

FRIENDS of MINERALOGY *Midwest*



A precarious looking section of highwall photographed earlier this year – Stay Away!

March 2022, Hanson Quarry, Ft. Wayne, Indiana – Editor photo

Chapter Newsletter for May – June 2022

TREASURERS REPORT

4/15/2022

As of 4/15/22 we have 62 members registered for 2022. Many of you that still receive this newsletter have not registered for 2022. Please contact me at treasurer@fommidwest.org if you are in doubt about your status.

So far, this year registering members have contributed an additional \$200.00 in donations. Our Annual \$650 insurance premium has been paid and we have \$9,149.89 in our treasury.

Proposed Paperless Registration and On-Line Payment

At the Cincinnati meeting it will be proposed that we enable on-line registration and payment of chapter dues. We have registered as a non-profit with Paypal for back-end processing.

In order to go live we need to acquire a Security certificate for our website (\$52.00 1 year, \$37.00 annually for 5-year contract) and approve a motion to amend the by-laws as follows:

1. No hand-signed FM Midwest form will be required for electronic registration with payment.
2. Online registration cost will be dues plus 1.00 service charge (.49 plus 1.99% of amount is the actual charge)

The annual form will be available after annual dues amounts are set.

Registrants must be individuals, no businesses.

Payment can be via Paypal or Credit/Check Card. Additional donations of up to \$150 is supported. You do not need a Paypal account.

No credit card or bank information will be stored by Friends of Mineralogy Inc Midwest Chapter.

Members are considered registered for the year as of payment received date.

We will continue the existing paper form process as is.

The existing Hold-harmless agreement will still be required to be signed and witnessed for field-trip/event participation. The form can be printed and mailed or collected by a chapter representative on-site.

Quarry Travel Guide

Field Trip Locality: Caldwell Stone

Address: 1648 Old Stanford Road Danville, KY 40422 (Office: 859-236-6829)

Date of Trip: Saturday May 14, 2022

Time of Field Trip: 7:30 am – 12:00 pm

Travel Distance: (from Grove City, OH; exit 100 on I 71): 219 miles

Travel Time: from Grove City, OH; exit 100 on I 71: 3:32

County: Boyle

Age of Rock: Middle Ordovician

Units Exposed: Lexington Limestone

Training Required: On Site

Specimens Present: Barite, Celestine(?), Chalcopyrite, Dolomite, Galena, Gypsum, Marcasite, Pyrite, Quartz, Smithsonite, Sphalerite, Strontianite, Witherite(?) (This is a Mindat list; see Alan Goldstein's report on this quarry at: alangoldsteinsuniverse.com.)

Descriptive Geology:

This locality 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 vein named here for minerals deposited is the Walker Vein.

Quarry Location: The north branch of Route 150 goes out of Danville to the southeast. Old Stanford Road runs north off of Route 150 – turn left on Old Stanford Road before you get to the south branch of Route 150, the Danville Bypass.

MOTELS: Due to the distance involved it might be expedient to consider taking a motel the night before the event.

Speaking of expedient, most of these motels are found on Expedia.com (except for the Super 8 which was found on booking.com. The numbers in brackets are the per night fee including motel tax; the numbers in parentheses are the distance from Danville; no distance is given for Super 8 which was on Booking.com.

Motel 6

1029 Cooper Drive
Berea, KY 40403
859-986-7373 (25.3)

Countryside Inn

230 Eastern Bypass
Richmond, KY 40475
859-623-8813 (25.7)

Quality Quarters Inn

105 North Killarney Lane
Richmond, KY 40475
844-202-5670 (25.6)

Knights Inn

715 Chestnut Street
Berea, KY 40403
859-986-2384 (26.1)

Relax Inn

1688 Northgate Drive
Richmond, KY 40475
859-674-6212 (26.6)

Super 8

107 North Keeneland
Richmond, KY 40474
844-202-5670

Friends of Mineralogy, Inc. Midwest Chapter

Officers' Meeting Minutes- March 13, 2022

Virtual & Teleconference Meeting

Liaison Officer Randy Marsh welcomed those who attended the meeting.

Called to order by Secretary Konieczki at 11:05 AM, after declaring a quorum. The following officers were present: Randy Marsh, Liaison Officer; Jeff Spencer, Treasurer; Reggie Rose, Field Trips/ Safety Officer; Frank Konieczki, Secretary.

The following items/topics were presented and discussed:

Approval of Previous Meeting Minutes:

A request for corrections to the November 20, 2021 meeting minutes that were previously published in the January-February 2022 newsletter were necessary. No changes to the minutes were suggested or adopted by the attendees. A motion was requested and made to accept the minutes as published, and the motion was passed by unanimous vote. (JSpencer/Rose/P).

Officer Reports:

Treasurer's Report: Treasurer Jeff Spencer stated that there were currently 50 members, including several who joined since safety training was announced. Jeff also outlined a format for the proposed online registration process. He indicated that new members would follow the original registration process (application, hold harmless agreement and dues payment). Language would need to be added to the constitution and bylaws to allow for online registration and payment. If approved by the membership, Jeff would create an online form that would be completed by members, who would then be sent to online payment. Members would be needed to test the process before being fully instituted. A motion was made to discuss amending the constitution and bylaws to allow for online registration at the next general meeting. The motion passed unanimously (RMarsh/Konieczki/P).

Liaison Officer: Liaison Officer Randy Marsh noted that no members had volunteered to assist Johan Maertens with a swap table at 2022 GeoFair, so FM Midwest will not have a table at the event.

Secretary: Secretary Frank Konieczki indicated FM Midwest will have an educational table at the 2022 Greater Detroit Gem, Fossil and Mineral Show in October. Any members who may be willing to help at the table can contact Frank for details.

Field Trips/Safety Officer: Field Trips/Safety Officer Reggie Rose indicated that he had contacted all five quarries that have been regular field trip sites in recent years (Marblehead, Auglaize, South Rockwood, Williamsport and Genoa). Of these, South Rockwood is allowing field trips and Reggie reported FM Midwest will have a trip scheduled there this year. Williamsport and Genoa have not responded to date, but since these have historically been in the latter part of the year, that is not surprising. The latter has a new plant manager this year. Marblehead and Auglaize still are not allowing visitors to date.

Old Business:

There was discussion about the new requirements for additional safety equipment at Marblehead. The new requirements that have been mandated by the corporate office are vehicle-mounted flags, reflective tape on the front, back and sides of vehicles, and a flashing light mounted on the vehicle roof. Two-way radios are also a requirement (a set has already been purchased). Treasurer Spencer stated onsite logistics would be important, so starting small would be a good idea. Liaison Officer Marsh has already purchased tape. Jeff Spencer suggested limiting vehicles at Marblehead to fifteen, which would save considerable time in staging the safety equipment. There was general agreement that the organization will own the equipment and issue it. The process will be developed at a later date. Reggie Rose indicated that although Marblehead is under COVID restrictions, once lifted, he can revisit scheduling a field trip.

New Business:

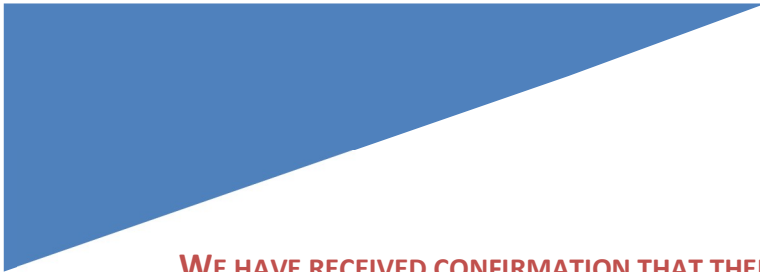
Liaison Officer Randy Marsh confirmed that there will be a general membership meeting at GeoFair on May 21.

There is also the possibility of a meeting at the Mansfield show.

A motion to adjourn was entered and passed. (JSpencer/RMarsh/P).

Meeting adjourned: 12:04 PM.

Respectfully submitted by Frank Konieczki, Secretary



WE HAVE RECEIVED CONFIRMATION THAT THERE ARE STILL SWAP TABLE SPACES AVAILABLE AT GEOFAIR NEXT MONTH. ANYONE THAT WOULD LIKE TO MAKE DONATIONS CAN DROP THEM OFF AT THE TABLE ON THE MORNING OF SATURDAY MAY 21 OR BY PRIOR ARRANGEMENT THROUGH CONTACTING ME AT MARSH.RG@PG.COM.

Luminescent Properties of Calcite from Promontory Mountains Box Elder, Utah

by, Calvin Harris

Introduction

The luminescent attributes of calcite have been thoroughly studied and appreciated by mineral collectors. This is possible because calcite with these traits can be found in a variety of geological settings that are readily accessible to collectors. Promontory Mountains is an area known for collecting calcite, but until now, limited attention has been given to the fluorescence and phosphorescence displayed by specimens from this location. This paper explores how certain specimens respond to five wavelengths of ultraviolet radiation.

Geological Setting

Briefly, the Promontory Mountains are located in Box Elder County, Utah. Sedimentary deposits consisting of sandstone, limestone and dolostone formed during the Cambrian and through the Triassic Periods. These rocks were subjected to episodes of folding and faulting after the Triassic. During the Tertiary (Cenozoic era) heat from volcanic activity changed the mineral chemistry of the surrounding rock leading to ore formation and hot springs.

The Promontory mining district lies in the southern end of the mountain range and is known for mining lead, zinc, as well as, copper, silver gold and other metals. These ore deposits are hosted in an area of interbedded carbonate and shale. Mississippian-age limestone, dolostone and quartzite were also mined.

Mineral Descriptions

Two cabinet size samples Specimen A and Specimen B measure approximately 4"x4"x2" were examined for this paper. The calcite is banded between layers of matrix and exhibit different luminescent characteristics.

The upper section of Specimen A is calcite consisting of long, elongated, obtuse rhombohedron forms with white coloration in daylight. The mid-section has similar coloration with moderately defined crystals. A vein of massive white calcite runs through the bottom of the specimen.



Specimen A



Specimen B

The upper section of Specimen B displays poorly developed crystal faces that are light to medium tan in color under daylight conditions. The mid-section is similar, but without crystallization. The bottom area consisting of calcite displays white coloration and with moderate to poorly defined crystals.

Test Procedures

Four ultraviolet wavelengths shortwave, 254nm; mid-wave, 312nm; longwave, 351nm and longwave 370nm were used to determine the luminosity characteristics of the specimens. Each source of radiation was placed 3-4 inches from the specimens to determine fluorescence and 1-2 inches to determine phosphorescence; a 10-second exposure time was sufficient to determine phosphorescence. Portable, battery-operated ultraviolet units were the sources of the radiation.

A battery-operated electronic flash unit was used to determine *flash*, or an intense discharge of light of short duration. The flash unit was set at its maximum discharge output and placed 1-2 inches from the specimens. The unit is used to determine the presence of manganese and lead co-activators, which display a red-orange coloration. The precise wavelength emitted by the flash unit has not been determined with certainty.

Evaluating phosphorescence should precede fluorescence to eliminate the need for eye sensitivity adjustment.

Observations and Findings

The upper, middle and bottom sections display different results based on the wavelength applied.

(Abbreviations: **fl**, fluorescence; **phos**, phosphorescence)

<u>Upper Section of Specimen A</u>	
Shortwave (254nm)	fl : low intensity, gray-blue color, powder-blue coloration toward terminals, red color in some areas; phos : very weak-intensity, blue coloration similar to scheelite, 4-second duration.
Mid-wave (312nm)	fl : moderate-low intensity, blue-gray coloration with powder-blue color toward terminations, red color in some areas; phos : very weak-intensity, color indeterminate, 3-second duration.
Longwave (351nm)	fl : moderate-low intensity, blue-gray, areas of blue and red coloration; phos : indeterminate color, intensity.
Longwave (370nm)	fl : moderate-low intensity, blue-gray and red coloration; phos : results similar to Longwave 351nm.
<i>flash</i>	Low intensity, red-orange coloration.

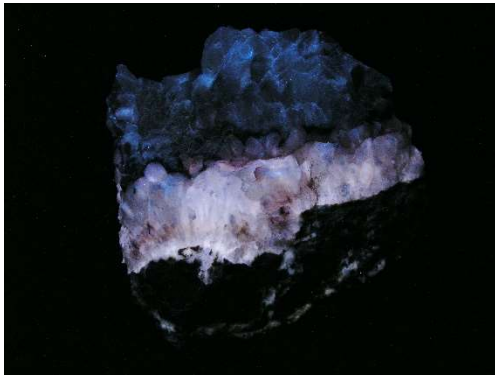
<u>Middle Section of Specimen A</u>	
Shortwave (254nm)	fl : very bright-intensity, white with blue tint coloration. phos : bright-intensity, blue-violet coloration, 17-second duration.
Mid-wave (312nm)	fl : bright-intensity, white with cream coloration; phos : moderate-intensity, blue-violet coloration, 10-second duration.

Longwave (351nm)	fl: bright-intensity, cream with reddish tint; phos: low intensity, cream coloration, 6-second duration.
Longwave (370nm)	fl: results similar to Longwave 251nm; phos: very weak intensity, light gray coloration, 4-second duration.
flash	None detected.

<u>Bottom Section of Specimen A</u>	
Shortwave (254nm)	fl: bright intensity, cream-yellow coloration; phos: results similar to Middle Section, except 9-second duration.
Mid-wave (312nm)	fl: bright intensity, cream-yellow coloration; phos: low intensity, blue coloration, 6-second duration.
Longwave (351nm)	fl: results similar to longwave 351nm Middle Section; phos: very low intensity, color indeterminate, 3-second duration.
Longwave (370nm)	fl: bright intensity, yellow-cream coloration; phos: very low intensity, gray coloration, 3-second duration.
flash	Moderate-bright, red-orange coloration.

<u>Upper Section of Specimen B</u>	
Shortwave (254nm)	fl: bright intensity, white w/blue tint; phos: bright intensity, blue-violet color, 13-second duration.
Mid-wave (312nm)	fl: bright intensity white w/green tint; phos: moderate-bright intensity, lime-green coloration, 10-second duration.
Longwave (351nm)	fl: moderate-bright intensity, cream coloration; phos: weak intensity, cream-gray coloration, 6-second duration.
Longwave (370nm)	fl: slightly brighter than 351nm, cream w/reddish tint coloration; phos: similar to 351nm.
flash:	None detected.

<u>Middle Section of Specimen B</u>	
Shortwave (254nm)	fl: moderate-low intensity, gray w/blue tint; phos: low intensity, blue-gray color, 4-second duration.
Mid-wave (312nm)	fl: moderate-low intensity blue-gray color; phos: very low intensity, gray coloration, 4-second duration.
Longwave (351nm)	fl: low intensity, blue-gray, red tint coloration; phos: weak intensity, color indeterminate, 3- second duration.
Longwave (370nm)	fl: low intensity, blue-gray, red tint coloration; phos: very low intensity, color, duration indeterminate.
flash	None detected.



Specimen A 351nm Longwave



Specimen B 351nm longwave

<u>Bottom Section of Specimen B</u>	
Shortwave (254nm)	<i>fl: moderate-low intensity, powder-blue area+ moderate intensity red vein; phos: very low intensity, blue-gray coloration, 5-second duration.</i>
Mid-wave (312nm)	<i>fl: moderate-low intensity, powder-blue-area+ low intensity, red vein; phos: very low intensity, blue-gray coloration, 5-second duration.</i>
Longwave (351nm)	<i>fl: moderate-low intensity, powder-blue section, vein displaying low intensity red coloration; phos: very low intensity, blue-gray coloration, 3-second duration.</i>
Longwave (370nm)	<i>fl: moderate-low intensity, powder-blue area+ vein displaying low intensity, dull red coloration; phos: very weak intensity, color, duration indeterminate.</i>
flash	<i>Moderate-bright, red-orange coloration.</i>

Discussion

Zoning in the rhombohedron forms in Specimen A was not observed in other areas of this specimen or in Specimen B. Examination of additional specimens will determine if this a unique or fairly common feature.

The results suggest that organic and inorganic activators caused the luminescent responses of these specimens. The desaturated coloration of fluorescence and phosphorescence is frequently viewed in carbonate minerals with organic activators. The red-orange fluorescence and *flash* indicate that lead-manganese co-activators cause these effects.

The results are similar to other specimens from well-known localities such as Mendip Hills in Somerset, England and a comparative study may provide a fuller understanding of the geological and mineralogical settings of the Promontory Mountains specimens.

This paper documents possible outcomes of the interaction between ultraviolet radiation and calcite from the Promontory Mountains. It also serves as a guide to identify something unusual or unexpected when careful observation is practiced.

Selected References

- Beveridge, W.I.B. 1957. *The Art of Scientific Investigation*. W.W. Norton & Company, Inc., New York. (Orig. pub. 1950.)
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- Olson, Richard H. 1960. "Geological of the Promontory Range, Box Elder County, Utah." PhD thesis, University of Utah.
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Cincinnati GeoFair 2022

57th Annual

Gem, Mineral, Fossil & Jewelry
Show of Greater Cincinnati
www.geofair.com

May 21
Saturday
10 am to 6 pm



May 22
Sunday
11 am to 5 pm

Exhibits Featuring:

A Selection from my Collection

Illustrated Earth Science Programs
Saturday, May 21

- *Specialization – A Strategy for Successful Collecting*
 - *Teeth, Jaws and Claws - The Carnivorous Dinosaurs*
- Sunday, May 22
- *A Photo Selection from my Collection*
 - *The Wondrous World of Trilobites*

Sharonville
Convention Center
11355 Chester Road
Sharonville, Ohio 45246
www.geofair.com for directions

FREE PARKING



Randy Marsh and Johan Maertens gawking over Clay Center Fluorites at recent Columbus Show

FM will have a meeting at GeoFair on Saturday, May 21 at 4 PM in one of the rooms on the lower level. Look for the signs that will be in place.

In memory of

Dorothy McCague Kell

February 19, 1925 – April 7, 2022



Dorothy M. Kell, age 97, went to be with her heavenly Father on April 7, 2022. She was born on February 19, 1925 at the Beaver Lake Farm in Columbiana County, Ohio to parents Frank and Wilma McCague. She graduated from Paulding High School in 1943 and went on to The Ohio State University where she earned a Bachelor of Science in Medical Technology in 1947. In May 1949, Dorothy married her college sweetheart Robert Kell, and enjoyed 62 years of marriage until his passing in September 2011.

She was a resident of Upper Arlington since 1954 where she raised three children; Jim, Scott and Judy. She was an amazing mother who always fanned the flames of her children's interests, encouraging them to excel at all their endeavors. She was an avid "rock hound" and member of the Columbus Rock and Mineral Society since 1959. She loved collecting minerals and fossils and cherished everyday spent at a quarry, creek-bed, or road cut searching for treasures.

Dorothy was a member of Saint Mark's Episcopal Church. She played bridge achieving a level of Life Master. Bob and Dorothy loved to travel, saw the world together, and spent time in each of the fifty states. She loved the outdoors and was an avid bird-watcher. She loved animals and was especially fond of her adoring cats. She was thoughtful and generous, affectionately referred to as the "Queen". She made every holiday and birthday full of rich traditions. More importantly, she left a legacy of love and loyalty to family and friends.

Dorothy was loved by, and in turn loved her daughters-in-law Nancy and Trisha, her four grandchildren Dan, Corban, Jessie and Nat, and her grandson-in-law Tony. She was proud of each of them. She is survived by her sister Jean Bowen.

Dorothy lived life well as a devoted wife, loving mother and doting grandmother. She will be deeply missed by all.

Dignity Memorial - <https://www.dignitymemorial.com/obituaries/columbus-oh/dorothy-kell-10704279>

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:

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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.

