

FRIENDS of MINERALOGY *Midwest*



“Cool” ice crystal image by Johan Maertens from his home in Cincinnati.

Chapter Newsletter for March – April 2022

TREASURERS REPORT

Register now for 2022! As of 2/15, 36 members have signed up. This brings our treasury balance to \$9,019.89. No formal 2022 program events are scheduled yet, but safety training is announced on page 6 of this newsletter.

Dues are \$20.00 and the procedure is the same as it has been in the past. The registration form can be printed here: <http://www.fommidwest.org/registration-forms/>.

I have enabled our website so donations can be made directly to the chapter via PayPal or credit card. Our intent is to amend the bylaws so that we can make the registration process paperless. Our 'Hold-Harmless' agreement would still require a signature and witness prior to field trip participation.

Jeff Spencer – Treasurer

Friends of Mineralogy Midwest Chapter Treasurer@fommidwest.org

Friends of Mineralogy Inc Midwest Chapter	2021 Final - Unaudited	
	Amount	Notes
Beginning Account Balance	\$8,557.77	
2021 Dues Amt. Received	\$40.00	
2022 Dues Amt. Received	\$380.00	
Total Dues Amt. Received in 2021	\$420.00	
Total Symposium Donations	\$65.00	
Fund raising	\$0.00	
General Fund donations	\$455.00	
other income	\$0.00	
Total Non-Dues income	\$520.00	
Total Income	\$940.00	
Total Symposium expenses	\$0.00	
2020 Swap table - expense	\$0.00	
CMS Show Educational Exhibit award	\$0.00	
Web domain registration, security and hosting	\$107.88	
2021 insurance payment	\$650.00	
National Dues payment 0	\$0.00	waived
Total National Dues Paid	\$0.00	
Total Disbursements	\$757.88	
2021 Surplus/Shortfall	\$182.12	
Current Account Balance	\$8,739.89	
National Dues Credit	\$328.00	
2021 extended 2020 memberships	87	
2021 new members	2	
2021 membership gain(loss)	2	
2022 members registered	18	

Updates from the FM National Board Meeting – Randy Marsh

Item 1

As requested at the February 11 board meeting, I would like to remind everyone that dues in the amount of \$4 per member has been reinstated for 2022. It was also requested that the number of members be sent to the President, Secretary, and Treasurer. Chapters do not submit any more information than the number of members to the President and Secretary. Please include a list of the names of paid members to the treasurer only. You can pay by sending a list and check to FM National c/o Bruce Bridenbecker, 7528 Lucerne Vista Ave, Yucca Valley, CA 92284 or posting it to PayPal with an explanation and names of the members. If you do not send information to individual member's please include email addresses.

Sincerely,

Bruce W Bridenbecker

Item 2

Dear FM Chapters and National Board Members,

As voted on in our meeting last week, FM National will undergo a five-year strategic plan to be developed by a standing committee composed of national board members, chapter leaders, and interested FM members. This is a National Strategy, so it is up to the chapters to implement where they see fit, but the entire focus will be on developing goals and objectives that everyone can get behind. The committee will review the reports and findings of the outreach committee and will report directly to the FM President and Vice-President.

The request for committee members is now open and will run until March 16th. At that time, the committee will be finalized and the first meeting will be planned later that month.

Please let me know if you have any questions or would like further information on time commitments, logistics, etc.

Best Regards,

Thomas N. Hale

Founder, Virginia Mineral Project (VMP)

President, Friends of Mineralogy Virginia Chapter

Phone: (540)529-4506

Email: Virginiamineralproject@gmail.com<<mailto:Virginiamineralproject@gmail.com>>

Thank you, Johan Maertens for supplying this important SAFETY information

Mine Safety and Health Hazards Awareness

Trainer Scott Kell and Craig Kramer from Ohio, compiled recordings of Mine Safety and Health Hazards Awareness sessions for mineral, fossil or rock specimen collectors and posted them on YouTube (a Google LLC service).

Surface mines are an environment to respect, because there are genuine hazards there. These are hazards we don't typically, experience in other activities in our life. When you know those hazards and you know how to avoid them, all of us can collect safely. When you abide by the rules, all the risks that are inherent in collecting are very manageable.

This isn't particularly about free roaming on public lands, stream beds, road cuts or canyons, yet what you'll learn can have apply to other collecting environments.

Scott tells us that when we collect in a private surface mine, it is like we are operating on thin ice.

“Behave in such a manner that secures the respect of the of our mine host and helps advance the cause of us being invited back for another year.” “We must all consider collecting a privilege.” Hopefully the next time your field trip chairperson calls up the mine host, they'll answer “Sure your group does a good job. We trust you and we'll welcome you back there next year.”

It is strongly recommended to watch all of the videos completely.

Disclaimer: The videos help with but do not satisfy Mine Safety and Health Administration (MSHA) training for visitors (e.g., collectors) to surface mines (aka quarry, pit).

Mine Safety and Health Hazards Awareness module 1

https://www.youtube.com/watch?v=AbzN1E1PY_0

Module 1 Introduction and Overview to Hazard Training

At the conclusion of Module 1, you should be able to:

1. explain where Hold Harmless Waivers are used.
2. explain hazards associated with railroad and stream cuts.
3. describe when the record year for miner fatalities occurred and when the fatality number first dropped below 20.
4. list four personal limitations that may affect your ability and safety while at a mine.

Mine Safety and Health Hazards Awareness Module 2

<https://www.youtube.com/watch?v=wgTq9t67y5o>

Module 2 Before You Enter a Surface Mine

At the conclusion of this module, you will be able to:

1. explain the necessary steps to be taken before you enter a surface mine.
2. identify items typically covered in site specific training.
3. distinguish between who can and cannot authorize mine access.
4. describe the process one is expected to follow prior to entering a mine.
5. list four requirements to include in an emergency plan.

Mine Safety and Health Hazards Awareness Module 3

<https://www.youtube.com/watch?v=YakIEW79iEQ>

Module 3 Personal Protective Equipment and Mine Driving Practices

At the conclusion of this module, you should be able to:

1. compare mandatory personal protective equipment and with desirable PPE to use in a mine.
2. describe when hard hats are to be worn and the correct way to wear one.
3. explain when it is time to replace a hard hat.
4. summarize the proper type of eye protection equipment one must use.
5. list the Federal requirements that unattended mobile equipment, which include collector's vehicles, must follow in a mine.

Mine Safety and Health Hazards Awareness Module 4

<https://www.youtube.com/watch?v=wGivmJvKzdo>

Module 4 Ground Control part 1: High Walls- Structure and Safety

At the conclusion of this module, you should be able to:

1. with respect to the anatomy of a mine, explain the terms: high wall, blast pile, blast pile toe, bench, and quarry floor.
2. name and describe, as discussed in the training, four types of discontinuities observed in surface mines.
3. name three risk factors that contribute to high wall safety.
4. describe discontinuities found in a surface mine including bedding planes, joints, faults, and fractures.

Mine Safety and Health Hazards Awareness Module 5

<https://www.youtube.com/watch?v=NnwAkL8mT30>

Module 5 Ground Control part 2: High Walls to Benches and Berms

At the conclusion of this module, you should be able to:

1. identify a back break and explain why it is unsafe.
2. explain the difference between a partially loaded and loaded benches and why one or both are dangerous.
3. identify and describe a trough as related to a blast pile.
4. show where one is permitted to collect when the host has constructed an area isolated by a berm.

Mine Safety and Health Hazards Awareness Module 6

<https://www.youtube.com/watch?v=-rQrHYmZHE>

Module 6 Ground Control: Bench, Boulder Line, and Mobile Equipment Safety

At the end of this module, you should be able to:

1. explain how close to an edge or back break one is permitted to collect.
2. summarize where one is permitted along a haul road containing berms.
3. describe a spoil pile.
4. compare collecting safety near the edge of a blast pile having a toe versus where the toe has been removed.
5. summarize how a collector should best move across a blast pile.
6. describe a boulder line and identify safe collecting locations in boulder lines.
7. distinguish what are and are not safe practices around mobile mine equipment.

Mine Safety and Health Hazards Awareness Module 7

<https://www.youtube.com/watch?v=pEpSqTnCX7M>

Module 7 Tool Safety

At the end of this module, you should be able to:

1. describe at least four potential hazards from use of a hammer and chisel while collecting specimens.
2. explain two possible solutions for a mushroomed chisel head.
3. identify six potential hazards from cut off saw use.

Mine Safety and Health Hazards Awareness Module 8

<https://www.youtube.com/watch?v=8mm9CdY1umA>

Module 8 Environmental and Personal Safety

At the conclusion of this module, you should be able to:

1. categorize lifting techniques for heavy specimens as safe or unsafe.
2. explain blasting safety as it relates to surface mine visitors.
3. list six symptoms of heat exhaustion and describe the first aid for it.
4. explain safe behaviors to follow while in a quarry during severe weather with lightning.

Keeping with the SAFETY theme, we are pleased to offer collector-specific safety refresher training so that you can participate in upcoming field trips that will hopefully start to occur.

Scott Kell will be giving this training on **Saturday, March 26, from 9:00 AM -2:00 PM** in the **Barbara Deer Kuss Science Center at Wittenberg University, Springfield, Ohio**. If you are using your GPS, the **street address is 315 Bill Edwards Drive, Springfield, OH**. Parking is available directly across the street from the Science Center. Signs will be posted on the doors of the Science Center to guide you regardless of what door you come in.

The Dayton Gem & Mineral Society and Cincinnati Mineral Society are welcome to participate. I am asking the folks on cc: to please distribute this email to their memberships.

A few really important things to point out regarding this training:

1. **Masks must be worn to participate – no exceptions.** If you are not willing to wear a mask, do not come. Online training will be made available at a later date (already being piloted with the Columbus group).
2. **Bring your own refreshments.** While we would normally provide drinks, we cannot do this with current COVID restrictions. Please bring your own drinks and snacks to enjoy.
3. **This event is free.** Students are welcome to attend.

It is super helpful if you let me know if you are planning to attend. This allows me to create a sign-in sheet that can then go to the field trip coordinators for the clubs.

Kind regards,

Randy Marsh
Friends of Mineralogy Midwest Chapter

Rare Manganese Mineral Occurrences in Michigan

By Frank Konieczki

Michigan's Upper Peninsula is famous for its substantial mineral deposits, and as many are aware, it is home to the world's largest native copper deposit. The western half of the peninsula also contains three significant iron ranges. These areas produce some rare copper and iron minerals, such as calumetite and bassetite, respectively; however, other metals found in the aforementioned areas are cations in rare minerals.

One less common metal that is found in a variety of minerals from Copper Country and the iron deposits is manganese. Manganese is not abundant enough to be the primary target for major commercial mining ventures, but it is present in several areas as one travels west from Marquette. Common manganese minerals such as manganite, pyrolusite and rhodochrosite are present in these deposits, and the best-known site to collectors where specimens of all three can be found is the Taylor Mine in Alberta, which is just south of L'Anse in Baraga County. The site contains two small open pit iron prospects where the two referenced manganese oxides are much more common than its carbonate.

Michigan is also the home to a number of very rare manganese minerals, and a quintet will be very briefly outlined here, with three of them found in Copper Country, and the other two in the Menominee Iron Range. In fact, Michigan is the type locality for two of these minerals! They will be presented by region, starting with those in Copper Country.

The Manganese Mine is just south of Copper Harbor in Keweenaw County, and this small site was developed in the 1880s, almost a half century after geologist Douglass Houghton discovered manganese minerals in the area during the 1830s. In all, about 1,200 tons of ore was removed during the mine's operation. Silicate is found here, as is pyrolusite, but the mine is also home to three very rare calcium manganese silicates, namely macfallite $\text{Ca}_2\text{Mn}^{3+}_3(\text{SiO}_4)(\text{Si}_2\text{O}_7)(\text{OH})_3$, orientite

$\text{Ca}_8\text{Mn}^{3+}_{10}(\text{SiO}_4)_3(\text{Si}_3\text{O}_{10})(\text{OH})_{10}\cdot 4\text{H}_2\text{O}$, and neltnerite $\text{CaMn}^{3+}_6(\text{SiO}_4)\text{O}_8$.

Of these three, macfallite is the rarest. It is found in six localities worldwide, with the Manganese Mine being the type locality. The species was first identified in 1979. Macfallite is monoclinic and presents as small, radial groups of reddish-brown crystals that are best appreciated under a lens (see Fig. 1). It is typically associated with calcite and several manganese minerals.



Figure 1. Macfallite on calcite, Manganese Mine, Copper Harbor, Keweenaw Co., Michigan. 3mm. David K. Joyce specimen & photograph. Photo reproduced with written permission.

The second, orientite, crystallizes in the orthorhombic crystal system and its type locality is what was then Oriente Province, Cuba. It has only been identified in ten locations. It is often reddish-brown to chocolate brown, but at the Manganese Mine the crystals can be a rich orange color.

Neltnerite is a black mineral that is tetragonal. It is found at ten sites, and two of them are in Michigan. In addition to the Manganese Mine, neltnerite is also found several kilometers away on the banks of Manganese Creek. As is the case with the previous two minerals, the crystals are best viewed under magnification.

It is two-and-a-half-hour drive south from Copper Harbor to the heart of the Menominee Iron Range, where two more rare manganese species are found.

The Chicagon Mine is the type locality for the rarest of the manganese minerals from the area, specifically seamanite. It is named after A.E. Seaman, the first person to draw attention to the mineral. Nickel-Strunz classification identifies it as a borate, and its chemical formula is $\text{Mn}^{2+}_3[\text{B}(\text{OH})_4](\text{PO}_4)(\text{OH})_2$. It is an orthorhombic mineral that is yellow, pink or yellow-brown, and it has been found in only six locations to date. Five of them are in Michigan! The other four Michigan localities are the Homer, Cannon and Bengal Mines in Iron County, and also the Cambria-Jackson Mine in Marquette County.

The second rare Mn mineral from this area is shigaite $\text{Mn}_6\text{Al}_3(\text{OH})_{18}[\text{Na}(\text{H}_2\text{O})_6](\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$. It forms in the trigonal system and single crystals are usually tabular and hexagonal, with dark yellow to orange-brown color. There are a total of nine known locations, with three in Michigan, and all of the Michigan locations are in Iron County, namely Bengal Mine, Cannon Mine and Homer Mine. Common associates in Michigan specimens of shigaite include calcite and seamanite (see Fig. 2).



Fig 2. Seamanite with associated shigaite, Cannon Mine, Bengal Mine, Stambaugh, Iron Co, MI. 3 mm. A.E Seaman Mineral Museum collection. Mindat Photo 8EQ-PQL. Photograph by John A. Jaszczak. Photo reproduced with Written permission.

All of the mines mentioned in this article are closed, with the Republic Mine being the most recent. The Manganese Mine opening was sealed about a decade ago. The waste piles of the Manganese Mine are overgrown, but some material remains. Collecting is still possible at this site, but as always, check on collecting status first and be sure to bring plenty of insect repellent if you go between June and October!

Those who may be interested in purchasing specimens of these minerals can expect them to be infrequently available from Internet vendors, and from time to time, specimens can be found at local shows and auctions.

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2022 Officers

President – Vacant

Vice President Programs – Vacant

Field Trips/Safety Officer - Reggie Rose, 4287 Parkmead Dr.
Grove City, Ohio 43123
(614)875-2675 vpfieldtrips@fommidwest.org

Secretary – Frank Konieczki, 50355 W. Huron River Dr.
Belleville, Michigan 48111
(734)-699-3321 secretary@fommidwest.org

Treasurer - Jeff Spencer, 4948 Beechwood Road
Cincinnati, Ohio 45244
(513)248-0533 treasurer@fommidwest.org

Liaison Officer Randy Marsh, 6152 Old Stone Ct.
Hamilton, Ohio 45011
(513)515-7890 liaisonofficer@fommidwest.org

Fund Raising (Committee Chair) - Vacant

Newsletter (Committee Chair) Tom Bolka, 2275 Capestrano Dr.
Xenia, Ohio 45385
(937)760-6864 newsletter@fommidwest.org

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Chapter Website:

www.fommidwest.org

National Website:

www.friendsofmineralogy.org

Affiliations:

THE MINERALOGICAL RECORD
THE MINERALOGICAL SOCIETY OF AMERICA
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Our purpose is to organize and promote interest in and knowledge of mineralogy; to advance mineralogical education; to protect and preserve mineral specimens and promote conservation of mineral localities; to further cooperation between amateur and professional and encourage collection of minerals for educational value; and to support publications about mineralogy and about the programs of kindred organizations.

