

# THE CMS TUMBLER

December  
2019

## Christmas Party:

Sunday, December 15, 2019  
Set-up 12 Noon  
Eating 1:00 p.m.

American Legion Hall  
25406 97th Pl S  
Kent, WA

Bring a favorite dish to  
share. The club will  
provide turkey and ham.

We will be electing new  
officers for the new year.

We will have an  
auction of material.

This month remember  
to wish a  
Happy Birthday to  
Constance Jones on December 12  
John Cornell on December 14  
Ron Jacobson on December 15  
Bridget Black on December 18  
Shirley Wright on December 26  
Penny Hohn on December 27  
Marlene Frost on December 30  
Garry Hartzell on December 31  
and also remember  
to wish a  
Happy Anniversary to  
Philip & Mrs. Trepanier on December 30 (31 years)

## Connect with us!

Website: [cascademineralogicalsociety.org](http://cascademineralogicalsociety.org)  
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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

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**2019 Elected Officers**

<i>Title</i>	<i>Name</i>	<i>Phone</i>	<i>E-mail</i>
President	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
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Past President	Bob Pattie	425-226-3154	bobpattie@comcast.net
Show Chairman	Mark Hohn	253-332-3736	showchair@cascademineralogicalsociety.org
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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

**2019 Show Committee Chairs**

Cascade Show	Mark Hohn	253-332-3736	showchair@cascademineralogicalsociety.org
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Cascade Show Treasurer	Pete Williams	425-228-5063	petewill02@gmail.com
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Cascade Show Raffle Donations	Michael Blanton	425-271-8757	mblanton41@hotmail.com
Cascade Show Demonstrators	Richard Russell	253-736-3693	richru1@yahoo.com

**2019 Committee Chairs**

Club Historian			
Donations	Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Field Trip	Roger Danneman	425-228-8781	roger.danneman@q.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
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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	june.d.murff@boeing.com
Shop Operations	Bob Pattie	425-226-3154	bobpattie@comcast.net
Show & Tell	Michael Blanton	425-271-8757	mblanton41@hotmail.com
Webmaster	Mark Hohn	253-332-3736	showchair@cascademineralogicalsociety.org

2019 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](mailto:mblanton41@hotmail.com)

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

## December

Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15 Xmas Party Setup 12 Noon Lunch 1 pm	16	17	18	19	20	21
22	23	24	25 Christmas 	26	27	28
29	30	31 New Year's Eve	<b>Merry Christmas &amp; Happy Holidays!</b>			

CMS Show Committee Meeting:...Canceled

CMS Board Meeting:.....Canceled

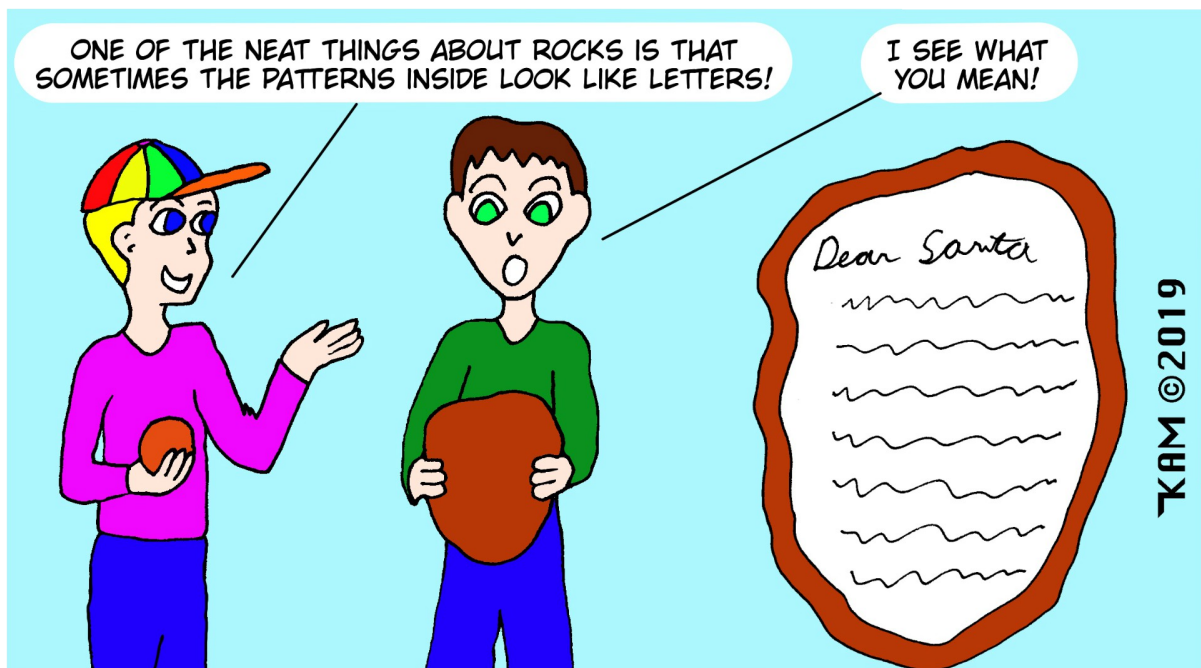
CMS Christmas Party:.....3rd Sunday, December 15.....12 Noon setup, 1:00 pm eating

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 Show info can be found on Page 12



The Tumbler has received One-Time Rights to publish this cartoon

**CMS Board Meeting Minutes November 11, 2019**

by Pete Williams, 2019 Secretary

*Attendance:**President Kat Koch**Vice President Merriann Fu**Secretary Pete Williams**Federation Mike Blanton**Director Roger Pullen**Director Roger Danneman**Director Rich Russell*

Meeting called to order 6:54

A motion was made and approved to provide 2 \$250 grants to Green River College. Last year we gave two \$200 grants. At the annual Federation show in Idaho, Kat volunteered to be the Bulletin Aide for the NW Federation. The CMS website had 2500 views in September and dropped to 607 in October. At the Federation show a proposal was approved to continue the \$1 per member dues reduction for another 5 years.

The previous field trip was on November 9 in Greenwater. There were 8 members in attendance. Although it rained everyone was able to get material at the 3 different sites. Another trip is being planned for November 16 at either First Creek or Red Top.

The November meeting program will be on Cursed Gemstones by Joan from Jerry's Rock Shop. Alex Danneman was awarded \$25 from the Federation. The club will provide turkey and ham at the Christmas potluck on December 15.

The Board agreed to move forward with planning for a show next year. Kat will develop a list of all activities that need to be accomplished now that Mark resigned from being show chair. Board members are being asked to look for and purchase material that can be sold at the silent auction next year. The Board will be making an assessment of club material at Mark's place to determine what to keep, toss or sell. A work party will then be scheduled to move the material from Mark's property. Another request will be made to members on finding a possible location for a club shop or to store the materials from Mark's property.

There will be no Board meeting in December.

Meeting adjourned at 8:21

**Do You Have Unused Space To Store Some Club Equipment?** by Kat Koch

We are looking to store some of the clubs lapidary equipment. It can be split up between a few locations if necessary. It has to be in a dry and protected area. It's all bench equipment NO large saws. Anyone that can store some equipment can use it. Most of the equipment does need some work to get going.

We need it stored until we get an indoor year round lapidary shop which is probably a couple of years away. Just a reminder, all the money earned from our show go towards this goal.

If you have any space please contact me under the "Contact" page on our website.

**Young Richard's Almanac** by Dick Morgan

As a senior citizen you find out that we live in a great country where young folks tend to enjoy helping us cope. With these young people living here it should always keep America a great country.

When we get old and have aches and pains we can go to a doctor and get some relief with prescriptions, unlike the beasts of the world, they have to live with the pain or injury they incur.

Aquamarine is the gem quality transparent variety of the mineral beryl that is a blue, blue-green, or green color. Its name comes from the Latin aqua marina or 'water of the sea', probably because its delicate blue or blue green color is suggestive of seawater. The blue variety is the most valuable. Greenish stones can sometimes be changed to the more highly prized blue shade by heating them in an electric furnace to 842°F.

Aquamarine is closely related to the green emerald, the yellow heliodor, the rose-pink morganite and the white goshenite, all beryl. Aquamarine occurs at most localities which yield ordinary beryl. Some of the finest comes from Russia, but the gem-gravel placer deposits of Sri Lanka also contain aquamarine. Clear yellow beryl, heliodor, occurs in Brazil where it is sometimes called aquamarine chrysolite. Aquamarine is also found in Madagascar, Malawi, Tanzania, Kenya, Myanmar (formerly known as Burma) and parts of the United States (Mt. Antero in the Sawatch Range of Colorado). Aquamarine is the official state gem of Colorado, the birthstone for March (and sometimes September, October, and November) and is given for the 19th Anniversary. It is associated with the zodiac sign Scorpio, the planet Venus, the Fifth Chakra - Throat, and energies of protection, healing and magic. Folklore says the aquamarine will protect one against gossip.

from Golden Spike News, 3/18

Most of Mt. St. Helens is younger than the pyramids.

**CMS General Meeting Minutes November 14, 2019**

by Pete Williams, 2019 Secretary

Meeting called to order at 7:10

Minutes were approved as written.

**Tumbler Editor:** Contact Mark if you are not getting the newsletter.

**Presidents Report:** Kat presented youth achievement awards to Alex Danneman (a certificate and \$25) and Isaiah Fu (a certificate) from the NW Federation.

**Webmasters/Membership Report:** There are currently 81 family memberships.

**Shop Reports:** Contact Bob Pattie to use the shop.

**Field Trip Report:** The November field trip was last Saturday at Greenwater. Next Saturday Roger will lead anyone interested to First Creek.

**Mineral Council:** There are 3 areas where the state is looking for inputs. 1. There is an assessment on how the Middle Fork of the Snoqualmie river is to be managed. 2. Mt. Baker mining exploration resulting in road closures. 3. A clean up of the river by Darrington.

**Old Business:** The club Christmas party will be on December 15 at the meeting location. It is a potluck and the club will provide turkey and ham. Setup will be at noon with lunch at 1:00 followed by the auction and election of officers. We are still looking for a show chair or assistant show chair. All current officers have volunteered for another term.

We are still looking for a place to store club equipment. If you have any ideas, let one of the officers know. There is also a gold mining dredge in storage that the club will sell to anyone interested.

**Program:** Joan from Jerry's Rock and Gem made a presentation on cursed gemstones

Meeting adjourned at 8:12 followed by show and tell and the raffle.

**Holiday Pot Luck Dinner** by Kat Koch

Our Holiday Dinner is Sunday, December 15th.

Setup Time: 11:30 am

Dinner Time 12:30 pm

The Club provides the turkey and ham.

Please bring something to fill in our meal to serve several people.

You are welcome to bring family, friends and children of all ages. The last few years we have had 35 + members, family and friends attend.

Following our dinner we will have the elections of Officers.

Our annual Holiday Club Auction concludes the afternoon. The Young Tumblers will get \$5 Rock Bucks to spend at the auction. So remind your kids to bring their Rock Bucks they have been saving.

Mark your calendar now and let's have another good turnout as it's always enjoyable to visit with one another, share a good meal and score some great bargains at the auction.

**Curling Stones**

The curling stone is granite and as defined by the World Curling Federation:

It is circular in shape and weighs between 38 and 44 pounds, has a maximum allowable circumference of 36 inches, must be a minimum of 4.5 inches in height,

Has a handle and bolt attached. The handle, attached to the stone by means of a bolt that runs vertically through a hole in the center of the stone, allows the stone to be gripped and rotated upon release.

The top and bottom of a curling stone are concave. The surface in contact with the ice, known as the running surface, is a circle 0.25 to 0.50 inches thick. This narrow running surface is where the ice and the stone interact. On properly prepared ice, the stone's path will bend (curl) in the direction the front edge of the stone is turning, especially toward the end of its motion. The degree of curl depends on several factors, including the preparation of the ice and the flattening of common paths to the house during the game.

The Scots, in particular, believe that the best quality curling stones are made from a specific type of granite called "ailsite" which has very low water absorption, preventing the action of freezing and melting water from eroding the stone. In the past, most curling stones were made from Ailsa Craig granite. Kays of Scotland has been making curling stones since 1851 and has the exclusive rights to Ailsa Craig granite, granted by the Marquess of Ailsa, whose family has owned the island since 1560. The last "harvest" of Ailsa Craig granite by Kays took place in 2002, yielding 200 tons (note: Kays' statement is that they harvested 1,500 tons, sufficient to fill anticipated orders through at least 2020). Kays of Scotland has been the exclusive manufacturer of curling stones for all three Olympics where curling has been a medal sport.

via Golden Spike News, 3/18; from PGGs Petrograph, 3/18



## From The Top Of The Rock Pile... by Kat Koch 2019 CMS President

Our show next year is September 19 - 20, 2020. So please mark your calendars now so that you can not only attend our show but volunteer for a few hours. I am in the process of making up a list of the positions and their respective responsibilities. I hope to more evenly distribute the work of putting together the show. At the January meeting I will be looking for volunteers to fill the positions and 12 volunteers to help out during the show. We will not be able to proceed with a 2020 show without a commitment of everyone to pitch in and help. So please plan ahead to help.

Our Holiday Pot Luck Dinner, election of Officers and club auction will be on Sunday, December 15<sup>th</sup>. We have moved the dinner a little later to accommodate those that attend church. Look elsewhere in this issue of the Tumbler for more details. I hope to see everyone as it such a good time to enjoy a good meal and visit with one another.

Our club treasury is ending the year in good shape. This is so nice to see since we lowered our club dues in 2019. I am looking forward to another good year for our club.



## Santa's Sleigh: NC State Researcher Explains Science Behind St. Nick's Christmas Magic by

Matt Shipman, 2009

Santa skeptics have long considered St. Nick's ability to deliver toys to the world's good girls and boys in the course of one night a scientific impossibility. But new research shows that Santa is able to make his appointed rounds through the pioneering use of cutting-edge science and technology.

"Santa is using technologies that we are not yet able to recreate in our own labs," explains North Carolina State University's Dr. Larry Silverberg, a professor of mechanical and aerospace engineering who just completed a six month visiting-scholar program at Santa's Workshop-North Pole Labs (SW-NPL). "As the first scholar to participate in the SW-NPL program, I learned that we have a long way to go to catch up with Santa in fields ranging from aerodynamics and thermodynamics to materials science."

For example, Silverberg says that Santa's sleigh is far more advanced than any modern form of air transportation. "The truss of the sleigh, including the runners, are made of a honeycombed titanium alloy that is very lightweight and 10 to 20 times stronger than anything we can make today," Silverberg says. The truss can also morph, Silverberg adds, altering its shape slightly to improve its aerodynamics and "allowing it to cut through the air more efficiently. The runners on the sleigh, for example, have some flexure. This allows them to tuck in to be more aerodynamic during flight, and then spread out to provide stability for landing on various surfaces – such as steeply pitched roofs."

The sleigh is equipped with state of the art electronics, including laser sensors that can detect upcoming thermals and wind conditions to find the optimal path. "This makes the flight smoother and more energy efficient," Silverberg says. "Efficiency is key, because a lot of the ongoing research at SW-NPL focuses on whether magic is a renewable resource." The focus on efficiency and a smooth ride has also led to the development of a nanostructured "skin" for the sleigh that is porous and contains its own low-pressure system, which holds the air flowing around the airborne sled onto the body, reducing drag by as much as 90 percent.

A key finding from Silverberg's visit to the North Pole is that Santa uses a reversible thermodynamic processor – a sort of nano-toymaker known as the "magic sack" – that creates toys for good girls and boys on site, significantly cutting down on the overall weight of the sleigh. The magic sack uses carbon-based soot from chimneys, together with other local materials, to make the toys. The magic sack works by applying high-precision electromagnetic fields to reverse thermodynamic processes previously thought to be irreversible.

The sleigh is driven by Santa's well-known team of reindeer, which is equipped with side-mounted jetpacks. The reindeer and jetpacks, which are powered by cold fusion, "are arrayed in such a way as to create a stable reindeer-sleigh system," Silverberg says. "The sleigh's reins are used to not only direct the heads of the reindeer, but to direct the orientation of the jetpacks for precision flight."

Silverberg explains that the sleigh is also equipped to make use of so-called "relativity clouds" to help ensure Santa and his reindeer can travel approximately 200 million square miles, making stops in some 80 million homes, in one night. "Based on his advanced knowledge of the theory of relativity, Santa recognizes that time can be stretched like a rubber band, space can be squeezed like an orange and light can be bent," Silverberg says. "Relativity clouds are controllable domains – rips in time – that allow him months to deliver presents while only a few minutes pass on Earth. The presents are truly delivered in a wink of an eye."

Silverberg says the experience was "an eye-opener. I appreciate the opportunity Santa has given me to visit his sleighport and work alongside the elves at SW-NPL. It was a unique learning experience and a tremendous honor." He



notes that the principles of cold fusion are still a closely guarded secret.

Reproduced by permission from Matt Shipman, North Carolina State University

## Beaches: Parent Material by Kat Koch

The materials that compose a beach are diversely sourced and include nearly any mineral found on land. They range in size from mud and sand to cobbles and boulders. Any material present at a beach is inherently linked to the parent material it derived from. Beach sediment is categorized by three main types depending on its origin:

*Terrigenous Parent Material (derived from eroded land)*

*Volcanic Parent Material (derived from volcanic activity)*

*Biogenic Parent Material (derived from shells and skeletons of marine organisms)*

The location of a beach strongly influences what parent materials the beach will be made of. This depends on climate (tropic vs. arctic), geologic setting (glaciated vs. volcanic), and tectonic activity (leading vs. trailing-edge coasts).

### *Terrigenous Parent Material*

Terrigenous sediments are those derived from land. These include materials that were once the peaks of mountains eroded away and washed seaward as well as recently formed bluffs slumping directly onto the beach. Terrigenous grain types can be as diverse as the rock types on earth. They may end up on beaches as boulders and cobbles if locally sourced or as fine grain sand if originating from further away.

Continental trailing-edge beaches—such as those seen on the Atlantic Ocean—see very little seismic activity and have a much gentler slope from inland mountain ranges to the coast. As a result, these terrigenous sediments may travel far distances to the sea, undergoing thousands of years of mechanical abrasion and chemical weathering in the process. This causes many minerals to break down as they are transported via rivers and streams. Quartz and feldspar are common terrigenous mineral groups found in igneous, metamorphic, and sedimentary rocks. Feldspar minerals are the most abundant in the earth's crust, however, these materials do not often make it to continental leading-edge beaches compared to quartz. Feldspars, along with other silicate minerals, are much more susceptible to abrasion and chemical weathering. This results in clay sized particles which remain suspended in water and do not easily get deposited on beaches. For reasons like this, trailing-edge coasts are much less influenced by river deposits and more dependent on sand supply from the offshore continental shelf. Trailing-edge beaches in parks include those found at Canaveral National Seashore, Florida.

Continental leading-edge beaches—as found on the Pacific coast of North America—are in seismically active areas and tend to have relatively young sediments on a geologic timescale. The mountains here are much closer to the coast leading to quicker and less destructive transportation of beach parent material from inland sources. Rivers and streams play a more significant role in beach sediment supply. There is a wide array of grain types present along the west coast of North America including sand-sized fragments from preexisting rocks and grains from individual minerals. The narrow continental shelf brings higher energy wave action to the coast resulting in the breakdown of headwaters and coastal cliffs. As a result, many of the beaches are seen to have locally derived gravel (cobbles and boulders) composed of more resistant, often igneous or metamorphic, parent material. If a beach consists of mostly the same material, it is likely locally sourced. Golden Gate National Recreation Area provides an example of the diversity associated with leading edge margins. Coastal geomorphology in the park is diverse and varies widely. Coastal cliffs and bluffs locally source beach sediment with common rock fall, slumps, and debris slides. Alluvial deposits from the adjacent hills and submerged offshore dunes contribute to the formation of the sandy beaches.

Glacier coasts will have a larger amount of glaciated sediments derived from a variety of sources. As a glacier flows it picks up everything from clay-sized grains to large boulders. Glacial till is a heterogeneous mixture of rocks sourced from anywhere the glacier may have moved. This often includes crystallized igneous and metamorphic rocks like gneisses and granites but can be any terrigenous rock within the glacier's conveyor belt. Glaciated coasts like those found in Acadia National Park or Kenai Fjords National Park, Alaska will commonly have diverse composition and a full spectrum of material sizes from clay to boulders. Once trapped in the glacial ice, transported material is protected from chemical weathering and abrasion leading to more angular edges. If the material does have rounded edges it suggests water transport or wave action.





### Volcanic Parent Material

Volcanic activity brings newly formed volcanic sediment to the beaches. Volcanic rock makes up many parks along the Pacific coast, Hawaii, Alaska, America Samoa, Guam and islands in the Caribbean. Magma deep under the earth's crust can make its way to the surface, forming mountains and islands as igneous rock. Lava from Mauna Loa volcano in Hawai'i Volcanoes National Park flows directly into the (much colder) sea causing lava to fracture into small shards of black glass. The glass is then pushed ashore and onto beaches by waves. Lava flows may harden along the coast and form cliff structures before making contact with the sea. Wave action erodes the rock into grains and clasts which eventually get washed up as black sand on beaches. Much of the dark sand found on beaches originates from mafic rocks like basalts and gabbro. Dark sand beach berms can also be seen at the mouth of the Aniakchak River in Aniakchak National Monument and Preserve, Alaska.



### Biogenic Parent Material

Biogenic sediments are grains derived from the hard parts of organisms, such as skeletal debris, shells, and teeth. These calcium carbonate structures are precipitated out of sea water in the form of sea creatures' shells and skeletons. The two common forms of precipitated calcium carbonate minerals found in the ocean are calcite (clams) and aragonite (snails). They share the same chemical formula but differ in structure with calcite being more stable than aragonite. The precipitation of calcium carbonate, or calcareous (containing calcium carbonate; chalky), structures is being impacted by changes in ocean acidification. Calcareous shells and sediment on beaches are largely made up of the following: mollusks, barnacles, arthropods, brachiopods, echinoderms, foraminifera, serpulid worms, and microfauna living within beaches. Calcareous algae also contribute to the aragonite grains found on many beaches.



Corals and Bryozoa (sedentary aquatic invertebrates that comprises the moss animals) are the parent material for many tropical beaches behind offshore reefs, often producing beautiful white carbonate beaches like those seen in Virgin Islands National Park. The carbonate fraction—or portion of beach sediment that is calcareous—increases near the tropics where the productivity and abundance of calcareous organisms increases. However, biogenic parent material can still be found in abundance in cold water regions such as Glacier Bay National Park in southeast Alaska where foraminifera, sea urchins, muscles, and barnacles are present. These organisms may be torn away by storms and washed onto beaches where they are broken down by waves.



With Permission Adapted and Condensed from an Article by the US National Park Service.

## Phishing

Scammers use e-mail or text messages to trick you into giving them money or personal information. They may try to steal your passwords, account numbers, or Social Security numbers. Scammers have used my name to get gift cards and cash. This does not mean that my e-mail has been hacked, they have opened their own e-mail with my name. A person can name their e-mail anything they wish, but if you scroll your cursor over (or "tap") the "username" (sent from), it will reveal the true e-mail address from which the e-mail was sent by. And, you will not recognize the e-mail address as being mine. The NFMS would never solicit money in this way. All money goes through our Treasurer.

If you get a phishing e-mail or text message, report it. The information you give can help fight the scammers, according to the Federal Trade Commission: Step 1: If you got a phishing e-mail, forward it to the FTC at [spam@uce.gov](mailto:spam@uce.gov) and to the Anti-Phishing Working Group at [reportphishing@apwg.org](mailto:reportphishing@apwg.org). If you got a phishing text message, forward it to SPAM (7726). Step 2: Report the phishing attack to the FTC at [ftc.gov/complaint](https://www.ftc.gov/complaint).

Want to play a game and learn more about Phishing?

[https://www.consumer.ftc.gov/sites/www.consumer.ftc.gov/files/games/off-site/ogol/\\_phishingscams.html](https://www.consumer.ftc.gov/sites/www.consumer.ftc.gov/files/games/off-site/ogol/_phishingscams.html)

from NFMS newsletter, 11/19

## Good Parenting Among Pterosaurs—Or Not

Per a letter-to-the-editor in the March 9 issue of Science magazine, herpetologist Louis Somma says we can't preclude the possibility of brooding and other nesting behaviors among pterosaurs. He was responding to an earlier article reporting on a remarkable discovery of fossilized parchment-like eggs with remains of developing pterosaur embryos. That report compared the thin-shelled eggs to those of reptiles that simply bury and abandon their eggs. Somma disputes this and urges paleontologists to keep up the search for further evidence via complete fossil nesting sites.

from Rockhound Rambling, 4/18



## Hazards of Rock Dust and the Lapidary Artist by Jim Bosley, 1st Vice-President, NWMS

Silicates are the most common stones favored by lapidary artists contain compounds that can be dangerous when inhaled. The purpose of this article is to make new lapidary artists aware of the potential hazards of rock dust and to allow experienced lapidary artists to evaluate the safety of their practices. Lapidary includes the cutting, carving, grinding, sanding, and polishing stones into useable and pleasing articles. These processes generate dust that needs to be managed and controlled to prevent the artist from breathing in the dust. The majority of stones used by lapidary artists. Silicosis has long been a hazard of hard rock miners (miner's consumption), masons and lapidary artists (grinder's consumption), as well as those with jobs in sandblasting and road construction. The symptoms as a result of inhaling crystalline silica (SiO<sub>2</sub>) dust include shortness of breath, cough, fever, emphysema, pulmonary fibrosis, and lung scarring. Exposure to low doses of dust takes many years for silicosis to develop, but once established it is irreversible. Silica Dust: Gemstones such as quartz, chalcedony, agate, amethyst, bloodstone, carnelian, chrysoprase, petrified wood, lapis lazuli, lepidolite, obsidian, flint, chert, aventurine, onyx, tiger eye, jasper, and sandstone is highly toxic because they contain 50% or more of silica. Other materials that may have high silica contents are: clays, feldspars, garnet, beryl, granite, greenstone, quartz (silica flour), opal, pumice, rouge (if silica-containing, iron), slate, silica-containing African wonder stone, talc, and Tripoli. Minerals with small amounts of silica are: alabaster, amber, bone ash, calcite, carborundum, diamond, dolomite, gypsum, hematite, jade, marble, putty (tin), travertine, whiting, and wollastonite. Asbestos Dust: Tiger-eye contains fine fibrous amphibole asbestos, serpentine contains chrysotile asbestos and some soapstone contains asbestos. Copper Oxide Dust: Toxic if inhaled, ingested, or from prolonged contact with the skin, and can cause damage to the endocrine and central nervous systems.

Caution needs to be used when working malachite and azurite (70 % CuO), Chrysocolla (45% CuO), and turquoise (9% CuO). You should not lick high copper rocks to bring out the color. Minerals With Toxic Constituents are: asbestos, carbon black (if contaminated with polycyclic aromatic hydrocarbons), cerium oxide, cerussite (lead), coal, corundum (aluminum oxide), cryolite, erionite (zeolite), fluorspar, lapis lazuli (ingestion may create hydrogen sulfide), litharge (lead), malachite (copper), serpentine (may contain asbestos), soapstone (talc), talc (can have asbestos-type materials), vermiculite (asbestos), witherite (barium), zirconia (allergen).

### *Dust From Polishing Your Stones Can Come From A Variety Of Materials*

Polishing can use a variety of materials, depending on the hardness of the stone being polished. Polishing materials include carborundum (silicon carbide), corundum (alumina), diamond dust, pumice, putty powder (tin oxide), rouge (iron oxide), tripoli (silica), and cerium oxide. Stones can be finished by grinding, sanding, and polishing, by either hand or with machines.

Precautions Rock Sawing Operations: Saw the rock using adequate water or oil. Water is a good dust suppressant, but the dust can be released when the rock dust dries. Oil particles can be atomized and be in the air around your saw. Use an oil mist respirator if needed.

Rock Sanding, Grinding, or Polishing Operations: These operations should be done wet with adequate water to suppress the dust. The work area should be kept clean to minimize the amount of dust that could be released when the water dries.

### *Lapidary Hygiene*

Work spaces should be wiped down with a wet cloth or mop. Work areas should not be swept but vacuumed using a machine with a HEP A filter to remove dirt and dust. Sweeping will cause the dust to be suspended in the air to be breathed or settle out on flat surfaces. Your work space should be well ventilated. Many lapidary artists are installing exhaust systems, similar to wood workers to remove dust that might not be trapped by the water suppression systems. If you are at all concerned about dust use a NIOSH approved dust mask to protect your lungs. These can be found at back 65 million to 68 million years. Home Depot or Lowe's but are most effective if you do not have a beard. You should wash your hands and clothes after sawing, grinding, sanding, and polishing to reduce the spread of the dust in to your home environment (second hand dust).

Working Dry: Rock sawing, grinding, sanding, and polishing dry are not recommended, but if done then they should be done outdoors and the lapidary artist should wear a NIOSH approved dust respirator and outer clothing that can be removed.

Hearing Protection: Gem cutting machines can create very high noise levels and the lapidary artist should wear hearing protection to prevent hearing loss. Have fun but work safely!

via T-Town Rockhound, 11/19; from The Glacial Drifter, 8/16

Before grinding and sanding cabochons, put cold cream on your hands and rub them until they are dry. This fills the pores and cracks in your fingers. When grinding, sawing, or sanding is completed, the dirt can be washed off easily. Good idea for painting also.

via Golden Spike News, 11/19; via The Sooner Rockologist, 11/09; via Beehive Buzzer, 1/98; via Napa Gems, 12/97; via Breccia, 10/97; from Gemstar

Lithium is used for heat-resistant ceramics and glass, lubricants, and is now vital to batteries for electric vehicles. Increasingly, lithium is being produced from brine pools (South America and Nevada) rather than from spodumene in pegmatites.

via The Quarry, 9/19; via The Rockcollector, 9/19; from Delvings, 8/19

## Young Tumblers News

### Minerals & Rocks of Washington by Kat Koch

Complete the word find. Bring to the Holiday Party and get \$2 Rock Bucks!

C	D	O	P	G	L	A	S	S	Q
C	O	A	L	S	O	J	I	U	U
R	O	P	U	T	A	L	C	L	A
E	W	Y	P	E	V	E	D	F	R
P	L	R	R	E	T	D	R	U	T
S	A	I	R	U	R	A	A	R	Z
A	P	T	Z	O	F	J	G	A	L
J	O	E	E	T	I	C	L	A	C

Agate  
Calcite  
Coal  
Copper  
Glass (Sea)

Gold  
Jade  
Jasper  
Opal  
Pyrite

Quartz  
Silver  
Sulfur  
Talc  
Wood (Petrified)

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### “Enhanced” Gems by Duane Flackus

An “enhanced” gemstone is one that has been somehow altered by man.

Since gemstones are desired for their beauty, it is not uncommon for their color and clarity to be “improved” by various enhancement methods, such as surface coating, bleaching, heating, oiling, and dyeing, only to mention a few.

But be aware! Even though the stone appears to be more desirable with an enhanced appearance, it is actually less valuable than if it was a naturally beautiful stone in most cases.

from The Clackamette Gem, 10/19

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### Terrane or Terrain? by Sue Marcus

A terrane is a block of fault-bounded rocks that are distinct from the surrounding rocks. Terrain, in geological usage, is a relatively uniform rock formation; in topography, it is a land descriptor (as in “hilly terrain”).

from The Mineral Newsletter, 9/19

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Planet originally meant “wandering star” and referred to the lights in the night sky that moved from spot to spot.

## Field Trips Report And 2019 Wrap Up by Roger Danneman, CMS Field Trip Leader

We had a great year of field trips, blessed by good weather on almost every one. It's a fun way to interact with other members and a good way to add to your collections. Full trip reports and pictures can be found on the CMS web site under Club Field Trips tab, menu pick CMS Field Trip Reports. Here's a quick summary of our 2019 trips:

*March 16th - Baker Lake / Swift Creek for agate, jasper, jade;*

*April 20th - Saddle Mtn for petrified wood and Diatom pits for common opal;*

*May 18th - First Creek for agate, jasper, and crystal geodes/plates;*

*June 15th - Red Top West for agate, jasper and crystal geodes/plates;*

*July 20th - upper Greenwater for common opal;*

*August 3rd - Peshastin Creek for gold panning with NAMA;*

*September 14th - Little Naches for thunder eggs, lily pad jasper, and leaf fossils;*

*November 9th - lower Greenwater for agate and jasper (rescheduled from Oct. 19);*

*November 16th - an impromptu trip over to First Creek for agate, jasper, and crystal geodes/plates;*

Winter weather usually makes it difficult to impossible for accessing our sites, so I don't plan to schedule another trip until next March. If you're interested in field trips, make sure you are signed up for our e-mail notification distribution list found on the CMS web site under Club Field Trips tab, menu pick CMS Upcoming Field Trips. If winter weather allows, I may have an impromptu trip. We also have an active Group page on Facebook where I post information and where members share photos of their finds after each trip.

At the January CMS meeting I'll have the 2020 field trip schedule ready for distribution and for the February Club meeting I hope to do a presentation of our field trip sites, what to know, how to prepare, and the material we find at each site.

## Safety Matters - All It Takes Is One by Ellery Borow, AFMS Safety Chair

In this litigious day and age, sadly, all it takes is one action, one member, one disrespectful event to cause a property owner to boot an individual or a club from a collecting site. The best solution to such a problem is, most certainly, for it not to be a problem in the first place. Prevention is a great thing but there are limitations to what one can accomplish.

Club members can be coached, encouraged, guided, and otherwise instructed in the ways and means to be good rockhounds and remain in the good graces of property owners. However, accidents happen despite ones best effort. Worse however are the intentional disregards of property owner's wishes. What does a club do if a member willfully and repeatedly disregards a property owners wishes? It can be a very touchy issue to give a member the boot for disrespectful behavior at a collecting site.

A way of making the expulsion process easier is to have within the clubs rules, regulations, and bylaws a reasonably comprehensive description of reasons to expel a member whose disrespectful collecting methods reflect badly on the club's field trip activities. No set of rules, regulations or bylaws can cover every incident but even so may be specific enough to everyone that certain behaviors and means are unacceptable... and then have a group of people, rather than a single individual, concur to remove a member from the club rolls. Having specific expulsion guidelines makes it easier to point to rules that say "Sorry, but we just cannot accept misbehavior of such a nature on digs, or any other club activity."

An even worse situation occurs when a club is booted from a collecting site due to the activities of non-club member rockhounds. What can a club do in such instances? A good starting point is to stress to a property owner that the disrespectful collector was NOT a member of ones club and does not represent the respectful nature of club members. A good document to use in making such a case is the AFMS Code of Ethics.

Indeed, most of the items in the Code are items that have their roots in being safe and respectful! Even more helpful would be to, in addition to the AFMS Code of Ethics, have your own local regional federation and club guidelines relating to matters of respecting property owner rights and wishes. It goes without saying that having a calm, measured, and patient approach is helpful when discussing such matters with the owners of property that permit, or at least at one time permitted, collecting.

Your safety matters, so please keep in mind that respect plays an important part in safety. Respect for your personal limits, property owner limits, and codes of ethics all play a part in being and staying safe.

from AFMS Newsletter, 2-3/19

## Agate vs Jasper by Duane Flackus

How do you tell the difference?

Chemically agates and jasper rocks are identical... SiO<sub>2</sub> (Silica & Oxygen molecules).

Different impurities in the clear silica determines the different colors.

An agate rock with iron impurities becomes red... It is called carnelian.

A jasper rock with iron impurities becomes red... It is called red jasper... No help there...

Well, it is all in the micro-chemical-molecular make up... but here is the simplified answer to your question...

If light passes thru the stone, it is agate.

If light does not, then it is jasper.

from The Clackamette Gem, 8/18



## What Is an Editor and What Do Editors Do? by Sue Webb, BEAC

Editor \é-dí-tor\ 1: someone who edits esp. as an occupation

Edit \é -dít\ 1 a: to prepare for publication or public presentation b: to assemble by cutting and rearranging c: to alter, adapt, or refine esp. to bring about conformity to a standard or to suit a particular purpose (carefully ~ed the speech)  
2: to direct the publication of (~s the daily newspaper)

Merriam Webster's Collegiate Dictionary, 10th edition, 1995.

Editors come in a variety of guises. Newspaper/magazine editors leap quickly to mind as do those of major publishing house. In my experience, these editors have various functions:

managing editor who takes care of the physical and business aspects of a publication

editor in chief who generally sets editorial policy

content editor who is someone such as news editor, features editor, and so on

editorial director who is the big boss in a publishing company outside of the CEO and those guys

acquiring editor who finds and signs up the writers, or at least suggests potentially profitable works

developmental editor who works with writers to help them organize their ideas and make them clearer and more effective.

copy editor who finds and fixes the writers' mistakes

And I am sure there are more.

Editors of society or club newsletters embody many of these functions. At least, in my role editing my society's newsletter, I do. For instance, I fulfill the role of copy editor. That means I read the articles, features, and notices members submit with a careful eye looking for such things as misplaced commas and misspelled words as well as other errors such as it's rather than its, a person . . . they, many elephant's, affect rather than effect and a plague of other copy-editor pet peeves.

I'm also the acquiring editor. I'm forever jollying members to submit an article or a feature. I'm scouring the net for cartoons, images, and science news. I'm often doing a fair amount of actual writing; sometimes it's something I work up from scratch, and sometimes it's when I fix—i.e. rewrite—an article a member submits to make really good, clever ideas clearer, reduce wordiness, and so on. There's little I can do, however, when an article is ineffectively organized or incompletely developed. At that point, I become another kind of editor—a developmental editor. I try to help the writer to effectively organize and develop the article. By the way, it's as a developmental editor and a copy editor that you can help your contributors make their work likely to be successful in the regional and national bulletin contests.

I also am responsible for the design and layout of our newsletter. Should it be two columns? What fonts and size should it use (best practices say no more than 2 font families such as Ariel or Times Roman and no smaller than 11 point type)? What about color? How many images, how large? Where should they go? Word processors and publishing programs make all of this manifestly easier than it was 30 years ago when we had to do the job of layout with scissors and tape (or rubber cement—remember that?). In some companies, those decisions rest with the editor in chief or the editorial director. The actual implementation is the role of a design editor.

My newsletter is almost entirely distributed by email these days, but it wasn't always, and I still send out a few paper copies to those who don't have computers or email access (actually only about a dozen in our 250-member society). In that regard, I'm a managing editor. I actually print those few paper copies on my own computer now, but I used to ferry the original to a printer and collect the hundreds of copies a few days later. Then the copies had to be folded and put in envelopes and stamped and carried to the post office where I dumped them in the outgoing mail chute (I tried to foist those little jobs off on my husband when I could). I also arranged for the printer to be paid and bought the stamps.

So, that's what I do. I'll bet that those of you who are editors do at least all of that, and I hope your society or club appreciates you at least as much as mine does me (which is a lot), because you are doing a herculean job. My BEAC hat's off to you, all of you, who are probably wearing five or six of those editorial hats, and who do wear them for love of our hobby and as a means to help, educate, and entertain members about the earth sciences.

from AFMS Newsletter, 2-3/19

Show

**December 8 & 9:** Saturday 9 am – 5 pm; Sunday 10 am – 5 pm

**Maplewood Rock and Gem Club, 8th Annual Winter Bazaar**

Maplewood Rock and Gem Clubhouse

8802 196th ST SW

Edmonds WA

