has 24 years of experience in permitting and regulatory compliance in the hard rock mining and interstate natural gas pipeline industries. Doug has worked on mining and pipeline projects in several US States and South America.

ABANDONED MINE LANDS - ONE STEP FORWARD & TWO STEPS BACK, THE CHALLENGES CONTINUE

Area of Interest - Operations

Chaired by: **Jay Gear**, Vice President, Environment, Health & Safety, Coeur Mining, Chicago, IL and **Allen Freemyer**, President, Freemyer & Associates, Washington, DC

Session Description:

Abandoned mine lands (AML) are legacy sites that pose safety hazards, may lead to sedimentation and erosion issues, and may often impact water resources. Abandoned mines represent one of the least addressed threats to water quality in the United States. On the whole, there are abandoned mines located near current mining operations and in historic mining districts, many are stabilized but the vast majority are not.

Great progress has been made over recent years to define the problem, to promote awareness and partnerships, to advance cleanups, and to define an administrative or legislative process that navigates the regulatory minefields that challenge cleanups from occurring. This session will continue to explore these aspects, reflect on successes and strategies, delve into the legal mechanics of the regulatory regime, and visit potential Good Samaritan Policy under the new Administration.

Jay Gear



Jay joined Coeur Mining in 2014 and transitioned to the Vice President of Environment in February 2018. Gear is an accredited environmental management and science professional with over two decades of progressive experience in the mining, chemical, and consulting industries. Gear currently oversees all aspects of Coeur's environmental efforts, which include, permitting, environmental performance, strategic planning, corporate responsibility, etc. Before joining Coeur,

continued on next page

2021 Technical Session Program... (continued)

Jay worked in the environmental and public policy group at a molybdenum mining operation in New Mexico, in the corporate environmental remediation group for a leading chemical and ammunitions company, and in the environmental consulting field primarily with the investigation and remediation of impacted industrial sites throughout the United States, Puerto Rico, and Canada. Mr. Gear holds a Bachelor of Science degree in Watershed Management with a hydrogeology emphasis from the University of Wisconsin in Stevens Point.

Allen Freemyer



Mr. Freemyer established himself as a nationally recognized expert in legislation, appropriations, natural resources, water, energy and environment matters while serving as senior staff for nine years on the Committee on Resources in the U.S. House of Representatives. Mr. Freemyer established his current practice in February 2002 after serving as the Chief of Staff of the Committee under the direction of Chairman James V. Hansen. Prior to becoming Chief of Staff, Mr. Freemyer was Staff Director and Counsel to the Subcommittee on National Parks and Public Lands. Prior to working in Congress, Mr. Freemyer was in a private law practice. While serving on the Committee, Mr. Freemyer established himself as an expert legislative strategist with hundreds of Public Laws to his credit. His primary focus is in the areas of natural resource, energy, water, and environmental policy. He also has extensive experience with appropriations, national defense, transportation and various other issues. As Chief of Staff, Mr. Freemyer had a unique opportunity to work with House and Senate Leadership, as well as many outside groups in the formulation of policy, appropriations, and legislation. Mr. Freemyer possesses a complete working knowledge of the political and policy interface between Congress and the Executive Branch.

2021 PUBLIC LANDS

Area of Interest - Legislative & Public Affairs

Chaired by: **Joshua Cook**, Partner, Crowley Fleck, Billings, MT, &

Laura Granier, Partner, Holland & Hart, Reno, NV

Session Description:

Multiple Use, Mineral Development and the Nation's Supply Chains, National Security and Renewable Energy Goals

Joshua Cook



Joshua Cook is a partner in Crowley's Energy, Environment, and Natural Resources Department. His primary areas of practice are mining, Indian law, oil and gas law, and renewable energy. Joshua handles complex mining matters, including patented and unpatented claim disputes, and large scale due diligence of mining, renewable, and oil and gas properties. He covers property acquisitions and dispositions, title examinations, as well as permitting and environmental issues. He also assists pipeline, transmission line and development companies with right of way issues. Joshua serves on the Board of Trustees for the American Exploration and Mining Association, is involved with the Nevada and Wyoming Mining Associations, and works on the Legislative Committee of the Montana Mining Association. He is a Trustee at Large and serves on the Special Institutes Committee of the Rocky Mountain Mineral Law Foundation, serves as a reporter for the Foundation's Newsletter and an update author for the American Law of Mining Treatise. Before law school, Joshua worked in the mining industry where he located mining claims on public domain lands throughout Nevada and other western states.

Laura Granier



Laura Granier is a partner at the law firm of Holland & Hart where she focuses her practice on mining, energy and natural resource issues. Her practice includes regulatory work and litigation with a focus on natural resources, mining law, public lands, energy, and water. She has successfully handled issues of first impression involving mineral resources in Nevada and has been extensively involved in the land use planning process in

Nevada for Greater Sage Grouse conservation efforts. Laura was lead counsel for the nine Nevada counties and several private plaintiffs who successfully challenged the 2015 land use plan amendments – obtaining an order from the United States District Court for Nevada remanding the LUPAs. Ms. Granier has successfully handled litigation involving complex land tenure issues for various mining projects throughout Nevada. She has worked closely with state legislators in previous sessions on challenging issues related to water, mineral resources, revenue, education and land use. Her regulatory experience includes a broad spectrum of work before various agencies with regulatory jurisdiction over environmental issues, mining, water, education, taxes, land use, and public utilities.

MORNING SESSIONS | THURSDAY DECEMBER 9

SESSION TIMES: 8:00 - 11:30 COFFEE BREAK 9:35 - 10:20

ALASKA: WHERE MINING IS AN ECONOMIC BRIGHT SPOT

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by: **Deantha Skibinski**, Executive Director, Alaska Miners Association, Anchorage, AK

Session Description:

Alaska's economy is largely driven by resource development, and over the past year, low oil prices, a canceled cruising season, and other significant challenges made for a dire economic outlook for Alaska. However, with an essential industry designation, strategic protection protocols, and a Federal Administration putting domestic mineral production in the spotlight, mining emerged as the only industry in Alaska to see growth. Hear from mining operators and developers about how miners hope to continue being Alaska's economic bright spot.

Deantha Skibinski



Deantha was born and raised in Anchorage and Big Lake, Alaska and is a graduate of the University of Alaska. She came to AMA from the Resource Development Council, where she worked as a projects coordinator for seven years. In that role, she advocated for the mining and tourism industries and managed efforts on the cruise ship head tax and mining shut-down ballot initiative campaigns and administered the Alaska Alliance for Cruise Travel, an organization promoting tourism businesses benefitting from visitors to our state. Deantha is an Executive Committee member of the Armed Services YMCA of Alaska, an organization dedicated to supporting military members and their families. She has served on past Governors' Transition Teams, is a recipient of the Top Forty Under 40 award, and was one of a delegate to the first-ever Conference of Young Alaskans.

2021 Technical Session Program... (continued)

MORNING SESSIONS | THURSDAY DECEMBER 9

SESSION TIMES: 8:00 - 11:30 COFFEE BREAK 9:35 - 10:20... (continued)

ROWING, STEAMBOATING OR POWERBOATING THE GREEN ENERGY RIVER: The Role Of Critical Raw Materials (Or Minerals) In Navigating The Upstream To Downstream Supply Chain

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by: **Christopher Dail**, Manager, Exploration, Perpetua Resources, Donnelly, ID &

Peter Vikre, U.S. Geological Survey, Reno Office, Geology, Minerals, Energy and Geophysics Science Center, Mackay School of Earth Sciences and Engineering, University of Nevada-Reno

Session Description:

Raw materials are the basis and upstream end of our supply chains that lead to downstream manufacturing. When raw materials are sourced from non-domestic sources, US manufacturers are at a significant disadvantage in the highly competitive manufacturing component of the supply chain in nearly all industry sectors. This session will explore the impacts of domestic versus non-domestic sourcing of raw materials for downstream manufacturers in the electronics, battery, solar and other green /renewable energy sectors.

Chris Dail



Chris has 35 years of experience as an exploration geologist. His experience includes project to program level planning and execution across several continents and on a variety of mineral deposit types. Chris' role at Perpetua Resources is primarily focused on identifying and evaluating the exploration potential for new prospects and deposits within the project area. Chris has been with Perpetua since

the company was founded. He decided to join the project because of the opportunity to help restore fisheries and habitat at the site and bring stable, well-paying jobs to a rural area depending on seasonal, often low paid tourism-type jobs. He believes Perpetua's goal to use modern mining practices and leave behind positive legacy. Chris enjoys recreating throughout Idaho and the surrounding region including cross country and downhill skiing, rafting, sailing his historic wooden sailboat in lake Coeur d'Alene and hiking through the variety of terranes in the region with his wife.

STUDENTS & JUNIOR PROFESSIONALS SESSION

Area of Interest - Business & Finance

Chaired by: **Dale Kerner**, Permitting Manager, Perpetua Resources, Donnelly, ID and

Norma Angelica Perez, Mining Engineer, Greenfield Talent Program, Nevada Gold Mines, Elko, Nevada

Session Description:

It's what you know, who you know....and who knows YOU. Engagement and exposure with mining industry professionals is advantageous for students and those in the early stages of their careers. Whether its landing that first job or identifying new opportunities for development, learning the value of networking early and often is a high-value life skill. This session provides a venue for (1) students seeking to demonstrate their interest in advancing mining through their academic research, or (2) junior professionals who want to bring new ideas or observations to their peers. Attendees should come ready to meet those who are (and will be) shaping the future of our nation's mining industry.

Dale Kerner



Dale Kerner is a Professional Geologist licensed in the State of Idaho. He currently serves as the Permitting Manager for Perpetua Resources, working to obtain the many permits and approvals required for mining and reclaiming the historic Stibnite Gold Project in central Idaho. Prior to joining Perpetua Resources predecessor, Midas Gold in 2017, Dale had an 18-year career in environmental consulting that included

geological exploration, mine planning & permitting, and NEPA project planning and coordination. Dale obtained degrees at Boise State University (MS Geology) and the University of Wisconsin/Eau Claire (BS Geology). Dale is an active member of the SME Boise Section and the Idaho Mining Association Conference Planning Committee. He utilizes these platforms to build meaningful connections between the mining industry, the public and the educational institutions that are developing our nation's future mining workforce.

Norma Angelica Perez



Norma Angelica Perez is a recent mining engineering graduate from the Mackay School of Mines at the University of Nevada, Reno. She currently serves as a mining engineer in the Greenfield Talent Program for Nevada Gold Mines at the Portal Underground Mines out on the Carlin Trend, working in a leadership position between operations and the engineering department as part of her talent program. Angelica landed

3 underground internships during her college career with Nevada Gold Mines at the Leeville underground (2 summers) and Cortez underground (1 winter) mine sites as a long-range planning, infrastructure, and ventilation intern. She was very active in and outside of the classroom taking on leadership positions in the John Mackay Club, Women's Rugby team, Archery Club, Greek Life, Tri-Beta National Honor's Society, ScienceFIT, and student mine design competitions. Angelica is an advocate for higher education and was a teaching assistant for the Mining Department. Prior to obtaining her Mining Engineering degree, Angelica obtained a Neuroscience degree at the University of Nevada, Reno.

MINING HYDROLOGY

Area of Interest - Operations

Chaired by: **Mike Hardy**, Senior Project Manager, Lumos & Associates, Reno, NV and

Ronald Parratt Jr., Environmental Specialist, Newmont Mining Corporation, Reno, NV

Session Description:

Mining hydrology continues to change and evolve as a critical resource to manage in and around the various mine sites and exploration projects across the world. The various aspects of minerals extraction all have challenges to overcome related to water. Whether too much, too little, challenging quality or change in regulations, this session plans to present talks that address water as it is managed in relation to mining.

Ronald Parratt, Jr.

Ronald Parratt is a professional mining hydrogeologist working as the Site Water Coordinator – Water and Energy Specialist for Newmont Mining Corporation at their Cripple Creek and Victor operations in Colorado. He has 15 years of experience and expertise in mining hydrology
continued on next page

2021 Technical Session Program... (continued)

including, ground water modeling, mine dewatering, water quality program management, and permitting. His interest in hydrogeology began while working as a driller's assistant for Layne Christiansen Drilling in AZ. This inspired him to get his master's degree in Hydrogeology at the University of Nevada, Reno. He worked for Newmont as an Engineer II: Hydrogeologist at their Twin Creeks, Midas and Phoenix mines and during his time with Schlumberger Water Services, he worked as a Project Hydrogeologist on several projects throughout Nevada, Idaho and Chile. In his spare time, he enjoys being in the outdoors with his family, golfing and hiking.

Michael Hardy, P.E., P.G., WRS



Michael has over 30 years in the field of water resources with the majority of his experience in regional groundwater characterization and analysis, water rights, well field management, and exploration and production well drilling. Michael began his career as a hydrogeologist for an in-situ lithium mining operation in western central Nevada. Some of his responsibilities included managing an extensive wellfield (60 plus wells), company water rights and conducted multiple well drilling projects. After 9 years, Michael went to work for water resource company where he was a project manager of large water infrastructure projects in excess of \$4.3 million. Michael joined Lumos & Associates, Inc. in 2003 where he has managed multiple large groundwater investigations, water infrastructure projects and water rights. Michael is also a very active member with the Nevada Water Resources Association where he was a Board Member, past President and Treasurer for the organization.

NEW WORLD FOR LOOKING AFTER THE OLD WORLD: Federal, State and Tribal Developments for Cultural Resources Compliance and Industry Initiatives

Area of Interest: Environmental

Chaired by: **Connie Rogers**, *Principal, Terra Law Group LLC, Denver, CO*

Session Description:

This session will review recent developments in federal and state laws and policies, the increasing role of Tribes, and proactive measures being undertaken by the mining industry to meet the challenges of increased attention to cultural and tribal resources in evaluation of mining projects. A number of interesting topics will be discussed, including:

- A review of recent litigation that has changed the way agencies think about direct and indirect effects of projects on historic properties; discussion of adverse effects as environmental justice impacts.
- Recent developments in state laws that may impact project compliance and tribal consultation.
- The Nevada Mining Association Cultural Resources Checklist
- Musings and prognostications for a new world for cultural resources compliance.

Speakers: Invitations extended; to be confirmed

Connie Rogers



Connie Rogers helps clients get their projects approved and operational. Connie advises clients in navigating complex regulatory regimes and environmental reviews, with an emphasis on compliance with federal land management statutes, the National Environmental Policy Act, species protection statutes, federal Indian law, cultural resource and religious freedom concerns, and international human rights

and indigenous peoples issues. Connie's clients include companies, local governments, non-profits and educational institutions in developing and implementing major infrastructure (water, wastewater, transmission), mining, energy (conventional and renewable) projects. Connie previously practiced in a large Rocky Mountain regional law firm, and served as Deputy Solicitor for Energy and Mineral Resources at the U.S. Department of the Interior, where she was the lead lawyer on issues relating to the development of renewable and conventional energy and mineral resources on Interior-managed lands.

AFTERNOON SESSIONS | THURSDAY DECEMBER 9

SESSION TIMES: 2:00 - 5:30 COFFEE BREAK 3:35 - 4:20

NEPA AT 50+; Will There be a New Normal?

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by: **Edward (Ted) Boling**, *Partner and Bob Maynard*, *Partner, Perkins Coie LLP, Washington, DC*

Session Description:

This session will provide an updated critical look at NEPA since the major revision of the Council on Environmental Quality regulations completed in 2020, featuring seasoned NEPA experts with practical experience concerning mining projects. The revised CEQ regulations are currently subject to a broad regulatory review pursuant to President Biden's Executive Order 13990. CEQ has committed to a "comprehensive reconsideration of the 2020 Rule to evaluate its legal basis, policy orientation, and conformance with Administration priorities, including the Administration's commitment to addressing climate change and environmental justice." In coordination with OMB under Section 213, Executive Order 14008, CEQ's NEPA review will need to include provisions "to ensure that Federal infrastructure investment reduces climate pollution, and to require that Federal permitting decisions consider the effects of greenhouse gas emissions and climate change" and "to accelerate the deployment of clean energy and transmission projects in an environmentally stable manner." This emphasis on the development of renewable energy production and transmission will have to be harmonized with the goals, under Section 216, of conserving at least 30 percent of our lands and waters by 2030 and, under Section 219, of securing environmental justice and spurring economic opportunity for disadvantaged communities. The presentations and discussion will focus on the aspects of the 2020 regulations that should be retained by CEQ and the implications of changes directed by these Executive Orders. The session will cover other current developments regarding NEPA in the courts and Congress.

Ted Boling



Edward (Ted) Boling served as the country's top National Environmental Policy Act (NEPA) attorney as an associate director at the Council on Environmental Quality (CEQ) in the Executive Office of the President. Ted served at CEQ, the U.S. Department of the Interior (DOI), and the U.S. Department of Justice (DOJ) in Democratic and Republican administrations. His

continued on next page

2021 Technical Session Program... (continued)

AFTERNOON SESSIONS | THURSDAY DECEMBER 9... (Continued)

SESSION TIMES: 2:00 - 5:30 COFFEE BREAK 3:35 - 4:20

NEPA AT 50+; Will There be a New Normal?... (Continued)

experience includes deep involvement in federal infrastructure permitting issues and the first comprehensive revision of CEQ's NEPA regulations in 40 years.

Bob Maynard



Bob Maynard is a partner based in the Perkins Coie Boise office and chair of the firm's Mining/Oil & Gas Group. Bob has more than forty years of experience in National Environmental Policy Act (NEPA) and other environmental and natural resources law. He has assisted numerous mining projects with permitting and other regulatory, transaction, and litigation matters and issues in the eastern and western U.S. and Alaska. His work has encompassed the prospecting, exploration, development, production and reclamation/closure operation phases. He served many years as a federal attorney representing the U.S. Forest Service regarding mining and other matters in Alaska and Washington D.C. He speaks and writes frequently on NEPA and other environmental and natural resources law and policy topics.

LARGE LEFT LATERAL LEAPS TO GEOLOGIC

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by:

We are currently looking for someone to chair this session. If you are interested please contact Pat Heywood by email - pheywood@miningamerica.org

LARGE LEFT LATERAL LEAPS FOR ENVIRONMENTAL PROFESSIONALS - THE COVID-19 APOCALYPSE: Environmental regulations in a post-pandemic recovery

Area of Interest - Environmental

Chaired by: **Shawn Calendine**, Geoscientist, hydroGEOPHYSICS, Inc., Tucson, AZ

Session Description:

Over 18 months we learned how a pandemic could weave a web of illness, economic distress, and uncertainty across the globe. We have watched some governments successfully fight the virus, and others catastrophically fail. As global economies re-emerge, many governments and industries prioritize a speedy return to growth. How has the mining industry and the regulatory environment changed in response to the pandemic disruption, a new executive branch administration, and the continually emerging demands of a pandemic recovery? The general topics will include:

- **The pandemic and climate change.** Altered rainfall patterns may necessitate changes in environmental compliance, monitoring, and mitigation strategies. Where does the mining industry stand today with climate change in a post-pandemic recovery?
- **Shredding the red tape.** The National Environmental Policy Act was always envisioned as a decision framework for the federal government, not a roadblock. Yet, some mining projects can't seem to finish the NEPA process in recent years, while others sail through successfully. Is something broken, or is this simply the process?

- **Compliance vs. gridlock.** Will partisanship, the dramatic contrast between past and present administrations, and a post-pandemic recovery lead to legislative gridlock on environmental and mining regulation, or is there such a thing as a regulatory «win-win» in the current regulatory environment?
- **Building bridges.** How can we build effective working relationships between regulators and operators despite limits on face-to-face engagement in the post-pandemic world? Have the opportunities afforded by our collective adaptation to the virus-induced limitations created a more resilient and responsive work environment? What are the lessons learned, and where do we go from here?
- **Stories from the pit.** Working as an environmental professional during and post corona isolation.

The AEMA makes no assertions about this session's political correctness except that it is unlikely to be.

Shawn Calendine



Shawn Calendine is the Marketing & Development Manager at hydroGEOPHYSICS, a leader in the field of geophysical consulting and geosciences servicing the environmental, engineering, groundwater, mining, oil and gas, and natural-resource exploration industries. Shawn creates long-term value for hydroGEOPHYSICS by bringing a robust professional quality to the company's marketing environment and by developing strong relationships with clients, building trust through integrity, flexibility, a deep understanding of client needs, along with decades of experience as an environmental scientist and geoscientist.

WHAT DOES MSHA HAVE IN STORE UNDER THE NEW ADMINISTRATION?

Area of Interest - Environmental

Chaired by: **Karen Johnston**, Member, Jackson Kelly PLLC, Denver, CO and
Jason Nutzman, Director, Fennemore, Denver, CO

Description:

Almost one year into the Biden Administration, mine operators have seen an upswing in enforcement actions and new initiatives. The new Assistant Secretary for Mine Safety and Health has put their stamp on the agency and is aiming for a more progressive approach. Hear from representatives from MSHA and industry regarding key initiatives implemented by MSHA, recent and future rulemaking, and a review of the state of One MSHA. In this session you will hear from MSHA about how the consolidation of coal and metal/nonmetal enforcement and personnel is working, new safety and/or enforcement initiatives, and what regulatory or enforcement changes might be on the horizon. This will be followed by a brief update on litigation under the Mine Act and a roundtable discussion with an opportunity for your questions to be addressed by our participants.

Karen L. Johnston



Karen L. Johnston is a Member of Jackson Kelly PLLC, resident in the Denver office. She handles all aspects of the defense of safety and health cases involving both MSHA-regulated and OSHA-regulated facilities as part of the firm's nationwide occupational safety and health practice group. She counsels mine operators and general industry employers with respect to prevention and avoidance of liability

continued on next page

2021 Technical Session Program... (continued)

under the Occupational Safety and Health Act and the Federal Mine Safety and Health Act, as well as the Safe Explosives Act. She also handles all aspects of the defense of enforcement actions arising under those statutes, including both administrative and civil litigation. She conducts seminars and training sessions on enforcement and discrimination topics under various state and federal safety and health statutes.

Jason Nutzman



Jason Nutzman works out of Fennemore's Denver office in the natural resources, energy and environment practice group. Jason's practice focuses on representing mining companies nationwide regarding Mine Safety and Health Administration (MSHA), Occupational Safety and Health Administration (OSHA), and general employment matters. He represents both coal and metal/non-metal

clients before the Federal Mine Safety and Health Review Commission in accident investigations, special investigations, and discrimination investigations conducted by the Department of Labor with respect to the Mine Safety and Health Act.

MORNING SESSIONS | FRIDAY DECEMBER 10

SESSION TIMES: 8:00 - 11:30 COFFEE BREAK 9:35 - 10:20

THE CURT EVERSON GREAT BASIN EXPLORATION SESSION

Area of Interest - Mineral Deposits, Geology & Exploration

Chaired by:

We are currently looking for someone to chair this session. If you are interested please contact Pat Heywood by email - pheywood@miningamerica.org

ARTIFICIAL INTELLIGENCE & DATA ANALYTICS APPLICATIONS IN MINING OPERATIONS, THE DRIVING FORCE OF INDUSTRY

Area of Interest - Operations

Chaired by: **Javid Sattarvand, Ph.D.**, Associate Professor, *University of Nevada, Reno and*
Ali Soofastaei, Ph.D., *Artificial Intelligence Projects Leader, Vale-Australia-Brisbane*

Session Description:

The session will include speakers from the mining industry and academia on digital transformation of the mining industry through the intelligent networking of the machines and processing of the data with advanced data analytics and artificial intelligence.

Javid Sattarvand



Dr. Javid Sattarvand, Ph.D., is an associate professor at the Department of Mining and Metallurgical Engineering, at the University of Nevada, Reno since 2015. Dr. Sattarvand has received his Ph.D. in Mining Engineering from the University of Rheinisch-Westfälische Technische Hochschule Aachen – Germany in 2009. With 17 years of academic appointments as a lecturer, Assistant Professor and Associate Professor in the USA, Germany, Netherlands, and Iran and supervising 34 masters and 3 Ph.D. students, he is the teacher for mining automation and mining robotics courses at the University of Nevada, Reno. Dr. Sattarvand has published 26 journal and over 70 conference papers and has received over three million dollars of federal grants, mostly from NIOSH. He has been also the recipient of the prestigious SME's career development grant (\$300K). Dr. Sattarvand's industrial expertise is in

mine planning, optimization algorithms, and programming for different mining applications, mine monitoring, and mine control systems. He has founded two start-up companies and his cooperation with major global consulting companies resulted in more than 20 industrial projects and the commercialization of several software and hardware products for mining automation.

Ali Soofastaei



Dr. Ali Soofastaei is an artificial intelligence scientist and an industrial global project leader. He leads innovative industrial projects in the field of artificial intelligence (AI) applications to improve safety, productivity, and energy efficiency, and to reduce maintenance costs. Dr. Soofastaei completed his Ph.D. at The University of Queensland (UQ) in the field of AI applications in mining engineering where

he led a revolution in the use of deep learning (DL) and AI methods to increase energy efficiency, reduce operation and maintenance costs, and reduce greenhouse gas emissions in surface mines. Currently he is leading an AI Program in Vale.

MINE CLOSURE AND RECLAMATION

Area of Interest: Environmental

Chaired by: **Nick Rauh**, *Mining Technical Sales Manager, AGRU America, Inc., Fernley, NV and*

Steve Boyce PE, *Nevada Mining Practice Leader, Haley & Aldrich, Inc., Elko, NV*

Session Description:

Mine closure is a critical component of environmental management in the mining industry. A thorough mine closure and reclamation plan is a complicated and often overlooked aspect in the design life of a site. This session will include technical presentations and case studies on the closure and reclamation process from shut down to post-closure monitoring from mining professionals across the industry.

Nick Rauh



Nick Rauh is the Mining Sales Manager for AGRU America, Inc. in Reno, Nevada. Before taking over the Mining Division, Nick served as the Technical Manager for the Western and Central United States for AGRU. Prior to working on the manufacturing side, he served as a project engineer for a geosynthetic installation contractor for a number of years. Nick received a BS in Civil Engineering from the University of Nevada, Reno.

Steve Boyce



Steve Boyce is a professional civil engineer and Nevada Mining Practice Leader for Haley and Aldrich, Inc. Steve graduated with an MS in Civil Engineering and an MBA from the University of Nevada. He has been active in the mining industry in Nevada, North America, and globally for over 30 years, performing roles in the regulatory, operations, and consulting arenas over that time. He has been completing and facilitating mine closure since 1997 and as a lifetime Nevada resident enjoys free time in the Nevada and Idaho outdoors.

2021 Technical Session Program... (continued)

MORNING SESSIONS | FRIDAY DECEMBER 10... (Continued)

SESSION TIMES: 8:00 - 11:30 COFFEE BREAK 9:35 - 10:20

BUILDING BACK BETTER: CONNECTING THE DOTS WITH MINING

Area of Interest: Legislative & Public Affairs

Chaired by: **Mark Compton**, Executive Director, American Exploration & Mining Association, Spokane, WA

Session Description:

The Biden Administration has very clear priorities, including addressing climate change through renewable energy and vehicle electrification, rebuilding infrastructure, and highlighting environmental justice issues. Despite mining's indisputable role in addressing these challenges, tensions exist with other anti-development priorities of the Administration and Congress. This session will dive deeper into some of those tensions and how the mining industry can help policymakers connect the dots.

Mark Compton



Mark rejoined AEMA after serving six years as the Utah Mining Association's (UMA) President. Having worked for AEMA, then known as the Northwest Mining Association, from 2008-2012 as the Government Affairs Manager, he already possesses an organic familiarity with the Association, its membership, and the issues.

Additionally, Mark possesses over a quarter century of government affairs experience. Prior to his tenure at UMA, he served as AEMA's Government Affairs Manager and worked as a member of Idaho Governor C.L. "Butch" Otter's gubernatorial and congressional staff, where he handled issues focusing on natural resources and economic development in northern Idaho.

He has a profound appreciation for the importance of responsible resource development to our economy and our way of life. He believes that by working together, AEMA and its members can ensure the U.S. mining industry remains strong and is able to produce the raw materials on which our modern society depends.

A graduate of the University of Montana, Mark lives with his wife Kelley on the outskirts of Coeur d'Alene, ID.

EXHIBIT HALL HOURS & ACTIVITIES

TUESDAY DECEMBER 7

Exhibitor Set up ~ 8:00 am- 5:00 pm

WEDNESDAY DECEMBER 8 ~ 9:00 am - 6:30 pm

- Exhibits Open ~ 9:00 am
- Morning Coffee Break ~ 9:35 - 10:20
- Sandwich Lunch ~ Noon - 1:30 pm
Sandwich, chips, cookie & soda \$15.00
- Afternoon Coffee Break ~ 3:35 - 4:20
- Welcoming Reception ~ 5:30 pm - 6:30 pm

THURSDAY DECEMBER 9 ~ 9:00 am - 6:30 pm

- Exhibits Open ~ 9:00 am
- Morning Coffee Break ~ 9:35 - 10:20
- Sandwich Lunch ~ Noon - 1:30 pm
Sandwich, chips, cookie & soda \$15.00
- Afternoon Coffee Break ~ 3:35 - 4:20
- Happy Hour Reception ~ 5:30 pm - 6:30 pm

FRIDAY DECEMBER 10 ~ 9:00 am - 11:00 am

- Exhibits Open ~ 9:00 am - 11:00 am
- Morning Coffee Break ~ 9:35 - 10:20
- **TEAR DOWN - 11:00 am - 5:00 pm**



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Exploration & Mining**
ASSOCIATION

2021 ANNUAL MEETING SPONSORSHIP OPPORTUNITIES

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<input type="checkbox"/> Tuesday - Awards & Recognition Reception	\$ 2,500	\$ 30,000
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Wednesday - Young Professional's Mixer	Sponsorship is Filled	
<input type="checkbox"/> Thursday - Happy Hour Reception in the Exhibit Hall	\$ 2,500	\$ 35,000
EXHIBIT HALL TECHNICAL SESSION BREAKS (each break)		
Morning <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday	\$ 500	\$ 7,500
<input type="checkbox"/> Friday Morning Moose Milk	\$ 500	\$ 6,000
Afternoon <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday	\$ 500	\$ 5,000
MEALS		
<input type="checkbox"/> Wednesday - Wednesday Keynote Speaker Luncheon	\$ 2,500	\$ 16,000
<input type="checkbox"/> Wednesday - Exhibit Hall Sandwich Lunch	\$ 250	\$ 6,000
Thursday - Government Industry Breakfast	Sponsorship is Filled	
<input type="checkbox"/> Thursday - Thursday Keynote Speaker Luncheon	\$ 2,500	\$ 16,000
Thursday - Young Professionals Luncheon	Sponsorship is Filled	
<input type="checkbox"/> Thursday - Exhibit Hall Sandwich Lunch	\$ 250	\$ 6,000
GENERAL SPONSORSHIP OPPORTUNITIES		
Registration Bag	Sponsorship is Filled	
<input type="checkbox"/> Student Travel Aid	\$ 300	\$ 22,000
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<input type="checkbox"/> General Convention Sponsors	\$ 100	
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<input type="checkbox"/> Technical Session Sponsors	\$ 500	\$ 30,000
Thursday Environmental LLLL Session - beer	Sponsorship is Filled	
<input type="checkbox"/> Thursday Traditional LLLL Session - beer	\$ 100	\$ 2,000
EXHIBIT HALL		
<input type="checkbox"/> Core Shack Displays	\$ 500	\$ 8,000
<input type="checkbox"/> Exhibit Hall Bars	\$ 300	\$ 2,500

2021 Annual Meeting Sponsorship Agreement

Complete this form and return it by mail to AEMA 16201 E. Indiana Ave., Ste. 3280, Spokane Valley, WA 99212-2385
or by email: dstroh@miningamerica.org

Event Sponsored _____ Amount \$ _____

Sponsoring Company _____

Contact _____ Title _____

Email _____

Address _____

City, State, Postal Code _____

Payment ☐ Please Invoice Me ☐ Check ☐ VISA ☐ MasterCard ☐ American Express ☐ Discover

Card Number _____ Expir Date _____

Name as it appears on the Card (please print) _____

CC billing address & Zip _____

Student Poster Contest

The Student Poster Contest is designed to give young men and women the opportunity to present papers to the convention attendees. This year's contest will be judged on Wednesday, December 8. Set up will take place on Tuesday, December 7.

CONTEST DESCRIPTION

The contest is structured to simulate the presentation of a project or process to management by an engineer, geologist or metallurgist. The candidate will be judged on his/her ability to convey meaning and conviction that the work is significant and is of benefit to the minerals industry. The contest provides an excellent opportunity for young people to meet leaders in the minerals industry and to develop communication skills with other professionals who may not necessarily be skilled in the student's particular discipline. We are accepting papers dealing with exploration, operations, management, economics, reclamation and other subjects pertinent to the mining industry.

PRIZES TO BE AWARDED

- Grand Prize ~ \$350 - Check donated by Sponsors of the 2021 AEMA Annual Meeting
- 2nd Prize ~ \$200 - Check donated by Sponsors of the 2021 AEMA Annual Meeting
- 3rd Prize ~ \$150 - Check donated by Sponsors of the 2021 AEMA Annual Meeting
- 4th Prize ~ \$100 - Check donated by Sponsors of the 2021 AEMA Annual Meeting
- 5th Prize ~ \$ 75 - Check donated by Sponsors of the 2021 AEMA Annual Meeting

SPECIFICATIONS

BOOTH DIMENSIONS:

Each student will be provided a 4' x 8' poster board display unit (that will accept push pins), a table and a chair.

DISPLAY MATERIALS:

The display materials for hanging on the panels should be maps, diagrams, charts and posters that are of good quality. Core, rock samples, test results, demonstrations, handouts or other such items can be displayed or distributed on the table.

SIGNAGE:

AEMA will prepare one "identifying" sign for each student to display at his/her booth. The sign will have the student's name, school name and the presentation title.

SET UP & JUDGING:

Exhibitor, core shack and student poster set up will take place between 8:00 am and 5:00 pm on Tuesday December 7. Judging will be on Wednesday December 8. Students are expected to be at their posters and ready to discuss their poster projects. Approximate time to be determined. Prizes will be awarded during the Students & Junior Professionals Luncheon on Thursday.

COST

Technical Session fees are waived for all full time students who are members or become members of AEMA. Student membership fees are \$25.00 annually. Student travel aid is available. Contact Pat Heywood - pheywood@miningamerica.org

This entry form does not constitute a registration. Students must complete and return a registration form. See form in this brochure, or online at www.miningamerica.org

HOW TO ENTER

Interested students should complete and return the registration form below to AEMA on or before November 1. If you have any questions please contact Pat Heywood pheywood@miningamerica.org.

2021 STUDENT POSTER CONTEST ENTRY FORM

Return the completed form to AEMA~ 16201 E. Indiana Ave., Ste. 3280, Spokane Valley, WA 99216
or Email to: pheywood@miningamerica.org

Student Name _____

School _____

Preliminary Title of Presentation (may be changed prior to November 1) _____

Email _____ Cell Phone _____

Address _____

City _____ State/Province _____ Postal Code _____ Country _____

Professional Poster Exhibition



DESCRIPTION

We are accepting papers dealing with exploration, geochemistry, geophysics, metallurgy, engineering, economics, reclamation, operations, and other subjects pertinent to the mining and mineral exploration industry. This poster session is designed to help bridge science and industry, inspire collaborative efforts in mineral exploration, and showcase research applied to mineral deposits. The core shack and exhibit hall are available for companies interested in promotional-type displays.

SPECIFICATIONS

Board Dimensions: Each presenter will be provided a 4' x 8' poster board display unit and a chair.

Display Materials: The display materials for hanging on the panels should be posters, maps, or diagrams of good quality.

Signage: AEMA will prepare one "identifying" sign with name, affiliation, and presentation title.

Set Up: Display set up will take place between 8:00 am and 5:00 pm on Tuesday, December 7. Participants are expected to be next to their display for a formal Q & A session between 2:00 pm and 4:00 pm on Wednesday, December 8. Participants are welcome to leave their posters up until 11:00 am on December 10.

COST

The Exhibit Only registration fee is waived for one individual per poster. If you are not a current member of AEMA there is a place on the registration form you can join or renew. Poster Session participants must be either an individual member, be employed by a Corporate member company, or be a government employee. If you want to attend the technical sessions, a technical session badge must be purchased. **This entry form does not constitute a registration.** Please complete the **exhibitor registration** form in this brochure or online at www.miningamerica.org.

HOW TO ENTER

Interested parties should complete and return the registration form below to AEMA on or before November 1. If you have any questions please contact Pat Heywood, pheywood@miningamerica.org.

2021 POSTER EXHIBITION ENTRY FORM

Return the completed form to AEMA, 16201 E. Indiana Ave., Ste. 3280, Spokane Valley, WA 992136 or Email to: pheywood@miningamerica.org

Name _____

Affiliation _____

Preliminary Title of Presentation (may be changed prior to Nov. 1) _____

Email _____ Cell Phone _____

Address _____

City _____ State/Province _____ Postal Code _____ Country _____

Hotel Registration Information

Nugget Casino Resort
1100 Nugget Avenue
Sparks, Nevada



Room Reservations: (800) 648-1177

or <http://bookings.ihotelier.com/bookings.sp?groupID=3179467&hotelID=96145>

Refer to our GROUP name - **GAEMA21** to get our discounted rate

Government rate:

Refer to our GROUP name - **GAEMAGO**

Online reservations: From our website -

<https://www.miningamerica.org/> click on the **Annual Meeting** tab and then **Registration & Housing**.

All attendees, speakers, chairs and exhibitors are responsible for making their own guest folio; room, tax, resort fee and incidental charges. The hotel requires a one night's room deposit, per room, to guarantee accommodations. All major credit cards are accepted for the deposit, which is refundable if cancellation is made forty-eight (48) hours prior to arrival. This deposit guarantees the room until 12:00 midnight, on the scheduled arrival date. Check-in is 3:00 pm and Check-out is 11:00 am.

IMPORTANT INFORMATION ~ DON'T BE SCAMMED BY IMPOSTORS

We will not be using any outside company or agency to book rooms. In order to reserve your room you must either reserve it on-line through the AEMA website, or call the Nugget Casino Resort directly at the above listed phone number.

ROOM RATES

Resort and Casino (formerly West and East) Towers (Single or Double Occupancy) - \$104

Triple and Quad occupancy rates are \$10 per person over the quoted rate

Limited number of Government Rate Rooms \$90

Our discounted resort fee is \$23

Rates apply three days before (December 2) and three days after (December 13)

Room Reservation Cut-off is November 12, 2021

HOSPITALITY CONTACT

Hospitality Suite Reservations & Food & Beverage (for suite or exhibit booth)

Liz Shepard

Elizabeth.Shepard@marnellgaming.com

775.356.3312



Casino Tower - double queen (above)

Casino Tower - petite king rooms (below)



Hotel Tower king double queen room



Hotel Tower petite king room



Registration Information

EVERYONE MUST REGISTER...

This includes chairs, speakers & exhibitors. To receive the advanced discounted registration fee your completed registration form must be received by AEMA on or before midnight PST Sunday, November 21, 2021.

**** **NEW** -- Complimentary Exhibit Hall Spouse Passes are available by request. Contact Mike Heywood - email: mheywood@miningamerica.org, 509.624.1158 x 110.

CANCELLATIONS/SUBSTITUTIONS...

Your registration fee minus a 20% cancellation charge will be refunded if your written notification is received by AEMA on or before November 21, 2021. After that date, refunds will not be issued. You may send a substitute from your organization. Should the 2021 AEMA Annual Meeting be canceled due to COVID-19, we will refund any canceled registration fees in full with no penalty. We are currently working on an alternative virtual meeting should cancellation become necessary.

PACKET PICKUP & ON SITE REGISTRATION

AEMA on site registration and badge pickup will be located on the 2nd floor of the Spokane Convention Center. AEMA registration desk hours:

- **Sunday December 5**
Registration for the SRCE short course will be on the 2nd floor adjacent to the course room Sunday morning 7:00 - 8:00
Evening registration will be 3:00 pm - 5:00 pm
- **Monday December 6**
7:00 am - 5:00 pm
- **Tuesday December 7**
7:00 am - 5:00 pm
- **Wednesday December 8**
7:00 am - 5:30 pm
- **Thursday December 9**
7:00 am - 5:30 pm
- **Friday December 10**
7:00 am - 11:00 am

CONTINUING LEGAL EDUCATION CREDITS

AEMA will seek 6.8 hours of Continuing Legal Education credit in 60-minute states and 8.2 hours of CLE credit in 50-minute states for the **U.S. Mining Law Short Course** and up to 17 hours of CLE credit in 60-minute states and 20.4 hours of CLE credit in 50-minute states for general registration **Environmental and Legislative and Public Affairs programming**.

The State Bar of Arizona does not approve or accredit CLE activities for the Mandatory Continuing Legal Education requirement. This activity may qualify for up to 17 hours toward your annual CLE requirement for the State Bar of Arizona, including 0 hour(s) of professional responsibility.

Credit hours are estimated and are subject to each state's approval and credit rounding rules.

Please visit the conference website at <https://www.miningamerica.org/2021-annual-meeting/> and scroll down to the CLE Bar for updates as we get them.

ATTENTION STUDENTS, CHAIRS, SPEAKERS & EXHIBITORS

STUDENTS: Technical session registration fees are waived for all full time college students who are AEMA members (or join when registering). Annual membership fees for students - \$25.00. AEMA also has travel and lodging assistance available to qualified students. Contact Pat Heywood - pheywood@miningamerica.org for more information.

SHORT COURSE INSTRUCTORS & SPEAKERS: We will comp short course registration if you are an AEMA individual member, one of the two corporate representatives or employee of a corporate member. The exception to this is employees of the federal government and state regulatory agencies & geological surveys. This exception DOES NOT apply to college or university professors or other employees of colleges and universities who are not associated with the state geological survey/bureau of mines. Should they choose not to become a member they will pay 50% of the course fee.

IMPORTANT -- Speakers -- Please indicate which short course you are speaking in on the line provided on the registration form.

TECHNICAL SESSION CHAIRS & SPEAKERS: We will comp technical session registration for session chairs and 1 speaker per talk (maximum of 6 comped speakers per session) provided you are either individual members of AEMA, one of the two corporate representatives of a member company, or employed by a member company. The exception to this is employees of the federal government and state regulatory agencies & geological surveys. This exception DOES NOT apply to college or university professors or other employees of colleges and universities who are not associated with the state geological survey/bureau of mines. Non-member session chairs and speakers will be required to register at the member rate of \$375. **IMPORTANT** -- Speakers --- Please indicate which session you are speaking in on the line provided on the registration form - do not enter the Interest Area or your talk title.

EXHIBITORS: Registration is in addition to reserving your booth space. **Please coordinate.** You are allowed 2 complimentary technical session badges and 2 complimentary exhibit hall only badges per booth space. **VIP Guest Passes are for customer/client use only.** They may not be used for company employees. Additional company employees should complete a registration form and pay the Exhibit Hall Pass Fee of \$75.00. If you exceed this allotment, you will be billed. Exhibitors who receive a complimentary technical session badge as a short course chair, technical session chair or technical session speaker will not count against these allotments. You must be registered prior to November 21, 2021.

**ANYONE NOT REGISTERED PRIOR TO MIDNIGHT NOVEMBER 21, 2021 PST WILL BE CHARGED
AN ADDITIONAL \$50 LATE FEE WHEN REGISTERING ON SITE - WE WILL NOT INVOICE -- NO EXCEPTIONS**

2021 Advanced Discount Registration Form

Return to AEMA by email to mheywood@miningamerica.org, or mail to AEMA, 16201 E Indiana Ave., Ste. 3280, Spokane Valley, WA 99216, USA.
To qualify for Advance Registration Pricing, your completed form must be received by AEMA no later than Sunday November 21, 2021

Name: _____ Preferred first name for badge: _____
Title: _____
Organization: _____
Address: _____
City: _____ State/Province: _____ Postal Code: _____
Country: _____ Phone: _____
Email: _____ Twitter: _____

ANNUAL MEMBERSHIP DUES - you must join, renew or have a current membership to get discount rates

	<u>New</u>	<u>Renew</u>	
Individual Active	<input type="checkbox"/>	<input type="checkbox"/>	\$ 130
Retired Senior (65 and over & not working)	<input type="checkbox"/>	<input type="checkbox"/>	\$ 60
Full-time University Student (ID required)	<input type="checkbox"/>	<input type="checkbox"/>	\$ 25
<input type="checkbox"/> My membership is current			Membership Fee _____

SHORT COURSE/FIELD TRIP REGISTRATION -(student discounts available on some courses - contact AEMA)

Three day course
☐ Using SRCE Version 2.0 - New & Updated \$ 650

Two day courses
☐ Understanding the SEC's New Mining Disclosure Rule: S-K 1300 \$ 450
☐ Practical Methods for Geostatistics, Spatial Analysis & Block Modeling \$ 450
☐ NEPA Training \$ 450

One day courses
☐ Mineral Resource Risk (1 day Mon) \$ 300
☐ Cyanide Optimization & Planning in the Mine Life Cycle (1 day Mon) \$ 300
☐ MSHA Refresher Training (1 day Mon) Lunch fee only \$ 25
☐ U.S. Mining Law (1 day Tue) ☐ **Optional CLE Credit add \$ 100** \$ 300
☐ Fundamentals of Mineral & Metallurgical Processing (1 day Tues) \$ 300
☐ Data Analytics for Earth Science Professionals Using EXCEL (1 day Tues) \$ 300
☐ I am a **Short Course Chair/Speaker (check course box above)** No Fee
Non-mbr speakers pay 1/2 course fee

Short Course CLE Credit _____
Short Course Fee _____

FULL REGISTRATION (includes technical sessions, exhibit hall & social functions)

	<u>Member or US Gov't</u>	<u>Non-Member</u>	
<input type="checkbox"/> Full Registration <input type="checkbox"/> Optional CLE Credit add \$ 350	\$ 375	\$ 625	
<input type="checkbox"/> Retired Senior (65 and over & not working)	\$ 325	\$ 575	
<input type="checkbox"/> I am a Technical Session Chair* or Short Course Chair	No Fee	No Fee	
<input type="checkbox"/> I am a Technical Session Speaker *	No Fee	\$ 375	
*enter session name: _____			
<input type="checkbox"/> Full Time University Student (ID required)	No Fee	\$ 100	
<input type="checkbox"/> Press Pass (1 per media group)	No Fee	No Fee	
			Tech Session CLE Credit _____
			Tech Session Reg Fee _____

EXHIBIT HALL ONLY REGISTRATION (includes exhibit hall & social functions)

	<u>Member or US Gov't</u>	<u>Non-Member</u>	
<input type="checkbox"/> Exhibit Hall Pass	\$ 75	\$ 150	Exhibit Hall Only Reg _____

MEAL AND DRINK TICKETS

☐ Special food requirements _____

	<u>Quantity</u>	<u>\$</u>	
Wednesday			
Wednesday Keynote Speaker Luncheon	_____	@ \$60 ea = _____	
Exhibit Hall Sandwich Lunch (walk around lunch)	_____	@ \$15 ea = _____	
Thursday			
Thursday Keynote Speaker Luncheon	_____	@ \$60 ea = _____	
Thursday Students & Junior Professionals Luncheon	_____	@ \$50 ea = _____	
Students with ID's are no charge	_____	No Fee	
Exhibit Hall Sandwich Lunch (walk around lunch)	_____	@ \$15 ea = _____	
Drink Tickets	_____	@ \$ 7 ea = _____	Meal & Drink Tickets _____

TOTAL AMOUNT DUE AND FORM OF PAYMENT

Total Amount Due \$ _____

☐ Check ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover ☐ PO (Government Agency)

Card Number _____ Expir Date _____

Name as it appears on the Card (please print) _____

CC billing address (# and street name only) & Zip _____

2021 Exhibitor Advanced Discount Registration Form

Return to AEMA by email to mheywood@miningamerica.org, or mail to AEMA, 16201 E Indiana Ave., Ste. 3280, Spokane Valley, WA 99216, USA.

To qualify for Advance Registration Pricing, your completed form must be received by AEMA no later than Sunday November 21, 2021

Exhibiting Company Booth # _____
 Name: _____ Preferred first name for badge: _____
 Title: _____
 Organization: (if different from above) _____
 Address: _____
 City: _____ State/Province: _____ Postal Code: _____
 Country: _____ Phone: _____
 Email: _____ Twitter: _____

ANNUAL MEMBERSHIP DUES - you must join, renew or have a current membership to get discount rates

	<u>New</u>	<u>Renew</u>	
Individual Active	<input type="checkbox"/>	<input type="checkbox"/>	\$ 130
Full-time University Student (ID required)	<input type="checkbox"/>	<input type="checkbox"/>	\$ 25
<input type="checkbox"/> My membership is current			Membership Fee _____

SHORT COURSE/FIELD TRIP REGISTRATION -(student discounts available on some courses - contact AEMA)

Three day course
☐ Using SRCE Version 2.0 - New & Updated \$ 650

Two day courses
☐ Understanding the SEC's New Mining Disclosure Rule: S-K 1300 \$ 450
☐ Practical Methods for Geostatistics, Spatial Analysis & Block Modeling \$ 450
☐ NEPA Training \$ 450

One day courses
☐ Mineral Resource Risk (1 day Mon) \$ 300
☐ Cyanide Optimization & Planning in the Mine Life Cycle (1 day Mon) \$ 300
☐ MSHA Refresher Training (1 day Mon) Lunch fee only \$ 25
☐ U.S. Mining Law (1 day Tue) ☐ **Optional CLE Credit add \$ 100** \$ 300
☐ Fundamentals of Mineral & Metallurgical Processing (1 day Tues) \$ 300
☐ Data Analytics for Earth Science Professionals Using EXCEL (1 day Tues) \$ 300
☐ I am a **Short Course Chair/Speaker (check course box above)** No Fee

Non-mbr speakers pay 1/2 course fee

Short Course CLE Credit _____
Short Course Fee _____

FULL REGISTRATION (includes technical sessions, exhibit hall & social functions)

2 free per booth space - please coordinate

	<u>Member or US Gov't</u>	<u>Non-Member</u>	
<input type="checkbox"/> Full Registration (using 1 of 2 free passes) <input type="checkbox"/> Optional CLE Credit add \$ 350	No Fee	No Fee	
<input type="checkbox"/> Additional Paid Registration	\$ 375	\$ 625	
<input type="checkbox"/> I am a Technical Session Chair* or Short Course Chair	No Fee	No Fee	
<input type="checkbox"/> I am a Technical Session Speaker *	No Fee	No Fee	
*enter session name: _____			
<input type="checkbox"/> Full Time University Student (ID required)	No Fee	\$ 100	

Tech Session CLE Credit _____
Tech Session Reg Fee _____

EXHIBIT HALL ONLY REGISTRATION (2 free per booth space)

<input type="checkbox"/> Exhibit Hall Pass - (using one of the two free passes)	No Fee	No Fee	
<input type="checkbox"/> Additional Paid Exhibit Hall Pass	\$ 75	\$ 150	
<input type="checkbox"/> Professional Poster Session Presenter (1 per poster)	No Fee	No Fee	Exhibit Hall Only Reg Fee _____

MEAL AND DRINK TICKETS

☐ Special food requirements _____

	<u>Quantity</u>	<u>\$</u>	
Wednesday			
Wednesday Keynote Speaker Luncheon	_____	@ \$60 ea = _____	
Exhibit Hall Sandwich Lunch (walk around lunch)	_____	@ \$15 ea = _____	
Thursday			
Thursday Keynote Speaker Luncheon	_____	@ \$60 ea = _____	
Thursday Students & Junior Professionals Luncheon	_____	@ \$50 ea = _____	
Students with ID's are no charge	_____	@ \$15 ea = _____	
Exhibit Hall Sandwich Lunch (walk around lunch)	_____	@ \$ 7 ea = _____	
Drink Tickets			Meal & Drink Tickets _____

TOTAL AMOUNT DUE AND FORM OF PAYMENT

☐ Check ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover ☐ PO (Government Agency)

Total Amount Due \$ _____

Card Number _____ Expir Date _____

Name as it appears on the Card (please print) _____

CC billing address (# and street name only) & Zip _____

2021 Exhibitors By Company

A

Acker Drill Company, *Drilling Equipment, Drilling Rigs*, 229
ACZ Laboratories, Inc., *Analytical Laboratory Services*, 219
Agilent Technologies, *Atomic Spectroscopy, Laboratory Equipment*, 724
AGRU America, Inc., *Geosynthetics, Liners*, 203
Alaska Marine Lines, Inc., *Transportation Services*, 233
ALS Minerals, *Assay Laboratory, Laboratory Analytical Services*, 131
American Assay Laboratory, *Assay Laboratory, Mineralogy Analyzer*, 700
American Drilling Corp., LLC, *Diamond Core Drilling*, 404 and 406
American Mine Services LLC, *Mine Construction, Mine Development*, 528
Anachemia Mining, *Laboratory Equipment & Supplies, Laboratory Chemicals*, 775
Analytik Jena US LLC, *Spectroscopy*, 739
Anvil International, *Grooved Piping Products*, 327
ARCADIS, *Environmental Consultants, Engineering Services*, 428
AXIS Mining Technology North America Inc., *Drill Hole Survey Gyros*, 659 and 661

B

Baroid Industrial Drilling Products, *Drilling Fluid Products*, 718 and 720
Barr Engineering Co., *Engineers*, 308
Bison Engineering Inc., *Environmental Consulting/Permitting, Environmental Services*, 538
Boart Longyear, *Drilling Services, Drilling Company*, 708 and 710
Brahma Group, *Industrial Construction*, 518
Broadbent & Associates, Inc., *Environmental Consulting, Water Resources*, 312
Bureau Veritas Minerals, *Assay Laboratory*, 111

C

CarlsonSoftware, *Mine Software*, 426
Cascade Drilling, L.P., *Drilling Company*, 429
Cementation USA Inc., *Mine Construction*, 643
CGS Mule, LLC, *Geological Supplies*, 313
Challenger Pipe & Steel, *Steel Pipe & Casing, Grooved Piping Products*, 211
Coeur Products Ltd Inc., *Core Boxes, Core Drills*, 124 and 126
COLOG, *Borehole Geophysical, Hydrophysical Logging*, 854
Colorado School of Mines, *Educational/University, Metallurgy/Mining Departments*, 749
Cornell Pump Company, *Pumps*, 754
CREG (Center for Research Economic Geology), *Research*, 129
Crone Geophysics & Exploration Ltd., *Geophysical Services*, 755

D

Dassault Systemes GEOVIA, *Mining Software, Mine Modeling Software*, 329
Datamine North America, *Mining Software*, 655

DEA Incorporated/KonNx, *Electrical Distribution Equipment*, 640
Devico, *Directional Core Drilling, Downhole Survey Tools*, 511
DGI Geoscience Inc., *Wireline Logging*, 513
Dias Geophysical, *Geophysical Services*, 535
DMC Mining Services, *Contract Mining, Engineering*, 209
Drift Exploration Drilling, Inc., *Drilling Company*, 725
Drilling HQ, *Diamond Core Supplies*, 403 and 405
Dyno Nobel Inc., *Explosives*, 205 and 207

E

EC Applications, Inc., *Geosynthetics*, 512
EcoMister Evaporator, *Dewatering Evaporator*, 753
EDCON-PRJ, Inc., *Geophysical Services*, 335 and 337
EM Strategies, Inc., *Environmental Consulting & Permitting*, 712
Energy Laboratories, Inc., *Environmental Laboratory Services*, 322
Engineering & Mining Journal, *Mining Publications*, 427
Engineering Analytics, Inc., *Engineering Consultants*, 332
Envirocon, Inc., *Environmental and Reclamation Services*, 231
Environmental Products & Applications, Inc., *Dust Control-Roads and Erosion*, 339
Environmental Standards, Inc., *Data Validation*, 523
EnviroTech Services, Inc., *Liners*, 305
ESI Liners, *Geosynthetics, Liner Installation*, 531
Evoqua Water Technologies, *Water Treatment*, 424

F

Falcon Drilling Inc., *Drilling Company*, 742
First Drilling Group, *Drilling Company*, 730 and 732
Florin Analytical Services, *Analytical Laboratory Services, Laboratory Services*,
Fogco, Misters, 534
FORDIA/Matex, *Drilling Products*, 113
Foremost, *Drilling Products*, 532
Foth Infrastructure & Environment, LLC, *Environmental Engineering*, 515 and 517
Frontier-Kemper Constructors, LLC, *Hoisting System, Conveyance & Vertical Belts*, 336

G

Galago, *Remote Sensing Analytics*, 832
General Tool, Inc., *Diamond Bits, Diamond Saw Blades*, 317
Geo-Logic Associates, *Engineering Consultants*, 316
Geological Society of Nevada (GSN), *Books & Publications*, 119
Geopros, Inc., *Direct Staffing Services for Industry*, 237
Geotemps, Inc., *Staffing Services/Mining Industry-Temporary*, 239
Golder Associates Inc., *Mine Engineering, Environmental Consultants*, 133

2021 Exhibitors By Company...(cont'd)

H

Hard Rock Consulting, LLC, *Geologic Consultants, Engineering Consultants*, 536

Harris Exploration Drilling, *Drilling Company*, 670

Harrison Western Construction Corporation, *Contract Mining, Underground Construction*, 414

HDR Engineering Inc., *Engineers*, 522

Hexagon Mining, *Mine Modeling Software, Mine Software*, 826

Hidden Valley Insurance Inc., *Insurance Services, Insurance & Risk Management*, 435

Hoffman Diamond Products, Inc., *Diamond Bits*, 227

Hole Products, *Drilling Supplies*, 729

HOLT Services inc., *Dewatering Wells, Environmental Drilling*, 504

hydroGEOPHYSICS, Inc., *Geophysical Services*, 423

I

Idaho Mining Association, *Mining Association*, 834

IMDEX Limited, *Drilling Fluids & Solids Control, Down Hole Survey/XRF Rentals*, 756 and 758

InfoMine USA, Inc./CostMine Division, *Mine Information, Cost Estimating Services*, 338

Inland Tarp & Liner, *Liners*, 760s

International Directional Services (IDS), *Gyro Surveying & Instrument Rentals, Directional Drilling Services & Motor Sales*, 130 and 132

International Lining Technology, *Liner Installation, Geosynthetics*, 304

Iron Woman Construction & Environmental Services LLC, *Mine Construction*, 653

Itasca Denver, Inc., *Hydrology, Geomechanics & Geochemistry Consulting, Environmental Consulting & Permitting*, 215

J

Jentech Drilling Supply, Inc., *Drilling Supplies*, 214

Just Refiners USA Inc., *Refiners*, 330

K

Kappes, Cassiday & Associates, *Engineering Consulting Services, Laboratory Services*, 208

Klepfer Mining Services, LLC, *Environmental Services*, 436

Knight Piesold, *Consulting Engineers, Environmental Consulting & Permitting*, 722

L

Layne Christensen Company, *Drilling Services*, 218

Legarza Exploration, *Exploration Drill Pads, Exploration Roads*, 307

Legend, Inc., *Geological Supplies, Assay Supplies*, 727

Linkan Engineering, *Water Management*, 417

Lumos & Associates, Inc., *Engineering and Environmental Consultants*, 302

M

M-I Swaco, *Drilling Fluid & Solids Control Company*, 740

Mackay School of Earth Sciences & Engineering, *Educational / University*, 125

Major Drilling, *Drilling Company*, 210 B and 212

Mavrik Environmental & Exploration Products, *Drilling Products, Machining Services*, 824

McClelland Laboratories, Inc., *Analytical Laboratory*, 822

McGinley & Associates, *Environmental Consultants*, 648 and 650

MES Mining, *Underground Mining Contractor, Tunneling*, 425

MICROMINE, *Intuitive Mining Solutions*, 413

Mill Man Steel Inc., *Sales & Supply of Steel Pipe & Accessories*, 232

Millcreek Engineering, *Engineers*, 836

Mincon, Inc., *DTH Hammers and Bits, Reverse Circulation Hammers & Bits*, 726

Minerals Unlimited, *Water Treatment*, 842

Mobile Air, *Industrial Heating*, 539

Montgomery & Associates, *Engineering*, 660

MTech/CAMP, *University, Metallurgical Consulting*, 826

Mount Sopris Instrument Company Inc., *Geophysical Logging Equipment*, 525

N

National EWP, *Drilling Company, Exploration Company*, 702 and 704

Natural Creations, *Gems and Semi-Precious Stones*, 846 and 848

Nevada Alaska Mining Co., Inc., *Lithium and Vanadium Properties*, 422

Nevada Bureau of Mines & Geology, *Government*, 127

NewFields, *Consulting Engineering, Environmental Consultants*, 402

Nilex, *Liners, Pipe*, 852

Northwest Linings and Geotextile Products, Inc./Sierra Geosynthetic Services, Inc., *Liner Installation, Geosynthetics*, 502

Northwest Machine Works, Inc., *Drilling Products, Underground Core Drilling Parts*, 235

O

O'Keefe Drilling, *Drilling Company*, 437 and 439

Original Creations, *Bronze Sculptures*, 1

P

Pac Machine Company, *Pumps*, 830

Pace Analytical Services Inc., *Laboratory Services, Environmental Laboratory Services*, 315

Pacific Inter-Mountain Distributor, LLC, *Erosion Control Products*, 527

Paragon Geochemical Laboratories, Inc., *Analytical Laboratory*, 318

Parsons Behle & Latimer, *Legal Services*, 333

PayneWest Insurance, *Insurance Services, Bonding*, 213

Perpetua Resources, *Junior Exploration Company*, 508

Pioneer Technical Services, Inc., *Engineering and Environmental Consultants*, 306

Piteau and Associates, *Engineering and Environmental Consultants*, 416

Placer Gold Design, *Mining Related Fine Jewelry, Awards, Gift Items, Jewelry*, 109

2021 Exhibitors By Company...(cont'd)

Q

Quantec Geoscience Ltd., *Geophysical Services*, 526

R

REI Drilling/DPI Drilling Products, *Drilling Services, Drilling Supplies*, 649

RESPEC, *Mining Software*, 743

Rockmore International, *Drilling Equipment (Bits & Steel), DTH Hammers & Bits*, 210

RockTech USA, *Drilling Products, Drill Hole Survey*, 323 and 325

Ruen Drilling, Inc., *Drilling Company*, 303

S

Sample Archive System, *Core Boxes*, 654

Schramm Inc., *Drilling Rigs and Compressors*, 524

Seattle Tarp Company, *Fabric Buildings*, 407

SGS, *Analytical Laboratory Services, Metallurgical Consulting*, 747

Skyline Assayers & Laboratories, *Assay Laboratory, Laboratory Analytical Services*, 638

Skytem Canada Inc., *Airborne Geophysical Services*, 537

Skyward Specialty Insurance Group, *Insurance Services*, 723

Society for Mining, Metallurgy & Exploration, Inc. (SME)/MEC, *Professional Association*, 418

Soilworks LLC, *Soil Stabilization, Dust Control*, 844

Solmax Geosynthetics LLC, *Geosynthetics, Liners*, 415

SpecTIR, LLC, *Hyperspectral Imaging*, 652

SRK Consulting (US), Inc., *Consulting Engineers*, 223 and 225

Stantec Consulting Services, *Environmental Consultants*, 224 and 226

State of Nevada-Division of Minerals, *Information of Geology & Mining in Nevada*, 123

Statefire Sales and Service, *Fire Suppression*, 644

Steel Blue North America, *Safety Footware, PPE*, 314

Strata Products Worldwide, *Underground Communications, Mine Safety Systems*, 759

Sunset Apparel, *Safety Apparel*, 326

Sunset Manufacturing, *Core Sample Bags*, 328

Superior Industries, *Material Handling*, 334

SVL Analytical, Inc., *Analytical Services*, 310

SWCA, *Environmental Consulting*, 409

T

TechFlow, *Pumps (Tsurumi)*, 744

Terramac, *Crawler Carriers*, 750

Tetra Tech, *Engineering Consultants, Environmental Consultants*, 412

The Mining Record, *Mining Publications, Maps*, 719 and 721

Timberline Drilling, *Drilling Company*, 228

TonaTec, *Drilling Company*, 222

Tsurumi (America), Inc., *Pumps*, 746

U

U. S. Bureau of Land Management, *Government*, 115 and 117

USFS, *Government*, 432 and 434

U. S. Geological Survey, *Government*, 734

United Central Industrial Supply, *Cap Lamps, Gas Detection, Mine Rescue, Ventilation Products, Services*, 309

Utah Mining Association, *Mining Association*, 516

V

Veolia Water Solutions & Technologies, *Water Treatment*, 319

Victaulic, *Grooved Piping Products*, 733

W

WaterSolve, LLC, *Dewatering*, 741

Welsh Hagen Associates, *Environmental Engineers*, 438

Western Environmental Testing Laboratory, *Environmental Laboratory Services*, 419

Wilderness Medics, Inc., *Medical Services*, 838 and 840

Women's Mining Coalition, *Education/Governmental Affairs, Public Affairs/Grassroots*, 408

Wood, *Engineering and Environmental Consultants, Consulting Engineers*, 433

Woodhawk Manufacturing, *Chuck & Rod Holder Jaws*, 658

Y

Yellow Jacket Drilling Services, *Drilling Company*, 519

Z

Zonge International, Inc., *Geophysical Services, Geophysical Instrumentation*, 217

CORE SHACK

Arizona Silver, *Junior Exploration*, C 2

Comstock Mining, Inc., *Mining Company*, C 7

Gold Standard Ventures, *Junior Exploration*, C 4

Integra Resources, *Junior Exploration*, C 3

Silver Range Resources, *Junior Exploration*, C 9

Stephen Smith, Inc./Larry R. Moyer, LLC, *Junior Exploration*, C 1

Silver Range Resources, *Junior Exploration*, C 9



**American
Exploration & Mining**
ASSOCIATION

2021 Exhibitors By Category

Airborne Geophysical Services

Skytem Canada Inc., 537

Analytical Laboratory Services

ACZ Laboratories, Inc., 219

Florin Analytical Services, 208

McClelland Laboratories, Inc., 822

Paragon Geochemical Laboratories, Inc., 318

SGS, 747

SVL Analytical, Inc., 310

Assay Laboratory

ALS Minerals, 131

American Assay Laboratory, 700

Bureau Veritas Minerals, 111

Skyline Assayers & Laboratories, 638

Assay Supplies

Legend, Inc., 727

Atomic Spectroscopy

Agilent Technologies, 724

B

Bonding

PayneWest Insurance, 213

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Geological Society of Nevada (GSN), 11

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COLOG, 854

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Cap Lamps, Gas Detection, Mine Rescue, Ventilation Products, Services

United Central Industrial Supply, 309

Chuck & Rod Holder Jaws

Woodhawk Manufacturing, 658

Consulting Engineers

DMC Mining Services, 209

Knight Piesold, 722

Montgomery & Associates, 660

NewFields, 402

SRK Consulting (US), Inc., 223 and 225

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DMC Mining Services, 209

Harrison Western Construction Corporation, 414

Core Boxes

Coeur Products Ltd Inc., 124 and 126

Sample Archive System, 654

Core Drills

Coeur Products Ltd Inc., 124 and 126

Core Sample Bags

Sunset Manufacturing, 328

Cost Estimating Services

InfoMine USA Inc./CostMine Division, 338

Crawler Carriers

Terramac, 750

D

Data Validation

Environmental Standards, Inc., 523

Dewatering Solutions

EcoMister Evaporator, 753

HOLT Services Inc., 504

WaterSolve, LLC, 741

Diamond Bits

General Tool, Inc., 317

Hoffman Diamond Products, Inc., 227

Diamond Core Drilling

American Drilling Corp., LLC, 404 and 406

Diamond Core Supplies

Drilling HQ, 403 and 405

Diamond Saw Blades

General Tool, Inc., 317

Direct Staffing Services for Industry

Geopros, Inc., 237

Directional Core Drilling & Motor Sales

Devico, 511

International Directional Services (IDS), 130 and 132

Down Hole Survey/XRF Rentals

Devico, 511

IMDEX Limited, 756 and 758

Drill Hole Survey

RockTech USA, 323 and 325

Drill Hole Survey Gyros

AXIS Mining Technology North America Inc., 659 and 661

Drilling Company

Boart Longyear, 708 and 710

Cascade Drilling, L.P., 429

Drift Exploration Drilling, Inc., 725

Falcon Drilling Inc., 742

First Drilling Group, 730 and 732

Harris Exploration Drilling, 670

Major Drilling, 210 B and 212

National EWP, 702 and 704

O'Keefe Drilling, 437 and 439

Ruen Drilling, Inc., 303

Timberline Drilling, 228

TonaTec, 222

Yellow Jacket Drilling Services, 519

Drilling Equipment (inc Bits & Steel)

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2021 Exhibitors By Category...(cont'd)

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Drilling Fluid & Solids Control Company

Baroid Industrial Drilling Products, 718 and 720
IMDEX Limited, 756 and 758
M-I Swaco, 740

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Foremost, 532
Mavrik Environmental & Exploration Products, 824
Northwest Machine Works, Inc., 235
RockTech USA, 323 and 325

Drilling Rigs & Compressors

Acker Drill Company, 229
Schramm Inc., 524

Drilling Services

Boart Longyear, 708 and 710
Layne Christensen Company, 218
REI Drilling/DPI Drilling Products, 649

Drilling Supplies

Hole Products, 729
Jentech Drilling Supply, Inc., 214
REI Drilling/DPI Drilling Products, 649

DTH Hammers & Bits

Mincon, Inc., 726
Rockmore International, 210

Dust Control-Roads and Erosion

Environmental Products & Applications, Inc., 339
Soilworks LLC, 844

E

Education/Governmental Affairs

Women's Mining Coalition, 408

Educational/University

Colorado School of Mines, 749
Mackay School of Earth Sciences & Engineering, 125

Electrical Distribution Equipment

DEA Incorporated/KonNx, 640

Engineering and Environmental Consultants

Lumos & Associates, Inc., 302
Pioneer Technical Services, Inc., 306
Piteau and Associates, 416
Wood, 433

Engineering Consultants

ARCADIS, 428
Engineering Analytics, Inc., 332
Geo-Logic Associates, 316
Hard Rock Consulting, LLC, 536
Kappes, Cassidy & Associates, 208
Tetra Tech, 412

Engineers

Barr Engineering Co., 308
HDR Engineering Inc., 522
Millcreek Engineering, 836

Environmental and Reclamation Services

Envirocon, Inc., 231

Environmental Consultants

ARCADIS, 428
Broadbent & Associates, Inc., 312
Golder Associates Inc., 133
McGinley & Associates, 648 and 650
NewFields, 402
Stantec Consulting Services, 224 and 226
SWCA, 409
Tetra Tech, 412

Environmental Consulting & Permitting

EM Strategies, Inc., 712
Itasca Denver, Inc., 215
Knight Piesold, 722

Environmental Drilling

HOLT Services inc., 504

Environmental Engineers

Foth Infrastructure & Environment, LLC, 515 and 517
Welsh Hagen Associates, 438

Environmental Laboratory Services

Energy Laboratories, Inc., 322
Pace Analytical Services Inc., 315
Western Environmental Testing Laboratory, 419

Environmental Services

Bison Engineering Inc., 538
Klepfer Mining Services, LLC, 436

Erosion Control Products

Pacific Inter-Mountain Distributon, LLC, 527

Exploration Company

National EWP, 702 and 704

Exploration Drill Pads/Roads

Legarza Exploration, 307

Explosives

Dyno Nobel Inc., 205 and 207

Fabric Buildings

Seattle Tarp Company, 407

F

Fire Suppression

Statefire Sales and Service, 644

G

Gems and Semi-Precious Stones

Natural Creations, 846 and 848

Geologic Consultants

Hard Rock Consulting, LLC, 536

Geological Supplies

CGS Mule, LLC, 313
Legend, Inc., 727

Geophysical Instrumentation

Zonge International, Inc., 217

2021 Exhibitors By Category...(cont'd)

Geophysical Logging Equipment

Mount Sopris Instrument Company Inc., 525

Geophysical Services

Crone Geophysics & Exploration Ltd., 755

Dias Geophysical, 535

EDCON-PRJ, Inc., 335 and 337

hydroGEOPHYSICS, Inc., 423

Quantec Geoscience Ltd., 526

Zonge International, Inc., 217

Geosynthetics

AGRU America, Inc., 203

EC Applications, Inc., 512

ESI Liners, 531

International Lining Technology, 304

Northwest Linings and Geotextile Products, Inc./Sierra Geosynthetic Services, Inc., 502

Solmax Geosynthetics LLC, 415

Government

Nevada Bureau of Mines & Geology, 127

U. S. Bureau of Land Management, 115 and 117

U. S. Geological Survey, 734

USFS, 432 and 434

Grooved Piping Products

Anvil International, 327

Challenger Pipe & Steel, 211

Victaulic, 733

Gyro Surveying & Instrument Rentals

International Directional Services (IDS), 130 and 132

H

Hoisting System, Conveyance & Vertical Belts

Frontier-Kemper Constructors, LLC, 336

Hydrology, Geomechanics & Geochemistry Consulting

Itasca Denver, Inc., 215

Hydrophysical Logging

COLOG, 854

Hyperspectral Imaging

SpecTIR, LLC, 652

I

Industrial Construction

Brahma Group, 518

Industrial Heating

Mobile Air, 539

Information of Geology & Mining in Nevada

State of Nevada-Division of Minerals, 123

Insurance & Risk Management

Hidden Valley Insurance Inc., 435

PayneWest Insurance, 213

Skyward Specialty Insurance Group, 723

Intuitive Mining Solutions

MICROMINE, 413

J

Jewelry

Placer Gold Design, 109

Junior Exploration Company

Arizona Silver, C 2

Gold Standard Ventures, Junior Exploration C 4

Integra Resources, Junior Exploration, C 3

Perpetua Resources, 508

Silver Range Resources, Junior Exploration C 9

Stephen Smith, Inc./Larry R. Moyer, LLC, C 1

L

Laboratory Analytical Services

ALS Minerals, 131

Skyline Assayers & Laboratories, 638

Laboratory Chemicals

Anachemia Mining, 775

Laboratory Equipment & Supplies

Anachemia Mining, 775

Agilent Technologies, 724

Laboratory Services

Florin Analytical Services, 208

Kappes, Cassiday & Associates, 208

Pace Analytical Services Inc., 315

Legal Services

Parsons Behle & Latimer, 333

Liner Installation

ESI Liners, 531

International Lining Technology, 304

Northwest Linings and Geotextile Products, Inc./Sierra Geosynthetic Services, Inc., 502

Liners

AGRU America, Inc., 203

EnviroTech Services, Inc., 305

Inland Tarp & Liner, 760

Nilex, 852

Solmax Geosynthetics LLC, 415

Lithium and Vanadium Properties

Nevada Alaska Mining Co., Inc., 422

M

Machining Services

Mavrik Environmental & Exploration Products, 824

Maps

The Mining Record, 719 and 721

Material Handling

Superior Industries, 334

Medical Services

Wilderness Medics, Inc., 838 and 840

Metallurgical Consulting

MTech/CAMP, 826

SGS, 747

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M... (continued)

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Colorado School of Mines, 749

Mine Construction

American Mine Services LLC, 528

Cementation USA Inc., 643

Iron Woman Construction & Environmental Services LLC, 653

Mine Engineering

Golder Associates Inc., 133

Mine Information

InfoMine USA Inc./CostMine Division, 338

Mine Modeling Software

Dassault Systemes GEOVIA, 329

Hexagon Mining, 826

Mine Safety Systems

Strata Products Worldwide, 759

Mine Software

CarlsonSoftware, 426

Hexagon Mining, 826

Mineralogy Analyzer

American Assay Laboratory, 700

Mining Association

Idaho Mining Association, 834

Utah Mining Association, 516

Mining Company

Comstock Mining, Inc., C 7

Mining Publications

Engineering & Mining Journal, 427

The Mining Record, 719 and 721

Mining Related Fine Jewelry, Awards, Gift Items

Placer Gold Design, 109

Mining Software

Dassault Systemes GEOVIA, 329

Datamine North America, 655

RESPEC, 743

Misters

Fogco, 534

P

Pipe

Nilex, 852

PPE

Steel Blue North America, 314

Professional Association

Society for Mining, Metallurgy & Exploration, Inc. (SME)/MEC, 418

Public Affairs/Grassroots

Women's Mining Coalition, 408

Pumps

Cornell Pump Company, 754

Pac Machine Company, 830

TechFlow, 744

Tsurumi (America), Inc., 746

R

Refiners

Just Refiners USA Inc., 330

Remote Sensing Analytics

Galago, 832

Research

CREG (Center for Research Economic Geology), 129

Reverse Circulation Hammers & Bits

Mincon, Inc., 726

S

Safety Apparel/Footware

Steel Blue North America, 314

Sunset Apparel, 326

Soil Stabilization

Soilworks LLC, 844

Spectroscopy

Analytik Jena US LLC, 739

Staffing Services/Mining Industry-Temporary

Geotemps, Inc., 239

Steel Pipe & Casing

Challenger Pipe & Steel, 211

Mill Man Steel Inc., 232

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Transportation Services

Alaska Marine Lines, Inc., 233

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MES Mining, 425

U

Underground Communications

Strata Products Worldwide, 759

Underground Construction

Harrison Western Construction Corporation, 414

MES Mining, 425

Underground Core Drilling Parts

Northwest Machine Works, Inc., 235

University

MTech/CAMP, 826

Water Management

Linkan Engineering, 417

Water Resources

Broadbent & Associates, Inc., 312

Evoqua Water Technologies, 424

Veolia Water Solutions & Technologies, 319

Water Treatment

Minerals Unlimited, 842

Wireline Logging

DGI Geoscience Inc., 513

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1	Original Creations, Bronze Sculptures	232	Mill Man Steel Inc., Sales & Supply of Steel Pipe & Accessories
	100 - 200	233	Alaska Marine Lines, Inc., Transportation Services
109	Placer Gold Design, Mining Related Fine Jewelry, Awards, Gift Items, Jewelry	235	Northwest Machine Works, Inc., Drilling Products, Underground Core Drilling Parts
111	Bureau Veritas Minerals, Assay Laboratory	237	Geopros, Inc., Direct Staffing Services for Industry
113	FORDIA/Matex, Drilling Products	239	Geotemps, Inc., Staffing Services/Mining Industry-Temporary
115, 117	U. S. Bureau of Land Management, Government		300 - 399
119	Geological Society of Nevada (GSN), Books & Publications	302	Lumos & Associates, Inc., Engineering and Environmental Consultants
123	State of Nevada-Division of Minerals, Information of Geology & Mining in Nevada	303	Ruen Drilling, Inc., Drilling Company
124, 126	Coeur Products Ltd Inc., Core Boxes, Core Drills	304	International Lining Technology, Liner Installation, Geosynthetics
125	Mackay School of Earth Sciences & Engineering, Educational / University	305	EnviroTech Services, Inc., Liners
127	Nevada Bureau of Mines & Geology, Government	306	Pioneer Technical Services, Inc., Engineering and Environmental Consultants
129	CREG (Center for Research Economic Geology), Research	307	Legarza Exploration, Exploration Drill Pads, Exploration Roads
130, 132	International Directional Services (IDS), Gyro Surveying & Instrument Rentals, Directional Drilling Services & Motor Sales	308	Barr Engineering Co., Engineers
131	ALS Minerals, Assay Laboratory, Laboratory Analytical Services	309	United Central Industrial Supply, Cap Lamps, Gas Detection, Mine Rescue, Ventilation Products, Services
133	Golder Associates Inc., Mine Engineering, Environmental Consultants	310	SVL Analytical, Inc., Analytical Services
	200 - 299	312	Broadbent & Associates, Inc., Environmental Consulting, Water Resources
203	AGRU America, Inc., Geosynthetics, Liners	313	CGS Mule, LLC, Geological Supplies
205, 207	Dyno Nobel Inc., Explosives	314	Steel Blue North America, Safety Footware, PPE
208	Florin Analytical Services, Analytical Laboratory Services, Laboratory Services	315	Pace Analytical Services Inc., Laboratory Services, Environmental Laboratory Services
208	Kappes, Cassiday & Associates, Engineering Consulting Services, Laboratory Services	316	Geo-Logic Associates, Engineering Consultants
209	DMC Mining Services, Contract Mining, Engineering	317	General Tool, Inc., Diamond Bits, Diamond Saw Blades
210	Rockmore International, Drilling Equipment (Bits & Steel), DTH Hammers & Bits	318	Paragon Geochemical Laboratories, Inc., Analytical Laboratory
210B, 212	Major Drilling, Drilling Company	319	Veolia Water Solutions & Technologies, Water Treatment
211	Challenger Pipe & Steel, Steel Pipe & Casing, Grooved Piping Products	322	Energy Laboratories, Inc., Environmental Laboratory Services
213	PayneWest Insurance, Insurance Services, Bonding	323, 325	RockTech USA, Drilling Products, Drill Hole Survey
214	Jentech Drilling Supply, Inc., Drilling Supplies	326	Sunset Apparel, Safety Apparel
215	Itasca Denver, Inc., Hydrology, Geomechanics & Geochemistry Consulting, Environmental Consulting & Permitting	327	Anvil International, Grooved Piping Products
217	Zonge International, Inc., Geophysical Services, Geophysical Instrumentation	328	Sunset Manufacturing, Core Sample Bags
218	Layne Christensen Company, Drilling Services	329	Dassault Systemes GEOVIA, Mining Software, Mine Modeling Software
219	ACZ Laboratories, Inc., Analytical Laboratory Services	330	Just Refiners USA Inc., Refiners
222	TonaTec, Drilling Company	332	Engineering Analytics, Inc., Engineering Consultants
223, 225	SRK Consulting (US), Inc., Consulting Engineers	333	Parsons Behle & Latimer, Legal Services
224, 226	Stantec Consulting Services, Environmental Consultants	334	Superior Industries, Material Handling
227	Hoffman Diamond Products, Inc., Diamond Bits	335, 337	EDCON-PRJ, Inc., Geophysical Services
228	Timberline Drilling, Drilling Company	336	Frontier-Kemper Constructors, LLC, Hoisting System, Conveyance & Vertical Belts
229	Acker Drill Company, Drilling Equipment, Drilling Rigs	338	InfoMine USA, Inc./CostMine Division, Mine Information, Cost Estimating Services
231	Envirocon, Inc., Environmental and Reclamation Services	339	Environmental Products & Applications, Inc., Dust Control-Roads and Erosion

2021 Exhibitors By Booth Number.. (Cont'd)

400 - 499

- 402** **NewFields**, Consulting Engineering, Environmental Consultants
- 403, 405** **Drilling HQ**, Diamond Core Supplies
- 404, 406** **American Drilling Corp., LLC**, Diamond Core Drilling
- 407** **Seattle Tarp Company**, Fabric Buildings
- 408** **Women's Mining Coalition**, Education/Governmental Affairs, Public Affairs/Grassroots
- 409** **SWCA**, Environmental Consulting
- 412** **Tetra Tech**, Engineering Consultants, Environmental Consultants
- 413** **MICROMINE**, Intuitive Mining Solutions
- 414** **Harrison Western Construction Corporation**, Contract Mining, Underground Construction
- 415** **Solmax Geosynthetics LLC**, Geosynthetics, Liners
- 416** **Piteau and Associates**, Engineering and Environmental Consultants
- 417** **Linkan Engineering**, Water Management
- 418** **Society for Mining, Metallurgy & Exploration, Inc. (SME)/MEC**, Professional Association
- 419** **Western Environmental Testing Laboratory**, Environmental Laboratory Services
- 422** **Nevada Alaska Mining Co., Inc.**, Lithium and Vanadium Properties
- 423** **hydroGEOPHYSICS, Inc.**, Geophysical Services
- 424** **Evoqua Water Technologies**, Water Treatment
- 425** **MES Mining**, Underground Mining Contractor, Tunneling
- 426** **CarlsonSoftware**, Mine Software
- 427** **Engineering & Mining Journal**, Mining Publications
- 428** **ARCADIS**, Environmental Consultants, Engineering Services
- 429** **Cascade Drilling, L.P.**, Drilling Company
- 432, 434** **USFS**, Government
- 433** **Wood**, Engineering and Environmental Consultants, Consulting Engineers
- 435** **Hidden Valley Insurance Inc.**, Insurance Services, Insurance & Risk Management
- 436** **Klepfer Mining Services, LLC**, Environmental Services
- 437, 439** **O'Keefe Drilling**, Drilling Company
- 438** **Welsh Hagen Associates**, Environmental Engineers

500 - 599

- 502** **Northwest Linings and Geotextile Products, Inc./Sierra Geosynthetic Services, Inc.**, Liner Installation, Geosynthetics
- 504** **HOLT Services inc.**, Dewatering Wells, Environmental Drilling
- 508** **Perpetua Resources**, Junior Exploration Company
- 511** **Devico**, Directional Core Drilling, Downhole Survey Tools
- 512** **EC Applications, Inc.**, Geosynthetics
- 513** **DGI Geoscience Inc.**, Wireline Logging

- 515, 517** **Foth Infrastructure & Environment, LLC**, Environmental Engineering
- 516** **Utah Mining Association**, Mining Association
- 518** **Brahma Group**, Industrial Construction
- 519** **Yellow Jacket Drilling Services**, Drilling Company
- 522** **HDR Engineering Inc.**, Engineers
- 523** **Environmental Standards, Inc.**, Data Validation
- 524** **Schramm Inc.**, Drilling Rigs and Compressors
- 525** **Mount Sopris Instrument Company Inc.**, Geophysical Logging Equipment
- 526** **Quantec Geoscience Ltd.**, Geophysical Services
- 527** **Pacific Inter-Mountain Distributon, LLC**, Erosion Control Products
- 528** **American Mine Services LLC**, Mine Construction, Mine Development
- 531** **ESI Liners**, Geosynthetics, Liner Installation
- 532** **Foremost**, Drilling Products
- 534** **Fogco**, Misters
- 535** **Dias Geophysical**, Geophysical Services
- 536** **Hard Rock Consulting, LLC**, Geologic Consultants, Engineering Consultants
- 537** **Skytem Canada Inc.**, Airborne Geophysical Services
- 538** **Bison Engineering Inc.**, Environmental Consulting/Permitting, Environmental Services
- 539** **Mobile Air**, Industrial Heating

600 - 699

- 638** **Skyline Assayers & Laboratories**, Assay Laboratory, Laboratory Analytical Services
- 640** **DEA Incorporated/KonNx**, Electrical Distribution Equipment
- 643** **Cementation USA Inc.**, Mine Construction
- 644** **Statefire Sales and Service**, Fire Suppression
- 648, 650** **McGinley & Associates**, Environmental Consultants
- 649** **REI Drilling/DPI Drilling Products**, Drilling Services, Drilling Supplies
- 652** **SpecTIR, LLC**, Hyperspectral Imaging
- 653** **Iron Woman Construction & Environmental Services LLC**, Mine Construction,
- 654** **Sample Archive System**, Core Boxes
- 655** **Datamine North America**, Mining Software
- 658** **Woodhawk Manufacturing**, Chuck & Rod Holder Jaws
- 659, 661** **AXIS Mining Technology North America Inc.**, Drill Hole Survey Gyros
- 660** **Montgomery & Associates**, Engineering
- 670** **Harris Exploration Drilling**, Drilling Company

700 - 799

- 700** **American Assay Laboratory**, Assay Laboratory, Mineralogy Analyzer

2021 Exhibitors By Booth Number... (Cont'd)

702, 704 National EWP, *Drilling Company, Exploration Company*
708, 710 Boart Longyear, *Drilling Services, Drilling Company*
712 EM Strategies, Inc., *Environmental Consulting & Permitting*
718, 720 Baroid Industrial Drilling Products, *Drilling Fluid Products*
719, 721 The Mining Record, *Mining Publications, Maps*
722 Knight Piesold, *Consulting Engineers, Environmental Consulting & Permitting*
723 Skyward Specialty Insurance Group, *Insurance Services*
724 Agilent Technologies, *Atomic Spectroscopy, Laboratory Equipment*
725 Drift Exploration Drilling, Inc., *Drilling Company*
726 Mincon, Inc., *DTH Hammers and Bits, Reverse Circulation Hammers & Bits*
727 Legend, Inc., *Geological Supplies, Assay Supplies*
729 Hole Products, *Drilling Supplies*,
730, 732 First Drilling Group, *Drilling Company*
733 Victaulic, *Grooved Piping Products*
734 U. S. Geological Survey, *Government*
739 Analytik Jena US LLC, *Spectroscopy*
740 M-I Swaco, *Drilling Fluid & Solids Control Company*
741 WaterSolve, LLC, *Dewatering*
742 Falcon Drilling Inc., *Drilling Company*
743 RESPEC, *Mining Software*
744 TechFlow, *Pumps (Tsurumi)*
746 Tsurumi (America), Inc., *Pumps*
747 SGS, *Analytical Laboratory Services, Metallurgical Consulting*
749 Colorado School of Mines, *Educational/University, Metallurgy/Mining Departments*
750 Terramac, *Crawler Carriers*
753 EcoMister Evaporator, *Dewatering Evaporator*
754 Cornell Pump Company, *Pumps*
755 Crone Geophysics & Exploration Ltd., *Geophysical Services*
756, 758 IMDEX Limited, *Drilling Fluids & Solids Control, Down Hole Survey/XRF Rentals*
759 Strata Products Worldwide, *Underground Communications, Mine Safety Systems*
760 Inland Tarp & Liner, *Liners*
775 Anachemia Mining, *Laboratory Equipment & Supplies, Laboratory Chemicals*

800 - 899

822 McClelland Laboratories, Inc., *Analytical Laboratory*
824 Mavrik Environmental & Exploration Products, *Drilling Products, Machining Services*
826 MTech/CAMP, *University, Metallurgical Consulting*
826 Hexagon Mining, *Mine Modeling Software, Mine Software*
830 Pac Machine Company, *Pumps*
832 Galago, *Remote Sensing Analytics*

834 Idaho Mining Association, *Mining Association*
836 Millcreek Engineering, *Engineers*
838, 840 Wilderness Medics, Inc., *Medical Services*
842 Minerals Unlimited, *Water Treatment*
844 Soilworks LLC, *Soil Stabilization, Dust Control*
846, 848 Natural Creations, *Gems and Semi-Precious Stones*
852 Nilex, *Liners, Pipe*
854 COLOG, *Borehole Geophysical, Hydrophysical Logging*

CORE SHACK

C 1 Stephen Smith, Inc./Larry R. Moyer, LLC, *Junior Exploration*
C 2 Arizona Silver, *Junior Exploration*
C 3 Integra Resources, *Junior Exploration*
C 4 Gold Standard Ventures, *Junior Exploration*
C 7 Comstock Mining, Inc., *Mining Company*
C 9 Silver Range Resources, *Junior Exploration*



American
Exploration & Mining
 ASSOCIATION

AMERICAN EXPLORATION & MINING ASSOCIATION

DECEMBER 5-9, 2021

NUGGET & SIERRA BALLROOMS



Red and Yellow is Reserved
White is open
Last Updated March 19, 2021



Nugget

5 - 8 X 10 Booths
113 - 9 X 10 Booths in rows designated with *
137 - 10 X 10 Booths 18 - 8 Poster Boards & 6 tables for Core Shack & 4 for Student Posters
255 Total Booths
All aisles at minimum 10' wide except as noted
Floor Plan Subject to Fire Marshal Approval