



OUTCROPPINGS

January 2021

www.semml.com

Incorporated April 8, 1970

**Meetings held on the second Thursday of each month at 7:30pm (excluding July and August)
in Room 130 of the Conant Science Building at Bridgewater State University,
14 Park St., Bridgewater, MA**

President: Julie Morales **Email:** juliesemml@gmail.com

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January 2021 SEMML Meeting will be held on ZOOM

Due to the COVID-19 pandemic, SEMML will be holding our regular monthly meetings, the 2nd Thursday of the month, via Zoom at 7:30pm. The next meeting is **Thursday, January 14th, 2021 at 7:30pm Zoom Meeting ID number is: Meeting ID: 885 0893 0555 and the Passcode is: 192870**

To ensure a pleasant experience with your Zoom Meeting, we highly encourage individuals to download and install the Zoom Application beforehand.

To download and install the Zoom Application:

Go to <https://zoom.us/download> and from the Download Center, click on the Download button under "Zoom Client For Meetings".

This application will automatically download when you start your first Zoom Meeting.

Once the download is complete, proceed with installing the Zoom application onto your computer.

ZOOM MEETING QUICK LINK

Join Zoom Meeting

<https://us02web.zoom.us/j/88508930555?pwd=ODZOYndNOWdaY2N6dzFVQ2t3S1Zydz09>

A MESSAGE FROM THE PRESIDENT

Happy New Year! I hope everyone is doing well and staying safe during these difficult and stressful times. I'm looking forward to getting back outside and excited to find different trip locations. If you have a place you'd like to go or a mineral that you'd like to hunt for, please share your thoughts at our monthly zoom meeting or send me an email if you are unable to attend. The January meeting will be held via Zoom on Thursday, January 14, 2021 at 7:30 PM. This meeting, I would also like to discuss our

annual auction and ways to replenish the scholarship fund. Your thoughts and opinions matter and as always, I ask that members are respectful and raise their hand and wait to be called on during the meeting (I promise everyone who has something to say will be able to.)

Stay safe and healthy!

Julie

SEMMC President

Message from the Editor

WE WILL BE ONLY BE PRODUCING AN EMAIL EDITION OF THE SEMMC NEWSLETTER

As the editor I will be looking for club members input. If you see a geology article, know of an upcoming rock and mineral show, or just have an idea of something that you would like to see in the newsletter please email me at jbradleysemmc@gmail.com

Thank you and happy collecting

Jim Bradley

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.

SEMMC club claim at Diamond Acres in Fonda, NY is there for our enjoyment. Please use it and follow the rules of use, which are pretty simple. All debris **must** be removed after digging. There is **no dumping** of material in the claim. Please place all stone and dirt outside of the roped off areas. No sifting soil anywhere except in the designated sifting area. There is to be no undercutting of trees. The large tree with stone under it is OFF LIMITS...NO EXCEPTIONS!!! Please work in a safe manner and enjoy yourself.

SEMMC Stickers and Patches Are Now Available

SEMMC stickers and patches are now available. Stickers are \$5 each while the patches will be sold for \$3. Our digging season is now upon us. See Julie Morales at the meeting or contact her by email juliesemmc@gmail.com Enjoy the season!

Mineral of the Month

Pyrophyllite



Pearly radial cluster of pyrophyllite from Hillsboro District, Orange County, North Carolina (Size: 11 x 7.3 x 6.6 cm)

General

Category	Silicate minerals
Formula	(repeating unit) $\text{Al}_2\text{Si}_4\text{O}_{10}(\text{OH})_2$
Crystal system	Monoclinic [1] or triclinic [2]
Crystal class	Prismatic (2/m) or pinacoidal (1)
Unit cell	$a = 5.16 \text{ \AA}$, $b = 8.966(3) \text{ \AA}$, $c = 9.347(6) \text{ \AA}$; $\alpha = 91.18^\circ$, $\beta = 100.46^\circ$, $\gamma = 89.64^\circ$; $Z = 2$

Identification

Formula mass	360.31 g/mol
Color	Brown green, brownish yellow, greenish, gray green, gray white
Crystal habit	Compact spherulitic aggregates of needlelike radiating crystals; as fine-grained foliated laminae, granular, massive
Cleavage	[001] Perfect
Tenacity	Flexible inelastic
Mohs scale hardness	1.5-2
Luster	Pearly to dull
Streak	white
Diaphaneity	Translucent to opaque
Specific gravity	2.65 - 2.9
Optical properties	Biaxial (-)
Refractive index	$n_\alpha = 1.534\text{-}1.556$, $n_\beta = 1.586\text{-}1.589$, $n_\gamma = 1.596\text{-}1.601$
Birefringence	$\delta = 0.0450\text{-}0.0620$
2V angle	53-62
Fusibility	Infusible, exfoliates



Self-collected Pyrophyllite specimen from Graves Mountain, Lincoln Co. GA, Oct. 23, 2018, Photo on right is a close-up showing foliation (specimen is 6" x 3.75" x 3" and 2lbs 8oz)

Pyrophyllite is a phyllosilicate mineral composed of aluminium silicate hydroxide: $\text{Al}_2\text{Si}_4\text{O}_{10}(\text{OH})_2$. It occurs in two forms (habits): crystalline folia and compact masses; distinct crystals are not known.

The folia have a pronounced pearly luster, owing to the presence of a perfect cleavage parallel to their surfaces: they are flexible but not elastic, and are usually arranged radially in fan-like or spherical groups. This variety, when heated, exfoliates and swells up to many times its original volume, hence the name pyrophyllite, from the Greek *pyros* (fire) and *phyllos* (a leaf), given by R. Hermann in 1829. The color of both varieties is white, pale green, greyish or yellowish; they are very soft (hardness of 1.0 to 1.5) and are greasy to the touch. The specific gravity is 2.65 - 2.85. The two varieties are thus very similar to talc.

Occurrence

Pyrophyllite occurs in phyllite and schistose rocks, often associated with kyanite, of which it is an alteration product. It also occurs as hydrothermal deposits. Typical associated minerals include: kyanite, andalusite, topaz, mica and quartz.

Deposits containing well-crystallized material are found in:

Manuels, Newfoundland and Labrador, Canada, talc-like bright white appearance, high grade, no impurities; 21-million-ton deposit. Currently 2 square miles owned and operated by Trinity Resources Ltd and the surrounding 20 km² including the Dog Pond and Trout Pond owned by White Fox Silver Resources Inc.

- Russia - pale green foliated masses, very like talc in appearance, are found at Beresovsk near Yekaterinburg in the Urals.
- St. Niklas, Zermatt, Valais, Switzerland
- Vaastana, Kristianstad, Sweden
- Near Ottrje, Ardennes Mountains, Belgium
- Ibitiara, Bahia, Brazil
- Nagano Prefecture, Japan
- Near Ogilby, Imperial County at Tres Cerritos, Mariposa County, and the Champion mine, White Mountains, Mono County, California, USA
- Near Quartzsite, La Paz County, Arizona, USA
- Large deposits at the Deep River region of North Carolina, USA
- Graves Mountain, Lincoln County, Georgia, USA

In South Africa, major deposits of pyrophyllite occur within the Ottosdal region, where it is mined to produce a variety of manufactured goods, and blocks are quarried and marketed as "Wonderstone" for the carving of sculptures.

Uses

The compact variety of pyrophyllite is used for slate pencils and tailors' chalk (French chalk) and is carved by the Chinese into small images and ornaments of various kinds. Other soft compact minerals (steatite and pinite) used for these Chinese carvings are included with pyrophyllite under the terms agalmatolite and pagodite

Pyrophyllite is easily machineable and has excellent thermal stability, so it is added to clay to reduce thermal expansion when firing, but it has many other industry uses when combined with other compounds, such as in insecticide and for making bricks. Pyrophyllite is also widely used in high-pressure experiments, both as a gasket material and as a pressure-transmitting medium.

From Wikipedia, the free encyclopedia

Geology Article

Lava lake forms as Hawaii volcano erupts after 2-year break

by Audrey McAvoy
DECEMBER 23, 2020



A plume rises near active fissures in the crater of Hawaii's Kilauea volcano on Monday, Dec. 21, 2020. People are lining up to try to get a look at the volcano on the Big Island, which erupted last night and spewed ash and steam into the atmosphere. A spokeswoman for Hawaii Volcanoes National Park says the volcanic activity is a risk to people in the park Monday and that caution is needed. (M. Patrick/U.S. Geological Survey via AP)

Lava was rising more than 3 feet (1 meter) per hour in the deep crater of a Hawaii volcano that began erupting over the weekend after a two-year break, scientists said Tuesday.

Kilauea volcano within Hawaii Volcanoes National Park on the Big Island was gushing molten rock from at least two vents inside its summit crater, the U.S. Geological Survey said. A lava lake has formed, rising about 440 feet (134 meters) from the bottom of the crater.

Since the eruption began Sunday night, Kilauea has spewed some 2 billion gallons of lava (10 million cubic meters), enough to cover 33 acres (13 hectares). The lava has been contained inside the deep crater.

It isn't threatening to get close to people or cover property, like when Kilauea erupted from vents in the middle of a residential neighborhood in 2018 and destroyed more than 700 homes. Still, the Hawaiian Volcano Observatory has warned residents to beware of potentially high levels of volcanic gas, rockfalls and explosions.

When erupting, Kilauea tends to spew large volumes of sulfur dioxide, which forms volcanic smog, or vog, when it mixes with oxygen, sunlight and other gases in the air. The state Department of Health warned residents to reduce their outdoor activities if they encounter volcanic smog conditions.

Kilauea is one of the world's most active volcanoes, having erupted some 50 times in the last century. Between 1983 and 2018, it erupted almost continuously. It had a lava lake in its crater for the last decade of that eruption.



In this photo provided by the National Park Service, people watch an eruption from Hawaii's Kilauea volcano on the Big Island on Sunday, Dec. 20, 2020. The volcano shot steam and an ash cloud into the atmosphere which lasted about an hour, an official with the National Weather Service said early Monday, Dec. 21, 2020. (Janice Wei/National Park Service via AP)



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In this photo provided by the U.S. Geological Survey, lava flows within the Halema'uma'u crater of the Kilauea volcano Sunday, Dec. 20, 2020. The Kilauea volcano on Hawaii's Big Island has erupted, the U.S. Geological Survey said. (U.S. Geological Survey via AP)

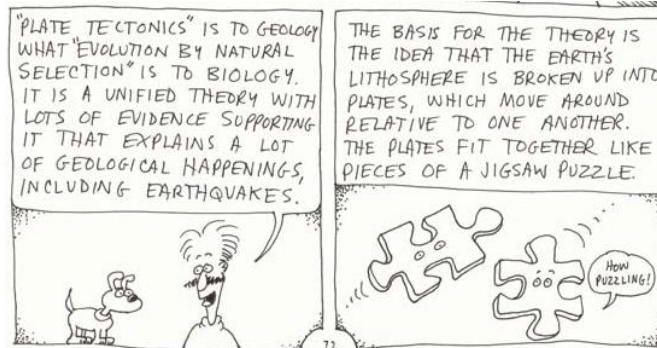


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The Funnies



We Need Volunteers

Every club is only as successful as those people who give of their time to make it so. Our club is no different. Currently, we need people to step up and volunteer to fill some very important positions. The President has appointed chairpersons for the following committees: Field trip committee, Nominating committee (to be appointed during April), Program committee, Refreshment committee, Publicity committee, Historical committee, Quartermaster committee, and any other committee deemed necessary. If anyone is interested in volunteering for any of the committees, please contact the committee chairperson.

Membership Renewal

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- \$25.00 Yearly Dues with newsletter by USPS

Family Membership * \$20.00 Yearly Dues with e-mail newsletter- \$30.00 Yearly Dues with newsletter by USPS

*** 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) _____

Name(s) and Age(s) of children _____

Address _____

City _____ State _____ Zip code _____

Phone(s) _____ Email address _____

Southeastern Massachusetts Mineral Club

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