

COLORADO SCHOOL OF MINES

Society for Mining, Metallurgy, and Exploration Student Chapter



2019-2020  
Annual Report

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June 1, 2020

**Kadri Dagdelen**

Professor, Mining Engineering  
Colorado School of Mines  
CSM SME Student Chapter Faculty Advisor

Mona Vandervoort  
Education Coordinator  
Society for Mining, Metallurgy and Exploration  
12999 E. Adam Aircraft Circle  
Englewood, CO 80112  
Dear Mona,

It is my honor and privilege to present to you the 2019-2020 annual report of the SME Student Chapter at the Colorado School of Mines (CSM).

I took over as the faculty adviser for the chapter almost 2 years ago. I am again extremely proud of our students' achievements and professional development during the past year. Under the superb leadership of President Indira Gregrio and Officers Orlando Vidaurre Torres, Marie Sullivan, Jacob Mellema, Lukas Fahle, Seth Edelen, Choe Poindexter, Natalia Soares Rodrigues, and Isabel Casasbuenas Cabezas, the student chapter again had a year of stellar performance and outstanding achievement.

The chapter organized and supported the following major events and achievements during the past year:

The SME 2020 Annual Meeting in Phoenix, where our chapter delegated 20 students to the conference, covering the registration fee of each student. The chapter staffed an exhibit booth and students assisted during the various luncheons held over the course of the weekend. Several students also presented their research during the conference.

The student chapter also organized a two day mine visit to Morenci open pit copper mine, owned and operated by Freeport McMoran in Morenci, Arizona right after the SME Annual Meeting in Phoenix. This mine was an eye opener and valuable learning experience for all 12 students who went on this trip since Morenci mined almost 800K tons low grade ore per day using 147 Cat 793 trucks to produce about 1M lbs of copper through heap leaching, conventional milling and flotation, and pressure oxidation process.

The student chapter really focused on reaching out to the student body and expanding membership in number and across various degree programs. A stronger effort was made this past year to be represented at various school events, such as the M-Climb, Celebration of Mines, and Homecoming. These outreach initiatives proved effective as the chapter saw continued attendance at the bi-weekly general meetings, having a consistent turnout of 20 or more people.

The SME student chapter at CSM is a strong chapter with exemplary leadership and professionalism. I commend the outgoing officers for their outstanding leadership – they have developed critical leadership and organizational skills and have built professional relationships for life through their membership in SME and involvement in leadership roles in the student chapter. At the same time, I would like to congratulate the incoming officers, President Chloe Poindexter and Officers Marie Sullivan, Lev Stephens, Kellan Gillis, Claire Kincaid, Lukas Fahle, Tanner Plank, Sydney Connor, Natalia Soares Rodrigues, and Rahel Dean-Pelikan wish them luck in the coming year.

Leading the CSM Student Chapter will be a critical and enriching career experience for these students. I look forward to working with them as their faculty representative and I am extremely proud to support this Student Chapter in a professional society that has had a huge impact in shaping my own career.

Please accept this annual report of the CSM student Chapter that details the outstanding performance of our students and young professionals. This report documents in an impressive fashion that our students are truly the future leaders of our industry!

Sincerely yours,

A handwritten signature in black ink, appearing to read "K. D. Dellen", written in a cursive style.

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# 1 President Report

## 1.1 Chapter Overview

The 2019- 2020 chapter had a surprise increase in members as well in volunteer participation. The chapter was able to successfully hold all the meetings, most of the outreach events, the SME annual conference even with the suspension of classes caused by the pandemic.

The 2019 SME annual conference was one of the highlights of the year. The chapter fully funded attendance for 17 members. This year's conference was busy for our chapter; five of our students volunteered at 3 different division luncheons and breakfasts, seven members presented in student poster competitions, and papers in technical sessions. Also, three of our students participated in the senior design competition.



## 1.2 Chapter Goals The chapter had three main goals for the 2018-2019 academic year:

- Expanding our educational outreach horizon
- Be more involved in professional development in CSM community as well as in SME community.
- Creating valuable and meaningful hands-on experiences

The chapter received the 2016-2017 Outstanding MEC Student Chapter award, but after that the chapter outreach participation suffered a decreased in number of events and involvement until the year of 2018. For that reason, our first goal for the year of 2019-2020 was to create and expand the reach of our educational programs which can be said that it was achieved successfully. The chapter had volunteers participating in the Denver Gem & Mineral Show, in the Career Expo & Scout Merit Badge, and in the Rock Cycle Lab outreach coordinated with CE. The chapter planned to work with the CSM Society of Economic Geologists (SEG) student chapter to host a Boy Scout geology merit badge workshop for 40 scouts; Also, the chapter planned for a Mining in Society Merit Badge, but those plans were interrupted by the lock down.

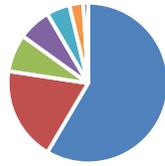
The chapter received a 2017-2018 Outstanding Student chapter. That was a great motivation to work on our second goal. Our second goal was to increase interest in SME on campus, mainly within the freshmen and sophomores studying mining engineering, the geological and metallurgical engineering departments. We were able to increase our overall membership by 47 students and increase the diversity within the chapter. This goal was achieved by advertising events within multiple departments, hosting joint activities with other professional societies, host lunch and learn with companies like FreePort, host a BBQ in the beginning of the semester and volunteer for the SME golf tournament.

The third goal for the 2019-2020 year was aimed at offering interesting field trip for our members going to the SME annual conference, as well as taking as much students with the chapter to Arizona. The chapter was able to take 17 students to Phoenix, Arizona and do a field trip to Morenci Mine.

Even with the interruption of the normal school year, the incoming officer board has evaluated our successes and opportunities for improvement of the chapter. With that in mind, the incoming officers created the following goals:

- Provide scholarships for students to attend local section meetings
- Build upon existing outreach programs and activities by bringing them to the classrooms of local schools
- Participate in joint social activities with other mining related organizations on campus

## 2019-2020 Membership



- Mining Engineering
- Geological Engineering
- Materials & Metallurgical Engineering
- Mechanical Engineering
- Mineral & Energy Economics
- Petroleum Engineering
- Economics

### 1.3 Chapter Achievements

There were many successful events throughout the year. These events would not be possible without the chapters industry sponsors. This academic year brought a new partnership with Martin Marietta Materials and strengthened our existing partnerships with companies such as Caterpillar, and Resource Capital Funds (RCF).

This year was the inaugural year of the CSM Teaching Kids program. “Teaching Kids” created by five students from Universidad Nacional de Colombia and was the grand prize winner of the 2018 Move Mining competition. We were fortunate enough to have one of the founding team members on our officer board this year as Graduate Student Representative. Implementing the project in the U.S. has been a long and extremely rewarding process and one of the chapter’s achievements that I am most proud of.

Several of our members were awarded scholarships in the 2019-2020 academic year others members were awarded \$3,000 scholarships from the Colorado Section SME.

Finally, we hit our own record for the MEC involvement in outreach events.

## 2 TREASURER’S REPORT

### 2.1 Finance Overview

The SME student chapter established a specific budget for every event during the academic year. However, due to some financial decisions, it was possible to increase budgets.

The student Chapter was able to increase the number of members significantly during the 2019-2020 year. Moreover, fundraising events and corporate donations provided important incomes for the chapter. SME Golf Tournament and industry donations made possible to increase the budget for the year events.

Thus, the chapter was able to participate and support in several school and SME events during these two semesters; such as M-Climb, Celebration of Mines, Homecoming tailgate, Welcome BBQ, and outreach programs. As a result, all the events were successfully accomplished.

Furthermore, thanks to the financial decisions that SME took during this year, it was possible to cover all the expenses for 15 students to travel to Phoenix for the SME annual conference. The budgeted for this event covered conference tickets, flights, housing, transportation, and polos.



## 2.2 Chapter Balances

Table 1: 2019-2020 Balance Brought and Carried

### 2019-2020 Balance

	<b>SAIL Account</b>	<b>Foundation Account</b>	<b>Auxiliary Account</b>	<b>Cash Box</b>	<b>Total</b>
Beginning Balance	\$ -	\$ 10,338.17	\$ 4,186.51	\$ 647.00	\$ 15,171.68
Total Expenditures	\$ -	\$ (9,761.54)	\$ (2,031.29)	\$ (302.00)	\$ (12,094.83)
Total Credits	\$ -	\$ 7,650.91	\$ 3,189.00	\$ -	\$ 10,839.91
Final Balance	\$ -	\$ 8,227.54	\$ 5,344.22	\$ 345.00	\$ 13,916.76

\*The \$3,189.00 income to the Auxiliary Account comes from the Cash box (direct deposit)

## 3 SECRETARY'S REPORT

### 3.1 Schedule Overview

During the 2019-2020 academic year, we held a total of eleven officer meetings and fourteen general meetings. Our officer meetings took place every other Thursday at 5:00 pm in Brown Building 125 for the majority of the year and were used as an opportunity to discuss any business and upcoming events and activities. In April meetings were held over Zoom as campus was closed and shelter in place orders were in effect. All members were encouraged to attend the officer meetings in order to keep the dealings of the organization accessible to the membership and to encourage others to run for office. In the off weeks, we held our general meetings at 5:30 pm in the same location and hosted a guest speaker to talk about their industry experience. The last two general meetings were also held over Zoom.

During the academic year, our membership comprised of seventy-five active members across twelve different disciplines.

### 3.2 Meeting Minutes

#### August 28th, 2019

*Meeting began at 5:00 PM in Brown Building 125 (BB125)*

##### *President Report*

- Adding events this year, MAC treelighting ceremony, sending students to SME Colorado section meetings, Participate in Girls in STEM day with WIM, and present to local schools about modern mining
- Point System: introduce removing points when someone does not complete their obligations
- Upcoming Events
  - SME BBQ on September 6th
  - Denver Gem and Mineral Show (September 13-15)
  - National Mining Hall of Fame (September 14)
- Golf Tournament 27th of September
  - We are running the raffle
  - find local Golden organizations to donate items for \$25 and up, to go to raffle

##### *Vice President Report*

- Planning Gem and Mineral Show with MEC chairs
- Working to plan an event with the Geology Museum

##### *Treasurer Report*

Account Summary: Updated on 8/28/2019

SAIL Account: \$ No Funds This Year

Department Account: \$ 4,186.51

Foundation Account: \$ 10,338.17

Cash Box: \$ 0

Total: \$ 14,524.68

##### *Secretary Report*

- Finishing Google Calendar
- Creating a way to keep people updated on point standings



### *MEC Report*

- Organizing a K8 STEM Science Fair Booth for Mining/Geology at school in Highlands Ranch (8am-3pm)
- Building a discussion class for K12

### *Social Chair Report*

- Planning BBQ, working with Sodexo, Security (for bar)
- Waiting to hear back from school concerning alcohol permits
- Next Meeting
  - Dominos

### *Campus Relations Chair Report*

- Setting up a meeting with Board of Student Organizations (BSO) representative (Caleb Workman)

### *Graduate Student Representative Report*

- N/A

### *Industry Advisor Report*

- N/A

*Meeting ended at 5:30 PM*

## **September 11<sup>th</sup>, 2019**

*Meeting Began at 5:00 PM in BB125*

### *President Report*

- Thank you for the welcome BBQ
  - Great turn out, way more than expected
- Upcoming Events
  - Denver Gem and Mineral Show
  - National Mining Hall of Fame Induction
  - SME Golf Tournament
    - Make list of places we can talk to about donations for raffle
  - Dinosaur Ridge Scout Day

### *Vice President Report*

- Trying to get in contact about an event at the geology museum
  - Potential raffle, might need to get items if we decide to go that route
  - Historically a private affair, want to make it more open to the public
- Boy Scouts Merit Badge
  - 26th-27th of October for Boy Scout Merit Badge

### *Treasurer Report*

Account Summary: Updated on 09/11/2019

SAIL Account: \$0

Department Account: \$4,186.51

Foundation Account: \$9,450.25

Cash Box: \$709  
Total: \$ 14,245.76

#### *Secretary Report*

- Points are up to date from BBQ attendance
- Communicating with SEG and Robotics about joint projects, will be meeting with them soon

#### *MEC Report*

- Denver Gem and Mineral Show
  - Schedule has changed, will be reaching out to the people who are impacted
- Organizing a K8 STEM Science Fair booth (Mining/Geology)
- Getting a discussion for K12 students ready

#### *Social Chair Report*

- Last week was BBQ, Domino's for meeting
- Guest speaker will be sponsoring the food for the meeting
- Will take Kegs back to Applejack and be reimbursed

#### *Campus Relations Chair Report*

- Took photos from BBQ
- Meeting with Caleb from BSO on October 25th, will bring president with

#### *Graduate Student Representative Report*

- No report

#### *Industry Advisor Report*

- No report

*Meeting ended at 5:38 PM*

## **September 25<sup>th</sup>, 2019**

*Meeting began at 5:30 PM in BB125*

#### *President Report*

- Thank you for helping at the National Mining Hall of Fame, everything went well
- Looking for items (Golf Tournament)
  - Epirock Clock
  - Caterpillar Bag
  - Local gift certificates
  - Gift from foundation
- Working on Homecoming Tailgate
  - Oct. 19th

#### *Vice President Report*

- Dakota resigned, Seth has taken over

#### *Treasurer Report*

Account Summary: Updated on 9/25/2019  
SAIL Account: NO FUNDS FOR THIS YEAR  
Department Account: \$4,186.51  
Foundation Account: \$9,450.25  
Cash Box: \$1,114  
Total: \$ 14,750.76

### *Secretary Report*

- Met with the president and vice president of SEG, want to work with MEC on boy scouts and have invited us to join their events
- Will be meeting with Robotics to discuss first robotics high school competition and what they need from us for this competition
- Will be sending an email out about elections

### *MEC Report*

- Good turnout at Denver Gem and Mineral Show, Richard was happy
- STEM Fair at Ben Franklin Academy coming up this Friday (8am-3pm) ~1k students
- Looking for volunteers for 28/29th Dinosaur Ridge Scout Event
  - Need to find more volunteers
- Looking for new MEC Co-Chair

### *Social Chair Report*

- Last week we had rock rest wings
  - working to get this reimbursed by Patrick
- Election for new social chair
- Deciding what to do food wise for the next meeting still

### *Campus Relations Chair Report*

- Meeting with BSO about our plans and budget

### *Graduate Student Representative Report*

- Sharing information about SME Scholarships and Young Leaders program with the Graduate Students

### *Industry Advisor Report*

- N/A

*Meeting ended at 5:25 PM*

## **October 9<sup>th</sup>, 2019**

*Meeting began at 5:00 PM in BB125*

### *President Report*

- Upcoming events
  - MEC events
    - No current volunteers, need to work on getting people to volunteer
  - Nightmare on Greek Street
- Last Week
  - Golf tournament was a success
- Nightmare on Greek Street on Oct. 30th
- Homecoming tailgate Oct. 19th

### *Vice President Report*

- Will be meeting with Dakota to find out where he left stuff off

- CMI Gala- rework to be open to more people beyond the department, make more industry contacts
- Working with Indira on Homecoming Tailgate

#### *Treasurer Report*

Account Summary: Updated on 10/9/2019

SAIL Account: \$0

Department Account: \$7,375.51

Foundation Account: \$9,913.17

Cash Box: \$100

**Total: \$17,388.68**

- Budget for next meeting food \$140

#### *Secretary Report*

- Robotics will be reaching out to us when they need us for first robotics challenge
- Need volunteer lists for MEC events
- Start assigning bits for end of year report

#### *MEC Report*

- Looking for more volunteers for upcoming MEC events at the middle school and Dinosaur Ridge
- Working on outreach to grades 9-12, taking ideas from Move Mining Next Gen
- Organizing outreach for college/majors that don't consider mining as a career path
- GSUSA patch event has been postponed to Spring Semester

#### *Social Chair Report*

- Panda Express last meeting
  - Will have food show up later so speaker can speak before dinner
- Showed Kellan around
- Next meeting might be Taco bell, will solidify plan soon
- Need more drinks for the cooler

#### *Campus Relations Chair Report*

- Met with Caleb from BSO
  - Good with goals for semester, need to fill out form
- Accidentally miscategorized as Tier 2, are actually a Tier 3

#### *Graduate Student Representative Report*

- Have been sending out the SME Scholarships to grad students and sharing information about SME Events

#### *Industry Advisor Report*

- N/A

Meeting ended at 5:49 PM

*Meeting began at 5:30 PM in BB125*

President Report

- Nightmare on Greek Street has been postponed to mid-November
- Plans for a Gala at the Geology Museum
  - Beginning planning progress, tentatively scheduled for late March, early April

Vice President Report

- N/A

Treasurer Report

Account Summary: Updated on 10/20/2019

SAIL Account: \$ 0

Department Account: \$ 7,375.51

Foundation Account: \$ 9,913.17

Cash Box: \$ 100

**Total: \$ 17,388.68**

- Budget for next meeting is \$140

Secretary Report

- Working on changes to Bylaws to include provisions for when there are no eligible members to run for president and vice president

MEC Report

- Boy Scouts event (still working with Martin Marietta to determine November date or April date)
- Need volunteers for Career Fair at Arvada High School on November 6th
- Need new volunteers for Nightmare on Greek Street's new date

Social Chair Report

- Food for last meeting was Domino's and cost \$68 which should give us more room for final meetings
- Still have leftover beer from Homecoming Tailgate
- Planning for Panda Express next meeting
- Food should be served before speaker not after to avoid interrupting them

Campus Relations Chair Report

- N/A

Graduate Student Representative Report

- N/A

Industry Advisor Report

- N/A

*Meeting ended at 6:00 PM*

**November 13<sup>th</sup>, 2019**

*Meeting began at 5:30 PM in BB125*

President Report

- Planning Field Trip during SME Annual Conference 2020

- Officer meeting time for spring semester will be Thursdays from 5:00PM-6:00PM
- Neil Shea will be the speaker for next general meeting as David cannot make it

#### *Vice President Report*

- Nightmare on Greek Street was cancelled entirely, Mines is planning something similar to happen Tuesday before Thanksgiving for clubs to participate in
- St. Barbara's Day Luncheon is on Dec 10 and the department will send three SME members

#### *Treasurer Report*

Account Summary: Updated on 11/13/2020

SAIL Account: \$ 0

Department Account: \$ 7,375.51

Foundation Account: \$ 9,913.17

Cash Box: \$ 100

Total: \$ 17,388.68

#### *Secretary Report*

- Finalizing points for conference and beginning planning for flights and rooms in Phoenix
  - Will be informing those who qualify for the Conference Scholarship in mid-January

#### *MEC Report*

- Adams County Career Expo- Tuesday, November 19th
- Setting up BS Merit Badge for Spring Semester
  - Potential dates: Weekend before MLK or Presidents Day or end of April
- Looking into organizing a new grades 9-12 event: Move Mining Next Gen workshop
- Looking into organizing outreach for colleges/majors that don't consider mining: CU Boulder Geology/Mechanical Engineering etc.

#### *Social Chair Report*

- Panda Express from last week's meeting was \$135
- Final meeting planning to do Jimmy Johns (about \$113)

#### *Campus Relations Chair Report*

- Goals form for fall 2019 done
- Helping plan SME Field Trip during Conference
- Meeting with BSO rep Caleb to talk about the steps to reach Tier 4 funding

#### *Graduate Student Representative Report*

- Making posters for general meetings
- Sending emails to grad students about activities they can participate in at conference (poster contest, photo contests, and more)

#### *Industry Advisor Report*

- N/A

Meeting ended at 6:00 PM

## January 23, 2020

Meeting began at 5:00 PM in BB125

### President Report

- Upcoming events
  - Elections Feb 13th
  - SME Annual Conference Feb 23-26
    - Staying in AirBnB
    - We will be using lyfts and ubers to travel to the conference
    - putting together a booth schedule
- Working on preparing for the annual conference and finding a speaker for March 19th

### Vice President Report

- Helping plan SME Conference, specifically the field trip to Morenci
- Met with the SAIL office to organize E-Days, working with Mine Competition Team

### Treasurer Report

Account Summary: Updated on 1/23/2020

SAIL Account: \$0

Department Account: \$5,829.08

Foundation Account: \$16,148.17

Cash Box: \$375.0 + coins

**Total: \$ 22,352.25**

### Secretary Report

- Finalized who will be attending the conference based on points
- Working on revising the bylaws and setting up a gmail account for SME to send emails from and keep files on
- Working on points for MineExpo in the fall

### MEC Report

- Boy scout merit badge fell through, rescheduling it to the 18th of April
- Arvada high school career expo went well, should try to do more of it
- Working on outreach for college students' program with the CO section MEC chapter

### Social Chair Report

- Last week general meeting food was provided by the Denver Chapter
- Splitting set up and clean up between Chloe and Kellan

### Campus Relations Chair Report

- Working on BSO forms for funding for next year

### Graduate Student Representative Report

- Encouraging Grad Students to apply to PhD Fellowship Program and WAAIME Scholarships
- Getting word out about Colorado sub-section mineral processing division annual conference
  - Asking for abstracts to present

#### *Industry Advisor Report*

- N/A

*Meeting ended at 5:45 PM*

## **February 6<sup>th</sup>, 2020**

*Meeting began at 5:00 PM in BB125*

#### President Report

- Upcoming events
  - Elections Feb 13th
  - SME Annual Conference Feb 23-26
    - Field trip rooms are booked in Morenci
- Working on preparing for the annual conference and finding a speaker for March 19th

#### Vice President Report

- Morenci field trip is almost finalized
- Met with the SAIL office to organize E-Days, working with Mine Competition Team

#### Treasurer Report

Account Summary: Updated on 2/6/2020

SAIL Account: \$0

Department Account: \$5,829.08

Foundation Account: \$16,148.17

Cash Box: \$375.0 + coins

**Total: \$ 22,352.25**

- Polos will be here on the 17th of Feb

#### Secretary Report

- Putting together elections ballot
- Will vote on bylaw changes during this meeting as well

#### MEC Report

- Working with WIM
- Komatsu quiz for teenagers
- Lukas is working with Richard to make programming for college students to get them interested in Mining
- Having an MEC Committee meeting with the Colorado Chapter
- Working Conference prep for MEC events
- Meeting scheduled with Girl Scouts representative

#### Social Chair Report

- Last week food for the Freeport Lunch and Learn was paid for by freeport

- Have been speaking with the mining classes about becoming more involved in the chapter
- Next week will be Noodles and Company

#### Campus Relations Chair Report

- Goals form for fall 2019 done
- Sit with Caleb from BSO to check the next steps to try to push for Tier 4

#### Graduate Student Representative Report

- No Report

#### Industry Advisor Report

- No report

*Meeting ended at 5:45 PM*

## **March 12, 2020**

*Meeting began at 5:00 PM in BB125*

#### *President Report*

- SME annual conference went well, thank you for all your hard work!
- Not sure if we will be continuing general meetings during the oncoming weeks
- Mining Gala at the Geology Museum planned for April 10th, unclear if we will be able to hold it

#### *Vice President Report*

- Finalized the risk registry for the E-Days Mining Games
  - Sending this over to SAIL for approval
- Meeting with SAIL to discuss if E-Days will still be happenings

#### *Treasurer Report*

Account Summary: Updated on 2/6/2020

SAIL Account: \$0

Department Account: \$5,829.08

Foundation Account: \$16,148.17

Cash Box: \$375.0 + coins

**Total: \$ 22,352.25**

- \*Still waiting on update from office\*

#### *Secretary Report*

- Points for attendance from this point on will go towards Mine Expo
- Preparing for the possibility that we will need to conduct meetings over Zoom for the rest of the year

#### *MEC Report*

- Need to re-evaluate outreach events planned in light of COVID-19 closure
  - BS merit badge in April
  - K12 events in the works
  - College outreach event being put together

- April 23rd is Arvada High School Demonstrations of Learning Night- Need Volunteers if this happens

*Social Chair Report*

- If there are no classes allowed on campus we will likely not be able to have meetings but if we do we will order Panda Express (about \$135)

*Campus Relations Chair Report*

- BSO documents did not meet requirements, will not be receiving funding for next year but Caleb will work with us to assure next year we do meet the requirements

*Graduate Student Representative Report*

- N/A

*Industry Advisor Report*

- N/A

*Meeting ended at 5:30 PM*

**April 9, 2020**

*Meeting began at 5:00 PM MST over Zoom*

*President Report*

- Officer's meetings will continue every other week
  - Some officers will not make it as their schedules and physical location (time zone) do not allow for it
- Will be holding general meetings over zoom
  - Lower attendance is expected

*Vice President Report*

- Virtual E-Days Mining games ideas
  - Might not work out as there are not many ideas coming to mind

*Treasurer Report*

Account Summary: Updated on 2/6/2020

SAIL Account: \$0

Department Account: \$5,829.08

Foundation Account: \$16,148.17

Cash Box: \$375.0 + coins

**Total: \$ 22,352.25**

*Secretary Report*

- Made a gmail account for chapter ([smemines1@gmail.com](mailto:smemines1@gmail.com))
  - Working on saving all files to the account's drive
- Starting to compile final report

*MEC Report*

- Potentially put together a video to show at outreach events

*Social Chair Report*

- Going to write something up for the new social chairs to follow procedure wise

*Campus Relations Chair Report*

- N/A

Graduate Student Representative Report

- N/A

Industry Advisor Report

- N/A

*Meeting ended at 5:25 PM*

**April 23<sup>rd</sup>, 2020**

*Meeting began at 5:00 PM EST over Zoom*

*President Report*

- Final report due June 1st
- Thank you all for your work this year

*Vice President Report*

- Unfortunately, MAC did not get back to us in time to set up virtual E-Days event
  - Unsure how this will impact BSO opportunities in the future

*Treasurer Report*

Account Summary: Updated on 2/6/2020

SAIL Account: \$0

Department Account: \$5,829.08

Foundation Account: \$16,148.17

Cash Box: \$375.0 + coins

**Total: \$ 22,352.25**

*Secretary Report*

- Working on final report

*MEC Report*

- BSA council has delayed all events indefinitely and will not schedule new events until future is more certain
- The same goes for GSUSA
- Potentially shift MEC focus to creating online educational materials to adept to the situation

*Social Chair Report*

- Officer transition stuff, will help incoming social chairs

*Campus Relations Chair Report*

- N/A

Graduate Student Representative Report

- The 2020 International Conference on Ground Control in Mining in June (unclear if this will be in person or moved to online events)

Industry Advisor Report

- N/A

*Meeting ended at 5:25 PM*

### 3.3 Outgoing and Incoming Officers

Table 2: Table of Officers

<b>Officer Position</b>	<b>Responsibilities</b>	<b>2018-2019 Officer(s)</b>	<b>2019-2020 Officer(s)</b>
President	-Organize Speakers & -SME Annual Conference Logistics	Indira Gregorio	Chloe Poindexter
Vice President	-Organize E-Days Mining Competition -Assist President	Seth Edelen	Marie Sullivan
Treasurer	-Create & Manage Budget -Lead Fundraising Efforts	Orlando Vidaurre Torres	Lev Stephens
Secretary	-Take Meeting Minutes -Facilitates Voting Process -Organize Annual Report	Marie Sullivan	Kellan Gillis
Mineral Education Coalition (MEC) Chairs	-Organize Events for Educational Outreach	Lukas Fahle Claire Kincaid	Lukas Fahle Claire Kincaid
Social Chairs	-Provide food and drinks at General Meetings -Organize social events	Chloe Poindexter Kellan Gillis	Tanner Plank Sydney Connor
Campus Relations Chair	-Take pictures at events -Complete paperwork for the school	Natalia Soares Rodrigues	Natalia Soares Rodrigues
Graduate Student Representative	-Liaison between SME and the graduate students	Isabel Casasbuenas Cabezas	Rahel Dean-Pelikan

### 3.1 Membership List

Table 2: Table of Officers

Name	Year	Major
Indira Gregorio	Senior	Mining Engineering
Seth Edelen	Senior	Mining Engineering
Orlando Vidaurre	Senior	Mining Engineering
Marie Sullivan	Junior	Economics
Kellan Gillis	Freshman	Mining Engineering
Chloe Poindexter	Junior	Mining Engineering
Claire Kincaid	Grad Student	Mining & Earth Systems Engineering
Lukas Fahle	Grad Student	Mining & Earth Systems Engineering
Natalia Soares	Grad Student	Mining & Earth Systems Engineering
Isabel Casasbuenas	Grad Student	Mining & Earth Systems Engineering
Muthu Vinayak Thyagarajan	Grad Student	Mining & Earth Systems Engineering
Ashlyn Hohenshelt	Grad Student	Mineral and Energy Economics
Leila Mateus	Senior	Mining Engineering
Aaron Rickey	Senior	Mining Engineering
Meghan Cameron	Senior	Mechanical Engineering
Mike Cofrancesco	Senior	Mining Engineering
Randy Haley	Senior	Mining Engineering
Solomon Owusu	Grad Student	Mining & Earth Systems Engineering
Kyle Karably	Junior	Mining Engineering
Mohamed Babou	Junior	Mining Engineering
Wei Wan	Junior	Mining Engineering
Hamilton Pinheiro	Grad Student	Mining & Earth Systems Engineering
Carlos Contreras	Grad Student	Mining & Earth Systems Engineering
Tyler Acheson	Senior	Mining Engineering
Miguel Moreira	Senior	Mining Engineering
Ben Dogonniuck	Junior	Mining Engineering
Joseph Bartolacci	Senior	Mining Engineering
William Brooks	Junior	Mechanical Engineering
Maria Paz Urdaneta	Grad Student	Mining & Earth Systems Engineering
Paige Christie	Junior	Mining Engineering
Jaume Martinez Calvo	Junior	Mining Engineering
Martina Gilbert	Junior	Mining Engineering
Stela Cayette	Senior	Mining Engineering
Sammie McLeary		Mining Engineering
Paul Stanton	Senior	Mining Engineering
James Desrochers	Freshman	Mining Engineering
Kameron Dagdalen	Sophomore	Mining Engineering

Logan Cole	Junior	Mining Engineering
Trinity Kelly	Freshman	Mining Engineering
Christoph Sagadin	Faculty	Geology and Geological Engineering
Nadine Koerbler	Faculty	Geology and Geological Engineering
Lev Stephens	Freshman	Mining Engineering
Morgan Pickering	Sophomore	Mining Engineering
Samuel Higginbottom	Junior	Mining Engineering
Trevor Cook	Junior	Mining Engineering
Tanner Plank	Junior	Mining Engineering
Patrick Maier	Grad Student	Mining & Earth Systems Engineering
Lee Zamolla	Grad Student	Mining & Earth Systems Engineering
Ryan O'Connell	Grad Student	Underground Construction and Tunneling
Ella West	Grad Student	Geology and Geological Engineering
Christian Ordonez	Grad Student	Mining & Earth Systems Engineering
Da Huang	Grad Student	Civil and Environmental Engineering
Rahel Dean-Pelikan	Grad Student	Underground Construction and Tunneling
Kyle Collins	Sophomore	Mining Engineering
Clayton Williams	Grad Student	Underground Construction and Tunneling
Benjamin Teschner	Grad Student	Mining & Earth Systems Engineering
Alex Jones	Grad Student	Geology
David Fandel	Grad Student	Geochemistry
Santiago Rocha	Grad Student	Petroleum Engineering
Jose Perez	Grad Student	Computer Science
Hazar Kumas	Grad Student	Underground Construction and Tunneling
Tala Tahernia	Grad Student	Mining & Earth Systems Engineering
Matthew Taber	Junior	Mining Engineering
Sydney Connor	Junior	Mining Engineering
Nathaniel White	Senior	Mining Engineering
Matt Hill	Senior	Mining Engineering
Roy Bryant	Grad Student	Mineral and Energy Economics
Nikolas Papameletiou	Grad Student	Mineral and Energy Economics
Dakota Locklear	Junior	Mining Engineering
Jake Mellema	Sophomore	Mining Engineering
Michael Calder	Junior	Mining Engineering
Ethan Eisenhart	Sophomore	Mining Engineering
Jack Dombrowski	Sophomore	Mining Engineering
Joseph Troba	Grad Student	Mining & Earth Systems Engineering

## 4 ON CAMPUS ACTIVITIES

### 4.1 Social Activities

#### Campus Tradition: M-Climb

This year we collaborated with the CSM Mine Rescue Team to participate in the M-Climb, a tradition for new students in which they hike up Mt. Zion with a 10-pound rock to white wash and leave at the top of the mountain. We were able to cool off almost 1400 students on their hike to the top with water from a 5,000 gallon water truck donated by Martin Marietta. Both groups worked together to promote some of the mining clubs on campus and shout our fight song at the same time!



#### Welcome BBQ

On September 6<sup>th</sup>, 2019, we welcomed new and returning members back to campus with a barbecue cookout hosted at the Earth Mechanics Institute on campus. There was some rain when the cookout started, but we didn't let it dampen our mood! We had a great turnout and served a lot of hot dogs and burgers to students, faculty, and alumni!



#### Homecoming Tailgate

This year the SME Student Chapter at CSM got involved with the 2019 Homecoming Celebration on October 19th. The student chapter had a tailgate spot at the CSM vs Fort Lewis football game beside many of the other campus groups and organizations. The weather was great, we barbecued, played corn hole, and both students and Alumni stopped by. This was a great event and we look forward to making this a tradition for the chapter for years to come.



## **4.2 Professional Activities**

### **General Meeting September 4th, 2019**

Presenter: Amanda Davis, Chapter Advisor

Amanda Davis is an employee at MapTek and gave a presentation on success in life through career, community, and leadership. She encourages members to get involved in organizations on campus to build relationships and interpersonal skills that will be useful throughout your entire life. Amanda also encourages giving back to the community, both in the mining community and local communities. In terms of leadership, she encouraged us to accept that we are leaders even though we do not necessarily think of ourselves as such.

### **General Meeting September 18th, 2019**

Presenter: Patrick Weick, RESPEC

Patrick Weick is a Colorado School of Mines Alumni with a degree in Mining Engineering. He works at RESPEC and gave a presentation on what RESPEC's Mining and Energy department does. He spoke mostly to his own experiences and offered us insight into several projects he worked on as a consultant and how they designed aspects of different mining operations. He then spoke about the important aspects of his job he wished he had learned at Mines, including the importance of writing, learning a useful 2nd language, and basic coding skills.

### **General Meeting October 2nd, 2019**

Presenter: Shawn Cheney, Epiroc business line manager

Epiroc presentation about some of the drilling aspects (I think) as well as encouraging us to look into the mine services side of things as it is sometimes forgotten by students as a viable career path in the industry. Cheney conveyed the vitality of mine services to operations and walked us through what he does as a business line manager.

### **General Meeting October 23rd, 2019**

Presenter: Temuulen Tumurbat, RCF

Temuulen Tumurbat is a Colorado School of Mines alumni with a B.S. in Mining Engineering. He works for Resource Capital Funds (RCF) and gave us an overview on how to fund a mining project. As this subject is not as familiar to our SME student members the presentation offered a unique insight into the finance side of the mining industry. He broke down the differences between equity, debt, and other ways (like royalties) and how they play into funding a project.

### **General Meeting November 6th, 2019**

Presenter: David Bieber, Manager of Geology and Survey at Martin Marietta Materials

Dave is a Manager of Geology and Survey at Martin Marietta Materials. He spoke to the chapter about growing up around geology and his career as an exploration geologist. In his current role Dave is responsible for reclamation planning for all the Martin Marietta quarries in the region; he shared with the chapter examples of creative reclamation and stressed the importance of planning for reclamation.

## **General Meeting November 20th, 2019**

Presenter: Neil Shea, Chief Engineer at Freeport McMoRan's Henderson Mine

Neil Shea is the Chief Engineer at the Henderson Mine and presented on the Henderson Mine Operation, particularly focusing on the operation's block-caving system as well as the engineering evaluation process used for making decisions. He began by giving a quick overview of the Henderson operation, focusing on the Post-Undercut Panel Caving process as well as the original drawpoint design they used until the drawpoints began to buckle as a result of increased depth and coinciding stress on the supports. This forced the engineers to come up with an entirely new design for the drawpoints which ultimately was safer and more efficient to install.

## **General Meeting December 4th, 2019**

Presenter: Todd Kilduff, Kilduff Mining

Todd Kilduff of Kilduff Mining presented to the student chapter on Trenchless Technology, specifically pipe jacking methods. Todd introduced trenchless technology and its many applications, particularly in water lines. He went through the design considerations, specifics of certain methods, some calculations and theory, and concluded with how this applies to the real world. Afterward, Todd emphasized the importance of approaching a problem; be it empirically, analytically, observationally, or through numerical modeling and to use multiple methods to check against each other.

## **General Meeting February 3rd, 2020**

Presenter: Amy Briggs, Senior Mine Engineer for Freeport McMoRan

Freeport McMoRan put together a lunch and learn for our student chapter and gave a presentation on Americas' Concentrator Advanced Analytics. Amy Briggs gave an overview of their analytical models they use and the process they use to take this information and make decisions and create solutions. There was then an interactive activity which served to show that you can make large improvements by giving people more power, flexibility, and collaboration and less isolation and restrictive position parameters. Amy then spoke about how they had begun implementing processes like this at their locations and saw impressive efficiency gains as well as new innovative ideas.

## **General Meeting March 5th, 2020**

Presenter: Larry Clark, Newtrax

Larry Clark gave a presentation entitled "Innovation and Technology in Mining: Ushering in a New Generation" and spoke at length about how technology changed our world and how it has increased productivity both in our daily lives and in industry. He showed several videos of the innovative technology being applied to mining and the unexplored frontier of fully applying these in mines. Clark believes that the newest generation of operators and engineers will be able to implement these fully as we have grown up around technology and are comfortable using it.

## **General Meeting April 16th, 2020**

Presenter: Joe Driscoll, ERM Mining Account Director

For our first Zoom general meeting Joe Driscoll, a Mining Account Director at ERM, kindly Gave a presentation on Sustainable Mining to a fairly small gathering of students and professors. The presentation covered engineering and safety in the industry before Joe went briefly covered his own experiences with safety and operating systems. He then went on to speak on how these things will factor in the future and what the industry might look like in the near future.

## **General Meeting April 30th, 2020**

Presenter: Mike Selover, Vermeer

Mike Selover presented on the topic of using continuous surface mining as an alternative to drill and blast over a zoom meeting. He first addressed the concerns of drilling and blasting; emphasizing the safety aspect. Fly rock can pose major risks to workers and surrounding areas. Continuous surface mining does not generate fly rock and it produces considerably more consistent particle sizes. Continuous surface miners also come equipped with GPS which allows for accuracy in cutting ramps, roads, or even following the ore seam. They also have incredible turning radii, making them adept for various situations.

### **4.3 Involvement with Other Organizations**

## **General Meeting with SME Colorado Section January 16<sup>th</sup>, 2020**

Presenter: Panel

This event was put on by the SME Colorado Section and it was a panel discussion featuring several members of the CO SME Executive Board members on the ins-and-outs of being a consultant in the mining industry. The people on the panel Richard Schwering (Geology and Resources), Melissa Chalona (Environmental), Heather Lammers (Tailings), Ta Li (Operations) and Jessica Monasterio (Technical studies/ Economics). The panel answered a number of pre-selected questions and audience ones on a variety of topics, but many of the students were focused on the ways these professionals became involved in consulting. The Colorado Section also catered dinner and it was a free event for students.

## **Girls Lead the Way**

The SME chapter participated again in the Society of Women Engineers (SWE) 'Girls Lead the Way' event. This event brings in over 100 middle and high school aged girls to experience STEM majors. The mining activity that we hosted for the students was 'Cookie Mining'. We showed the girls how exploration works, they "mined" for chocolate chips, and they had to reclaim the cookie to its original size.

## **5 OFF CAMPUS ACTIVITIES**

### **5.1 Social Events**

#### **St. Barbara's Day Celebration**

On December 12<sup>th</sup> the Colorado Mining Association (CMA) put on the annual St. Barbara's Day Award Luncheon. Three of our members were able to attend the luncheon. The luncheon recognized Gary Goldberg, the former CEO of Newmont Goldcorp and his many far reaching contributions to the industry.

### **5.2 Service Events**

#### **Denver Gem and Mineral Show**

Each September the chapter volunteers at the Colorado Section MEC booth at the Denver Gem and Mineral Show. The event is the third largest gem and mineral show in the world and the booth showcased modern mining. We were able to share information about everyday minerals with nearly 40 families.

## National Mining Hall of Fame Induction Banquet

On September 29, seven students of the SME chapter volunteered at the National Mining Hall of Fame Induction Banquet. The students helped with the event organization in exchange for a free dinner.

Their tasks included welcoming and checking-in guests for the events and escorting guests to their tables. It was a great opportunity for the CSM students to learn about the achievements of the inductees and also meet and network with some pioneers and professionals of the mining industry.

## Adams County Career Fair

For the third year the SME chapter volunteered at the Adams County Career fair. Over 300 8<sup>th</sup> graders from various schools in Adams County attended the fair to practice networking skill and to learn about potential career paths. The SME chapter represented the mining and minerals industry. It was a rewarding way to spread the word about our passion.

