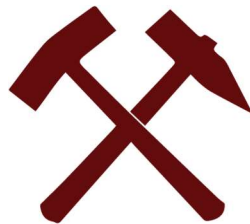




Annual Student Chapter Report

Spring 2020



Burkhart Mining Society

Virginia Tech's Society for Mining, Metallurgy & Exploration (SME) Student Chapter

2019 – 2020 Officers

President: *Alex Norris*
Vice President: *Chris Osterhout*
Treasurer: *Austin Fox*
Secretary: *Avery Martin*
Social Event Planner: *Abdallahi Boubacar*

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A Note from the Officers

Due to the COVID-19 pandemic, the 2019 – 2020 school year was, in many ways, unlike any other in recent history. On March 11, 2020, students were informed that their Spring Break would be extended one week and that for the remainder of the semester, classes would no longer meet in person. Over the course of the next few weeks, students who lived on campus were strongly encouraged by the university to pack their belongings and move to another location. Like many other states, Virginia prohibited gatherings of more than ten people. Virginia Tech banned any further club meetings and field trips. As a result of the pandemic, many planned Burkhart events, as well as planned events for other mining related organizations, were cancelled.

In many ways, though, the 2019 – 2020 school year shared many similarities with its predecessors. Burkhart is made up of students who believe in the necessity of the mining field, and our enthusiasm is encouraged and bolstered by a knowledgeable and dedicated faculty. Although the time we could see each other in person was cut short, we used digital means to stay connected and pursue learning opportunities. The world may change, but it will always need mining.

Though Burkhart is a student-run organization, it would not be the same without the help of many benefactors. The Burkhart officers would like to thank Dr. Erik Westman for his guidance and support throughout the school year. Appreciation is also due to the Mining and Minerals Engineering department's assistance with fundraising through giving day. We appreciate all of the alumni and supporters that gave during giving day and the letter campaign. Recognition is also owed to everyone who came to speak to our students throughout the school year. Finally, the officers would like to thank Nestor Santa and Scott Hutchins for helping us with this report.

We wish the incoming Burkhart officers all the best, and we hope that they do not hesitate to contact us if they need anything.



Chris

Austin



Abdullahi

Burkhart Mining Society Mission Statement

Burkhart is a student run organization that will promote professional development, inclusion, comradery, and resources to the students of the Mining and Minerals Engineering department at Virginia Tech. The organization values the volunteer work of students who further the mining department and industry.

President's Report

Synopsis

The 2019 – 2020 school year presented some unexpected challenges. During the fall semester, Burkhart's planned events had good attendance and positive feedback. Due to school cancellations resulting from the pandemic, many spring semester events were canceled. Burkhart saw a large improvement in organization, logistical planning, communication between other clubs, and leadership transition efficiency.

Goals

Our main goals for the year were to reduce per student travel costs, to organize all club activities with test and project due dates within the Mining and Minerals Engineering department, to increase student activities and participation, to reregister Burkhart as a student organization at Virginia Tech, to increase synergy with other mining clubs, and to leave the following year's leadership with the correct tools, knowledge, and insight to effectively manage the responsibilities.

Last year for the trip to the SME national conference there were complaints about the prices, times, and convenience of the flights and hotels. This became a top priority for Burkhart leadership, and allowed for reduced travel and housing costs per student. This was accomplished by planning farther in advance than the previous year, along with creative solutions to housing and flights, and by using the department's travel agency. The extra space and amenities of the lodging, coupled with convenient travel times on flights, resulted in a morale increase and less stress experienced by the student body. The Burkhart leadership believes these quality of life improvements resulted in the attending students being more engaged and excited while at the conference.

The other top complaint from the previous year's activities was the lack of events planned and the inability for many students to attend. At the beginning of the semester, Burkhart's leadership reached out to all mining professors for their exam and project due dates. There was also an active effort to plan more events, and plan events specifically for younger students in the mining department. The sophomore class has always been a difficult group to get involved with clubs. So, Burkhart started the fall semester by giving a club overview meeting coupled with a variety of upperclassmen's presentations on their summer internship. This resulted in an increase in sophomore club membership, as well as increased conversation between the classes about future jobs and internships. There was an increase in planned events too, from regular scheduled tailgates, camping trips, and from hosting multiple guest speakers.

At the start of the 2019 – 2020 school year, the Burkhart Mining Society was not registered as a student organization at Virginia Tech. This resulted in reduced campus advertising and a reduction of thousands of dollars financial support for conference travel. Burkhart has now been reregistered and next year's leadership will benefit with more than \$2,000 of travel funding for the 2021 SME national conference. Burkhart made sure to include other clubs' plans in mind when scheduling events.

Special effort was taken to ensure a smooth transition of leadership and transfer of knowledge. Burkhart reorganized all club documentation and uploaded all documents and records to Google Drive. This, accompanied with individualized and group training meetings with the next year's leadership, should help them understand their roles, efficiently plan for their events, build on previous years' successes, and encourage continuous, positive growth in the future.

Achievements

Along with all the accomplished goals, listed in the previous section, Burkhart saw a 7% increase in membership, from 40 members to 43 members. The 2020 senior class is historically small for Virginia Tech, and the senior class is generally the most active with extracurricular activities. The membership grew due to the early efforts to reach out and include underclassmen. There were three scholarships awarded to Virginia Tech Students, as shown in Table A, along with multiple WAAIME scholarship recipients. Several other achievements will be discussed in the Additional Mining Engineering Student Organizations and Clubs section of this report.

Table A: SME Scholarships Awarded to Virginia Tech Students

Scholarship Name	Recipient
Syd S. and Felicia F. Peng Ground Control in Mining	Juan Monslave Valencia
Mineral & Metallurgical Processing Division	Alex Norris
Mining & Exploration Division	Alex Norris

Treasurer's Report

Synopsis

This year's fundraising mainly consisted of a letter campaign along with a department-sponsored giving day that was directly for student travel and professional development.

Balance Brought / Carried

At the start of the fall semester, Burkhart had \$1,500 in its account. At the end of the spring semester, Burkhart had \$1,850. The total value of Burkhart's sellable merchandise is \$5,100.

Credits / Expenditure / Asset

Burkhart was generously donated \$9,000 at the beginning of the semester through the letter campaign and the funds given to the club from the Mining Departments Giving Day donations. This money went towards a camping trip, tailgates, merchandise and the annual SME conference in Phoenix, AZ. Burkhart was able to send 19 undergraduate students, including 6 student design team members to the conference. There were also merchandise sales throughout the year, totaling around \$500.

Throughout the course of this academic year Burkhart used club funds for several professional development and social events. The biggest expenditure for the club was the annual SME Conference in Phoenix this year, this trip cost \$11,200. This cost includes hotels, flights, and registration for the students. The students attending were required to pay a non-refundable security deposit to attend.

Earlier in the fall semester Burkhart used club funds for tailgating before football games, these funds were used to introduce younger members of Burkhart to the upperclassmen and allow them to meet in a fun and social atmosphere. The largest expenditure incurred for the tailgating social events were the two tailgating spots purchased from the Blacksburg Breakfast Lions Club for \$600. Some of the funds spent on tailgating materials are considered assets that can be re-used as the club purchased, two tables, a canopy, speaker, and totes to transport materials in. The total value of these reusable assets is \$220. The remaining funds spent on the tailgating events totaled \$350 and were used for food, beverages, cutlery, and other non-reusable tailgating materials. The total value spent on the 7 tailgating events held in the fall semester was \$1,170.

Secretary's Report

Synopsis

Throughout the fall semester, the Burkhart officers met with Dr. Erik Westman to discuss upcoming plans for the club, budgeting plans, student trips, etc. These meetings occurred many Tuesdays before the class for Senior Design. This worked effectively to keep Burkhart on track and also provided effective communication with the department.

Minutes

Minutes from Burkhart planning meetings are summarized in Table B. Other meetings and events are discussed subsequently in the On-Campus Chapter Activities and the Off-Campus Chapter Activities sections of this report.

Table B: Burkhart Planning Meetings

Date	Location	People Present	Business
9/3/2019	SURGE Building	Alex Norris, Chris Osterhout, Avery Martin, Erik Westman	Discussing fall and spring SME trips, discussed potential drone licensing, thoughts for the Engineering Fundamental class with a student panel to answer questions the students have and to present their experiences
9/10/2019	SURGE Building	Alex Norris, Chris Osterhout, Avery Martin, Erik Westman	Created calendar of student exams, planning for tailgate, discussed the completed presentation to the freshmen/sophomores/juniors about clubs and internships, discussed potential guest speakers, made Google Drive to organize all Burkhart needs
9/17/2019	SURGE Building		Discussed plan for SME membership, goals; departmental tailgate; ice cream for engineering freshman after tests; planning for new leaders
10/8/2019	SURGE Building	Alex Norris, Chris Osterhout, Avery Martin, Erik Westman, Annie Lawrence	Attended advisory board meeting; SME reestablished as a Virginia Tech organization again; planning for SME, ISEE, and Agg-Con
10/29/2019	SURGE Building	Chris Osterhout, Avery Martin, Erik Westman, Alex Pfreundschuh	Discussed info session presentation and lunches with students to recruit for mining engineering; SME plans for travel
11/4/2019	SURGE Building	Alex Norris, Avery Martin, Erik Westman, Alex Pfreundschuh, Jake Gusler, Annie Lawrence, Gwen Davis	SME and other clubs' budgeting
12/2/2019	SURGE Building	Alex Norris, Chris Osterhout, Avery Martin, Erik Westman	SME planning for the spring

Officers

The chapter's executive structure and the names of the students who filled the roles during the 2019 – 2020 school year are in Table C.

Table C: Burkhart Leadership

Role	Name
President	Alex Norris
Vice President	Chris Osterhout
Treasurer	Austin Fox
Secretary	Avery Martin
Social Event Planner	Abdallahi Boubacar

Members

This year members grew from 40 members last year to 43 members. Even though the senior class this year was extremely small, significant sophomore participation boosted the membership list. All Burkhart members' major was Mining and Minerals Engineering. The Burkhart membership list for the 2019 – 2020 school year is in Table D.

Table D: Burkhart Membership

Name	Acad. Year	Name	Acad. Year	Name	Acad. Year
Kelley Lazor	2020	Brandon Haraldsen	2021	Baxter Jones	2022
Alex Norris	2020	Jeremy Franklin	2021	Emily Peace	2022
Corbin Glunt	2020	Allison McFarland	2021	Tyler Spencer	2022
Alex Pfreundschuh	2020	Diana Shoup	2021	Brennan George	2022
Michael Shanley	2020	Bryce McIntire	2021	Sydney Wilson	2022
Nick Williams	2020	Kelly Haubold	2021	Justin Spates	2022
Avery Martin	2020	Sarah Price	2021	Hallee Landmesser	2022
Chris Osterhout	2020	Jake Gosler	2021	Mark Sliwoski	2022
Christopher « Austin » Fox	2020	Nathan Youmans	2021	Tom Varner	2022
Michael Turner	2020	Davy Kelly	2021	Josh Chadwick	2022
Abdallahi Boubacar	2020	Farris Hauck	2021	Nomin Choibat	2022
		Raymond Mu	2021	Nathan Anderson	2022
		Jade Purdy	2021	Seth Holzman	2022
		Jack « Edward » Spall	2021	Dylan Jennings	2022
				Bryce Burmaster	2022
				Riley Wilson	2022
				Ashley Woodward	2022
				Owen Baquero	2022

Faculty Sponsor Letter

Mining and Minerals Engineering department head, Dr. Erik Westman, was the Burkhart Mining Society's faculty sponsor. His letter is attached in the Appendix.

On-Campus Chapter Activities

Social

Burkhart held seven tailgating events for Virginia Tech Football's home games during the fall semester. These tailgates were used as a social event to bring all members of the club together and to meet each other in a fun and social atmosphere. Food and beverages were provided to members. Throughout the tailgate, Burkhardt members could be seen playing Kan Jam (a popular flying disc game), other various tailgating games, or socializing with other members around the tailgating site. The tailgates were a great way to have newer members of the chapter be introduced to upperclassmen in the early stages of the semester. The fall 2019 tailgates are listed in Table E.

Table E: Burkhardt Tailgates

Date	Opposing Football Team
9/7/2019	Old Dominion
9/14/2019	Furman
9/27/2019	Duke
10/12/2019	Rhode Island
10/19/2019	UNC
11/9/2019	Wake Forest
11/23/2019	Pittsburgh

Technical / Professional

There were four official Burkhardt meetings that were held in-person during the 2019 – 2020 school year. These meetings are listed in Table F.

Table F: Official Burkhardt Meetings

Date	Business	Attendees
9/5/2019	Seniors presented their internship experiences to newer mining students	31
10/30/2019	Jason Threewits of Carter Machinery presented <i>Mining, Equipment, and Data Analytics</i>	15
1/22/2019	Mike Selover of Vermeer Specialty Excavation presented <i>Continuous Surface Mining</i>	9
2/9/2019	Club Elections for 2020 – 2021 officers	17

Department / School / University Service

To spread awareness of and interest in the department, eight Mining and Minerals Engineering students handed out ice cream to students on campus on October 17, 2019.

All engineering departments held a Freshman Information Session during the fall semester to provide general engineering students basic information about the degree and professional career options. The Mining and Minerals Engineering department held their Freshman Information Session on November 7, 2019, and twenty-six of its students assisted during the night. Approximately 600 freshmen attended the event.

For the 2019 – 2020 school year, Burkhardt hosted thirteen information sessions during which representatives from various companies presented to Virginia Tech students. Although most attendees were from the Mining and Minerals Engineering department, students from other departments sometimes came to the information sessions as well. For each session, Burkhardt members were responsible for setting up the room before the session, helping the speaker(s), and cleaning up the room after the session. The information sessions for the 2019 – 2020 school year are listed in Table G.

Table G: Information Sessions

Date	Company	Attendees
9/10/2019	Rio Tinto	22
9/25/2019	Martin Marietta	15
10/1/2019	CRH	8
10/1/2019	OceanaGold	19
10/2/2019	Granite Construction	9
10/16/2019	Coronado Coal	8
10/17/2019	York Building Products	4
10/23/2019	Carmeuse	13
10/29/2019	Rockydale	10
11/11/2019	Warrior Met Coal	6
12/4/2019	Cemex	7
2/17/2020	Great Lakes Dredge and Dock	11
3/4/2020	Allan Myers	5

There were fifty-four instances of a Burkhart member helping with an information session, a club meeting, and/or the career fair for a total of approximately 110 service hours.

Involvement with Other Organizations

Future involvement with other organizations will occur during Gobblerfest next semester. Unfortunately, Burkhart could not participate with many other organizations at Virginia Tech this semester because it was not officially recognized as a student organization. Now that Burkhart is recognized as a student organization at Virginia Tech, it will be possible to host events and be involved with other organizations during the 2020 – 2021 school year. Several events overlap for members of the International Society of Explosive Engineers (ISEE) and Burkhart members due to the nature of them being highly mining involved.

Special Projects

Burkhart did not engage in any other special projects on-campus during the 2019 – 2020 school year.

Off-Campus Chapter Activities

Social

One dinner and overnight campout was held at a site off-campus on October 3, 2019. A Halloween party was held off-campus on November 1, 2019.

Technical / Professional

Nineteen Burkhardt members attended the National SME Annual Conference & Expo in Phoenix, Arizona from February 23, 2020 to February 26, 2020. While there, they attended various workshops and social events, competed in several competitions including the NSSGA Student Mine Design Competition Team and the SME Mineral & Metallurgical Processing Student Poster Contest, and were treated to a lunch by Luck Stone.

Department / School / University Service

Burkhardt members provided designated driving for club members during the 2019 – 2020 school year. A driver was available on sixteen different weekend nights for a total of eighty service hours. Burkhardt members also were encouraged to help out with department sponsored events and to help with recruiting to the mining department

Involvement with Other Organizations

Burkhardt did not engage with other organizations during off-campus activities during the 2019 – 2020 school year.

Special Projects

The Mining and Minerals Engineering Department's advisory board held a meeting via Zoom on April 3, 2020. Four Burkhardt members gave a brief presentation on the year's events.

Additional Mining Engineering Student Organizations and Clubs

At Virginia Tech, Burkhardt oversees and contributes to several other organizations and clubs that are related to Mining Engineering. A list of those clubs and their officers during the 2019 – 2020 school year are in Table H.

Table H: Mining Organizations and Officers or Representatives

Organization	Officers
Beverly Watford Society / Mining Ambassadors	President: Austin Fox Vice President: Davy Kelley Treasurer: Allison McFarland Secretary: Sarah Price
Bryan Smith Aggregate Society	President: Jake Gusler
International Society of Explosives Engineers	President: Alex Norris Vice President: Abdallahi Boubacar Treasurer: Diana Shoup Secretary: Avery Martin
Mine Rescue Team	President: Alex Norris Vice President: Abdallahi Boubacar Secretary: Avery Martin
Mucking Mining Competition Team	President: Davy Kelly
NSSGA Student Mine Design Competition Team	Brendan Brogan Thomas Huddleston Kelley Lazor Alex Norris Alex Pfreundschuh Michael Shanley
Society of Petroleum Engineers	President: Setareh Afrooz Vice President: Fengshuang Du Treasurer: Deraldo Andrade Secretary: Yue Hu

Burkhart sponsors four competitive teams: two for the Mine Rescue Team, one for the Mucking Mining Competition Team, and one for the NSSGA Student Mine Design Competition Team. The Mine Rescue teams won four trophies in the fall semester competition: second place in Mine Rescue, second place in Smoke, second place in Combined, and third place in Smoke.



Image from L to R: Chris Osterhout, Alex Norris, Alex Pfreundschuh, Avery Martin, Abdallahi Boubacar
 Positions: Tail Captain Captain Map Man Briefing Officer Gas Man



Image from L to R: Rob Yates, Nathan Youmans, Allison McFarland, Baxter Jones, Davy Kelley
 Positions: Gas Man, Tail Captain, Captain, Map Man, Briefing Officer

The design team, who competed in the student competition at the National SME Annual Conference & Expo in Phoenix, Arizona, placed first.



Image from L to R: Andrew Storey (VT MinE alumnus), Thomas Huddleston, Brenden Brogan, Alex Norris, Alex Pfreundschuh, Michael Shanley, Kelley Lazor

Closing Remarks from the Incoming Burkhart Officers

The future of Burkhart is largely unknown at the moment, as it is currently uncertain if classes will even be on campus next semester. However, despite this setback Burkhart will regardless find a way to foster and strengthen relations within our mining program. Whether this is done by in person sponsored social events or by social zoom calls to help our student body keep in touch with one another while separated, the students of the Virginia Tech Mining Engineering department will have a sense of community and unity in Fall 2020.

Additionally, it is important for us to prepare our members for the professional world. We strive to do this by holding info sessions, both for employment opportunity, or as a chance to educate our members on cutting edge industry technology. These information sessions will continue to happen, and increase in number even if they have to be taken entirely online in the future.

The final focus of Burkhart will be to ensure that despite this setback there will still be adequate funding to send as many students as possible to the SME conference in Denver next spring. This may be more difficult given the circumstances, but with several changes to our fundraising system this should be achievable. The previous administration made many strides in fundraising for student organizations, and we hope to build on these to ensure a solid financial base for the future.

Davy Kelly
President

Allison McFarland
Vice President

Tyler Spencer
Treasurer

Sarah Price
Secretary

Appendix

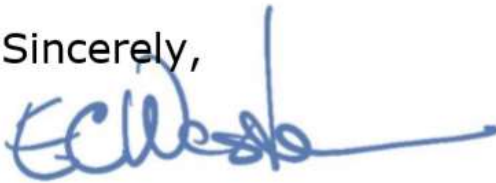
The faculty sponsor letter, written by Mining and Minerals Engineering department head, Dr. Erik Westman, is attached.

May 12, 2020

To whom it may concern,

"I have reviewed the Annual Report of Virginia Tech's Burkhardt Mining Society (which is our student chapter of the Society for Mining, Metallurgy & Exploration) for the 2019-2020 academic year and attest that the information presented is accurate."

Sincerely,

A handwritten signature in blue ink, appearing to read 'E. Westman', with a long horizontal flourish extending to the right.

Erik C. Westman PE, Ph.D.
Professor