

SE Massachusetts Mineral Club



March 2022



OutCroppings

March 2022

www.semmc.com

Incorporated April 8, 1970

Meetings held on the second Thursday of each month at 7:30pm
(excluding July and August)

Meetings are held at the Rockland Eagles Hall
29 Park Street, Rockland, MA 02370

Next Meeting March 10, 2022

President: Walter Schell wshell1191@gmail.com

Vice President: Steve Kimbal steve@kimbalpainting.com

Secretary: Sara Ostrander naturespeaks2you@gmail.com

Treasurer: Dr. Robert Chasen drchasen@comcast.net

Newsletter Editor: Larry Ryan zone859@verizon.net



A Message from President Walter Schell

Greetings to you all ,

We are finally getting back to in person meetings and looking forward to seeing everyone again . We also have some new members we hope we'll get to welcome in .

For all members who have not been to the club claim or have not done hard rock mining , you don't want to miss this march 10th meeting.

Martin Gilar will be doing a presentation on this you don't want to miss !

Looking forward to seeing you all and getting back to digging soon.

Rock hard regards,

Walter

A Message from the Editor

Greetings!

Meetings have been tough to come by in recent months! But like the rocks we dig in, we are tough, resilient, and determined to get out and start meeting and digging again. See you soon!

Larry

[SEMMC Facebook Page](#)

Keep in touch with our Facebook Page to get the sudden additions to the digging schedule!

Field Trip Agenda

Field collecting trips are open to SEMMC members only, as our insurance policy covers members only. Please bring your SEMMC Membership card with you.

All participants of field trips are required to contact trip leaders at least 48 hours in advance of trip date.

Schedules may change. Please contact the host to confirm date, time and details.

Some trips may be eliminated, added, or altered depending on weather and other circumstances.

However, please remember we do have a club claim in Fonda, NY and it is open year-round, weather permitting.

The Club Rules for our claim can be found on the website.

Mineral of the Month

Davemaoite



Scientists have identified a new mineral never before seen in nature, trapped inside a diamond found in a Botswana mine, Science News reports. The newly discovered calcium silicate perovskite, dubbed “davemaoite” after a high-pressure geophysicist, is thought to compose up to 7% of Earth’s lower mantle, a region of crushing pressure and

heat. The mineral has been formed briefly in lab experiments, but its crystals immediately rearrange when scientists reduce pressure to atmospheric levels. The diamond's rigid structure kept the davemaoite intact, the researchers report this week in Science. That helped them confirm not only its existence, but also its propensity for trapping certain radioactive elements, such as uranium and potassium, thought to heat the lower mantle.

Davemaoite is a high-pressure calcium silicate perovskite (CaSiO_3) mineral with a distinctive cubic crystal structure. It is named after geophysicist Ho-kwang (Dave) Mao, who pioneered in many discoveries in high-pressure geochemistry and geophysics.[2][3]

It is one of three main minerals in Earth's lower mantle, making up around 5–7% of the material there. Significantly, davemaoite can host uranium and thorium, radioactive isotopes which produce heat through radioactive decay and contribute greatly to heating within this region[2] giving the material a major role in how heat flows deep below the earth's surface.[2]

Davemaoite has been artificially synthesized in the laboratory, but was thought to be too extreme to exist in the Earth's crust. Then in 2021, the mineral was discovered as specks within a diamond that formed between 660 and 900 km beneath the Earth's surface, within the mantle. The diamond had been extracted from the Orapa diamond mine in Botswana.[2] The discovery was made by focusing a high-energy beam of X-rays on precise spots within the diamond using a technique known as synchrotron X-ray diffraction.[4][5][6]

Calcium silicate is found in other forms, such as wollastonite in the crust and breyite in the middle and lower regions of the mantle. However, this version can exist only at very high pressure of around 200,000 times that found at Earth's surface.

Wollastonite



Uses

Wollastonite has industrial importance worldwide. It is used in many industries, mostly by tile factories which have incorporated it into the manufacturing of ceramic to improve many performance parameters, and this is due to its fluxing properties, freedom from volatile constituents, whiteness, and acicular particle shape.[10]

In ceramics, wollastonite decreases shrinkage and gas evolution during firing, increases green and fired strength, maintains brightness during firing, permits fast firing, and reduces crazing, cracking, and glaze defects.

Wollastonite is used in a cement announced in 2019 which "reduces the overall carbon footprint in precast concrete by 70%."[11]

In metallurgical applications, wollastonite serves as a flux for welding, a source for calcium oxide, a slag conditioner, and to protect the surface of molten metal during the continuous casting of steel.

As an additive in paint, it improves the durability of the paint film, acts as a pH buffer, improves its resistance to weathering, reduces gloss,

reduces pigment consumption, and acts as a flattening and suspending agent.

In plastics, wollastonite improves tensile and flexural strength, reduces resin consumption, and improves thermal and dimensional stability at elevated temperatures. Surface treatments are used to improve the adhesion between the wollastonite and the polymers to which it is added.

As a substitute for asbestos in floor tiles, friction products, insulating board and panels, paint, plastics, and roofing products, wollastonite is resistant to chemical attack, inert, stable at high temperatures, and improves flexural and tensile strength.[9] In some industries, it is used in different percentages of impurities, such as its use as a fabricator of mineral wool insulation, or as an ornamental building material.[12]

Plastics and rubber applications were estimated to account for 25% to 35% of U.S. sales in 2009, followed by ceramics with 20% to 25%; paint, 10% to 15%; metallurgical applications, 10% to 15%; friction products, 10% to 15%; and miscellaneous, 10% to 15%. Ceramic applications probably account for 30% to 40% of wollastonite sales worldwide, followed by polymers (plastics and rubber) with 30% to 35% of sales, and paint with 10% to 15% of sales. The remaining sales were for construction, friction products, and metallurgical applications.

[Breyite](#)

[Ferropericlase](#)

When traveling around the country
And you want a place to prospect,
Go to

www.mindat.org

Member's Corner

Welcome New Members!



**We have a lot to crow about!
And everyone is “raven” about us!
Come and Join in!**

Hello to all the new members of OUR CLUB! Make sure you attend the monthly meetings. There are stories to be told, information to be gathered, raffles to be won, guest speakers, What we dig, Where we dig and How we dig are all discussed with our senior members. Be there!

Shirts are in!



So your choices are...

SMALL - pink with black ink OR orange with black ink

MEDIUM - pink/black OR blue/white;

LARGE - pink/black OR blue/black

X LARGE - pink/black OR blue/white

XX LARGE - blue/white

Members Jill Jordan and Dan Ryan buy acres of land in Arizona covered in Fire Agates! See Dan or Jill about details!



They will take you to new heights in the collector's game!



No mountain is too high!



Meetings last about 2 hours and the time flies by.

See You **March 10, 2022**

New Club E-Mail Address

southeastmmc@gmail.com

[SEMMC FACEBOOK PAGE](#)

Southeastern Massachusetts Mineral Club



Memberships run from August 1st to July 31

\$20.00 per Family per year Dues

And for that money, you are a fully insured Club Member, access to a wealth of mineral knowledge, Club digs, are held at some of the best quarries in New England, 10 scheduled Meetings per Year, September to June where knowledge and information are exchanged freely. New members learn the What, Where, How and When. Come to the next meeting and see.

“Hey, someone gave me this “Rock”

What is it?



Come Join Us and find out!

Scouting for new spots

We are always looking for new areas to collect from. If you are sitting at home with nothing to do, log on and find out about the history of mining in your area. Many old and abandon quarries and mines still exist throughout our region. Also there are many “ancient” sites that hold evidence of the indigenous peoples that were living here and quite possibly Viking Settlements that were here before Columbus in 1492. Take a look and see what you can find. Send me any info you have and I will publish it so all Club Members will know.

Larry

[America's Stonehenge](#)

Spring Shall Soon Be Upon Us!



So get your a\$\$ in gear!

Membership Form

Your dues help keep us going. Dues pay for the newsletter, correspondence, refreshments, speakers, and a host of other expenses. Dues are as follows:

-Individual Membership \$15.00 Yearly Dues with e-mail newsletter-

-Family Membership * \$20.00 Yearly Dues with e-mail newsletter-

*** Family Membership must list all family members as of September 1 of the membership year.**

Tear off and return with your payment made out to SEMMC, Inc.

Date _____

Name(s) _____

Children _____

Address _____

City _____ State _____

Zip code _____

Phone(s) _____

Email address _____

Southeastern Massachusetts Mineral Club

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