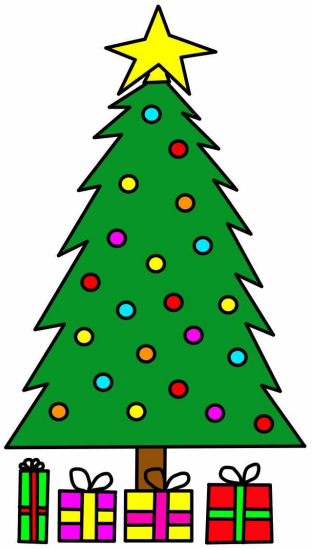
The CMS Tumbler

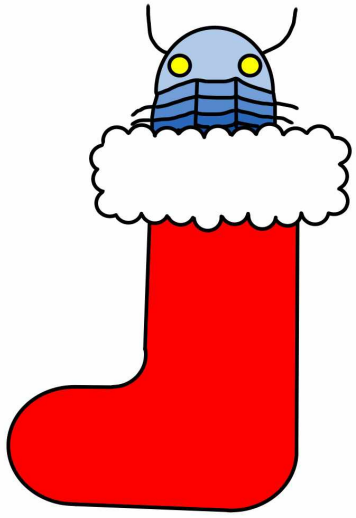
DECEMBER 2020

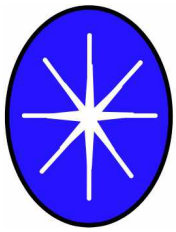
Next Meeting/ Christmas Party Is Canceled.

This month remember
to wish a
Happy Birthday to
Elijah Fu on December 2
Israel Sandoval Perez on December 6
John Cornell on December 14
Jennifer Jean Dillon on December 15
Shirley Wright on December 26
Beverley Williams on December 29
Garry Hartzell on December 31
and also remember
to wish a
Happy Anniversary to
Mark & Penny Hohn on December 27
Peter & Beverley Williams on December 29 (38 years)
Philip & Becky Trepanier on December 30 (32 years)

Connect with us!
Website: cascademineralogicalsociety.org
Club Facebook: facebook.com/CasMinSoc/
Show Facebook: facebook.com/cascadegemandmineralshow
Instagram: instagram.com/cascadegemandmineralshow/







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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Email preferred.
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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.

DECEMBER

Sun	Mon	Tue	Wed	Thur	Fri	Sat
Meeting Canceled		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25 Christmas 	26
27	28	29	30	31 New Year's Eve	Merry Christmas!	

CMS Show Committee Meeting:…Canceled
CMS Board Meeting:……Caneled
CMS Christmas Party:……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)

Son of Mr. & Mrs. Rockhound by KAM

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

CMS Board Meeting Minutes November 9, 2020

Canceled.

CMS General Meeting Minutes November 12, 2020

Canceled.

December 2020 Meetings

The Board and Holiday Party meetings for December have been canceled.
Everyone stay home and be safe. If you have to go out be sure to wear a mask.
Hopefully we will see each other by spring of 2021.

Lower Dues for 2021

2021 club membership dues is $15 for a family or individual!

The Board has approved a temporary reduction in our dues for 2021 only to $15 per family or individual. Even though we are not presently holding meetings, our club still has to cover our annual dues to NFMS, AFMS, ALAA, WA State Mineral Council and the cost of liability insurance for 2021. I am sure by spring we will be back to holding our meetings again. When this does happen we will once again have the cost of the monthly rental for the meeting room.

From our website you can use a credit card to renew your membership. You can also mail a check to CMS, c/o Charles Benedict, 25838 W. Lake Wilderness Dr. SE, Maple Valley WA 98038.

Our Club is a Member of these Federations and Associations:

AFMS: The AFMS governs our Northwest Federation. http://amfed.org/index.html
The bulletins are published quarterly. You can find the news bulletins 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. http://northwestfederation.org/
The link for the news bulletins is http://northwestfederation.org/Newsletters.asp
There doesn't seem to be any new issues posted. I do know they have been without a bulletin editor for a couple of years now. The website doesn't show where, when or if there is a planned 2021 show.
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. http://amlands.org
The front page also has a lot of current news, rockhounding restrictions or lack of, etc. 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. https://mineralcouncil.wordpress.com/
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 also 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/
MSVL has no field trips planned for December. 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.”

What's the difference between a hippo and a zippo?
One is heavy and the other is a little lighter.

from Rough ‘N Tumbled Times, 5/20

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

Governor Inslee and the CDC have asked all of us to not gather for the holidays. I know it's very hard for some of us not see our friends and family at this time of the year.

The holidays gatherings, religious services, hobby or other group meetings, gyms, senior center activities have been canceled but remember we, as individuals, have not been canceled. We are still a family member, a friend and a rock club member.

Joy, fun and happiness have not been canceled! 2020 has been a weird year and celebrating with one another looks different. Remember to reach out via phone, video chat or email to family members, friends and our rock club friends/members during the coming holiday. We are all here to support each other any way we can.

Above all our rock club and our community of members have not been canceled! We are still here producing our monthly news bulletin, maintaining our website and leading field trips when the weather is good. If you are working on a lapidary project or tumbling and need help, have a question or need talk about rocks please reach out to one of our members. If you need a phone number or email for a member just check the contact page in our bulletin go to our website and under “Contact Us!” send a message with their name. You can also email me at president@cascademineralogicalsociety.org If I have their info I will send it to you.

I am also very happy to announce that the Board has approved a temporary reduction in our dues for 2021 only to $15 per family or individual. Even though we are not presently holding meetings, our club still has to cover our annual dues to NFMS, AFMS, ALAA, WA State Mineral Council and the cost of liability insurance for 2021. I am sure by spring we will be back to holding our meetings again. When this does happen we will once again have the cost of the monthly rental for the meeting room.

Stay safe and healthy so we can see each other next year.

AFMS Website Awards

Our website has won third place in AFMS website contest! Congratulations to our webmaster, Mark Hohn for his great work.

1st place Clackamette Mineral and Gem Club (NFMS)
2nd place East Texas Gem and Mineral Society (SCFMS)
3rd place Cascade Mineralogical Society (NFMS)

2020 Field Trip Summary by Roger Danneman

Well 2020 has been a different year, to say the least. Not just with Covid and related restrictions, but we also had to deal with a manhunt closure of Redtop in June, wild fires closing Little Naches and Hwy 410, and early winter conditions in the Cascades. But we still had 7 good trips.

March – Baker Lake / Swift Creek for Jasper/Agate/Jade
April – cancelled due to Covid stay home orders
May – First Creek for Agate/Geode Crystal
June – Saddle Mountain for Petrified Wood
July – Greenwater for Agate/Opal/Petrified Wood
Sept – Red Top for Agate/Jasper/Geode Crystal
Oct – Red Top for Agate/Jasper/Geode Crystal
Nov – First Creek for Agate/Geode Crystal

All trip reports and photos are on our web site at https://www.cascademineralogicalsociety.org/field-trips/trip-reports/

Field Trip schedule for 2021 will be coming out by mid-January with the first trip occurring in March at Baker Lake / Swift Creek.

Thank you field trippers for being flexible with dynamic dates and locations. I try to stick to the schedule created at the beginning of the year, but we had many factors this past year causing deviations. If you are not receiving the field trip notification e-mails and would like to, send me your e-mail address so I can add you to my notification list. Roger.Danneman@gmail.com

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Young Richard’s Almanac by Dick Morgan

The year 2020 was the end of a tumultuous century starting with the Great Depression and including, World War II, dropping the atom bomb, the Korean War, the Vietnam War, landing on the moon, the trouble with the Taliban, the destruction of the World Trade Center, the Iraq and Afghanistan Wars, and the Covid 19 pandemic. But no matter how bad things may get, remember one day it will be history and the next generation will be dealing with new things.

Oregon Council Of Rock & Mineral Clubs Hampton Butte Reclamation Project by Dave Williams – OCRMC President

The Oregon Council of Rock and Mineral Clubs represent 17 statewide clubs whose 1483 members enjoy recreational rockhounding on our public lands. Our mission is to advocate for access to collection areas and promote stewardship of the resources at these sites. As part of our stewardship efforts, we adhere to the American Federation of Mineralogical Societies Code of Ethics which prescribes a set of guidelines for responsible rockhounding. Two important elements of the Code include filling excavations which may present a danger and protecting our heritage of natural resources.

In order to advance the aims of these guidelines and implement the stewardship component of our mission statement, the Council is sponsoring a reclamation project at the Hampton Butte petrified wood site in central Oregon. An earlier field inspection of this site revealed the area had been extensively impacted by surface collection activities including numerous excavations which had not been back filled. The affected area covered several acres open to both livestock and game. Two work parties were held on National Public Lands Day in late September 2019 and 2020 with Council members and Bureau of Land Management staff meeting at Hampton Butte to fill as many holes time allowed. After much hard work with shovels and rakes, we were able to fill fifty to sixty excavations covering approximately 1/3 acre. Our volunteers and BLM staff were very pleased with the degree of participation and the amount of ground we were able to cover. A total of 14 volunteers participated in the 2019 project and 21 helped in the 2020 effort. Below are several pictures of the crews in action.

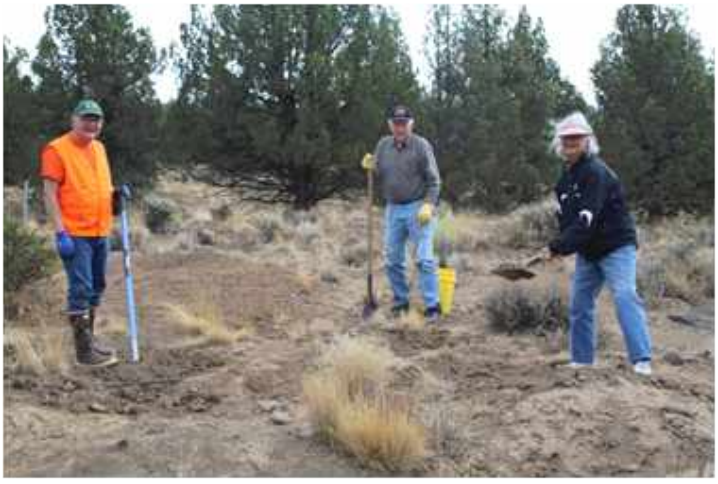
Excavation requiring remediation.

2019 volunteers after filling and leveling dig site.

2020 Council and BLM work crew at Hampton Butte.

Although we were only able to mitigate a portion of the Hampton Butte collection area, we have made a great start and developed good working relationships with the local BLM staff. The Council is currently pursuing a formal partnership agreement with the BLM Prineville office and we are hoping to secure a permit to use a small garden tractor for future work. At a minimum, we want to make these remediation projects an annual or bi-annual event. As part of an educational outreach program, the Council is also looking at posting signage with the Federation Code and site specific information at various rockhounding locations. We also encourage individual clubs to conduct their own “fill and level” projects at their local dig sites. I know my club, the Umpqua Gem & Mineral Club here in Roseburg, had a very successful work party to help restore one of our popular collection areas.

Excavation before filling and leveling.



Filling a dig site.

I want to thank all the volunteers from our Clackamette, Mt. Hood, Sweet Home, Tualatin and Umpqua clubs who made the time to help out with this effort. We want to extend a special thanks to the Prineville BLM staff including Amanda Roberts, Tom Beaucage, Kevin Weldon and Michael Anderson who made a significant on the ground and in the office contribution to our endeavor. We look forward to continuing these successful projects in 2021 and many years to follow.

Silverton, Colorado – A Silver Mining Town And My Family History by Katherine Koch

In 1860, Charles Baker and several prospectors entered the San Juan Mountains in search of wealth. They soon found deposits of gold and silver along the Animas River, in an area that was later called “Baker’s Park”. The prospectors stayed through the summer but returned to what is now northern New Mexico for the winter. News spread of the discovery; however, with the Civil War looming and the discovery being located on Ute Indian land, the miners did not return to the San Juan Mountains until around 1873.

At that time nearly 1,000 prospectors once again ventured into the high country. The Utes protested, yet they could not stop the inexorable wave of miners and settlers that arrived over Stony Pass.

In 1874 Silverton’s town site was laid out and it soon became the center of numerous mining camps. In addition to the miners, Silverton caught the eye of a railroad company in Denver. In July 1882 the first train operated by the Denver & Rio Grande Railroad rolled in to Silverton from Durango. The new rail line transported silver and gold ore from the San Juan Mountains to Durango. By 1883, Silverton boasted of having a population of 2,000 people with 400 buildings – 2 banks, 5 laundries, 29 saloons, several hotels and a bawdy red light district – Notorious Blair Street.

As early as 1874, men were bringing their wives and families to live in Silverton. This influx of families provided an incentive for citizens to keep at least part of Silverton respectable. From the very beginning an imaginary line ran down Greene Street dividing the town between the law-abiding, church-going residents and the gamblers, prostitutes, variety theaters, dance halls and saloons.

Grand Imperial Hotel. Greene Strret, Silverton, Colorado. Circa 1885.

In May 1883 a grand jury brought 117 indictments against “lewd women” on Notorious Blair Street. Although fines were levied, gambling and prostitution were generally accepted as long as the practice did not migrate into the more respectable sections of town. Lascivious behavior was not necessarily condemned, as fines were readily used for the growing community.

My great grandfather purchased the Sherwin and Houghton's general mercantile store in the very early 1890's. It was built in 1880 on Greene Street by Sherwin and Houghton when the town was only 6 years old and it was also the town's first masonry commercial structure. The Giacomelli family (my great grandfather) ran the mercantile store for a few years but eventually turned it into the Iron Mountain Saloon in the mid 1890's, and then into an ice cream parlor/bakery with adjacent liquor store after 1917. The family sold the building in 1970.

My great grandfather and his children went on to own 6 saloons plus the first bowling alley adjacent to one of the saloons, his younger son help install the first telephones in Silverton. My aunts, uncles and cousins worked in the newspaper office, the bank, the mines, also were school teachers and nurses.

In 1949 I rode this narrow-gage train, now known as Durango-Silverton Narrow Gauge Railroad, round trip from Durango to Silverton. It was a steam powered locomotive and we had to stop half way up the grade for water. I remember my Mom yelling at me to close the widow next to my seat as my sister and I were getting covered in coal dust. I also remember the remote homestead at the water stop and all the chickens running around. This actual train that I rode on is now at Knott's Berry Farm in southern California.

The Durango-Silverton Narrow Gauge Railroad is still operating, from spring through fall, and you definitely need to buy tickets ahead of time.

As a side note, when Knott's Berry Farm was first developed they had a lot of mining equipment, tools and photos from Silverton in various displays throughout the park. These displays have mostly gone by the wayside as they built more and more rides in order to compete with Disneyland.

I also remember on this same visit, visiting my uncle who was installing the telephone system at the time, had a hand-crank telephone in their home. I thought that was so neat. We already had a rotary phone in our home in California so I thought a hand-cranked phone was awesome! They also had a tamed deer in their backyard. It was also the one and only time I have been wild mushrooms hunting.

We also visited the saloon/bowling alley that belonged to one of my uncles. My uncle taught me how to pour the tap beer without just the right amount of head. Can you imagine today a 7 year old behind the bar pouring beer? As a 7 year old this whole trip seemed magical. A world so very different from my home in the San Francisco Bay area.

In June 1971, the Giacomelli building, which had been vacant for 19 years, opened as the Pickle Barrel Restaurant. The Pickle Barrel is still open to this very day.

1975 I took my mother back to Silverton for a final visit. We visited the Pickle Barrel Restaurant and we got to see the Giacomelli building once again. Yes, it was no longer the ice cream parlor/bakery but the little nook which held such pleasant memories for my mother was still there and had a small table with 2 chairs for customers. She cried with happiness to have seen it one last time but also with sadness as she could still picture her Grandmother standing there making bread, pies and cakes. As a child she enjoyed helping her grandmother do the baking.

We also drove by my great grandfather's old home in town. It was boarded up and we were unable to go inside. My

mother had hoped to see the home one last time as she had lived there for most of her childhood with her parents and grandparents.

Through the years, from 1970's through the 1980's, most of my family moved to Durango or Grand Junction or passed away. The main reason they left Silverton was due to old age and they were no longer able to handle to the cold winters and high altitude. Many of my Silverton and Durango relatives lived into their very late 90's and early 100's, long before it was common.

Due to a slow market and low demand, mining in Silverton closed down in the early 1990's. However, they say “There’s still gold and silver in those mountains” and hope remains that area mining will be back one day. In the meantime, Silverton has become a year round tourist destination with skiing and snow sports during the winter on Silverton Mountain and back country sports of all types the rest of the year.

Today most of downtown Silverton a designated National Historic District. It is also a statutory town that is the county seat and the only incorporated municipality in San Juan County. It is also one of the highest towns in the US at 9,318 ft above sea level. It has an annual average of 24.5 inches of rain and 155 inches of snow. The estimated population in 2019 is 637.

Bibliography: Ancestry, Wikipedia, Family photos, memorabilia and stories, My personal experience, Colorado State Website.

Morgan Hill Poppy Jasper

Who wears a jasper, be life short or long,
Will meet all dangers brave and wise and strong.
(Tiffany & Co., 1909)

Morgan Hill Poppy Jasper is a famous, but increasingly rare, orbicular jasper with red and yellow dots of "poppy flowers". It is a brecciated jasper, meaning it probably came from sun-dried and oxidized iron-rich clay. The cracks were filled in by other substances. There are different types of Jasper and the variety of Poppy Jasper found in our area is a “brecciated jasper.” What the heck does THAT mean? Great question! Well, “breccia” is a rock made up of sharp fragments embedded in clay and sand. Poppy Jasper is often found in areas with seismic and tectonic activity. Sound like any place we know? As this type of jasper forms, there are tiny cracks and fissures that open in the stone and then fill-in again over time with indigenous materials. As the stone repeats this process, it shatters and “heals-through” many times over, lending to the crackled and speckled look often associated with the stone.

The red colors prized by Poppy Jasper collectors are often a result of red hematite crystals embedded in the rock. It is also thought that iron-rich clay impacts the coloration. From deep reds and vibrant orange tones, to golden hues and earthen greens, Poppy Jasper is always a visual delight! Unfortunately these days most of the local Poppy Jasper found on is on private property, leaving rock-hounds and local enthusiasts alike, increasingly frustrated by the lack of access to new specimens.

Jasper is from the chalcedony/quartz group. It is a microcrystalline variety of quartz that contains up to 20% foreign material. These materials are what determine the color and appearance of the stone. Also because of the foreign materials, jasper is rarely uniform in color; it is usually multicolored, striped, and/or spotted.

Jaspers of all kinds have long been attributed magical powers in just about every culture known to man. Jasper was used in Ancient European times as a "rain bringer" and it is interesting to note that the word for jasper in some American Indian cultures also meant, "Rain Bringer".

Folklore, Legend, and Healing Properties:

Poppy Jasper acts somewhat like adrenaline, waking up and energizing areas of the body that appear to be sleeping. It is believed to encourage a deep connection with the life of the Earth. It inspires a positive, joyful attitude and gives the motivation and energy to take creative action.

Jasper was thought to drive away evil spirits and protect against snake and spider bites. Jasper derives its name from the ancient Persian word yashp, meaning “spotted stone”. In the past bloodstone was called heliotrope. In ancient Egypt red jasper was a symbol of Isis, the goddess of marriage and fertility. An amulet made of red jasper promised protection. In Victorian times, dreaming of jasper foretold of long life and love returned. As a gift for the Russian Empress Alexandra, Carl Fabergé made a charming red jasper dancing bear with diamond eyes. Jasper has also been used to adorn buildings, such as the Saint Wenceslas Chapel in Prague.

More To Read

Location data for Morgan Hill Poppy Jasper: https://www.mindat.org/loc-65214.html
Photos of Orbicular Jaspers: https://www.mindat.org/gm/27171
https://www.amazon.com/Jaspers-Agates-California-Coast-Ranges/dp/1792307349
https://en.wikipedia.org/wiki/Jasper, https://en.wikipedia.org/wiki/Orbicular_jasper

via Delvings, 9/20; from Rock Writings, 9/20

Where is Grandma's favorite place to sit?
Her rocking chair

from Rough ‘N Tumbled Times, 5/20

On Synthetics, Imitations, and Substitutes in the Gem World by Roger K. Pabian

On September 30 of this year [2002], I completed teaching Gemology at the University of Nebraska-Lincoln. I had taught that course 25 to 30 times. I had always saved the quartz and chalcedony gems until near the end of the class. I always thought of that as saving the best until last.

I had always pointed out that there was really no economic impetus to forge any chalcedony gem as they usually are common and relatively inexpensive compared to stones such as ruby or diamond.

On October 1, 2002, I entered a new world in my understanding of chalcedony gems. Not only had I seen a rather decent forgery of an agate nodule; I had determined the steps in making one.

The agate "nodule" was purported to have been purchased directly at an agate mine in China this past year. The stone was made up of a very thin slice of agate and a naturally rounded mass of what appears to be rhyolite. The slice of banded agate was backed with colored tissue paper and this was pasted to the mass of rhyolite. A "bezel" was built up around the agate slice such that it appeared that the stone was a nodule with a polished, flat face. The bezel appeared to have been built up of the same material as "punk" (those glowing sticks we used to light fireworks on the 4th of July). It appears that the slice of agate was polished after it had been attached to the massive rock. The chromium oxide that was used for a polishing compound artificially stained the rhyolite mass a shade of green that is almost identical to that of the mineral celadonite, the green "skin" of relatively fresh agate nodules. I also observed chromium oxide in the porous areas of the agate slice. All in all, the stone was very convincing and the forgery was quite well done.

The quality of the agate, however, was very poor. It lacked color and contrast, even with the tissue paper backing. It had no defining structure other than relatively wide-spaced, concentric bands. Most show dealers probably would not have stocked a stone of such mediocre quality and it likely would have ended up in one of the give-away boxes for kids at a show. It is difficult to imagine why one would go to the trouble to forge what would have been a two-dollar stone at best.

What is ominous, however, is that such techniques could be used to make forgeries of, for example, high quality and very highly priced agates from northern Mexico. Many of the very choice agates from Mexico command very high premiums. It would be conceivable to me that someone might be tempted to make such a forgery by getting 20 or so choice appearing agates from a single nodule.

The moral of the story is that one can't be too careful when spending a lot of money even for an agate. They can be forged; they have been forged.

For many years, gemologists had not discovered any blue garnets. However, about two years ago, blue garnets were discovered in Africa. One is always finding something new in the world of gems. These new findings are what keep them so interesting.

Synthetic stones are ones that have essentially the same physical and chemical properties as their natural counterparts. Corundum (ruby and sapphire), emeralds (beryl), alexandrite (chrysoberyl), spinel, opal, and coral have been manufactured in the laboratory and these stones can confound the unwary. The cold war era led to the synthesis of many kinds of gemstones that were needed for weapons grade laser guidance systems. With the collapse of the Soviet Union, many of these stones have found their way into the gem market and many are very attractive stones.

The nature of the growth lines in the crystals as well as the kinds of inclusions in the stones offer the gemologist the best chance to separate the synthetic from the natural stone. Many new synthetic stones appear annually and the best source of information about them and how to separate them can usually be found in Gems and Gemology, the publication of the Gemological Institute of America (GIA). Gems and Gemology is the only American publication in which I take much stock as it is supported by subscriptions only and carries no advertising.

Assembled stones include such things as garnetglass doublets, opal doublets and triplets, soudee stones and others. These stones can usually be detected by several simple tests that include magnification and immersion in a liquid such as water or olive oil. This category may also include larger stones that have been made up of several smaller stones that have been fused into one piece.

Imitation stones include such things as glass, plastic, or other resins and these have been made to resemble a more expensive natural or even synthetic stone. Foilbacks are made to imitate opal and these are quite easy to detect.

Reconstituted stones include such things as turquoise and lapis lazuli. Here the turquoise or lapis lazuli that is often found as small stains in large bodies of rock is pulverized along with the host rock and then separated from it. The remaining lapis or turquoise is impregnated with a resin to produce a solid material. Often the stones are laced with inclusions such as pyrite or dark iron oxides to make them appear more natural.

Another kind of imitation that has come about in the past 20 or so years are stones that have a very thin layer (several atoms thick) of some metal such as gold, titanium, molybdenum, and so forth, applied to them by their vaporization in an electric arc. Some of these stones are sold under trade names such as Aqua AuraTM and other fancy sounding names.

Substitute stones may include such stones as green tsavolite garnet being used for emerald or red spinel being used for ruby. The organic world features cultured pearls and synthetic coral. The former can only be identified with X-ray so the gritty feel across the teeth is of no avail.

There is nothing wrong with getting a synthetic, imitation, assembled, or reconstituted stone so long as the dealer sells the stone as such. Unfortunately, there are some who will not label their stones accordingly and knowing a few tips can help you from becoming victimized.

Remember, if it sounds too good to be true, it probably is.

via Pick & Shovel, 6/20; from Pick & Shovel, 10/02

Young Tumblers News

Producing Paints and Pretty Pigments by Kat Koch

Prehistoric Cave and Rock Paint

Prehistoric cave painters used the pigments available in their area. They were earth pigments, (minerals limonite and hematite, red ochre, yellow ochre and umber), charcoal from the fire (carbon black), burnt bones (bone black) and white from grounded calcite (lime white).

Cave and rock art paintings were primarily of engraved images on sandstone and basalt. They are found on cave walls, rock flat-faced surfaces, under overhangs, and ground figures on desert pavements.

Native American Body Decoration Paint

How was Native American Paint made? The Indians made paint from the natural resources that were available to them in order to make different colored dyes and pigments. Native American Paint, in it's simplest form, consists of a ground up pigment suspended in some sort of liquid, or binder such as urine, spit, cactus juice, plant/tree sap, egg yolks, animal fat or even blood. Native American Indians prepared the paint which was then dried and stored as a powder.

Red Paint was made using red clays (which contained oxides of iron), roots, berries, barks and beets.

White Paint was made using white kaolin clays, limestone, ground gypsum, eggshells or sea shells.

Black Paint was made using coal or charcoal, mixed with spit or animal fat or with wild grapes and the bark from various trees.

Yellow Paint was made using pigments obtained from flowers, berries, barks, plants, moss or yellow ochre. A yellow substance found in some internal organs of the buffalo was also used to produce yellow paint.

Blue Paint was made from oxides, blue azurite and lapis, sun flower seeds, duck manure, clays, berries and flowers.

Green Paint was made using flowers, berries, moss, algae or green malachite.

Color Meanings and Symbolism Chart

Color	Color Meanings & Symbolism of Face Paint	Color Meanings & Symbolism of War Paint
Black	Victory and Success	Power, Aggression & Strength
Red	Faith, Beauty and Happiness	Blood, Violence & Energy
White	Sharing, Purity and Light	Mourning
Yellow / Orange	Intellect and Determination	Willing to fight to the Death
Green	Nature, Harmony and Healing	Endurance
Blue	Wisdom and Intuition	Confidence
Purple	A sacred color and symbolized power, mystery and magic	

Continued on the next page

20th Century Makeup

20th century women often feel makeup gives them beauty and confidence.

Minerals such as iron oxides, talc, zinc oxide, mica and titanium dioxide (found in rutile and limenite) are micronized, or ground and milled to create makeup. Pearl powder, silk powder and carmine are animal derivatives are also used for the shimmer or sparkle in makeup.

Sunscreens use zinc oxide and titanium dioxide.

Titanium dioxide is used to brighten and intensify the color in makeup.

Kaolin(type of white clay), silica (a mineral found naturally in sandstone, clay, and granite) are both used in cosmetics for their ability to absorb oil and moisture. This is great for people with oily skin types.

Additional Interesting Notes

Toothpaste: I know it's not makeup but it can't overlooked it as everyone uses it. One of the ingredients in certain toothpaste is fluoride. Then there are mineral abrasive particles are made from crushed aluminum ores, limestone, white sands or white zeolites which are a class of minerals related to clays.

The National Mining Association estimates that every American uses an average of nearly 40,000 pounds of newly mined materials each year. This includes cars, appliances, construction, medicines, makeup, furniture, and a wide variety of other everyday and industrial items.

Bibliography: webexhibits.org, wonderopolis.org, Google Dictionary, encyclopedia.com, wikipedia.org, webmed.com, goodonyou.eco, science org.au, geologyforinvestors.com, straterra.co.nz.

Lake Superior Agates by Lucia Hetrick, Age 10

Agates are one of the most common gemstones found. They have been found in jewelry, decorations, tools, and even weapons for thousands of years. They are filled with beautiful colors and patterns. I think they are so interesting, so I decided to learn more about the Lake Superior agates in hopes of someday finding some myself.

First, I learned a few things about agates. Agates are “common rock formations, consisting of quartz as its primary components … with a wide variety of colors” (Wikipedia). Agates are commonly formed from volcanic activity and are found in metamorphic rock formations. Silica-rich gel fills in the lava, and over time, with pressure and different temperature changes, the agate is formed. Bands of color are formed by other chemicals, such as iron. Crystals growing inside help shape the bands and colors that we see. There are many different names of agate that describe the different patterns and colors that are found in the agate. “All agates are composed of silicone dioxide, one of the most abundant minerals on Earth” (Agates Treasure of Earth, 2016).

I chose to learn more about the Lake Superior agate. First, the name can be deceiving because these agates aren’t only found at the lake itself. These rocks were formed over 545 million years ago in the late Precambrian Era. When the glaciers moved, the agates were deposited in the streams and lakes of the area in Minnesota. The Lake Superior agate comes from a “Family or group of agates of multiple origin host rocks that range from 1,200 million years to 600 million years old. They may include some of the world’s oldest agates” (Agates Treasure of Earth, 2016). The two types found in Lake Superior are the thunder egg and the amygdaloidal agate. Something unique about the Lake Superior agate is that because the rocks are found far from the host rock and have been weathered by the glacier, they are often translucent. It also became the state gem of Minnesota in 1969.

The first thing that I noticed about it was its beautiful bands of color. “The Lake Superior agate differs from other agates found around the world in its rich red, orange, and yellow coloring. This color scheme is caused by the oxidation of iron. Iron leached from rocks provided the pigment that gives the gemstone its beautiful array of color. The concentration of iron and the amount of oxidation determine the color within or between an agate's bands” (https://www.dnr.state.mn.us/education/geology/digging/agate.html).

There are six different types of Lake Superior agates. The most common is the fortification agate. It’s called that because the bands of color look like fortress walls. The next most common is the parallel-banded agate. The bands are perfectly parallel around the stone. The most popular and sought after is called the eye agate. This agate has “eyes” all over it. “Waterwashed” agates are the next rare agate. It is believed they spent the most time in the water, traveling the farthest from the host rock, because they are naturally polished smooth. Lastly, the most rare of all agates is also the biggest, weighing 2 or more pounds with perfect shape and colors displayed. These are called “all-timers”.

These agates are also popular in costume jewelry and used to make marbles. Some lapidary projects that I would like to try include bracelets, polishing cabs, necklaces, making rings, tumbling, making marbles, and just finding them. I am excited to have learned more about these colorful agates so when I can make the trip I can collect many for my projects.

from Rockhound Rambling, 11-12/20

What will a 'rock genie' do when you her your wish?
She will granite.

from Rough ‘N Tumbled Times, 5/20

Rockhounding Code of Ethics

I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.

I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.

I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

I will use no firearms or blasting material in collecting areas.

I will cause no willful damage to property of any kind such as fences, signs, buildings, etc.

I will leave all gates as found.

I will build fires only in designated or safe places and will be certain they are completely extinguished before leaving the area.

I will discard no burning material - matches, cigarettes, etc.

I will fill all excavation holes which may be dangerous to livestock.

I will not contaminate wells, creeks, or other water supplies.

I will cause no willful damage to collecting material and will take home only what I can reasonably use.

I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.

I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.

I will cooperate with field-trip leaders and those in designated authority in all collecting areas.

I will report to my club or federation officers, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

I will appreciate and protect our heritage of natural resources.

I will observe the "Golden Rule", will use Good Outdoor Manners and will at all times conduct myself in a manner which will add to the stature and Public Image of Rockhounds everywhere.

from the AFMS website

Thunder Eggs

Thunder eggs are lithic structures, rocks not minerals. Like other structures, such as nodules and geodes, they are formed, and found, in igneous material, rhyolites, welded tuffs or perlitic rocks. These spherical masses range in size, inches to feet in diameter, but most are about the size of a baseball. They have a knobby rind of drab, siliceous rock, often with a characteristic ribbed pattern. The inside of the outer shell has a relatively thin transitional lining of iron or manganese compound and/or opal or chalcedony. The center cavity is filled with opal, chalcedony and/or agate, and it is this solid center that distinguishes the thunder egg from the geode. In 1892, gem authorities from Tiffany's gathered $20,000 worth of opal-filled eggs from a deposit in Oregon and the Thunder eggs have been the most popular 'rock' in Oregon. They were designated Oregon's official state rock by the Oregon Legislature in 1965, the choice being supported by a 2-to-l vote by members of the mineral and gem clubs of Oregon and by the patrons of the Oregon Museum of Science and Industry (OMSI). Rockhounds have been collecting the eggs from Crook, Jefferson, Malheur, Wasco, and Wheeler Counties.

Thunder eggs were similar to geodes at some point in their creation, once hollow and formed in a subterranean void, such as volcanic gas pocket. The processes of formation are still argued, some holding that the characteristic and unique internal pattern of typical eggs is due to expansion and rupture of rock by gases and others that it is due to desiccation (drying) of a colloid or gel. Whatever the process, once the egg is formed, further development is extremely variable in the amount of time needed to complete the egg, in the amount of infilling, and in the record of geologic events. Some eggs contain brecciated rock fragments, while others show faulting, offset, and healing. In some areas, it is common to find the characteristic chalcedony core weathered out of its shell. When sawed open and polished they may reveal the most exquisite and colorful designs ranging from five-pointed stars to miniature ocean scapes or gardens.

Some of the finest and most famous thunder eggs come from deposits in the Richardson's Rock Ranch in Oregon where the eggs dug out of a fragile perlite layer under a coal bearing strata. The eggs don't get much bigger than baseball size and many of the best ones are no more than the size of a walnut but their colors and the patterns can't be beat. The thunder egg agates of Succor Creek Oregon look like warty rocks or stony dirty snowballs when dug, but when cut and polished their distinctive agate is fabulous, clear and bluish gray with dark dendrites or white agate bands in a matrix flecked like granite and colored from purple to white.

Thunder eggs are sometimes found with fortification banding, horizontal layering, with any open area filled with clear chalcedony or inward pointing quartz crystals, with some layers composed of a fibrous cristobalite (lussatite) or a partial botryoidal filling of an opal form of low cristobalite, opal fluorescent because of a low content of uranium salts. One collecting site in Oregon has eggs filled with carnelian; another, the filling may contain cinnabar, causing colors pastel to intense red, or filled with pastel jaspers.

If you could cross an Oregon thunder egg with an agate from Northern Mexico, you would probably get something like the "Deming Agates" from the Baker Ranch in New Mexico. Formed hundreds of miles from the volcanic activity that created the numerous Eastern Oregon thunder egg deposits, their eggs were still created by the same geologic forces. However, the eggs are sought for the fine fortification agate in brilliant colors that rival the agates of Lagunas and Moctezumas, typically red with black, gray, blue and (rarely) yellow. They are rarely fractured and often have hollow centers with either a druzy, cinnamon center, or well formed clear quartz points, or with long crystal stalactites that span the hollow center of the stone, or one of these crystal formations yields a fine white feathery plume through the center of the stalactite.

via West Seattle Petroglyphs, 9/20; from Golden Spike News, 7/09