Friends of Mineralogy Inc. Midwest Chapter Newsletter

Volume 39, Issue 6 November + December 2024

Cover Picture

Calcite from the Caldwell Stone Company Quarry, Danville, Boyle Co., Kentucky.

Johan Maertens pictures and collection.

This newsletter's cover picture features a 25mm tall translucent colorless form–rich twinned **calcite** crystal. The white crystals fluoresce medium pink under UVB radiation and weak red under UVC radiation. .

This quarry is in the Central Kentucky Fluorspar District. Bedrock in this region is full of faults. Minerals in the faults are low temperature hydrothermal deposits. The plant has been operating for more than 90 years, mining Middle and upper Lexington Limestone and basal Clays Ferry Formation. Historically there was a vein ("the Walker Vein") running through the quarry with fluorite, calcite, barite.

From Anderson, 1994: The Lexington Dome, a structural high along the Cincinnati Arch, extends from Owen County in north-central Kentucky southward 100 miles to Lincoln County in southcentral Kentucky. Several major fault systems intersect near the apex of the dome. The rocks in central Kentucky are nearly flat-lying sedimentary rocks of Ordovician age that contain abundant fossils, such as brachiopods and bryozoans. These sedimentary rocks are cut by a system of north-trending, vertically dipping hydrothermal vein deposits that occur in joints and faults and that pinch and swell along strike. They range in size from inches to several feet in width, extending laterally for thousands of feet and vertically for hundreds of feet. Minerals in these veins consist of barite, fluorite, calcite, sphalerite, galena, and such secondary sulfate minerals as gypsum, cerussite, and anglesite.

The Walker vein is an east-trending deposit that has been traced laterally for more than 2,000 feet along the Brumfield Fault. Its best exposure is by quarry operations in the Grier and Tanglewood members of the Lexington Limestone where several small caves and cavities allowed the growth of large crystal specimens along the vein.

Highlights

- *Kentucky Calcite*
- *Luminosity of celestine from Maybee Quarry, Michigan*
- *Field trip Caldwell Stone Company Quarry*

The newsletter is published bi-monthly.
Contact and submissions vie Email at newsletter@fommidwest.org

From the Newsletter Editor.

As fall is coming to an end and winter arrives, local field collecting season is over for most but the hardiest of us. Flats and boxes with collected specimens have piled up and can now be sorted during the off-season.

I use a simple tile trim saw for downsizing smaller rocks while my large slab saw is awaiting my repair of a failed shaft bearing. I am high-grading and donating most finds during this holiday season.

Members can share their finds to others.

You are welcome to contribute to this newsletter. A picture, a story, an event in our Midwest USA area, they are all welcome for sharing and publication.

A plea for your active engagement in running the Association. Read below. Leadership is running paper thin, threatening the very existence of the association.

Join the conversation during the Annual Business meeting and volunteer.

Caldwell Stone Quarry, Kentucky

FM Midwest Annual business meeting—November 30 2 – 3 PM.

There are several Friends of Mineralogy Midwest unfilled leadership positions. The association operates for and also by our members. Like arms, legs, back and heart are essential parts of a functioning body, it is the body as a whole that makes a substantial difference from its parts. As an association we can obtain required insurance, training, credibility and standing to enjoy and exercise our hobby. Something most individuals cannot achieve.

This is your time to input into how the Chapter is run.

Agenda:

- Election of 2025 officers
- Discussion Chapter affairs.

The annual business **meeting will be virtual**.
To connect via phone, follow these instructions:
Dial 1-513-301-0037, wait for the prompt, enter the access code 882 142 90 then press the # key. If you are asked for a participant number or anything else, just press the # key again.

To join via internet: use link:

Join the meeting

This Newsletter is published six times a year by the Friends of Mineralogy Midwest Chapter for circulation to members in good standing.

Opinions expressed do not necessarily reflect the views and policies of the Friends of Mineralogy. We reserve the right to decline any submission judged to be inconsistent with FM-MW's purpose or not in keeping with the sensitivities of its membership.

Contributions of articles and photos are welcome: Articles may be edited for style, clarity, and length. The newsletter assumes no responsibility for lost material. SUBMISSION DEADLINES: the 15th of every evenly numbered month, for each issue.

Guidelines for Newsletter Submissions: E-mail preferred (written material accepted); clearly state that the submission is intended for publication in the Newsletter; send photos as color, high resolution email attachments.

Send all submissions and suggestions to

newsletter@fommidwest.org

Newsletter Delivery: We encourage you to sign up for electronic news delivery. You get extra reminders, premier and early information and save the Association on print, postage cost and paper expenses.

Switch to electronic delivery by e-mailing your preference to Membership chair Jeff Spencer (see back page). This assures we have your current contact information on file to serve you better.

Field Trips

Pop-up field trips are communicated by email.

FM MW is searching to fill the open position of Field Trip Chairperson. Please step up to volunteer for this essential activity position.

To suggest a field trip you can organize, contact a FM MW officer (see cover).

For your education, watch Collector Safety Training videos by Scott Kell on YouTube. See FM-MW newsletter Volume 39 Issue 2.

FM-MW Fieldtrip Requirements

1. You must be a FM-MW Member in good standing to participate.

2. All field trips are weather dependent.

3. Several of the trips are physically demanding!

All trips require at least an average level of physical fitness!

4. Quarry trips require members to be at least 18 years old, and to have a hardhat, safety glasses/goggles, gloves and steel-toed boots.

5. Collecting equipment should include: rock hammers, chisels, prybars, boxes, packing material for specimens, such as newspaper, screens for sifting, etc.

6. Bring water, drinks and snacks for the day.

7. Wear appropriate skin covering clothing (long pants and long-sleeved shirt) , knee pads and footwear.

8. Apply and carry sunscreen, insect repellent, water and food.

After receiving the announcement, sign up for the field trip by email to the acting Field Trip Coordinator.

By Randy Marsh, Scott Kell, Craig Kramer

Scott Kell is unable to offer in-person **MSHA Hazard training** this year.

If you received Mining Safety and Hazard training during the spring or summer of 2023 you will be fine for field trips in 2024. ALWAYS bring your certificate of training with you to all quarry field trips.

If you did not complete Hazard training in 2023, or you lost your certificate or if you are new to the club, then you can take the online safety training course. To sign up and receive instructions about the online course, contact Craig Kramer at craigwkramer@gmail.com with the following information in your email:

club affiliation

full name

address

telephone number

Rock and Mineral Shows, Clubs, Rock Shops, Mineral Museums can be found using the Internet www.rockandmineralshows.com;

https://xpopress.com/show/exposearch;

https://www.mindat.org/museums/;
https://www.mindat.org/shows.php?frm_id=searcher&cform_is_valid=1&current=1&country=1&su

Friends of Mineralogy Inc. - Midwest Chapter

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Vice President Programs – *Vacant*
Vice President Field Trips/Safety Officer – *Vacant*
Secretary – *Frank Konieczki*
50355 W. Huron River Dr., Belleville, Michigan 48111
(734)-699-3321 secretary@fommidwest.org
Treasurer - *Jeff Spencer*
4948 Beechwood Rd, Cincinnati, Ohio 45244
(513)248-0533 treasurer@fommidwest.org
FM Liaison Officer - *Randy Marsh*
6152 Old Stone Ct., Hamilton, Ohio 45011
(513)515-7890
liaisonofficer@fommidwest.org
Membership - *Jeff Spencer*
Newsletter *(Committee Chair) - Johan Maertens*
8267 Asbury Lane, Cincinnati, Ohio 45243
513 745 0030 mr.calcite@verizon.net
Webmaster - *Jeff Spencer*
Nominating Committee - *Vacant*
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Prior to the early 1970s, very little collecting had been done at this quarry; but for twenty years as the quarry operations mined through and along the vein, collectors have obtained large crystals of calcite and plates of barite, fluorite, and sphalerite.

The vein area is exhausted and recent finds included abundant calcite, some fluorite and barite crystals. Read more in this Newsletter.

Pictured specimen, The larger calcite crystals formed on earlier generations of small colorless scalenohedral calcite crystals that fluoresce weak white under UVB and UVC radiation.

Reference: Warren H. Anderson , Daniel H. Matulionis & Kirtley Settles (1994) Minerals of the Walker Vein: Caldwell Stone Company Quarry, Boyle County, Kentucky, Rocks & Minerals, 69:4, 254-258

2025 Dues

SCAN ME

Annual dues currently are $20.

Dues are for calendar year January 1st through December 31st

Dues should be paid by January 15th

Dues must be current to participate on FM MW activities.

To register for 2025 membership you have 2 options for payment.

1. You may print the form and mail it with your $20.00 payment

2. You may pay on-line ($21.00) through our website with a credit/debit card or PayPal.
You do not need a PayPal account to use a credit card. Our website has received security verification and certification.

About Fluorescence and Phosphorescence of Celestine from Maybee Quarry, Exeter Township, Monroe County, Michigan

Article, specimens and photographs by, **Calvin Harris**

Introduction

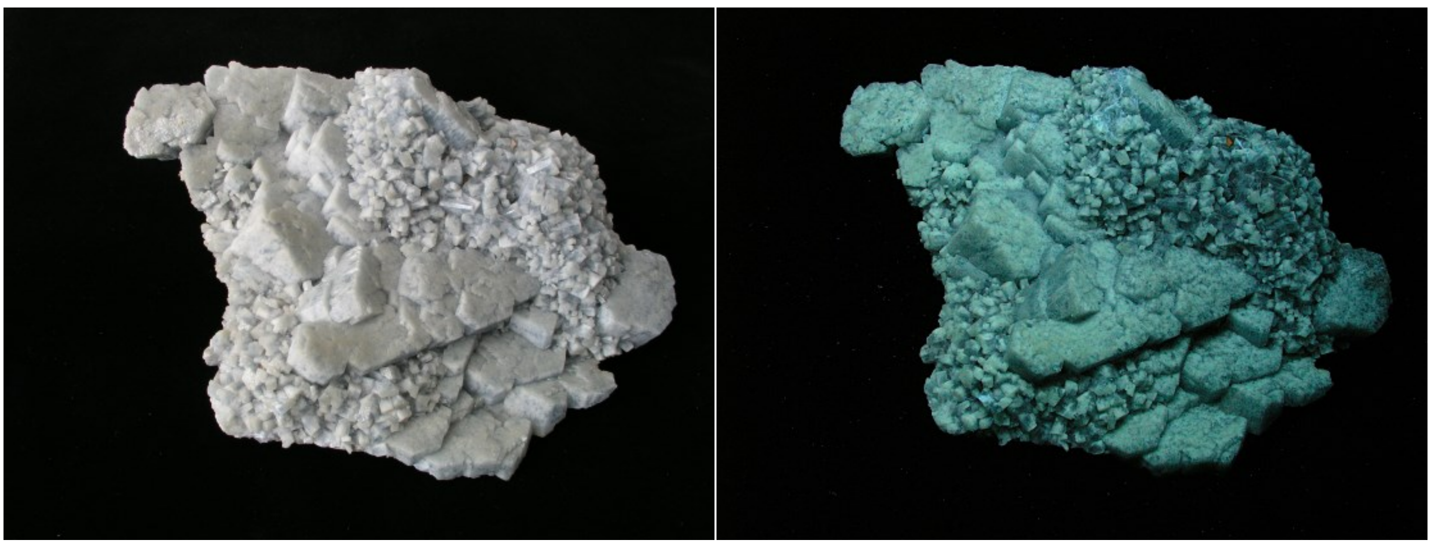
Many mineral collectors are familiar with celestine ($SrSO_4$; strontium sulfate), from Maybee Quarry, Monroe County, Michigan. Some collectors know that this mineral may exhibit fluorescence and phosphorescence. Publications that describe this luminosity limit the effects caused by shortwave and longwave ultraviolet radiation without mentioning their wavelength values. This paper describes the fluorescent and phosphorescent color responses, intensities and duration caused by shortwave, mid-wave and two different longwave ultraviolet radiation; the values of these wavelengths will be included in the descriptions.

Geological Setting

Maybee, Michigan is in Southeastern Michigan and the geology of this area consist largely of carbonate rocks and sandstone that originated during the Silurian and Devonian periods. The Maybee limestone quarry is located to 42° 1’ 1’’ North, 83°30’15’’ West. It has been noted as a popular collection site for some 30 years but has been off-limits for collecting for many years. In general, the geology consists of Detroit River Dolomite of the Middle Devonian period and made of brown and gray limestone with small vugs. The dolomite shares the same descriptive qualities as limestone but has a denser microcrystalline texture. Celestine and calcite form within vugs and sulfur has been reported to form in fractures within the deposit.

Mineral Description

Specimen A consists of large and small opaque, grayish blue, partially developed rhombic bipyramidal crystals perched on a light-tan limestone or dolostone matrix. The small crystals measure 0.5cm while the large crystals measure 3.5cm. All crystals have a glassy luster. This specimen measures 19cm × 12cm ×5 cm.



Daylight ***Celestine, Maybee Quarry, Exeter Twp, Monroe Co., Michigan*** ***UV-A 351 nm fluorescence***

Test Procedures

Three SuperBright II lamps and one SuperBright III lamp were the sources of ultraviolet radiation. The SuperBright II lamps emit wavelengths measuring 254nm (shortwave), 312nm (mid-wave) and 351nm (longwave), while the SuperBright III lamp emits a longwave wavelength of 370nm. These lamps are manufactured by UV SYSTEMS, Inc., based in Renten, WA. A DC electric source was used to operate the lamps. Fluorescence and phosphorescence are determined by placing the lamps from the specimens 3-4 inches and 2-3 inches, respectfully. A 5-second exposure time was used to produce phosphorescence.

Results

Wavelength	Fluorescence	Phosphorescence
254nm (UV-C; Shortwave)	Moderate-bright ; blue-green color.	Moderate , blue-green color, 6-second duration.
312nm (UV-B; Mid-wave)	Same as Shortwave (254nm), except slightly brighter.	Moderate-bright ; blue-green color, 7-second duration.
351nm (UV-A; Longwave)	Same as Shortwave (254nm), except slightly bluer.	Moderate-low ; blue-green color, 5-second duration.
370nm (UV-A; Longwave)	Same as Mid-wave (312nm).	Low ; blue-green color, 5-second duration.

Notes

Interestingly, the fluorescent colors and intensities are near identical. The phosphorescent responses are similar, but change significantly under longwave wavelengths. References indicate that the results are based organic activators, but inorganic activators may also contribute. Additionally, references indicate that the fluorescence and phosphorescence of specimens from different sites can vary when different wavelengths are applied. Knowledge gained toward determining the role of single or multiple activators has on celestine from Maybee Quarry will would be greatly beneficial.

References

Cook, Robert B. Celestine Maybee Quarry, Monroe County, Michigan. Rocks and Minerals, 71(2): 112-115. 1983.

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Friends of Mineralogy Midwest field trip to the Caldwell Stone Company Quarry, Danville, Boyle Co., Kentucky

Text, pictures and specimens by **Johan Maertens** ©

On Saturday, October 5, 2024, the Friends of Mineralogy Midwest Chapter (FM MW) hit the road for a field trip to Caldwell Stone Company Quarry. It was a tough call for some, considering it was the same weekend as the Kentucky Bourbon & Belonging festival. But hey, rocks won the day.

Our host, local expert Danny Settles, gave us a warm welcome. Before diving into the day, we tackled the necessary MSHA site-specific safety training—a must for quarry visits.

Field trip coordinator Johan Maertens pushed the meeting time back from 7 AM to 8 AM to catch better daylight for safety (a relief for most of us but not for Tim Marshall AKA "The Calcitecrusher", who jokingly slapped Johan with a "10% mineral finds penalty" for shortening the collection window).

Once suited up in our safety gear, we convoyed into a quiet section of the quarry, well away from the active work zones. The collection spot featured rip-rap rock piles and muck piles, which turned out to be treasure troves of minerals.

The group scored big throughout the day, pulling in goodies like calcite, selenite, pyrite, barite, quartz, and chalcedony, not to mention some cool fossils. Among the highlights were calcite vugs—some with gemmy, clear crystals and others with chunky, opaque white fragments that glowed impressively under UV light. These were often paired with smaller, brown scalenohedral calcite crystals on the matrix. Pyrite and marcasite with calcite clusters were real eye-catchers too.

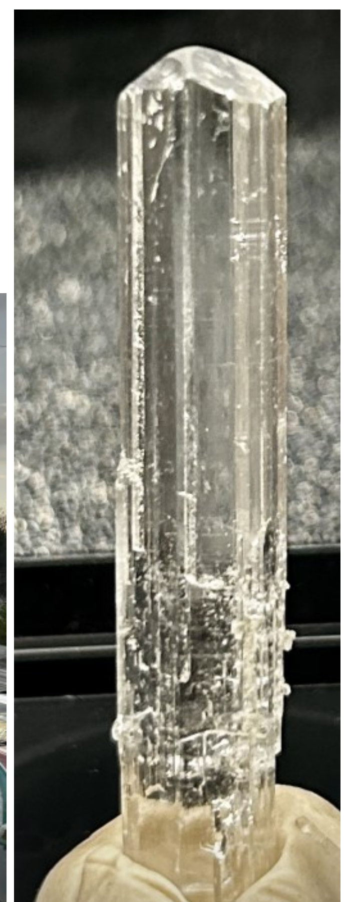
The prize find of the day went to Danny Settles and Ed O'Dell, who uncovered a rare vug filled with large, water-clear selenite crystals (picture). Other standout specimens included light purple fluorite with barite on calcite and chalcedony vugs lined with sparkly druzy quartz. Minor dolomite completed the portfolio.

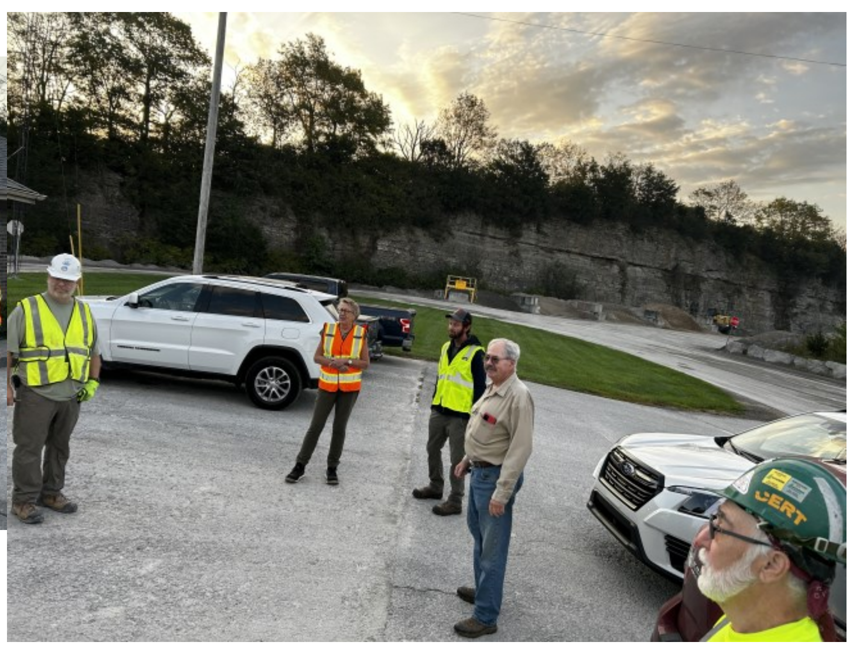
There remains one unidentified green (coated) mineral as thin prismatic crystals embedded in calcite , collected by Eric Malone

Johan Maertens made more than good on the mineral finds penalty by stacking several piles with good crystallized vugs for participants. He left the quarry with his car's tail pipe nearly scraping the road.

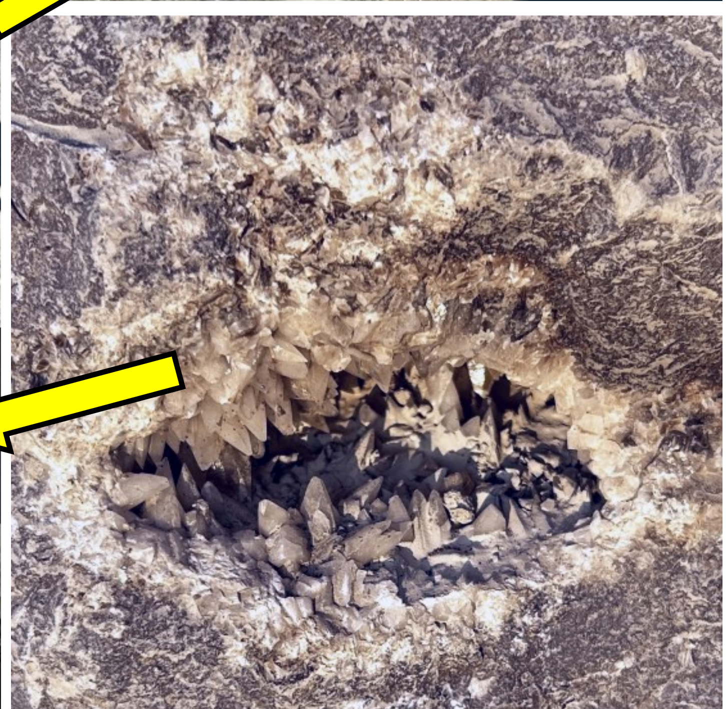
Thanks to Danny and the Caldwell Stone team, everything ran smoothly and safely. FM MW is super grateful for their ongoing support, making trips like this possible. It's partnerships like these that keep the learning (and collecting!) alive.

Can't wait for the next adventure!






LITTLE RIVER
OUTFITTERS



Above: Fluorite and barite on calcite.

Caldwell Stone Quarry, Danville, Kentucky minerals.

Collected October 5, 2025

Johan Maertens, Editor

Friends of Mineralogy Inc. - Midwest Chapter

8267 Asbury Lane

Cincinnati, Ohio 45243

It is Friends of Mineralogy policy that its name and logos may not be used for commercial purposes.

The Midwest Chapter covers an 8-state region: Ohio, Indiana, Michigan, Illinois, Wisconsin, Missouri, Iowa and Kentucky.

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.

2024 Calendar year
dues are $20 per person.

Membership information at https://www.fommidwest.org/announcements/pay-2022-membership-dues-on-line/

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