

The CMS Tumbler



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

Next Meeting:
March 13, 2025
7:00 p.m.

American Legion Hall
25406 97th Pl S
Kent, WA

The Program is
Roger Danneman
on club field trips

The Show & Tell
Theme is your favorite
rockhounding find

Connect with us!

Website: <https://www.cascademineralsociety.org>
Club Facebook: <https://www.facebook.com/CasMinSoc/>
Facebook Groups: <https://www.facebook.com/groups/1168207926650075>
Show Facebook: <https://www.facebook.com/cascadegemandmineralshow>
Instagram: <https://www.instagram.com/cascaderockclub/>
YouTube Channel (Please like and subscribe):
https://www.youtube.com/channel/UCaGIJxaWFAtV_JjgZRm9ESA



This month remember to wish a
Happy Birthday to

Christina Lopeman on March 5
Ariyana Bennett on March 7
Soraya Deeser on March 7
Aidan Cerenzie on March 10
Maloree Marter on March 11
Linda Nash on March 11
DaKota Watchie on March 12
Patrick Dunphy on March 14
Scott Medlin on March 17
Paul Ahnberg on March 22
Sadie Waller on March 25
Julie Galliani Manso on March 27
Gina Lisak on March 28
William Bridges on March 31



and also remember to wish a
Happy Anniversary to
Heather & Jeff Leiphan on March 21
John & Brenda Haworth on March 28 (61 years)
Morgan Dale & Nora Quinn on March 29

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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.

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greenrockdraggin@yahoo.com

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Instagram Gina Manso	425-281-3502	ginamanso51@gmail.com
All Other Social Media Kat Koch	425-765-5408	president@cascademineralogicalsociety.org

2025 CMS Dues are \$30 per year per family

Pay online, by mail, or at our meetings.

New mailing address: Cascade Mineralogical Society, c/o Ananda Cooley, 300 Lenora St. - PMB 6145, Seattle, WA 98121

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 Lands Access Association; and the Washington State Mineral Council.

Our Club is a Member of these Federations and Associations

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 association's purpose 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 local rock and gems shows and planned field trips. It's a great resource if you want to plan on an outing.

Also check out "Misc. News" for all the latest updates on collecting sites around Washington. <https://mineralcouncil.wordpress.com/news-updates/>

When the weather is good, they have regular monthly field trips. So take advantage of these great outdoor rockhounding adventures! The field trip details are under "Field Trips" on the left side of the site. Check out the link for additional information for the time and place to meet and the field trip leader.

You can find all this information and a whole lot more about what is happening in our state at <https://mineralcouncil.wordpress.com/>

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

Topaz

Before the 20th century, all brown, orange and yellow gems were called Topaz. Modern gemology was only recognized as a science in the 1930s. Now, we recognize topaz and yellow or brown quartz as separate gem species. Topaz and Citrine (Quartz) have different chemical, physical and optical properties. If you are having a yellow or orange stone appraised, make your your appraiser is well qualified and knows the difference!

Citrine varies from brown to orange to yellow like Topaz but Topaz is also found in other colors like blue and pink. Topaz can also be heat treated to attain deep blue, reddish-orange, pale green, pink, or purple.

On the Mohs Scale, Topaz is an 8 and Citrine (Quartz) is a 7. Even though Topaz is harder and more scratch resistant, it is also more brittle. Topaz is always pricier than Citrine, Imperial Topaz being the most valuable.

from Chips-n-Splinters, 10-11/23

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

NFMS Needs Your Canceled Postage Stamps

Every year the NFMS collects postage stamps from its member clubs. They have a stamp company that buys them, and in turn, these funds are donated to cancer research. Every year NFMS donates around \$5,000.

On letters that you receive, tear the corner with the stamp off. Try to leave about 1/4" of the envelope around the stamp. Be careful not to damage the stamp. Place the stamps in a plastic baggie and bring them to the meeting. Our member, Mike Blanton, collects the stamps and turns them over to the NFMS at the regional rock and gem show. You can give them to Mike as often as you want throughout the year.

Collecting the stamps is another way we rockhounds give back to our community.



Don't Forget To Show Your Membership Card At These Retailers

JERRYS ROCK AND GEM
 804 WEST VALLEY HWY. KENT, WA. 98032
jerrysrockandgem.com jerrysrockandgem@msn.com

Follow us on Facebook **253-852-0539**

Black Jack's Metal Detectors
 AND MINING EQUIPMENT!

Black Jack's Metal Detectors
 Mining Equipment, Low Pressure Dive, & Rock Shop!
www.BlackJacksMetalDetectors.com
 Your place for Metal Detecting & Mining Equipment

101 Park Ave N,
Renton, WA. 98057
Store # 425-430-0290
Direct # 253-961-3095



SoDo Rocks

Friday thru Sunday
10 am to 4 pm

2700 4th Ave S, Seattle, WA 98121

New for Members Only – New Texting Service

We are busy and often forget that CMS has an upcoming meeting or event. Therefore, we have a texting service to remind members of CMS meetings and events.

Everyone is automatically entered into this service. You can opt out anytime by responding with STOP.



Access CMS Club Instagram page



For quick access, you can scan the following codes.

Access our CMS YouTube channel




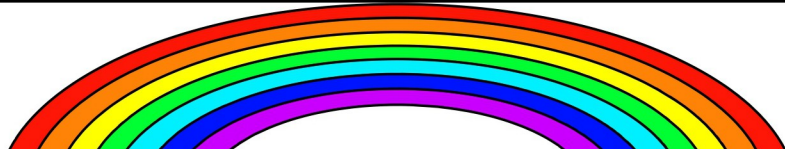
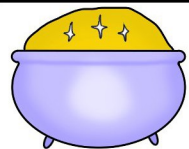
Access our CMSclub website for the latest on meetings and club events



Access CMS Facebook Groups



March

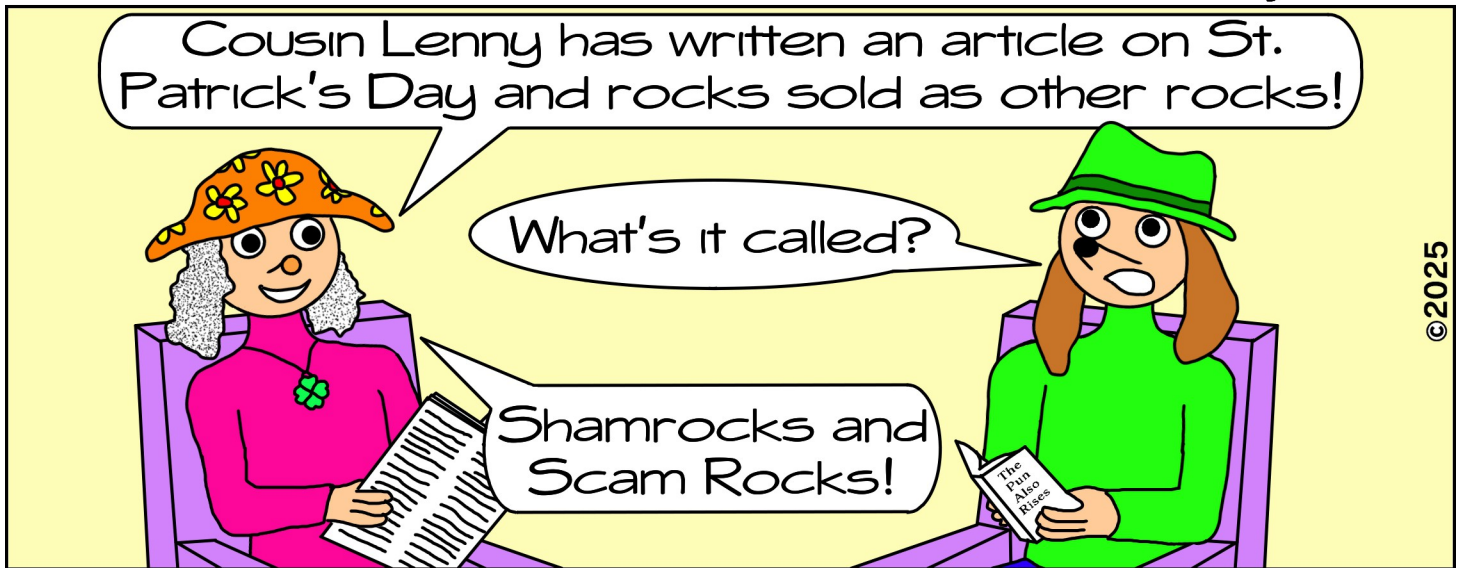
Sun	Mon	Tue	Wed	Thur	Fri	Sat
						1
2	3	4	5	6	7	8 <i>North Seattle Show</i> <i>Panarama Show</i>
9 <i>North Seattle Show</i> <i>Panarama Show</i>	10 Board Meeting 7:00 pm	11	12	13 General Meeting 7:00 pm	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29 <u>Club Trip</u>
30 <i>Mt. Baker Show</i>	31					<i>Mt. Baker Show</i>

CMS Show Committee Meeting:....Monday, March 10.....6:30 pm to 7:00 pm
 CMS Board Meeting:.....Monday, March 10.....7:00 pm to 8:00 pm
 CMS General Meeting:.....2nd Thursday, March 13.....7:00 pm to 9:00 pm

More Field Trip info can be found on Page 15
 More Show info can be found on Page 16

Mr. & Mrs. Rockhound

by KAM



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CMS Show & Board Meeting Minutes February 10, 2025

by Pete Williams, 2025 Secretary

Attendees: Kat Koch; Pete Williams; Rich Russell; Mike Blanton; Paul Arhnberg; Diane Horsfall; Noelle Barnes; Roger Danneman; Lee Oliver; Michelle Maidman

Show Committee 6:35

Some of the vendors are complaining about the booth fees being too high. Our fees are lower than other local shows so we will keep the fees as is. There are 5 more vendors who have signed up for our show so far this year compared to last year.

Board Meeting 6:53

So far this year we have 110 family memberships. Some of the funds in the club checking account will be moved to savings and CDs to earn higher interest. The March meeting program will be Roger's slide show on field trips. April program will be rock bingo. The May program will be on glaciers by Paul Arhnberg.

Our club has a booth at the Gem Faire on March 14-16. There will be a sign up sheet for volunteers at the next meeting and it will also be sent out online.

Meeting adjourned at 7:16

CMS General Meeting Minutes February 13, 2025

Minutes not received by press time.

From the Top of the Rock Pile by Kat Koch, President

The planning of our 2025 Gem Show is well underway. We have only 15 booths left to sell. I felt the selling of booth space was going slow, but I checked back to see the sales from last year and was surprised. At this time last year, we had sold only 15 spaces. So, the vendors are more than pleased with our move to Kent Commons and the date change.

Our club will have a booth at the Puyallup Gem Fair from March 14 to 16th. Noelle will be sending the signup sheet soon. So look for it in your email and sign up. Meeting people and talking about our club is a lot of fun. Have the spinning wheel there to pass out polished rocks. The smiles on the kid's faces are priceless. It is a delightful event to do. You also get free admission to the Gem Fair, so you can roam around before or after your time slot.

If you're a new member, we're thrilled to have you join our fantastic rock club! Your presence at our monthly meetings is highly valued, and we encourage you to take the opportunity to introduce yourself. I look forward to meeting you.

Since our membership continues to grow weekly, I hope more members will attend our monthly meetings. The larger our meeting attendance is each month, the easier it will be to book quality speakers.

For our March meeting, Roger, our Field Trip Guide, will give a visual presentation at various sites we visit during the year and samples of the material we find.

In April we have our "Rock Bingo." The students of the Kent School District are on spring break. So bring all the kids, adults and guests that you can roundup. For further details on this meeting see the meeting schedule elsewhere in this issue.

One last note. We are still striving to have a large indoor shop and meeting area. All gem show proceeds and donations are held in a savings account for this purpose. Please email Kat if you know of any space someone or a business is not using and might be open to letting us rent it for a nominal fee plus utilities.

When planning your estate, please consider donating to our club. We welcome gifts of any kind, including cash, stock, real estate, or other assets. These donations will also be placed in our savings account to acquire or operate an indoor shop.



Welcome
New Members

We Need Your Canceled Postage Stamps

Our club is going to continue to collect canceled postage stamps. Even though we are no longer members of the NFMS, we will continue to collect them and turn them over to the NFMS. They have a stamp company that buys them, and these funds are donated to cancer research. Every year NFMS donates around \$2,500.

On letters that you receive, tear the corner with the stamp off. Try to leave about 1/4" of the envelope around the stamp. Be careful not to damage the stamp.

Place the stamps in a plastic baggie and bring them to the meeting. Our member, Mike Blanton, collects the stamps and will turn them over to the NFMS. You can give them to Mike as often as you want throughout the year.



Collecting the stamps is another way we Rockhounds give back to our community.

March 13th – Roger Dannenman On Club Field Trips

This presentation was originally scheduled for January. The screen and projector were not brought to the meeting; Roger could not do his slide show presentation of rock collecting sites. So tonight is the night!

Show 'n Tell: Your favorite rockhounding find. It can be a find from a field trip, your yard, the beach, or a riverbed.



April 10th – Rock Bingo

Kent schools on spring break. So, it is time for our Rock Bingo night for all you members, junior members and their friends, your grandkids, and guests. Everyone is guaranteed to be a winner. Rock Bingo is free tonight—a maximum of 3 games per player.

Each player is to bring 3 wrapped presents. Rocks, minerals, fossils, cabochons, slabs, jewelry, or anything you think would be a lovely gift.



May 8th - Glaciers by Paul Ahnberg

Glaciers, which are slow-moving rivers of ice, have sculpted mountains and carved valleys throughout Earth's history. They continue to flow and shape landscapes in many places today. But glaciers affect much more than the landscape.

Show 'n Tell: A white, clear mineral or crystal.



June 12th – Carl Carlson and Food Drive.

Everything you ever wanted to know about Ellensburg Blues: Carl Carlson's family owns the property where his family discovered Ellensburg Blues.

This meeting is also our semi-annual food drive for the Kent Food Bank. Please remember to bring something. The Food Bank has told us they need feminine products and grape or strawberry jelly. People donate loads of peanut butter but never jelly. They also receive very few feminine product donations.

Show 'n Tell: Any blue rock, rock, or crystal.



Australian Rocks by Susan Gardner, Rocky Trails Editor

Peanut wood is a silicified (petrified) wood, generally of a black color with numerous borings, which were made by a marine wood-boring bivalve, or clam, called Teredo.

This petrified wood was named peanut wood by the first people who found it, because they obviously thought that the light colored areas resembled peanuts. These light colored areas are what used to be boreholes in the original wood. Before the wood was petrified, it was washed into the ocean as driftwood. It was then attacked by the Teredos (another name for these little clams is shipworm). They bore a small tunnel into the wood and eventually the entire piece can be riddled with boreholes.

When the wood became waterlogged, it then sank to the bottom of the ocean and settled into the mud. The boreholes then filled with the light colored radiolarian sediment. Some time later, petrification began.

The wood is of several varieties, the main ones being "Araucaria"... a conifer and podocarp. It is found along the edges of the Kennedy Ranges about 100 miles inland from the coastal town of Carnarvon, Western Australia. The geological formation that it occurs in is called "Windalia Radiolarite". The age is Cretaceous.... which makes it around 120 million years old.

via West Seattle Petroglyphs, 1/25; from Rocky Trails, 12/18

As a beginner in this hobby, I was surprised to learn that 'lapidary' referred not only to the art form or hobby or endeavor, but also to the practitioner. One who does lapidary is a lapidary - not a lapidariist, or lapidarie, or lapidaryer. Can you think of any other activities/professions, where the practitioner and the practice are exactly the same term? A jeweler deals in jewelry; a baseball player plays baseball; a teacher teaches; a gardener gardens. In each case the word forms for the practice and practitioner are different.

from The Gateer, 6/06

CMS 2025 Field Trips Schedule by Roger Danneman

Note: Details for each trip will be sent via e-mail to my distribution list 1 week prior to trip.

Roger Danneman – CMS Field Trips Guide (roger.danneman@gmail.com; 425-757-3506 texts ok)

March 29th Saturday Baker Lake / Swift Creek - Agate, Gneiss, Jasper

Difficulty Rating 3. Steep trail down to river. Need waders to collect in stream and to cross stream. Agates are found in gravel deposits where stream is flowing. 1/2 mile walk down to Baker Lake gravel beds where agates are found.

April 19th Saturday Saddle Mtn - Petrified Wood, Opal

Difficulty Rating 2. Road is rough and this is a dig, but dig site is next to parking. Petrified wood is agatized and/or opalized. We also usually go to the Beverly Diatomaceous Earth mine for Diatom Opal which is an easy pick.

May 3rd Saturday First Creek - Agate, Jasper, Crystal, Geodes.

Difficulty Rating 5. This is a 2-mile hike on good road bed. Wagons and carts work on this road. Collecting is up steep slopes to reach dig areas and rock slides.

May 17th Saturday Biggs/Rufus, Oregon - Agate, Jasper. Also Polka-Dot mine and Richardson's Rock Ranch ~1 hour south.

Difficulty Rating 1. Beer's mountain quarry and collecting area is next to parking. This is a pay site. \$5/pound for what you collect. More material from China Hollow and Wasco available at his rock shop. Material is a metamorphic mud stone with beautiful patterns and takes a great polish. Some with agate and/or druzey.

June 7th Saturday Little Naches - Thundereggs, Lily Pad Jasper, Leaf Fossils.

Difficulty Rating 3. First site to thundereggs is a 1/2 mile hike with some elevation gain. This is a dig site. Second site for Lily Pad jasper is next to the road. Third site is a mudstone formation next to the road where leaf fossils are found.

June 27, 28-29th Saturday-Sunday CMS Rock, Gem, and Jewelry Show (Kent Commons).

Volunteers needed. Volunteers get shop time.

July 12th Saturday Greenwater - Agate, Jasper

Difficulty Rating 2. This site is next to where we park, but is a dig. Black/tan agate, jasper, and opal is found here.

July 19th Sat Crystal Mountain north of Ellensburg - Agate, Jasper, Crystal, Geodes.

Difficulty Rating 3. Multiple areas here for collecting, but one primary dig site. Rough road.

August – nothing prescheduled. Usually too hot for me and/or traveling. Any field trips will be impromptu.

September 6th Saturday Frost Mountain - Agate, Jasper, Crystal, Geodes.

Difficulty Rating 3. This is a long & rough forest service road with a 2/3 mile hike and some elevation gain from parking area. Crystal Geode fragments can be found on the surface but the nicest material here is unusual formations of jasper/agate/crystal known as Tahoma Agate found in the hard rock outcrops.

September 26-28th Friday-Saturday-Sunday Teanaway River campout and Red Top sites - Agate, Jasper, Crystal, Geodes.

Difficulty Rating 4. Lower dig site is a short hike up a steep slope. Upper site is a 1/2 mile hike with some elevation gain. Camping is on Fri and Sat nights, but people are welcome to come up just for the day on Sat.

October 18th Saturday Crystal Mountain north of Ellensburg - agate, jasper, crystal, geodes.

Difficulty Rating 3. Multiple areas here for collecting, but one primary dig site. Rough road.

October 25th Saturday Baker Lake / Swift Creek - Agate, Gneiss, Jasper

Difficulty Rating 3. Steep trail down to river. Need waders to collect in stream and to cross stream. Agates are found in gravel deposits where stream is flowing. 1/2 mile walk down to Baker Lake gravel beds where agates are found.

November 8th Saturday First Creek - Agate, Jasper, Crystal, Geodes.

Difficulty Rating 5. This is a 2-mile hike on good road bed. Collecting on steep slopes to reach dig areas and rock slides.

Young Richard's Almanac by Dick Morgan

The price of gas may limit the area traversed, so it is time to have all maps corrected

I always liked double entendres as it was fun trying to fool the engineers.

Do You Know The Difference? by Kat Koch

Do you the difference between Petroglyphs, Pictographs, Hieroglyphics and Geoglyphs?

Petroglyphs: Petroglyphs are images carved into rock surfaces.

They are a form of rock art that can be created by pecking, scratching, or grinding.

Petroglyphs are made using handheld tools like rocks and hammerstones to create the petroglyphs. The artist often preferred rock surfaces with patina, a dark coating that occurs naturally. They would chip away the patina exposing the lighter rock underneath.

What do they mean? Petroglyphs are cultural symbols that reflect the beliefs and religions of the people who created them. They can represent tribal or clan markers, religious figures, or the routes of people who traveled to the area. The meaning of some petroglyphs is only known to the people who created them.

According to current research, the earliest known petroglyphs in North America are located in western Nevada, near the dried-up Winnemucca Lake, and are estimated to be between 10,500 and 14,800 years old, making them the oldest rock art ever dated in the continent. The carvings consist of deep grooves and dots forming complex patterns on large limestone boulders, with some abstract designs resembling chains and pits.

Pictographs: Pictographs are rock art created by applying pigments, typically made from natural materials like ochre, charcoal, blood, or clay, to stone surfaces. These painted images often depict animals, human figures, and symbolic motifs that were central to ancient cultures. Often, different colors of paint decay at different rates; it's common to find paintings where only the red ochre remains. The outside world is not kind to paintings. We tend to find pictographs preserved in caves, where they are sheltered, or in very arid environments, like deserts. So, the reason we find so many pictographs in desert landscapes is because that is where they are best preserved, not because that is the only place they were made.

Pictographs are done on light colored stone, using a variety of pigments made from soot, colorful minerals, or clays mixed with organic binders, such as saliva, grease, and beeswax. People applied these paints with fingers, brushes made from animal hair and yucca, and blowtubes.

What do they mean? Pictographs are a record of the beliefs, ideas, and cosmologies of the first Native Americans who created them. They depict animals, anthropomorphic figures, Abstract representations, concepts of fertility, hunting magic, and wild resources.

One of the oldest pictograph site is Seminole Canyon, Texas dating back to 9,000 years ago. In Utah's Thompson Canyon (formerly known as Sego Canyon) the pictographs date back around 8,000 years.

Hieroglyphics: The word hieroglyph is formed from two ancient Greek words: hieros (holy) + glyphe (carving) which described the ancient holy writing of the Egyptians in the form of pictorial characters.

Hieroglyphic writing is a term reserved for the picture writing found carved in temple walls or on public monuments in Egypt; it was distinguished from writings done in ink on papyrus or other smooth surfaces called demotic.

The first use of hieroglyphics may date from as long ago as the Early Bronze Age (around 3320 BCE). By the time of the ancient Greeks and Romans, the system included about 900 signs.

Geoglyphs: Geoglyphs are large designs or patterns on the ground, created when people cleared rocks and pebbles to form a negative image on the surface, or when they aligned rocks or boulders into patterns, mounds, and shapes. Most of the Southwest's geoglyphs are located in the deserts of southern Arizona and southern California. The most famous Southwest geoglyphs are in Blythe California. The most famous geoglyphs in the world are the Nazca lines of Peru.

Why the native ancient people created such complex features in deserts has fascinated people for centuries. Theories on the cultural meaning and function of geoglyphs range from the practical to the ritualistic. Some geoglyphs have astronomical and calendrical alignments, such as lines aligned along the directions of the and equinoxes, and these may have assisted in the timing to plant and harvest crops. Other geoglyphs were likely associated with the availability of water, a precious resource in the desert. Some lines follow the paths of groundwater flow and show the locations of wells. Religious practices had an important role,



and social cohesion may have been strengthened when people gathered to build the geoglyphs or perform rituals associated with them.

The Blythe Geoglyphs or Intaglios are a group of gigantic figures incised on the ground near Blythe, California, in the Colorado Desert. The ground drawings or geoglyphs were created by humans for an as-yet-unknown reason.

The geoglyphs are located east of the Big Maria Mountains, about 15 miles north of downtown Blythe, just west of U.S. Highway 95 near the Colorado River. The Blythe Intaglios are the most well-known of the over 200 intaglios in the Colorado Desert. The Colorado Desert contains the only known desert intaglios in North America. These geoglyphs are mostly located along the Colorado River.

The Blythe geoglyphs contain three human figures, two four-legged animals, and a spiral; although although when first discovered from the air in 1953 it was reported to contain two spirals. The largest human figure in the Blythe Intaglio group is 171 feet long. The Blythe geoglyphs have been fenced off to protect them, so they best viewed from the air.

Ohio Serpent Mound geoglyph is an internationally known National Historic Landmark built by the ancient American Indian cultures of Ohio. It is an effigy mound (a mound in the shape of an animal) representing a snake with a curled tail. Nearby are three burial mounds—two created by the Adena culture (800 B.C.–A.D. 100), and one by the Fort Ancient culture (A.D. 1000–1650).

The Serpent is 1,348 ft long, varies from 9" to 3 ft in height, and the width from 20 to 25 ft. The tail points to the winter solstice sunrise. The Serpent Mound is an earthen serpent that some believe was used to mark the seasons and time of year for planting and harvesting. The mound's shape and alignment with astronomical events have led to many interpretations and theories. The curves of the snake's body may represent lunar phases. The coils of the serpent may align with the two solstices and two equinoxes. The serpent's head may be aligned with the summer solstice sunset. The serpent's mouth may appear to swallow the sun as it sets over Solstice Ridge on June 20th or 21st.

Bibliography: Ancient Art Archive, Baja Bound, University of Boulder Colorado, Great American Hikes, Britannica, Google Arts & Culture, Grunge, Wikipedia, ResearchGate.



Diamond Inclusions

What are Diamond Inclusions?

A flawless diamond is pure carbon arranged in a crystal lattice that is essentially free of any other minerals. Inclusions are the materials that get encapsulated inside the diamond during its formation process in the mantle. The range of impurities possible is quite large: small diamonds and other gem crystals such as sapphire and garnet, as well as other minerals and fluids like water. Disruptions or breaks within the carbon lattice such as feathers, twinning wisps and graining are also considered inclusions.

Since diamonds have high strength and low reactivity with either the inclusion or the volcanic host rocks which carry the diamond to the Earth's surface, the diamond serves as a container that preserves the included material intact.

Inclusion Types

The most common inclusions in a diamond are crystals, clouds, feathers, twinning wisps, pinpoints and graining.

Types of inclusions include silicates (e.g. garnet, silicate perovskites), oxides, sulfides; fluids (containing carbonates, silicates, etc.), water, brines; Multiphase, which are fluid inclusions coexisting with mineral inclusions in the same diamond.

Inclusions can help distinguish lab-grown diamonds from natural diamonds. For instance, inclusions such as knot, twinning wisps, diamond crystals, or other minerals are evidence of the stone being a natural diamond.

Most included crystals are a smaller diamond crystal, which appear white or transparent, but they might also be crystal of other minerals – such as garnet or peridot which appear colored.

A knot is an included diamond crystal that extends to the surface. A cloud is a collection of pinpoints, needles and crystals. A twinning wisp is a series of pinpoints, clouds or crystals that appear flat and ribbon-like and forms in a diamond's twinned growth plane.

Mineral Inclusions

Mineral inclusions, especially the silicate inclusions in lithospheric diamonds, can be classified into two dominant types depending on the rocks of the host diamond: eclogite (E-type) and peridotite (P-type). These are the two main parental rocks for the diamond formation which mostly lead to silicate inclusions. Each type of inclusion can be distinguished based on the content of specific materials in the trapped mineral. For instance, in garnet inclusions, the content ratio of chromium oxide and calcium oxide can be the basis for the classification. E-type garnet inclusions contain less chromium oxide while P-type contains less calcium oxide. Trace elements such as rare earth elements can also characterize P-type and E-type garnet inclusions. Similarly, nitrogen inclusions can be classified into P-type and E-type inclusions by analyzing their stable isotopes. For sulfide inclusions, osmium contents from rhenium-osmium dating can differentiate P-type and E-type inclusions.

The timing of mineral crystallization can be used to categorize diamond inclusions into three types: protogenetic, syngenetic, and epigenetic inclusions. Minerals in the protogenetic inclusions were crystallized earlier than the diamond

formation. The host diamond encapsulated preexisting minerals during its crystallization. For syngenetic mineral inclusions, the crystallization of the trapped mineral and the diamond occur at the same time. Syngenetic inclusions impose the host diamond morphology on the trapped mineral. Epigenetic inclusions are formed from minerals that crystallized after the diamond formation. These minerals can crystallize along diamond fractures or the pre-existing protogenetic/syngenetic inclusions may have been altered into new material.

Mineral inclusions can preserve materials formed under the extreme environments in Earth's mantle back to surface conditions. This enables the discovery of the natural form of minerals which have previously been only synthesized in the laboratory. For example, the natural calcium silicate perovskite was recently given the mineral name davemaoite, when it was discovered as a mineral inclusion in a diamond. The discovery was surprising due to the extreme conditions necessary to synthesize davemaoite making it seem unlikely that it could be preserved at the Earth's surface.

Fluid Inclusions

Fluid inclusions trap fluids containing materials like silicates, carbonates and hydroxyl groups, water and brine. Such fluid inclusions can be found in coated diamonds (monocrystalline diamonds coated by polycrystalline diamonds with fluid inclusions) and fibrous diamonds (diamonds coated by rods or blades of diamonds with fibrous structures). Fluid microinclusions mostly contain silicate-carbonate or halide-carbonate assemblages. Subduction-derived saline fluids with a high concentration of K and Cl can be found from microinclusions in the cloudy diamonds. Saline and silicic fluid inclusions do not co-exist.

In 2018, the high-pressure form of water known as ice-VII was found in a diamond inclusion. This discovery suggests the presence of water-rich fluids in the transition zone.

Multiphase Inclusions

In the diamond-forming conditions of high pressures and temperatures, hydrous silicate melt and the aqueous fluid make a single-phase supercritical mixture. This mixture forms fibrous, cloudy, or polycrystalline diamonds with multiphase inclusions. Multiphase inclusions host fluids (mainly containing carbonates and silicates, high density aqueous fluids, and brines) and the mineral inclusions in the same diamond.

Concrete vs Transparent Inclusions

Some diamond inclusions, such as crystals, can be very concrete in nature. They have a well-defined shape and are commonly opaque. Other inclusions such as clouds, twinning wisps and graining are amorphous in nature and are often very transparent. As such, most people prefer these type of inclusions to more concrete and easier to see types.

Less Common Diamond Inclusions

There are a number of inclusions that are less frequently seen in high quality diamonds such as cavities, knots, and etched channels.

Cavities are just what the name implies: a hole or divot at the surface of a diamond that appears to have been "scooped out". Cavities are often associated with knots, which are crystals that come to the surface. In some cases they can be dislodged, leaving a cavity. With diamonds it is not so easy to dislodge a knot, especially if it is well imbedded in the diamond. It is unlikely that a knot will come out leaving a cavity during wear. This usually happens during the cutting process.

An etched channel is a linear cavity caused by chemical processes during formation. Like cavities, if they are small enough they are not a significant issue. However, they can sometimes increase durability risk depending on their size and location. They can also trap dirt, possibly making them more visible over time. A professional cleaning will remove the buildup, but cavities and etched channels can be difficult to clean at home.

Interesting Crystal Inclusions

There are any number of other minerals and crystals that can be trapped inside a diamond during formation. Sapphires, rubies and garnets are not uncommon to see. Sometimes they are quite beautiful under magnification. And a really good specimen adds collector value to folks who love such rarities.

from Grindings, 1/25

The Minerals That Attack Your Concrete Driveway by Dr. Bill Cordua, MWF Geology Chair Seventh Place, 2024 AFMS Bulletin Editors Contest, Advanced Adult Articles

Those hard concrete driveways! How nice they are when first laid. Then they crack, crumble, spall, and need replacing. This is not only true of your driveway but of our whole concrete infrastructure, ranging from stadiums to dams to interstates, which costs the U.S. an estimated \$150 billion a year. What eats the concrete?

It turns out that many of concrete's foes are minerals.

Concrete consists of cement paste (a complex mixture made mostly of calcium hydroxides and calcium aluminum silicates) and aggregate (sand and gravel). The process of making the cement begins with limestone and clay. These are mixed, heated, ground and treated with gypsum. Adding water to this starts a number of chemical reactions, forming calcium hydroxides (one of which is called portlandite), calcium aluminum silicates, and calcium sulfates (such as ettringite). These reactions continue for days until the cement is finally set and hard. What minerals attack this formidable material?

Ice is an obvious villain. Ice is a perfectly good mineral – inorganic, naturally occurring, and possessing a crystalline structure. When water freezes to ice, it expands by about 9%, exerting tremendous force on the sides of any cracks or pores into which it has seeped. As the cracks and pores enlarge, it is easier for more water to enter.

Salt is another enemy. As you spread salt on your driveway, or as salty residue drips off your car, the salt water soaks into the concrete. As the water evaporates, salt crystals grow, forcing apart cracks.

Salt can have a more insidious effect, depending on what aggregate is in the concrete. If the aggregate contains poorly crystalline silica, in the form of opal or even chert, it reacts with sodium, converting the hard silica to a hydrated alkali gel. This decreases the strength of the concrete. Since the gel occupies more volume than the original chert or opal, it further cracks the concrete and helps more water to enter.

By the way, Scott Wolter, in his book "The Lake Superior Agate," describes some deposits of the solidified gel material in voids in concrete that show agate-like banding. This may help us to better understand the formation of agates.

Sulfur, which occurs in soils, seawater, and acidic rain, is another enemy. Portlandite, formed during the hardening of the cement, reacts with the sulfur-bearing water to make gypsum and more ettringite.

Gypsum is soft and water soluble, degrading the concrete. Both gypsum and ettringite cause an increase in volume, cracking the concrete. The more cracks, the more water and sulfate and salt can enter. This cycle limits concrete's lifetime.

Millions of research dollars are going into making concrete more resistant to these attacks. The only way to avoid this completely is to build where water, salt, and ice don't occur. The nearest surface like that is on the moon.

References: Wenk, Hans-Rudolf and Andrei Bulakh (2004). Minerals: Their Constitution and Origin. Cambridge University Press. Wolter, Scott (1999). The Lake Superior Agate.

via The Quarry, 1/25

What's in a Date? by Ellery Borow, AFMS Safety Chair

Have you checked your safety supplies?

I have to make a confession. Digging to the depths of the garage last month I came upon a Safety Supplies Kit in a pile of stuff. I do not recall ever purchasing the kit, so it had been there a long time. I brought it into the house, opened it, and then there was rummaging around in it. Oh, my goodness -- what I found!

The kit had been an official store bought one, not one assembled of parts and pieces purchased individually and put into a box. It had been advertised as being for an auto. The contents included:

- Individual packets of antibiotic
- Packages of antiseptic wipes
- A tube of burn cream ointment
- Adhesive bandages in several common sizes
- Wound dressings of sterile gauze pads, non-stick pads, rolled gauze, tape
- Individual packages of Acetaminophen (extra strength)
- Individual packages of Anti-Diarrheal
- A cold pack
- Gloves
- Scissors
- Tweezers
- Thermometer
- A survival reflective plastic film wrap
- And an instruction manual

Here is my report on the condition of the contents:

- The burn cream had a manufacturer's code. Maybe it included a coded expiration date, but I was not sure.
- The adhesive bandages and gauze had neither code nor expiration date. As the kit had been in the garage many years, I could not be sure if the adhesive was still effective.
- The antibiotic had expired in December 1997.
- The acetaminophen expired in October 1999.
- The anti-diarrheal expired in August 1998.
- The foil packs of antiseptic wipes expired in December of 1997.

In many winters worth of ice cold environment and the sometimes dampness of the building in summer, as well as its heat, I could not be sure of the sterility of the gauze pads. As the contents were subject to freezing, did that have detrimental effects on any of the kits' supplies such as the creams and other medications? There was no indication of needing to keep the contents from freezing or high temperatures. The kit needed a date-over and updating, which had not been accomplished in quite some time. Even though the kits' contents were in a plastic box, it had no gasket to keep it moisture and airtight.

As a consideration, please don't let this happen to you. Check the dates and viability of your safety supplies.

As a safety recommendation, I suggest a yearly check of the contents of any safety kit. I also recommend the keeping of a log noting the dates the kit is checked and a list of the items contained within.

The kit found in the garage will now be stored in the house and kept at room temperature.

from AFMS Newsletter, 2/25

Swarf... And How To Tame It

Swarf is that milky liquid you get when you cut cabochons or facet stones. Although it appears to be harmless, swarf can be deadly to your plumbing system and lapidary equipment if not handled properly. When you grind rocks to make cabochons or faceted stones, you're removing tiny bits of the rock and carrying them away from your work with

water. When the water evaporates, the tiny rock bits are left behind as a sort of concrete gunk. Over time, this gunk will harden like concrete. So how do you tame the swarf? Never, never, ever, dispose of your swarf in your plumbing system. Don't pour it down a sink or toilet because eventually that gunk will harden and eventually narrow your pipes. Because it's concrete-like when hardened, it will be almost impossible to remove! Instead, take your swarf outside to a non-important part of your garden and dump it there - or if there is no garden handy, allow the swarf to settle in the bottom of a bucket for a day or two, then carefully pour off the now clear water, and scoop out the swarf, put it in a plastic bag and toss it in the trash.

via The Agateer, 4/08; from Gem Cutters News, 11/84

Tourmaline Rubellite by Paul Martin Shurte, Florida Panhandle G&M Society, The Agatizer 11/2024

The color of rubellite is strikingly intense – so intense it could pierce your heart. It certainly remains imprinted on your eyes long after you have looked away – like the afterimage of the sun. In the family of tourmalines, where every color is possible, the rubellite reigns as queen. No other gem offers the collector such a complex, vibrant, hot shade of red in such large sizes.

Rubellite is most notably found in Mozambique, Madagascar, Nigeria, Brazil, Russia, Afghanistan, Burma and the United States. It grows in pegmatite veins – those rare and elusive pockets of gems that may also contain quartzes and beryl. A perfectly clear gem is a rarity, but as the story of the rubellite's growth and origin is often told in its inclusions this merely adds another dimension to its charm.

Like all tourmalines, a rubellite is a scientific phenomenon in that it will hold an electric charge when heated. If ever a gem could hold a conversation with a human heart, it would be this one. Pink Tourmaline is the name used for pink to reddish crystals and gemstones belonging to the cyclosilicate tourmaline family. Tourmaline is a group of closely related minerals rather than a single species. Pink tourmaline colors have a wide range, from light to darker pink, purplish pink to peachy-pink color tones. Rubellite is a special variety of pink tourmaline that has a deep saturated pinkish red to violet-red color.

Rubellite almost always has inclusions, and it is much easier to find a flawless light-colored pink tourmaline than a rubellite. Besides ruby and red spinel, rubellite is the only other saturated pink colored gemstone.

Nearly all pink tourmaline's belong to the elbaite species, the most varied in color and variety of all gem quality minerals. The red and pink tones are caused by trace amounts of manganese in their atomic structure. Elbaite often forms in bi or tricolored crystals. Pink with green and pink with blue combinations are not uncommon. Pink tourmalines, especially rubellite, are often strongly pleochroic. This means there is a play of color that shifts depending on what angle you view the stone. Pink tourmaline belongs to the trigonal crystal system and usually forms in prismatic crystals with a trigonal cross section. Tourmaline is one of few gem quality minerals that form in the trigonal crystal system.

Like other varieties, pink tourmaline has pyroelectric and piezoelectric properties. Simply by heating or rubbing the stone, it produces an electric polarization within the crystal. Pink tourmalines have a hardness ranging from 7 to 7.5 Mohs, a vitreous luster and range from perfectly transparent to opaque.

Rubellite and Pink Tourmaline saw a huge surge in popularity when important new deposits were discovered in Minas Gerais, Brazil in the later 80s and early 90s. The most famous localities for rubellite. In the late 90s incredible new rough also started emerging from Nigeria. Other important localities for pink tourmaline include Madagascar, and Shimogyo, Mozambique. The huge popularity of pink tourmaline does not look like it will subside and the value of quality rubellite gemstones is likely to rise.

Chemical Composition: $(\text{Na}, \text{Ca})(\text{Mg}, \text{Li}, \text{Al}, \text{Fe}^{2+})_3\text{Al}_6(\text{BO}_3)_3\text{Si}_6\text{O}_{18}(\text{OH})_4$

Mohs Hardness: 7–7.5

Luster: Vitreous

Specific Gravity: 3.06 (+.20 -.06)

Refractive Index: 1.62 - 1.64 Fluorescence Inert

Crystal System: Trigonal

Translucent: Diaphaneity to opaque

Color: Pink, Red

Origin Pakistan, Australia, Brazil, Sri Lanka, Africa, USA

Sources: *Online and materials around desk*

from AFMS Newsletter, 2/25

Words 101: Chalcedony

Because man's interest in rocks and minerals stretches so far back in time, we don't always know the origins of geological words commonly used today. 'Chalcedony' is one such word. (The 'chal' in this word is pronounced like 'Cal'ifornia, not like 'chal'ice.) There seems to be no other word in English that has this same root or etymology. It is very much like the word 'quartz' in this sense. There was at one time a town on the Bosphorus called 'Chalcedon'. Today it is part of Istanbul. But, according to the Oxford English Dictionary, despite their similar appearances, chalcedony and chalcedon have nothing to do with one another. The earliest written use of the word appears to be in Revelations xxi.19; but, almost certainly, the word must pre-date this. So how does this word arise? An excellent question, but one without an answer.

via The Agateer, 5/08

Young Tumblers News

Rock Bucks

Just a reminder that all Young Tumblers under 15 can easily earn "Rock Bucks."

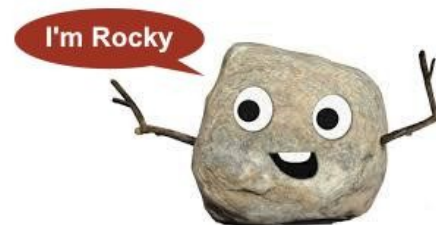
Earn \$3 "Rock Bucks" to attend a meeting.

You can earn an additional \$5 in "Rock Bucks" if you bring something for Show 'n Tell and tell us about your item.

The "Rock Bucks" can be spent like real money at our meetings or club auctions.

You can save your "Rock Bucks" during the year and spend them just like cash on auction items you would like, or you can buy raffle tickets at our monthly meeting.

Join us at our meetings and build your rock-buying piggy bank!



Which dinosaur can jump higher than a house?

Any dinosaur! A house can't jump!

What is a rock's favorite cereal?

Cocoa Pebbles

from Crack the News, 12/24

What geological time period was named for a mountain range that separates France from Switzerland?

The Jurassic Period. The Jura Mountains are a small mountain range located north of the Alps, separating the Rhine and Rhone rivers and forming part of the watershed of each. The mountain range is located in France, Switzerland, and Germany.

via The Agateer, 7/08

Butter and Fossils... There Actually Is a Connection!

For many years, a fossil was used as a unit of measure for butter in rural England. Due to its very regular size and mass, Oxfordshire milk-maids used a common fossil sea urchin as a weight for the butter scales. This use continued at least into the 18th century.

This fossil urchin, *Clypeus plotti*, is still readily available in the Cotswold Hills of Great Britain. Known colloquially as "Chedworth Buns," "Checkbury Buns," or "Poundstones," it is 150 million years old, and is the largest of the Jurassic sea urchins in Europe.

via The Agateer, 9/08; from MWF News, 9/08

The volcano in northern Tanzania known as Ol Doinyo Lengai, is probably the weirdest volcano on earth. It truly is one-of-a-kind. What makes it so unique?

Answer: It produces carbonate lava rather than silicate lava. The weaker bonding of the ions in the sodium and potassium carbonates permits the lava to be liquid at a temperature of about 950 degrees F – several hundred degrees cooler than typical silicate lava. This weak bonding also produces a lava that is very fluid, having a viscosity comparable to water. Furthermore, most silicate minerals are highly resistant to chemical weathering, but the sodium and potassium carbonate minerals from this volcano succumb to weathering very rapidly.

from The Agateer, 9/15

Ecology Corner by Ron Graichen

Did you ever eat a mineral? Most of us do every day! Table salt is the mineral halite. Perhaps you've had digestive problems--then maybe you've taken kapectate, which contains kaolin, a clay mineral. Baked a cake lately? The baking powder is bicarbonate of soda a product of salt mining. How about taking an aspirin tablet; one ingredient in the table is titanium dioxide from the mineral rutile.

via CMS Tumbler, 10/15; via Washington Agate & Mineral Society Newsletter, 10/15; from Carny Hound Newsletter

Pietra dura (Italian for "hard stone") is marble inlaid with designs in precious or semi-precious stonework.

from The Agateer, 6/06

Mother's Rings are rings that featured their children's birthstones.

from Chips-n-Splinters, 8/22

Field Trips

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

Some information from the Washington State Mineral Council webpage (<https://mineralcouncil.wordpress.com>).

March 8 *Marysville Rock Club - Cherry Creek* - Meet before 9 am at Park & North end of Duvall - Jasper – Wading in creek, bushy - Bring rock hammer & light hard rock tools
Nique Wicks nwhoppyfrog41@gmail.com Or (509) 670-0630

March 29 *Cascade Mineralogical Society - Baker Lake / Swift Creek* - Agate, Gneiss, Jasper
Difficulty Rating 3. Steep trail down to river. Need waders to collect in stream and to cross stream. Agates are found in gravel deposits where stream is flowing. 1/2 mile walk down to Baker Lake gravel beds where agates are found.
Roger Danneman roger.danneman@gmail.com; 425-757-3506 (texts ok)

Psalm Of The Rockhound

Considereth ye for a moment the ROCKHOUND. Yes, he goeth forth and seeketh rocks and shineth them exceedingly. In the austere sciences of Mineralogy Geology, he is a vagabond, but he findeth in the desert treasures beyond price. He diggeth in devious places in search of great treasure. The Agates of Arid Areas, the Moss of the Montana's Mountains, the Petrifications of Prehistoric Ponds, the Chlorastrolites of Canada, the Orbiculars of the Olympic shores, the Fossils of Forsaken Fauna, the Azurites of Arizona, the Corals of the Caribbean, the wave-washed ocean pebbles--all are among his treasures. He seeketh afar, hither and yon, all the earth being his happy hunting ground. Queer hunks intrigueth him greatly--he searcheth in caves never before explored. Crystals, fortifications, plumes, nodules, agates, minerals and petrifications which he saweth, sandeth, polisheth, and buffeth. Yea, he sandeth away even the last imperfection and thereby he developeth patience beyond that of Job or any of his descendants. And it come to that he draggeth home great quantities of material, most of which he storeth in the basement until they runneth over into the backyard. His enthusiasm becometh so great that his wife selleth the piano and thereby provideth space for his treasures. He goeth on bread and water to provide gasoline for the Jeep. His pet pieces he placeth in his pocket and sallyeth forth and showeth them to other strange acting persons, who perhaps _ beateth him to the draw_. The other's junk getteth a passing glance, but he gloryeth in his own. He slicketh them with saliva, and delicately exposeth them to the brightest light. He looketh through a glass at his treasures into another wonderful world. Yea, his cup runneth over.

From his friends he buyeth, beggeth, bartereth and high gradeth their treasures. On his brilliant baubles which he collecteth he feedeth his soul. He infecteth those who hearkeneth to him with a new virus which none of the wise men ever isolated, but which adds years to his life. He gloryeth in the riches of his treasures to be passed on to his children. His habitation he cluttereth with saws, wheels, sanders, buffers, polishers, dopes, dops, and home-made gadgets of weird and wonderful combinations. He smeareth his countenance with oil--his grits hath runneth over. His neighbors sleepeth restlessly while he toileth patiently far into the night; but then he relaxeth and sleepeth the few remaining hours and entereth into peace with the world in the knowledge of work well done. He findeth sermons in stone, gems in running brooks, and good in everything. He gloryeath in the knowledge that the Lord in His wisdom hath made them all. Surely many happy hunting grounds will be available to him through the years of our Lord, 1964, and thereafter to his end here and in the beyond. SO MOTE IT BE

via The Agateer, 8/08; original source unknown

You Know You Are a Rock Hound When:

10. Your psychiatrist nods off when you talk about the great site you found for collecting fluorite crystals.
9. You have replaced the rear springs in your car with those from a Mack truck.
8. You park your car on the driveway because the garage is full of rocks.
7. You spend more time in the State Capital looking at the rocks than talking to your representatives.
6. You can spell rhodochrosite without looking it up.
5. The telephone number for Burnie's Rock Shop is number one on your speed dial.
4. You have visited every rock shop from Bangor to San Diego – multiple times.
3. Your children refuse to go on vacation with you knowing that they will be looking at rocks from sunrise to sunset.
2. You own more than one loupe.

And the number one reason:

You have never seen a road cut that wasn't a thing of beauty.

from The Agateer, 3/07

You might be a rockhound if... you can't pass a business establishment that has rocks in their landscaping without checking them out.

from The Geode, 1/25

Shows

March 7 - 9: Friday - Sunday 10 am - 5 pm
Tualatin Valley Gem Club, 66th Annual Rock and Mineral Show
Forest Grove National Guard Amory
2950 Taylor Way
Forest Grove Oregon

March 7 - 9: Friday - Sunday 10 am—4 pm
Oregon Agate & Mineral Society, 74th Annual Show
Oregon Museum of Science and Industry (OMSI)
1945 SE Water Ave.
Portland, Oregon

March 8 & 9: Saturday & Sunday 10 am - 5 pm
North Seattle Lapidary & Mineral Club, 69th Annual Rock and Gem Show
Crown Hill Center
9250 14th Ave NW
Seattle, Washington

March 8 & 9: Saturday & Sunday 9 am – 5 pm
Panorama Gem and Mineral Club, Annual Show
Stevens County Fairground
Ag and Trade Center
317 West Astor
Colville, Washington

March 8 & 9: Saturday 10 am – 5 pm; Sunday 10 am – 4 pm
Alberni Valley, BC Rock & Gem Club, Annual Show
Alberni Athletic Hall
3727 Roger Street
Port Alberni, British Columbia, Canada

March 14-16: Friday 12 pm – 6 pm; Saturday 10 am – 6 pm; Sunday 10 am - 4 pm
Victoria, BC Lapidary & Mineral Society, Annual Show
Leonardo de Vinci Centre
195 Bay Street
Victoria, British Columbia, Canada

March 22 & 23: Saturday & Sunday 10 am – 5 pm
SE Idaho Gems & Mineral Society (SEIGMS), Annual Rock and Gem Show
Bannock County Fairgrounds
10588 Fairground Dr.
Pocatello Idaho

March 29 & 30: Saturday 10 am – 6 pm; Sunday 10 am – 5 pm
Mt. Baker Rock & Gem Club, 63rd Annual Rock and Gem Show
Ferndale Pavilion
2007 Cherry Street
Ferndale, Washington

A rockhound's favorite fruit is the pome-granite.

from Breccia, 5/24

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