

THE CMS TUMBLER

September
2020

Next Meeting: Canceled

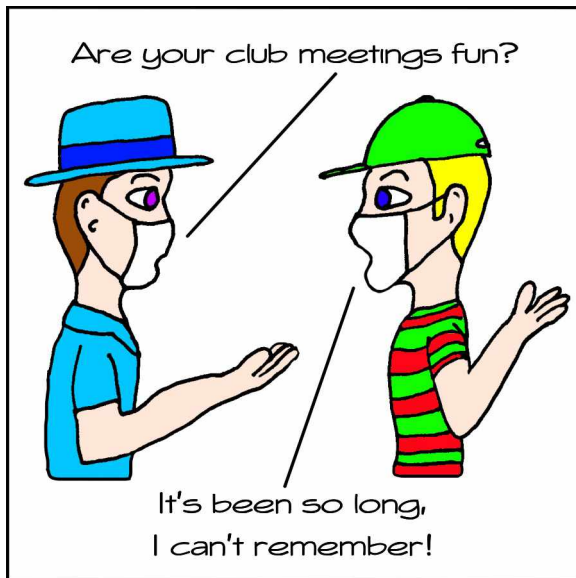
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Club Facebook: facebook.com/CasMinSoc/

Show Facebook: facebook.com/cascadegemandmineralshow

Instagram: instagram.com/cascadegemandmineralshow/



This month remember
to wish a
Happy Birthday to
Jody Flores on September 3
Angie Bayer on September 4
Cheryl Ehrenheim on September 13
Melissa Biggs on September 15
Bill Flores on September 15
Vicki Ruegg on September 22
Philip Trepanier on September 23
Betty Swift on September 25
James Shaffer on September 30

and also remember

to wish a

Happy Anniversary to

John & Shirley Wright on September 3
Michael & Jennifer Watson on September 5 (28 years)
Scott & Pat Thomasson on September 6
Jessica & Mr. Stuart on September 8 (2 years)
Juan & Stephany Viejo on September 13
Sharim & Anna Johnson on September 15



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Tips, suggestions, recipes and experiments printed in this newsletter are the experiences and/or opinions of the individuals submitting them. We are not responsible for their authenticity, safety, or reliability. Caution and safety should always be practiced when trying out any new idea.

The monthly newsletter of the Cascade Mineralogical Society, Inc., Kent, Washington

CMS Club Address
25838 W LK Wilderness Dr. SE.
Maple Valley, WA. 98038

Keith Alan Morgan, Editor
3802 W Tapps Dr. E
Lake Tapps, WA 98391

Postal, or Email, Exchange
Bulletins are welcome.
Email preferred.
greenrockdraggin@yahoo.com

2020 Elected Officers

<i>Title</i>	<i>Name</i>	<i>Phone</i>	<i>E-mail</i>
President	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Vice President	Merriann Fu	253-236-5593	merriannf@gmail.com
Treasurer	Charles Benedict	425-306-0465	charlesbenedict@comcast.net
Secretary	Pete Williams	425-228-5063	petewill02@gmail.com
Director	Roger Pullen	206-387-3214	None
Director	Roger Danneman	425-228-8781	roger.danneman@q.com
Director	Richard Russell	253-736-3693	richru1@yahoo.com
Past President	Bob Pattie	425-226-3154	bobpattie@comcast.net
Show Chairman	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Federation Representative	Michael Blanton	425-271-8757	mblanton41@hotmail.com
Federation Representative	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Mineral Council	Bob Pattie	425-226-3154	bobpattie@comcast.net
Mineral Council	Jacquie Pattie	425-226-3154	dianahorsfall@comcast.net

2020 Show Committee Chairs

Cascade Show	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Cascade Show	Co-Chair		
Cascade Show	Treasurer Pete Williams	425-228-5063	petewill02@gmail.com
Cascade Show	Silent Auction Michael Blanton	425-271-8757	mblanton41@hotmail.com
Cascade Show	Raffle Donations Michael Blanton	425-271-8757	mblanton41@hotmail.com
Cascade Show	Demonstrators Richard Russell	253-736-3693	richru1@yahoo.com

2020 Committee Chairs

Club Historian			
Donations	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Field Trip	Roger Danneman	425-228-8781	roger.danneman@gmail.com
Health & Welfare	Bev Williams	425-228-5063	britbev1957@outlook.com
Library	Bob Pattie	425-226-3154	bobpattie@comcast.net
Meeting Programs	Miriann Fu	253-236-5593	merriannf@gmail.com
Membership	Mark Hohn	253-332-3736	showchair@cascademineralogicalsociety.org
Newsletter - Tumbler Editor	Keith Alan Morgan	253-862-8201	greenrockdraggin@yahoo.com
Open Shop	Instructors Bob Pattie	425-226-3154	bobpattie@comcast.net
Public Relations	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Refreshment	Angie Bayer	253-631-3840	angiemc61@msn.net
Raffle/Display	Roger Pullen	206-387-3214	None
Shop Operations	Bob Pattie	425-226-3154	bobpattie@comcast.net
Show & Tell	Michael Blanton	425-271-8757	mblanton41@hotmail.com
Social Media	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Webmaster	Mark Hohn	253-332-3736	showchair@cascademineralogicalsociety.org

2020 CMS Dues are \$25 per year per family

Pay online, by mail, or at our meetings.

Mailing Address: Charles Benedict, 25838 W Lk Wilderness Dr SE, Maple Valley WA 98038

You can pay your dues via credit card!! We now accept all cards through our website or at the meeting.


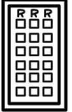
You can renew your membership or enroll as a new member and pay your dues all in one shot online. You will find it under the "Membership" tab on our website. <http://www.cascademineralogicalsociety.org>

The object of the Society shall be to stimulate interest in the study of the earth sciences, lapidary arts and related subjects.

This Society is affiliated with the American Federation of Mineralogical Societies; the Northwest Federation of Mineralogical Societies; and the Washington State Mineral Council.

Every member of the club should be receiving a copy of the Northwest Newsletter. If you are not receiving a copy contact Mike Blanton in person or by telephone at (425) 271 -8757 or by computer at mblanton41@hotmail.com

To get information to the Tumbler via the Internet send it to greenrockdraggin@yahoo.com Please put Tumbler and subject in the Subject Line. The deadline is the 20th of each month.

Sun	Mon	Tue	Wed	Thur	Fri	Sat
Meetings canceled.		1	2	3	4	5
6	7	8	9	10	11	12 Little Naches Trip
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	 School begins at home. Literally these days. 		

CMS Show Committee Meeting:....Canceled
 CMS Board Meeting:.....Canceled
 CMS General Meeting:.....Canceled

Lapidary Class Hours:.....By appointment, call to set a time & day for your lesson (425) 226-3154
 Lapidary Shop Hours:.....Most Tuesdays..... 2:00 pm to 5:00 p, call ahead (425) 226-3154
 Lapidary Shop Hours:.....3rd Saturday..... by appointment only (call a few days ahead to set time)

More Field Trip info can be found on Page 11
 More Show info can be found on Page 12

Great View

by KAM



CMS Board Meeting Minutes August 10, 2020

Canceled.

CMS Picnic Minutes August 16, 2020

Canceled.

From the Top of the Rock Pile... by Kat Koch, 2020 CMS President

It's hard for me to write this again: No meeting in September. If Governor Inslee changes things we will surely have a meeting. So check the website, call or text me for updates. My info is in the contact page of The Tumbler newsletter. You can also email me at president@cascademineralsociety.org.

Our monthly field trips are continuing. As our summer wanes and we move towards fall please take advantage of our field trips. As long as we continue to have good weather Roger plans to have monthly field trips. You can find details on our club field trip for September in this newsletter or on our website. The website also has Roger's planned future trips.

Angie and Bryan have been kind enough to store a lot of stuff for the club. Angie has informed me that she has buckets and buckets of local carnelian and rough rock for tumbling. If you are interested in any of it for your own use and/or to tumble for our show next year please contact Angie. If you want to tumble for the show next year the club will provide the grit. Her info is on the contact page of our newsletter under "Refreshments."

I have been trying to think of ways to keep our club in contact with one another. Roger Danneman has come up with a great idea. He has started a Youtube channel for our club, Cascade Mineralogical Society. He has posted two videos on our club field trips. Do a search for our club name. Be sure to subscribe, then click on the little bell and chose all notifications, then click share the video. When a new video is posted you will be notified.

I hope everyone is staying healthy. Be sure to take good care of yourselves and wear a face mask when going out. I know we are all looking forward to seeing another again.



Our Club is a Member of these Federations and Associations:



AFMS: The AFMS governs our Northwest Federation. <http://amfed.org/index.html>
You can find the most current association news at <http://amfed.org/news/default.htm>



NFMS: The Northwest Federation is our home federation. To keep up on the goings on in our own backyard you can find the most current news bulletins at <http://northwestfederation.org/Newsletters.asp>
Due to the Covid-19 there are presently no shows or mid-year meetings planned.



ALAA: The American Lands Access Association, Inc. represents the rockhounding interests of 325 gem & mineral clubs/societies in 47 States and the District of Columbia. The purpose of the association is to promote and ensure the rights of amateur fossil and mineral collecting, recreational prospecting and mining. The use of public and private lands for educational and recreational purposes. They also carry the voice of all amateur collectors and hobbyists to our elected officials, government regulators and public land managers.

September 26, 2020 is National Public Lands Day. This is the nation's largest single day volunteer effort. More details at <http://amlands.org/>

ALAA also publishes a quarterly newsletter. To keep up on the news and lobby efforts on our behalf check out <http://amlands.org/>



Washington State Mineral Council: The Washington State Mineral Council is dedicated to the location and conservation of rock and mineral sites of interest to the rockhounds of Washington state.

You can find a database of local rock and gems shows and field trips. It's a great resource if you want to plan on outing.

Their monthly field trips are on again. So take advantage of these great outdoor rockhounding adventures!

Also check out "Misc. News" for all the latest updates on collecting sites around Washington.

<https://mineralcouncil.wordpress.com/news-updates/>

They also have a monthly news bulletin that keeps you informed of everything the State and Federal governments wants or are doing to the rockhounding areas in the northwest.

POW has a trip on September 12-13 to Red Top, Teanaway. It's a weekend camping trip or you can go for just a single day of your choice. Check out the link below for additional details.

NOA has a trip on September 19, 2020 to Little Naches. Field Guide is Tony Johnson. Check out the link below for additional details.

You can find all this information and a whole lot more about what is happening in our state at <https://mineralcouncil.wordpress.com/> . The field trip details are under "Field Trips for 2020."

Inquiring Minds Want to Know? by Kat Koch

I would like to write an article for the Tumbler on what each of you have been doing to keep yourselves busy. It can be anything from field trips, rock polishing, lapidary projects, cooking, sewing, gardening, rebuilding machinery, painting, any art project, reading, honey do's, house repairs, exercising, sorting your sock drawer, you get the idea. Maybe you are one of the lucky few still working. If so, let me know about that too.

Take a cellphone (or camera) picture or two or three and then write a few words. Be sure to include your name. Send it to me via text (number on newsletter contact page) or email to president@cascademineralogicalsociety.org



Young Richard's Almanac by Dick Morgan

The problem with spell checkers. I asked my son how to spell "intelligent" and he answered, "s-m-a-r-t". The bad thing is, I can't turn him off.

House Bill 2579 by Bob Pattie

In 2018, I reported on a bill that had been submitted to Congress about reviewing the requirements applicable to locatable minerals on public lands. A new look at replacing the 1872 Mining laws regarding filing claims on federal lands. That bill was again issued in 2019 updated and again submitted on August 4, 2020. The name of the bill is H.R 2579: Hardrock Leasing and Reclamation Act of 2019. This bill is 132 pages in length and has some good parts and some that will not be accepted very well. I would suggest that all rockhounds or anyone interested in minerals read through the table of content and can choose what you want to read and possibly comment to the committee or your representative. The following are topics in the table of contents: Section 1 – short title; table of contents, Section 2 – Definition and references, Section 3 – Application rules. Title I – Mineral Leasing, Exploration, and Development, Title II – Consultation Procedure, Title III - Environmental Considerations of Mineral Exploration and Development, Title IV - Abandoned Hardrock Mine Reclamation, Title V – Additional Provisions.

The following are a few bits and pieces of the above sections. Section 2, (6) The term "casual Use" – (A) Subject to Subparagraph (B) and (C), means mineral activities that do not ordinarily result in any disturbance of public lands and resources: (B) includes collection of geochemical, rock, soil, or mineral specimens using hand tools, hand panning, or nonmotorized sluicing: and (C) does not include-(i) the use of mechanized earth-moving equipment, suction dredging, or explosive;(ii) the use of motor vehicles in areas closed to off-road vehicles; (iii)the construction of roads or drill pads; and (iv)the use of toxic or hazardous materials.Section 2, (12) The term "Federal Land" means any land , and any interest in land, that is owned by the United States, except lands in the National Park System, Indian lands, and lands on the Outer Continental shelf.

Following up on the above statement, in Title III under Section 302 Permits -this state: (a) Permits required. – No person may engage in mineral activities on Federal land that may cause a disturbance of surface resources, including land, air, ground water and surface water, and fish and wildlife, unless a permit was issued to such person under this title authorizing such activities. (b) Negligible disturbances. Notwithstanding subsection (a), a permit under this title shall not be required for mineral activities that are a casual usage on Federal Land.

I believe this last statement helps the rockhound by not requiring a permit, etc. to collect specimens on federal land. You will also notice that they discuss leasing rather having a mining claim (all of Title I). I believe the intent is to have no new claims, just people leasing land for mining.

It is difficult to estimate when this bill will be considered by both houses of congress, but I believe it will get in time.

Pseudomorphs by Shannon Phillips

Since I became aware of them, I have been curious about pseudomorphs. The idea that minerals can be so tricky—changing from one substance to another without a change in form—perplexes me. Through my own experiments of dissolving alum and borax to grow crystals and melting bismuth to grow them as well, I understand how minerals in solution can form when they leave the water and how minerals in anamorphous form can rearrange their structure as a result of introducing heat.

From baking I have a general idea of how crystals of sugar dissolve and become part of a conglomeration. In fact, the only "A" I ever earned in high school chemistry was in the lab experiment where we made fudge. What I don't understand is how a mineral can essentially become another mineral while retaining the shape of the original instead of growing into its own.

Some of the easiest pseudomorphs to understand are those created by replacement. Petrified wood, for example,

is formed when silica-rich water permeates the structure of the wood, replacing the organic plant cells with silicates that retain the cellular structure of the plant. Pseudomorphs created by this method closely resemble the form of the original. When an existing mineral becomes flooded with a mineral in solution, the original mineral is gradually removed and replaced through exposure to the material in the solution.

What's more difficult to comprehend is how some elements of an existing mineral are removed, exchanged, and replaced to produce a new mineral in the original's form. In an attempt to understand this process of alteration, I found myself entangled in a thicket of scientific journals. From this reading, I gathered that alteration can occur as a result of the introduction of water, heat, and pressure. In the ordinary cycling of water through our atmosphere, it is exposed to atmospheric agents, such as carbonic acid, and to any number of contaminants on the Earth's surface that imbue it with the power to cause chemical reactions. Repeated exposure to water can change even the most stable substances over long periods of time as they are exposed to minerals in solution. Metamorphosis can also be caused by the heat and pressure from the Earth's core. Based on my reading, I believe that water is nearly always involved in this process, too. The combination of heat and water hastens the chemical reaction, as does pressure. The combination of the three makes replacement even faster.

Infiltration and incrustation are easier to comprehend. Infiltration occurs when a mineral trapped in a host substance such as rock or clay dissolves and another mineral fills in the space, thus retaining the shape of the original mineral. An example of this type of replacement occurs close to home when hopper-form (sometimes called eelstial) clay crystals were discovered where salt crystals had been removed by solution from the red marl of the Onondaga salt region. Incrustation is the coating of one mineral by another. The surface of the original is covered with a new mineral and may erode over time, which creates some very strange and interesting shapes. In Essex County, New Jersey, there are fine examples of quartz after glauberite. Glauberite is a very soft mineral that is easily dissolved, creating conditions that allow the quartz that coated it to retain its characteristic bipyramidal shape.

Pseudomorphs are sometimes they are so similar to the original that it takes a trained eye to tell them apart. More often, they have marked differences in color. As crystal systems change with replacement, so do hardness and cleavage. The internal structure of the mineral changes although the external structure remains the same. Some common pseudomorphs are malachite after azurite, in which the number of copper atoms is changed and hematite after pyrite, which is caused by atmospheric heat. There is no simple answer in determining how the many pseudomorphs found worldwide were formed. Each one contains clues to its particular formation, but there are few general assumptions to be made about these transformations. I have as many questions now as I did when I started, but have a clearer understanding of the generalities of pseudomorphism, and I hope I have elucidated the topic for others.

References

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via Rockhound Rambling, 4/20; via The Rockhouser, 4/20; from Crack 'N Cab, 10/15

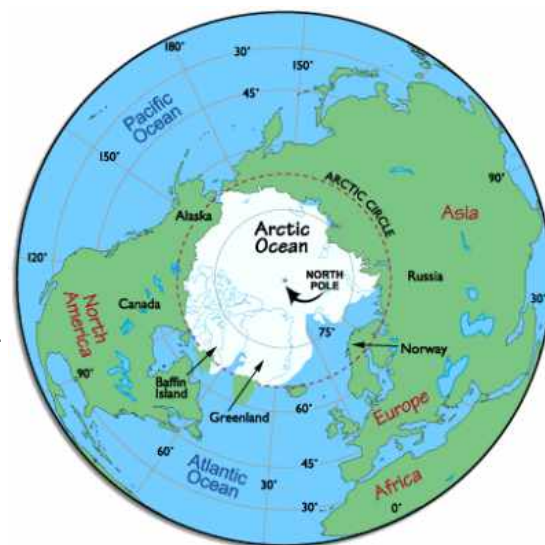
The Top (and Bottom) of the World by Kat Koch, Cascade Mineralogical Society, Kent, WA

In April 2007, a performance artist from the Netherlands spent one entire day on the top of the world. For that day, he stood on the geographic North Pole, moving his feet very slowly so that the whole Earth rotated beneath him. He called it "The Day I Didn't Turn with the Earth."

Imagine you are standing on the North Pole. What do you see? First of all, you don't see any land. In fact, you aren't standing on land at all, but instead you are atop a sheet of ice floating over a cold, deep ocean. At the South Pole, you would be over land, and atop a high, flat plateau. So strangely, the "bottom of the world" is actually pretty high!

Bundle up, because even in the summer the North Pole is cold. The average summer temperature is around 32 degrees Fahrenheit (0 degrees Celsius). If you decide to go to the South Pole instead, you'll get even colder. The average summer temperature at the South Pole is a chilly -18 degrees Fahrenheit (-28 degrees Celsius).

If you do make your trip in the summer, another thing you won't see is nighttime. In the polar summer, the Sun never sets. Instead, it seems to circle all the way around the sky, staying close to the horizon, but never dipping out of sight. If you go in the winter, not only will you be much colder but you'll be in the dark all day (or all night). In the wintertime the Sun never



risers on the poles.

By the way, summertime at the North Pole is always wintertime at the South Pole, and winter in the north is summer in the south.

Round and Round

At either pole, in order to not move with the Earth, you'll need to turn as the Earth turns. Just how fast will you be moving? Since there are 24 hours in a day, you'll need to turn in one full circle every 24 hours. Think about standing in one spot for 24 hours and turning all the way around exactly once. You can see that this motion will be verrrrrrrry sloooooow.

By contrast, if you were on the equator and wanted to not spin with the Earth, how fast would you need to move? One hundred miles an hour? Five hundred miles an hour? Not even close. Actually, you'd have to zip along at over 1,000 miles per hour, faster than the speed of sound, as the Earth speeds by below. Keeping up with polar motion is a whole lot easier.

There's another problem, though. How will you know which direction to turn? If it's a sunny day at the pole, it's easy; just follow your shadow. As the Earth turns beneath you, your shadow points away from the Sun. Move your feet to keep facing your shadow, and presto! You're not moving with the Earth!

Nature Calls

Eventually, you'll probably need a bathroom break. When you ask a member of your crew for directions, she might smile and say, "Just walk south 100 yards." On the North Pole, that won't help you at all. Why?

At both the North Pole and the South Pole our ordinary map directions stop making sense. Suppose you stand on the South Pole. Your next step, no matter how you take it, must be to the north. From the South Pole, every direction is due north.

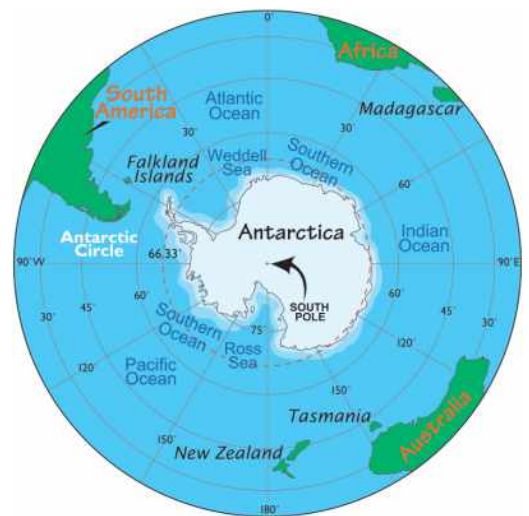
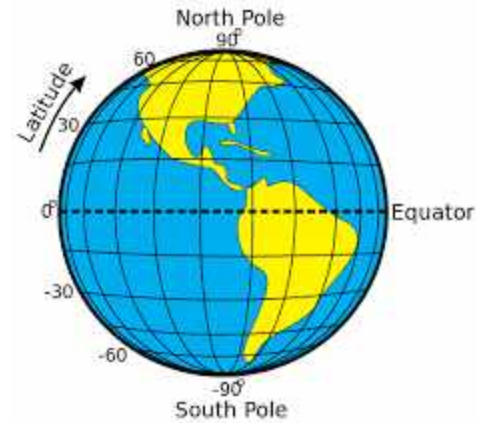
The same thing is true on the North Pole, but in reverse. When standing on the North Pole, you are always facing south, no matter which direction you turn. Instructions to walk a hundred yards to the south is both sort of funny and (if you really have to go) kind of mean.

Hold Still!

There's one more problem with standing on the North Pole. Because you're actually standing on floating ice, you can't expect that ice to stay still. In fact, the ice over the North Pole drifts, moving several miles in just one day. To really stay in the same place, you'll have to walk several miles in the opposite direction. This is getting harder and harder!

In the end, though, it really doesn't matter; even if you're not turning with the Earth, you're still moving with the Earth around the Sun. That speed is a cool 67,000 miles per hour. And you're moving with the Solar System around the Milky Way Galaxy at around 500,000 miles per hour. And you're moving with the Milky Way . . . well, you get the idea. Standing still is hard!

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Photos: National Science Foundation (NSF.gov), Wikipedia*



Fossil Food Fun

by **KAM**



Rockhounding for Glass by Jo Borucki

Glass! You may wonder, "Why would I write about glass in a publication for a gem and mineral society. Nature makes glass, and we collect it and value it. We also value some of the glass that is manmade.

Nature creates glass in the forms of Tektites (glass formed when terrestrial rock is melted during a meteor impact where the force of the impact throws it into the air and it quickly cools as it descends, Moldavite is a example of this. When the lava is not thrown into the air, but as it flows, it cools so quickly that no gas bubbles are formed, Obsidian is the result. Apache Tears are nodules of obsidian that nature has tumbled and polished. Helenite is also a result of volcanic activity, but in this case, it is a man-made obsidian. While workers were cleaning up after the Mount St. Helens eruption in 1980, they were using acetylene torches to salvage damaged equipment and noticed that nearby volcanic ash and rock was turning a greenish color from the heat. Jewelry companies saw a new opportunity for an artificial gemstone. So they melted the rock and dust particles at 2700 degrees Fahrenheit producing artificial emerald colored obsidian which they called Helenite. All of the above are example of nature's glass, in the case of Helenite, nature and man worked together.

Humans have made glass since at least as far back as 3600 BCE. The earliest objects were beads made, perhaps accidentally, during the heat produced in working metals or tin glazed pottery where the surrounding sand (main component silica) was melted and a glass was the result.

We cooperate with nature to make sea or beach glass when we dump glass on beaches and in the water. In time, water action works on the glass resulting in sea or beach glass. Sea glass and beach glass differ in that sea glass is found on salt water beaches where, because of the chemical action of the salt on the glass, it is frosted, while beach glass is found on fresh water beaches and is less frosted or unfrosted. Much of the sea or beach glass is kelly-green, brown or white (clear), the result mainly, of discarded bottles. Less common colors in order of more to less common include other greens, soft blues, amber, and other colors with red, black, yellow and gray being among the rarest of all.

It takes thirty or so years before sea glass is worn smooth by wave action and frosted from the chemical action of the salty water. Sea Glass Publishing in Chestertown, Maryland produces and sells a boxed deck of cards with all sorts of information helpful to the sea glass collector. Also the website, en.wikipedia.org/wiki/Sea_glass has good detailed information and is a great site to visit.

My first acquaintance with sea glass was around the year 2000, when my daughter, Joy, and her five year old daughter, Georgia, frequented the Davenport Beach, which is about ten miles north of Santa Cruz, where on the cliff above it, there is the Lundberg Studio. In the 1970s, heavy rains made the Vicente Creek overflow washing glass from behind the studio onto Davenport Beach. When the ocean is calm and the tide is low, this beach is accessible. With luck and some digging, one can find really lovely hunks of glass. Joy found a golf ball sized piece, but Georgia had the best luck. A man had been digging near where we were looking. He walked up to Georgia and handed her a big handful of beautiful glass. Georgia then said to me, "Gramma, sometimes it pays to be little and cute".

We were neither little nor cute, when friend of mine named Lynn and I went to Sea Ranch together several successive spring times. We rented a house at Sea Ranch, shared the cooking efforts, hiked the coast, beach combed, and drove to Fort Bragg to search for sea glass at the glass beach. The beach areas were the sites of Fort Bragg's dumps from about 1906 until 1967, where as when one location filled up, the dump was moved each time further north so that by 1949 there were three dump sites. In 1967 the last dump site was closed to dumping, but as time went on, everything rusted, rotted, was hauled away or burned, or otherwise disappeared until pretty much all that remained was broken glass which was polished smooth by the ocean surf. In time, instead of viewing sandy beaches, one viewed colorful beaches comprised of colorful sea glass. Lynn and I visited the northern most beach which is adjacent to McKerracher Park. We both loved to beach comb, and we spent hours crawling around on the beach carefully gathering beautiful pieces of sea glass.

In later years, I took several of my grand daughters to Fort Bragg to stay at the Beach House Inn on Pudding Creek, to feast at the nearby Denny's that they loved so much, and to search for beach glass. One doesn't really think of eating at Denny's being a feast, but when you're cold, hungry, and accompanied by much loved grand-daughters, it is. It was my chance to be shamelessly grandmotherly so I let them eat whatever they wanted as we sat in a booth, sharing and talking about our sea glass finds, our cherished gems. While technically, sea glass is not a gem stone or mineral, but in a way it is a manmade gem. In fact, there is the glass museum at 303 North Main Street, Fort Bragg where you can view a wonderful display of sea glass and you can buy jewelry made using it. Click on <https://internationalseaglassmuseum.com> or <http://www.glassbeachjewelry.com/history.html>.

I am adding yet another type of glass which I will call dump glass, and it is created when the discarded glass simply sits on the ground and is subject to the sun and wind. It can be quite beautiful. Exposure over time to the sun, etches the glass creating an optical interference much like the rainbow effects of an oil slick. The glass irregularities scatter the light into misty rainbows showing on the surface of the glass. It has a beauty all its own.

And so you see, while discarded glass in itself is worthless, but once the water, salt, and or sun has worked on it, the result is a gem-like beauty. We, with the help of nature make gemmy glass, and all of it, whether natural or manmade glass, adds another dimension of beauty to enrich our lives.

from Breccia, 8/20

Fordite

Fordite, or Motor Agate, is basically the slag made from the excess and drippings of spraying enamel paint onto cars. When hardened this material could be cut and polished and turned into jewelry.

However this man-made 'gem' is no longer being created as more efficient methods of painting cars have reduced the amount of excess paint buildup to practically nothing.

Young Tumblers News

Ten Facts About Rocks by Kat Koch, Cascade Mineralogical Society, Kent, WA

1. There are three different types of rock.
There isn't only one type of rock you know!
There are three different types.
They are Igneous, Sedimentary and Metamorphic.

Igneous
rocks



Sedimentary
rocks



Metamorphic
rocks



2. Rocks are made of minerals.
Each rock has varying minerals which is why there are so many different ones.
Some of the most well known minerals are calcite, quartz, olivine and mica.
Minerals are made naturally in the Earth and are made from chemicals.



3. Igneous rock comes from molten magma.
Molten magma is the very hot stuff you find in volcanoes!
The magma turns to rock when it cools.

There are two different types of igneous rock, depending on if the magma has cooled on the Earth's surface or beneath.

It is plutonic rock (Gabbro, Quartz-diorite) if it has cooled beneath and volcanic rock if it has cooled above.

Obsidian and pumice are types of igneous rock!



4. Sedimentary rock is very common.
It is formed of layers from things such as sand, mud and small stones.
Over the years, the bottom layers are compacted with new layers joining on top.
Types of sedimentary rock are chalk, sandstone, shale and limestone.

5. Metamorphic rock has been put under a lot of pressure and heat.
Metamorphic rock are from rocks that have been put under a lot of pressure and heat.
The pressure and heat can be made by the Earth's movements. After all, it is moving all the time!

Two examples of metamorphic rock are slate and marble.



6. Geology is the study of the rocks.
Geology is the study of rocks and Geologists are the people who study them!
They study what minerals each rock contains and also study the history of the Earth.

7. Space rocks land on Earth!
Sometimes rocks from space land on Earth, however most of the time they land in the sea.

These rocks are called meteorites.
If you've ever seen a shooting star, it's actually a bit of space rock entering the atmosphere!



8. You can find silver and gold in ores.
Some rocks are called ores.
Ores are rocks that have metals like gold and silver on them.

9. Rocks have been used for millions of years.
Humans used them millions of years ago to build tools and weapons.
Now we use them to build things like houses, cars and even planes!



10. You use rocks and minerals at home.
Did you know that rocks are found in some of the things we use at home?
Such as soap, toothpaste, make up and batteries!

Let's Rock It!

X H X U S Y P N A N R U P Y R I T E Y M
 V A O M O H R M J T U A N Q U A R T Z C
 E J D I A M O N D J F L U O R I T E T U
 O J J P M I X T C I Q C I O I M A G M A
 Q P D C U D I A C L P L D P V Z R I K P
 O Y U L H M D S G Q A P J A S P E R Q D
 O Z O O T I I W T A G Y S L T N P G O M
 H N W I Q W V C X J T A B A P O S Z S H
 A C A L C I T E E D D E R A L M V W U M
 S O B S I D I A N Q P S D N B R J M N A
 B D Z G R A N I T E L A V A E Y X V R E
 E P A X B Z V X L L D E C M D T P J E V
 S O S F C E W G M M C G B B D G U V P G
 T N G S O R T C J Y Y A Z U R I T E M O
 O I Z H I S Y P W I O H L T W E C C D L
 S Z V C L R S S N F O F G U O I S Y V D
 J A D A F U N I T A U S K N W P E O U T
 M Y L Z Y B M A L A C H I T E Y A M U Y
 N A O F T Y U C T B L Z T R D G A Z Q M
 S S C U F E L D S P A R E M E A H C F I

Malachite
 Claybaby
 Diamond
 Fossil
 Agate
 Lava

Obsidian
 Asbestos
 Crystal
 Jasper
 Topaz
 Magma

Feldspar
 Granite
 Quartz
 Garnet
 Pumice
 Ruby

Fluorite
 Azurite
 Calcite
 Pyrite
 Gold
 Opal

Colors In Fossil Wood

White/Gray - No Impurities
 Red/Pink - Hematite
 Yellow/Brown/Orange - Goethite
 Green - Iron, Chromium Copper
 Black - Carbon, Pyrite, Manganese Oxide
 Purple/Blue - Manganese Oxide

Field Trips

The club or clubs sponsoring the field trips are shown in italics. When known I have listed a phone number and contact person for each sponsoring club below the listed trips. If you are not a member of the sponsoring club, you should phone and ask permission to go on their field trip.

Information from the Washington State Mineral Council webpage (<http://www.mineralcouncil.org>).

September 12-13 *All Rockhounds Pow Wow - Red Top/Teaway Teaway* – Meet at the Middle Fork Campground before 8 am - Geodes, Agate, Jasper & Jade – Bring digging & hard rock tools
Larry Vess vessel3755@gmail.com or (253)473-3908

September 19 *Northwest Opal Association - Little Naches* - Meet at Hwy 410 & FR 19 before 10 am - Thundereggs, WA Lily pad & Fossils – bring diggin & light hard rock tools
Tony Johnson (253) 863-9238

Field Trip Reports by Roger Danneman

COVID-19 Precautions

- 1). If you're feeling symptoms, stay home & take care of yourself.
- 2). No car pooling except among a household (or trusted friend).
- 3). We'll use 6' distance guidelines on trail and dig sites.
- 4). Let me know if you plan to attend.
- 5). Experts are recommending face coverings when on a trail.

My thinking is just to avoid another person's exhaust.

Either way, we are accepting a certain element of risk being around other people. Do what you believe is necessary to keep yourself safe.

On Sat. June 13th we went over to the Saddle Mountains near Mattawa for petrified wood. It was windy, but it was dry with moderate temperatures. We had 12 people in 7 vehicles – 7 members and 5 guests. Everyone got their limit and then we went over to the diatom pits near Beverly for some of the diatom opal.

On Sat. July 18th we went up to the Greenwater area for black agate and opal. It was a gorgeous day for being in the mountains. 30 of us met in Enumclaw, all wearing masks – a sign of the times (I should have gotten a picture of that). 13 vehicles caravan'ed up to the black agate site, deep into the woods off of FR7222. We dug there for 3 hours, all keeping our social distance per Covid-19 rules. It's a wide area under tree canopy, so no issues with being too close. We had quite a few new members who were on their first trip. At 1:00 9 vehicles caravan'ed up to the Gov Meadows area for the opal and petrified wood. This was by far the largest group I've lead during the last 3 years of field trips, but a very pleasant and well mannered group. My thanks to Roger Pullen for being the caboose of the caravan, as keeping track of 13 vehicles wasn't always an easy task with all of the turn offs we needed to make.

I didn't have a scheduled trip for August because of the unpredictable heat, but will try to make up for that this fall.

On Sept. 12th we'll be going over Chinook Pass to Little Naches for Thunder Eggs, Lily pad Jasper, and Leaf Fossils. The Thunder Egg dig site involves a 1/3 mile hike, but the other two sites are next to the road. Meet 8:45 AM at the Enumclaw Ranger Station. Group leaves promptly at 9:00. We'll have a rendezvous point at Little Naches turnout. Bring dig and hard rock tools.

We'll drive over Chinook Pass to FR19 (Forest Road 19), turn left, and park on the side of FR19 where there's a campground and toilets. This is about a 1 1/2 hour drive from Enumclaw (~80 miles), and is around MP91 or 92 (milepost). We'll make sure we have all the vehicles at that point, let people use the "facilities", then head up FR19 for 1.6 miles, turn right on FR1901 for about 4.4 miles and park. The hike to the thunderegg dig spot is 1/3 mile.

Probably spend 2 hours digging for thundereggs, and then head back to the cars where we'll drive on to the next 2 sites. It will be a full day.

On Oct 3rd 2020, we will be going to the west side of Red Top mountain north of Cle Elum. There is no hike involved, but you do need to cross a rock slide which is fairly steep. Dig site is just above the rock slide and under tree canopy. The agate is fairly plentiful just under the surface there, and is a light blueish grey color. The jasper has nice creamy blue and brown tones, sometimes with blue veins or inclusions. Crystals can be found in the hard rock and in the rock slide, as well as the dig site.

Meet at 9:45 at the Mineral Springs Store (Mineral Springs Resort on Google Maps) 27510 US-97. If you pass FR 9738 (Blue Creek Rd), you've gone too far, as this is the road that the group will take towards the dig site. Mineral Springs is about a 2 hour drive from Renton/Kent, over Snoqualmie Pass.

Group leaves promptly at 10:00. Dig and hard rock tools. The Cle Elum Safeway is a good intermediate stop for coffee, rest rooms, gas, or snacks.

Roger Danneman (roger.danneman@gmail.com hm # 425-228-8781 or cell&text # 425-757-3506).

Check out our YouTube Channel for Cascade Mineralogical Society. The first two videos are on our field trips and material we find at each site.

<https://www.youtube.com/watch?v=XmRMX5c68YA>

https://www.youtube.com/watch?v=B_uoD2uE-ic

Internet Addresses

Cascade Mineralogical Society YouTube Channel

https://www.youtube.com/channel/UCaGIJxaWFAtV_JjgZRM9ESA

How 5 Rocks Get Their Glow

<https://www.youtube.com/watch?v=qIYe1tnLwkk>

4 Ways to Date an Archaeological Site

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

7 Ways We Know What's Inside the Earth

<https://www.youtube.com/watch?v=tquABLC3Hhs>

6 of the Coolest Things We've Found in Amber

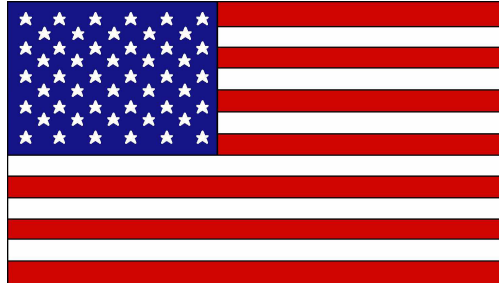
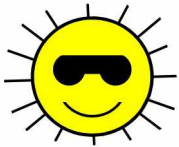
https://www.youtube.com/watch?v=ut6vosxD_IM

Yellowstone Supervolcano: America's Armageddon

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

Shooting Rock Cores As Bullets

<https://www.youtube.com/watch?v=5Je6rkPwH2E>



No Shows

Addendum to Field Trip Report.

Pictures of lily pad jasper, thundereggs, and fossils from last year's trip to Little Naches.

Pictures by Roger Danneman.

