Health and Safety Minute

As spring approaches insects are becoming more active.

- Avoid swatting at and aggravating flying insects. Instead, gently brush them aside or wait for them to fly away.
- Never wear sweet-smelling colognes and deodorants.
- Avoid wearing bright colored clothing.
- Do not eat in areas where there are insects as many are attracted to food odors.
- If stung or bitten by any insect, report it immediately to receive necessary medical attention.

Colorado Section Chair Report

Excellent discussion during last month’s Krumb Lecture presentation on the “New SEC Rules for Disclosure of Exploration Results, Mineral Resources and Mineral Reserves”. Thank you again to Kwame Awuah-Offei for presenting and leading the discussion. We are looking forward to the upcoming joint virtual happy hour and trivia with the Colorado School of Mines Student Chapter on March 19 at 4pm.

The 2021-2022 scholarship application period is now open until March 26, 2021. All students pursuing a mining, metallurgy, and exploration industry focused degree at a Colorado university are eligible to apply (e.g., mining engineering, civil/environmental engineering, metallurgy, economic geology, geology, geochemistry, hydrology).

The date for our Annual Scholarship Fundraiser Golf Tournament is set for August 13 at Arrowhead Golf Club. Additional details and sponsorship opportunities will be available in the coming months.

Thank you for the opportunity to serve as chair of the Colorado Section. As always, please do not hesitate to reach out (hlammers@golder.com) if you have any questions, comments, or concerns.

Stay safe and healthy,
Heather Lammers

March Virtual Happy Hour and Trivia

Please join us online from 4:00pm – 5:00pm on Friday, March 19th for a meeting of the SME Colorado Section and Colorado School of Mines student Chapter joint Happy Hour with Trivia.

Join the Skype Meeting
https://meet.lync.com/rcflp-com/jrd/5789DLD8

Join by phone
Toll number: +1 720-500-4358
Conference ID: 726976036#
Undergraduate and Graduate Scholarship Applicants

The Colorado Section of the Society for Mining, Metallurgy & Exploration Inc. (SME) is accepting scholarship applications from undergraduate and graduate students for the 2021-2022 academic year. Students who currently work in or intend to enter the mining, metallurgy, and exploration industries are encouraged to apply. **Applications are due Friday, March 26.**

Applicant requirements include:

- Student at a university located in Colorado
- Mining, metallurgy, and exploration industry focused degree program (e.g., mining engineering, civil/environmental engineering, metallurgy, economic geology, geology, geochemistry, hydrogeology).
- Good communication skills demonstrated through the application process.
- Professional or Student membership with SME national (www.smenet.org). Additional SME local Student Chapter and Colorado Section membership is encouraged, but not required.
- Online application submission including a copy of the current unofficial academic transcript.
- Undergraduate Students:
  - Junior or Senior status for the 2021-2022 academic year.
  - Minimum undergraduate cumulative grade point average (GPA) of 2.75.
- Graduate Students:
  - Admitted to MS, ME, or PhD graduate degree program for the 2020-2021 academic year.
  - Minimum graduate cumulative GPA of 3.0 for current graduate students.
  - Minimum undergraduate GPA of 2.75 for incoming graduate students.

**Deadline for Submission: Friday, March 26, 2021.**

Please use the appropriate link below to apply for either the undergraduate or graduate scholarship.

[Undergraduate](#)
[Graduate](#)

Finalists will be contacted by a member of the scholarship committee to schedule an **online, remote interview** in April 2021. Scholarship award recipients will be notified around June 2021. Fall and Spring disbursements of the scholarship award to recipients will occur upon receipt of a proof of enrollment document provided by the recipient to the scholarship committee in Fall 2021 and Spring 2022. If you have any questions, please contact Melissa Chalona, Vice Chair of the SME Colorado Section at mchalona@enganalytics.com.

Thank you,

Melissa Chalona

*On behalf of the SME Colorado Section Scholarship Committee*
The SME Colorado Section cordially invites you to participate in its 2021 Scholarship Fundraiser Golf Tournament at Arrowhead Golf Club.

Join SME for a day of golf to help local mining students make the grade!

You’re invited to participate in this year’s Colorado Section SME golf event at the Arrowhead Golf Club. This event historically helps to fund over $15,000 per year in scholarships for students at the Colorado School of Mines and other Colorado engineering programs. Let’s have some fun while helping encourage more graduates to join the mining industry.

Included in Participation:
- 18 holes at one of the area’s best courses
- Golf carts with GPS
- Range balls for warming up
- Breakfast before and lunch after play

When:
Friday, August 13, 2021
7:30 AM Shotgun Start, Four-Person Scramble

Where:
Arrowhead Golf Club
10850 Sundown Trail
Littleton, CO 80125
Phone: (303) 973-9614

Contests:
- 1st Top Team Score
- 2nd Top Team Score
- Most Spirited Team
- Men’s Longest Drive
- Women’s Longest Drive
- Men’s Closest to the Pin
- Women’s Closest to the Pin
- Longest Putt

Prizes:
- Golf Shop Credits
- Rounds of Golf (weekday pm)
- Raffle Prizes

Questions:
Contact Alex Holtzapple at alex@metsim.com or 1-404-368-8313
Tax time creates a new season of giving to support SME and the SME Foundation

A new program allows you to use your state income tax return to make a big difference in your community!

If you’re due a state income tax refund, this state program gives you the opportunity to use *some or all* of it to directly support a local nonprofit that matters to you like SME and the SME Foundation.

This new program is promoted through the ReFUND CO awareness initiative and lets you choose where your donation goes. All you have to do is:

- Decide how much of your state income tax refund to donate (all or a portion of it).
- Enter **SOCIETY FOR MINING, METALLURGY AND EXPLORATION, INC. and our registration number “20073003314”** in the Donate to a Colorado Nonprofit Fund line on your state income tax return or tax software – or just give this info to your tax preparer when you share your tax documents.

You can learn more details about the program at [RefundWhatMatters.org](http://RefundWhatMatters.org).

Smile knowing you've helped an organization that matters to you!

*Please note: Individual taxpayer information is confidential and the Department of Revenue cannot send the names of taxpayers to SME. Therefore, SME will not know who its donors are and will not send a specific thank you to the donor unless you email a screenshot of your donation to the SME Foundation at smefoundation@smenet.org. Then we can add it to your giving history and issue you an acknowledgement letter for a tax deduction.*
Colorado Section Membership Renewal Reminder

If you have not done so already, please take this opportunity to sign-up for or renew your SME Colorado Section membership for the 2020 - 2021 year.

How to join or renew:

**Online:** Credit card payments can be made online by visiting our website and selecting the 2020 - 2021 SME Colorado Section Dues link under the Our Events heading.

[http://community.smenet.org/colorado/events/](http://community.smenet.org/colorado/events/)

**Mail:** Check payments of $25 payable to SME Colorado Section mailed to:

Phil Martin – SME Colorado Section Treasurer,
1400 16th St Suite 200
Denver, CO 80202-1471.

Why you should renew:

The section dues that we collect are vital to our ability to continue our programs. Our Section’s focus is on advocating for our profession and industry here in our region. Some of the things that your Colorado Section dues help us to provide are scholarships for college students, majoring in mining disciplines; support for the Colorado State Science & Engineering Fair; provide teaching materials and perform outreach to Colorado science teachers through their State association, sponsorship for K-12 teachers participating in the *All About Mining – A Total Concept of the Mining Industry* course, and help support the Colorado Mining Museum and the National Mining Hall of Fame. So, by supporting the SME Colorado Section, you are directly supporting and advocating for your profession.
Upcoming Conferences and Events

Craft Metallurgy
Mineral Processing in the New Millennium

70th Annual MPO Conference
April 22-24, 2021

SME Colorado Section

Chair: Heather Lammers
hlammers@golder.com

Vice Chair: Melissa Chalona
mchalona@enganalytics.com

Treasurer: Phil Martin
pmartin@rcflp.com

Secretary: Amanda Davis
amanda.davis@maptek.com

Program Chair: James R. des Cognets
jdescognets@rcflp.com

Golf Tournament: Alex Holtzapple
alex@metsim.com

Publicity Director: Kelly Donahue
kdonahue@brwncald.com

Director-at-Large: Eric Poeck
epoeck@srk.com

Director-at-Large: Jon Pianetti
jon.pianetti@gmail.com

Past Chair: Richard Schwering
rschwering@hardrock-consulting.com
The next EMCD meeting will be on Thursday, March 11th, 2021 at 6:30 p.m. Presentation by Dr. Frank Santaguida at about 7:00 p.m.

Join from PC, Mac, Linux, iOS or Android: https://mines.zoom.us/j/93415528003
Or iPhone one-tap: 16699006833,93415528003# or 12532158782,93415528003#
Or Telephone:
    Dial: +1 669 900 6833 (US Toll) or +1 253 215 8782 (US Toll)
    Meeting ID: 934 1552 8003
    International numbers available: https://mines.zoom.us/u/acA3uq8Q3X
Or a H.323/SIP room system:
    H.323: 162.255.37.11 (US West) or 162.255.36.11 (US East)
    Meeting ID: 934 1552 8003
    SIP: 93415528003@zoomcrc.com

We will have the pleasure of a presentation by Dr. Frank Santaguida, First Cobalt Corp. Vice President Exploration on Establishing a Domestic Cobalt Supply Chain: Unlocking Challenging Feedstocks.

Frank is a geoscientist with over 25 years of experience who has worked around the world on a wide range of base and precious metal ore deposits. His extensive experience in world-class base metal mining camps such as the Kidd Creek (Canada), Mt. Isa (Australia), the Central Lapland Greenstone Belt (Finland), and the African Copperbelt (Zambia-DRC).

Frank started his career with the Ontario Geological Survey before joining Falconbridge Limited where he held various positions in near-mine to regional grassroots exploration and in operating mines in Canada and Australia. He subsequently joined First Quantum Minerals Limited as Principal Geologist, where he was responsible for global exploration project generation and property evaluations for cobalt, copper, nickel and PGE properties. Notably, Frank was part of the team that discovered new resources at the Frontier Mine as well as new copper and cobalt prospects in the DRC.

Frank has a PhD from Carleton University and an MSc from the University of Waterloo.

Establishing a Domestic Cobalt Supply Chain: Unlocking Challenging Feedstocks, Frank Santaguida, First Cobalt Corp. Vice President Exploration

At present a domestic integrated cobalt supply chain does not exist despite all of the natural resources and processing capacity potential in North America. Cobalt is a key component within lithium-ion batteries that power electric vehicles providing thermal stability to longer range energy cells. As a result; the demand for cobalt has grown significantly over the past 10 years and predicted to at least double in the next 10 years. The global supply chain is dominated by China, which produces 80% of the cobalt material used in battery manufacturing and controls a large proportion of the mines in the Democratic Republic of Congo where approximately 70% of the world’s cobalt ore resources occur and are mined.

As ore material, cobalt largely occurs as a byproduct metal to nickel-copper deposits and to specific types of copper deposits. In Canada, several nickel-copper mines produce cobalt along with platinum and palladium, but most is refined in Europe and customized for use in steel and alloy metals rather than for battery manufacturing. Similar resources are known to exist in the U.S. in Minnesota and Michigan yet remain to be fully developed. The largest known resources of cobalt in the U.S. occur within central Idaho where several deposits have been discovered in which cobalt is the primary metal. The Blackbird Mine in Lehmi County, Idaho was in production intermittently between 1902 to 1968. Peak cobalt production was achieved in the 1950’s where in 1954 the Blackbird operations contributed over 50% of the U.S. cobalt ore supply. The Idaho cobalt deposits also contain copper as well as gold in places. The deposits tend to be small in size but contain high grades of cobalt that occur in clustered areas. Some larger deposits
are also known at lower cobalt grades but also have high copper potential. Many deposits remain to be developed for mining; therefore, the area is slated to become an important domestic supply in the future. Vast resources such as these in Minnesota and Michigan have not been developed, in part, due to complexity of the minerals containing cobalt (Figure 1); most containing iron or arsenic which are costly to remove during mineral processing.

Figure 1. Cobalt ore mineral compositions. Size of the symbol reflects relative importance to current global cobalt supply. The feasibility of processing Fe-rich or As-rich cobalt ores has been limited traditionally.

The refinery capacity for cobalt material for battery manufacture in North America is set to change with the First Cobalt Corp. operation to open in Ontario in the near future. This existing facility is small but effective in size and capable of yielding a significant amount of cobalt material. At peak capacity, the facility could supply up to 5% of the World demand for cobalt. The plant is an example of an end-product processing operation that can be suitably developed elsewhere should these other domestic resources be brought into production.

Government initiatives play an important role in advancing the schedule toward a domestic cobalt supply chain. The U.S. and Canada have signed agreements to work together to establish a robust domestic market for cobalt and other Critical Minerals. The Department of Energy, through the Critical Materials Institute has supported a wide range of several research and development projects to advance new technology to improve the feasibility of producing Critical Materials, specifically cobalt, in the U.S. The U.S. Geological Survey within the Department of Interior has also supported directed programs to improve mineral exploration and development of key areas; including central Idaho to discover new cobalt resources.

A domestic cobalt supply chain is at hand, but still requires effort by industry and government to achieve this goal. The modern methods of mining and mineral processing have greatly reduced environmental impacts and energy consumption demonstrating a responsible approach to establishing this chain is also achievable.