



# *the CMS Tumbler*

July  
2018

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

Next Meeting:  
July 12, 2018  
7:00 p.m.

**American Legion Hall  
25406 97th Pl S  
Kent, WA**

The Program is  
Gemstones of Washington.  
Bob Pattie gave a talk on the  
Gemstones of Washington at the  
NFMS Rock & Gem Show in  
Yakima earlier this year. He is  
going to repeat his presentation  
for us.

The Show & Tell Theme is  
Gemstones from the Northwest.

Have a safe and happy  
Fourth of July!



*This month remember  
to wish a  
Happy Birthday to*

*Penny Hohn on July 12,  
Virginia Bird on July 18,  
Roger Pullen on July 30,*

*and also remember*

*to wish a*

*Happy Anniversary to*  
*Lloyd "JR" & Vicki Ruegg on July 1,*  
*Dick & Patricia Morgan on July 14 (56 years)*



## **Connect with us!**

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

Club Facebook: [www.facebook.com/CasMinSoc/](http://www.facebook.com/CasMinSoc/)

Show Facebook: [www.facebook.com/cascadegemandmineralshow](http://www.facebook.com/cascadegemandmineralshow)

Instagram: [www.instagram.com/cascadegemandmineralshow/](http://www.instagram.com/cascadegemandmineralshow/)

This publication is an official bulletin of the Cascade Mineralogical Society Inc. (CMS).

Except where otherwise noted, material from The Tumbler may be reprinted for non-commercial purposes, provided that the author(s) and source are acknowledged.

For commercial use, the author(s) must be contacted for permission; if no contact information is given, contact them via the editor.

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.

CMS Club Address  
*Rich Russell*  
14431 SE 254th St.  
Kent, WA 98042

Editor's Mailing Address:  
*Keith Alan Morgan, Editor*  
3802 W. Tapps Dr. E.  
Bonney Lake, WA 98391  
Telephone (253) 862-8201

Postal, or Email, Exchange  
Bulletins are welcome.  
Email preferred.  
[greenrockdraggin@yahoo.com](mailto:greenrockdraggin@yahoo.com)

**2018 Elected Officers**

<u>Title &amp; Name</u>	<u>Home Phone</u>	<u>Email Address</u>
<b>President Kat Koch</b>	425-765-5408	president@cascademineralogicalsociety.org
<b>Vice President Diana Horsfall</b>	206-818-9507	dianahorsfall@comcast.net
<b>Treasurer Richard Russell</b>	253-736-3693	richru1@yahoo.com
<b>Secretary Pete Williams</b>	425-228-5063	petewill02@gmail.com
<b>Director Roger Pullen</b>	206-387-3214	june.d.murff@boeing.com
<b>Director Roger Danneman</b>	425-228-8781	roger.danneman@q.com
<b>Past President Bob Pattie</b>	425-226-3154	bobpattie@comcast.net
<b>Show Chairman Mark Hohn</b>	253-332-3736	showchair@cascademineralogicalsociety.org
<b>Federation Representative Michael Blanton</b>	425-271-8757	mblanton41@hotmail.com
<b>Federation Representative Kat Koch</b>	425-765-5408	president@cascademineralogicalsociety.org
<b>Mineral Council Bob Pattie</b>	425-226-3154	bobpattie@comcast.net
<b>Mineral Council Jacque Pattie</b>	425-226-3154	dianahorsfall@comcast.net

**2018 Show Committee Chairs**

<b>Cascade Show Mark Hohn</b>	253-332-3736	showchair@cascademineralogicalsociety.org
<b>Cascade Show Co-Chair Kat Koch</b>	425-765-5408	president@cascademineralogicalsociety.org
<b>Cascade Show Treasurer Pete Williams</b>	425-228-5063	petewill02@gmail.com
<b>Cascade Show Silent Auction Michael Blanton</b>	425-271-8757	mblanton41@hotmail.com
<b>Cascade Show Raffle Donations Michael Blanton</b>	425-271-8757	mblanton41@hotmail.com
<b>Cascade Show Demonstrators Richard Russell</b>	253-736-3693	richru1@yahoo.com

**2018 Committee Chairs**

<b>Club Historian</b>		
<b>Donations Kat Koch</b>	425-765-5408	president@cascademineralogicalsociety.org
<b>Field Trip Roger Danneman</b>	425-228-8781	roger.danneman@q.com
<b>Health &amp; Welfare Bev Williams</b>	425-228-5063	britbev1957@outlook.com
<b>Library Bob Pattie</b>	425-226-3154	bobpattie@comcast.net
<b>Membership Mark Hohn</b>	253-332-3736	showchair@cascademineralogicalsociety.org
<b>Newsletter - Tumbler Editor Keith Alan Morgan</b>	253-862-8201	greenrockdraggin@yahoo.com
<b>Open Shop Instructors Bob Pattie</b>	425-226-3154	bobpattie@comcast.net
<b>Public Relations Kat Koch</b>	425-765-5408	president@cascademineralogicalsociety.org
<b>Refreshment Angie Bayer</b>	253-631-3840	angiemc61@msn.net
<b>Raffle/Display Roger Pullen</b>	206-387-3214	june.d.murff@boeing.com
<b>Shop Operations Bob Pattie</b>	425-226-3154	bobpattie@comcast.net
<b>Show &amp; Tell Michael Blanton</b>	425-271-8757	mblanton41@hotmail.com
<b>Webmaster Mark Hohn</b>	253-332-3736	showchair@cascademineralogicalsociety.org

2018 CMS Dues are \$30 per year per family

Pay online, by mail, or at our meetings.

*Mailing Address: Richard Russell*

*14431 SE 254th St.*

*Kent, WA 98042*

You can pay your dues via credit card! We now accept all cards through our website, or at the meeting. You can renew your membership, or enroll as a new member, and pay your dues all in one shot online. You will find it under the "Membership" tab on our website <http://www.cascademineralogicalsociety.org>

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

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

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

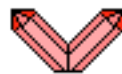
To get information to the Tumbler via the Internet send it to [greenrockdraggin@yahoo.com](mailto:greenrockdraggin@yahoo.com) Please put Tumbler and subject in the Subject Line. The deadline is the 20th of each month.

The Cascade Mineralogical Society Facebook page is <https://www.facebook.com/CasMinSoc/>

The Cascade Gem & Mineral Show Facebook page is <https://www.facebook.com/cascadegemandmineralshow/>



July



SUN	MON	TUE	WED	THUR	FRI	SAT
1	2	3	4	5	6	7
8	9 Show Meeting 6:30 PM Board 7 PM 	10	11	12 General Meeting 7 PM 	13	14 Club Trip Red Top
15	16	17	18	19	20	21 Club Trip Red Top
22	23	24	25	26	27 Tenino Show	28 Tenino Show
29 Tenino Show	30	31				

CMS Show Committee Meeting: ...Monday, July 9.....6:30 pm to 7:00 pm  
 CMS Board Meeting:.....Monday, July 9.....7:00 pm to 8:00 pm  
 CMS General Meeting:.....2nd Thursday, July 12.....7:00 pm to 9:00 pm

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

More Field Trip info can be found on Page 9  
 More Show info can be found on Page 10

**Son of Mr. and Mrs. Rockhound**

by **KAM**



**CMS Board Meeting Minutes June 11, 2018**



by Pete Williams, 2018 Secretary

*Members Attending*

*President Kat Koch*

*Treasurer Rich Russell*

*Secretary Pete Williams*

*Federation Mike Blanton*

*Show Chair Mark Hohn*

*Director Roger Danneman*

*Director Roger Pullen*

Meeting called to order at 7:33

The hall has been rented for the club Christmas party on December 16. Field trips are going well. Some attendees have become members. The July trip is to Red Top. The Federation Show in 2019 will be in Idaho. So far this year the club has a positive cash flow.

A volunteer is needed to run the raffle in July. More slabs are needed for the silent auction at the show in September. We will possibly sell small bags of polished rocks at the show. A coordinator is needed to lead that activity.

Meeting adjourned at 8:14

**CMS Show Meeting Minutes June 11, 2018**

by Pete Williams, 2018 Secretary

Meeting called to order at 6:36

Preparation for the show continues. All interior booths are sold and only one exterior booth remains unsold. The layout is still in-work. Show flyers will be mailed to all local clubs. Activities for the kids' area are still being developed. Four demonstrators have committed. A fifth demonstrator was identified and will use the open outdoor booth space. Locations for display cases are being finalized. The Green River geology department is interested in using some of the display cases. Signage for directions to the college has been approved and sent to the printer.

The next show committee meeting will be at 6:30 on July 9 at Wendy's in Kent followed by the Board meeting.

**The 2018 Western Washington Fair**

Last year we worked to keep the Fair from shutting down it's Lapidary Arts Division, so here are the categories if anyone wants to display anything at this year's Fair.

*Metal Fabrication focus on lapidary arts*

*Cabochons*

*Free Form Cabochons*

*Carving*

*Intarsia*

*Gem Trees*

*Tumbled Stones*

*Faceted Stones*

*Fossil Display*

*Gem/Mineral Display*

*Crystals Display*

*Other Lapidary Arts*

Display size is 12" x 12" and no higher than 8".

More information can be found at [https://wfaprod-1290.kxcdn.com/\\_assets/d25c90b0ff11f55a3f1d92c320e0e67e/WSF18\\_Hobby\\_Hall\\_PBook.pdf](https://wfaprod-1290.kxcdn.com/_assets/d25c90b0ff11f55a3f1d92c320e0e67e/WSF18_Hobby_Hall_PBook.pdf)

**Foretelling Danger In Crystal Balls** by Dick Morgan

I was selling various rocks, minerals, and crystal balls at the recent Puyallup Club show. Since I was tailgating at an outdoor booth, under a tarp, I put away some of the more valuable material at the end of the first day in my van. I had just put a large, clear crystal ball into a wooden box in my van. The sun was shining in through the open back door. As I turned around to get some more spheres, the sun's rays had focused through the crystal ball and had just started to catch the wood on fire in the few seconds I was away. Fortunately I put the fire out and covered up the crystal ball. It would have been embarrassing to tell my insurance company that my van had burned down because of a crystal ball.



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

The reason my wife and I have stayed together for so long as we have is that we often cooked together so we needed each other to complete the meal.



**Rock Fins**

Rock fins are formed by erosion of material along parallel fractures until narrow, wall-like structures are all that remain. With time, these fins can create windows and arches in the formation.

from USGS Twitter, 4/27/18

**CMS General Meeting Minutes June 14, 2018**

by Pete Williams, 2018 Secretary

Meeting called to order at 7:08

Minutes were approved as written. Three new members were in attendance.

**Treasurer's Report:** The club is doing well. We finally have a positive cash flow. A portion of the proceeds from the show will go to a scholarship for Green River College.

**Webmaster's Report:** Roger Danneman has now included field trip information on the website.

**Shop Reports:** Members can use the shop for free if they can cut some slabs for the show.

**Field Trip Report:** The June trip was at Greenwater. The next one will be July 21 at Red Top.

**Federation Report:** The show next year will be in Lewiston, Idaho.

**Mineral Council:** Some areas in WA will no longer be considered wilderness areas, but will be held as potential wilderness areas. Sections of California and Montana wish to remain wilderness areas.

**Show Committee:** All the booths for the show are sold out. There are 22 vendors with 42 booths. The college is interested in having a display at the show. There will be 5 demonstrators. People are needed to sign up to work at the show.

**New Business:** CMS now officially has a youth program. A list with potential club names was provided for members to vote on. There is an instruction manual on how to prepare a display for a show. We will have awards for 5 different age categories.

**Program:** A video on the Kilauea summit eruption.

Meeting adjourned at 8:14 followed by show and tell and the raffle.

**Displays:**

*Isaiah Fa* - My rocks.

*Roger Pullen* - Geodes from Walker Valley.

*Rich Morgan* - Quartz, rhyolite, garnet, thunderegg, and obsidian.

*Bob Pattie* - Petrified wood from Nevada.

*Michael Blanton* - Petrified wood, onyx, pink limb cast, Hampton Butte petrified wood - all specimens formed by volcanism.

**The Elements of a Good Firework Show** by Alex Demas and Hannah Hamilton

On the Fourth of July, people all across the country will gather for cookouts and firework shows commemorating the Nation's birthday. Fireworks shows feature spectacular colors, shapes and special effects that would not be possible without minerals! The same minerals that hold up buildings, power smart phones, and provide essential nutrients are the same ones that light up the sky on the Fourth of July.

Here are a few examples of minerals and the colors they produce in fireworks:

***Red Fireworks & Strontium*** - Named for the Scottish village of Strontian, strontium gives red fireworks their deep hue. These fireworks burn a compound known as strontium nitrate, which turns a brilliant red. Strontium's other main use these days is in ferrite magnets.

***Blue Fireworks & Copper*** - Despite the color of Lady Liberty, copper does not burn green. Instead, copper turns fireworks a dazzling blue.

***Yellow Fireworks & Sodium*** - It's not just an essential nutrient; sodium is a vital part of your Fourth of July fireworks celebration too! Those exploding suns in the sky that rain a cascade of yellow are burning sodium nitrate.

***Green Fireworks & Barium*** - In addition to allowing doctors to see inside you, barium gives fireworks a distinctive green.

***Golden Sparks & Iron*** - It's not just the colors that enthrall us at firework shows, it's the effects too! One of the most common is a cataract of golden sparks, showering down from the main explosion. Those little golden sparks are formed from iron filings, the same things used in your science class to show the direction of a magnetic field.

Brilliant fireworks displays are greatly enhanced thanks to minerals. While enjoying the shows all across the Nation this Fourth, remember to be safe and leave the making of fireworks to the professionals.

And for those coming to Washington DC for the show, check out the majestic monuments that surround the National Mall and read up on where those iconic stones came from.

from [http://www.usgs.gov/blogs/features/usgs\\_top\\_story/the-elements-of-a-good-firework-show/](http://www.usgs.gov/blogs/features/usgs_top_story/the-elements-of-a-good-firework-show/), 7/4/14

**Acicular**

A word used to refer to the form or habit of certain minerals. The word acicular is from Latin word acicula that literally means a little needle. Acicular crystals are minerals that crystallize as long, thin, hair like needles. Minerals that show acicular habit include millerite, artinite and aurichalcite.

Millerite is one of a few sulfide minerals that form fine acicular crystals that appear as hair-like fibers aggregated into sprays. Boulangerite and jamesonite are two other sulfides that form similar acicular crystals. However, jamesonite is gray and brittle and boulangerite has flexible crystals.

via The Golden Frog, 1/15; from Diamond Dan Mineral Dictionary

**A Note From The President's Desk...**

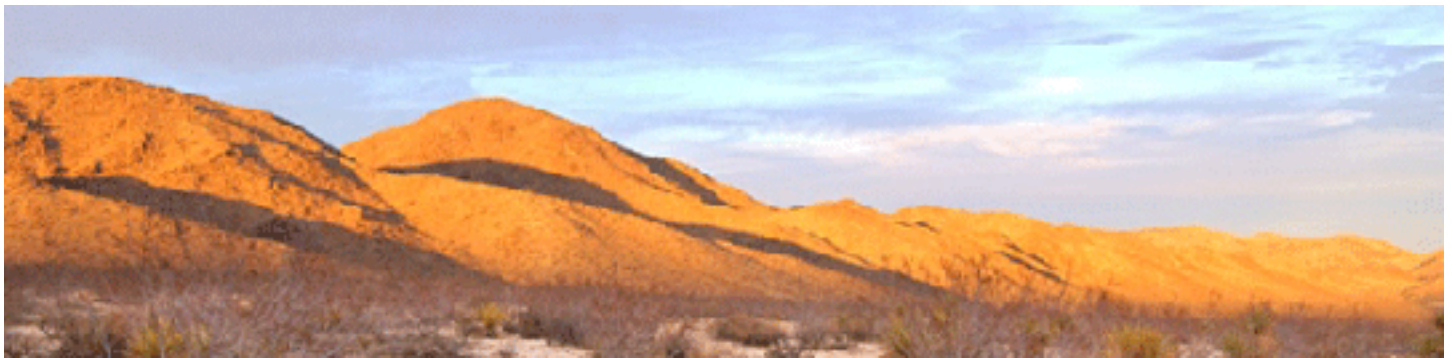
By Kat Koch, 2018 CMS President

Remember our August picnic is coming up. As I am writing this monthly message, we have not reserved a location or have a confirmed date. We are trying to reserve a location at Lake Wilderness Park on Sunday August 5th or 12th. As soon as we have confirmed a location and date it will be posted on the website. So check it often so you can put it on your calendar. We had a great turnout last year. Let's do it again this year!

In case you are new member and have not attended our summer picnic before, it's a pot luck with an auction following. It's always a good time to visit and enjoy one another plus pickup some good bargains at our auction.

We had several members volunteer to help out at our show at the June general meeting. Thank you! We really have a big need for someone to oversee the Raffle and Door Prizes. We have a few helpers already signed up for this area but we really someone to be Chairman and make sure all the bases are covered. Wouldn't you like to volunteer? Please think seriously about volunteering.

We still need a lot more volunteers/helpers in many positions. So remember to volunteer for our show!!!! Sign up at our July meeting or contact Mark or Kat.



**Every Rock Has a Story** by Kat Koch

Geologist study rocks because every rock has a story to tell us. Depending on where a rock is found it can give us clues and show us a historical record of our planet. They show us events that happened long before humans roamed our planet. For example, one particular area may have experienced extreme changes such as from a desert to a swamp to a coral reef under the sea. Different rocks form under only certain conditions and even the dullest gray lump of a rock can tell us something important about the past.

Some types of things that rocks can tell us about our planet as well as other planets are:

Was there a lake or a volcano present in the past where the rock was found?

Was there a mountain range or a sea there before?

Was it hotter or colder in the past and it is now?

Was the atmosphere thicker or thinner in the past?

By studying these important rocks stories from the past we gain knowledge in what to expect in the future regarding: Earth and other planets.

Earthquakes and the movement of the tectonic plates.

Volcanoes.

Effects of global warming and cooling periods on environment, fauna and flora.

Movement of water such as oceans and rivers.

You can make a note of the location where you found a rock and then research it's history. It will tell you story a very interesting earth story of that region.

Do you know what story your rock has to tell?

---

---

**2018 Cascade Gem and Mineral Show July Newsletter Update** by Mark Hohn

Our next show committee meeting will be before the board meeting on July 9th, 2018 at Wendy's at 505 E Smith, Kent, WA 6:30 PM. We will meet prior to the monthly board meeting. If you are interested in helping organize and plan the show please attend. Show committee meeting starts at 6:30 with the board meeting after, you are welcome to attend one or both meetings. If you are interested in helping organize and plan the show please attend. As we get closer to the show we will probably move to meeting twice a month.

We have had 22 vendors register and purchase a total of 35 booths.

Committed Vendors for our show:

*Maple Tree Lapidary      The Worlds Fossils and Minerals      R&T Crystals      Addis-sea Gemsparkley*  
*Grand Products Co., Ltd.      Tipps Gems      Rare Earth Studios      Candi's Jewelry and Gifts*

*The Chiming Rock*  
*Bohemian Minerals*  
*Crystallography*

*Gem Nest*  
*Mineral Endeavors*  
*US Bead Warehouse*

*Turquoise Jim*  
*Cascade Scepters*  
*High Mountain Minerals*

*Stone Styles*  
*Peace of the Earth Jewelry*  
*Enisa's Jewelry*

#### Donations Needed

We will be giving rocks to every kid that comes to the show. If you have small polished small rocks and would like to donate that would be appreciated. We will also have a rock spinning wheel where kids can win a rock and we will be having our silent auction during the show. If you have items, you would be willing to donate for these activities or as a raffle item please let Angie Bayer know as she is acting as the Rock Wrangler and tracking the rocks needed to have a successful show and she can gather or coordinate the delivery of your donated items.

#### Sponsors needed

Kids area

We will have a rock painting area, bead making area and a coloring area. We need to purchase supplies and materials for our kid's craft area. Sponsor our kids Activity area \$200.00

Signage

We need to have some signs made for the show. We need directional signs inside the venue and at our club booth, silent auction area, raffle prize area. Sponsor our signage \$500.00

Printing

We want to have a nice floor map with all our vendors and sponsors listed to give to our guests.

We also have raffle tickets and other items we need printed

Sponsor our Printing costs \$800.00

Raffle Prizes

We will be holding an hourly door prize raffle and a separate raffle as a fund raiser for our club. We are also planning a donation to Green River College to a deserving geology student. We want to help support our community.

If you can help sponsor all or part of our needs, we would appreciate it. We will acknowledge all our sponsors and publish your Name or Company on our floor map brochure and include your contact information in our video presentation during the show. Becoming a sponsor is a great way to support your local Cascade Mineralogical Society. We are committed to help our community and foster the growth of our next generation of rock hounds (and Customers).

We still need volunteers. Below is a list of volunteers that have agreed to assist and I really appreciate their support. I have also listed several areas we still could use some help in organizing and pulling the show together.

*Show Chairman Co-Chairs: Mark Hohn & Kat Koch*

*Show Committee Secretary/Treasurer: Pete Williams*

*Facilities & Show Set-Up and Dismantle Manager: Charles Benedict*

*Facilities Manager: Mark Hohn*

*Vendor Manager: Kat Koch*

*Display Cases & Visual Manager: Roger Danneman*

*Demonstrator Manager: Rich Russell*

*Silent Auction & Club Sales Manager: Mike Blanton*

*Youth Area Committee Manager: Roger Pullen / June Murff*

*Website/Promotions Manager: Mark Hohn*

*Door Prize And Scholarship Raffle Manager: **Need Help***

*Parking & Signage Manager: **Need Help***

*Community Out-Reach Manager: Mark Hohn*

*Rock Wrangler: Angie Bayer*

*Kids Spinning Wheel: Brian Bayer*

We cannot have too many volunteers! If you want to assist in any area above reach out to myself, Kat or the person listed above for the area you're interested in. We will have signup sheets at the rest of our meeting leading up to the show. Some of these positions would be working the entrance table to welcome guests and hand out door prize tickets to track attendance, helping with the silent auction, Manage our raffle table and club booth and other tasks like that.

The current Show page can be found at: <https://www.cascademineralogicalsociety.org/cascade-gem-mineral-show/>

The Show page is updated as vendors register so you can see the location of vendors in the facility. Vendors are announced on the show Facebook page <https://www.facebook.com/cascadegemandmineralshow/> The Facebook page is a good place to keep updated with news and vendor announcements prior to the show. Please like so you can stay informed.

If you have any questions feel free to contact Kat or I, our contact information is below.

Details: Date of show: September 22-23, 2018

Setup will be on Friday September 21, 2018.

Venue: Green River College Student Union Building.

Mark Hohn CMS Show Chair 253-332-3736 [showchair@cascademineralogicalsociety.org](mailto:showchair@cascademineralogicalsociety.org)

Kat Koch CMS Co-Chair President [cascademineralogicalsociety.org](mailto:cascademineralogicalsociety.org)

# Mini Miners Miscellany

## “Rock Bucks”

To all our young members be sure to get your “Rock Bucks.” You will earn “Rock Bucks” by doing the following:

*Attending a meeting, picnic or dinner: \$1 Rock Buck*

*Participating in Show ‘n Tell: \$1 Rock Buck*

*Giving a Brief Talk at the General Meeting: \$5 Rock Buck*

*Earning a Badge: \$5 Rock Buck*

*Writing a news article: \$5 Rock Buck*

The kids can redeem their “Rock Bucks” at for raffle tickets at our meetings, any club auction or at our shows’ silent auction. Tickets can not be redeemed for cash or used on buckets of rocks.

## Junior’s Program

We are working on the Showmanship badge.

We are encouraging all our young members to put in a display case of their collection or favorite rock, mineral or fossil at our Cascade Gem & Mineral Show on the weekend of September 22-23, 2018. Setup is Friday afternoon September 21st after 4 pm. Take down is Sunday after 4 pm.

By completing this task they will have met all the requirements to earn the Showmanship badge.

CMS will provide a regional case with pastel liner, lighting and secure lock. You must provide all display hardware, risers, stands, signs, labeling, etc. Encourage your child to use their imagination in putting together their case. Help your child with display ideas and be excited about displaying his collection.

I will be available at 6:30 pm prior to our general meeting to answer questions and/or help with ideas to display your collection.

Award ribbons will be awarded in each age category along with the badge. Judging will be done on an age appropriate basis. See our website for rules, guidelines and judging sheets.

## Rock Word Hunt by Keith Alan Morgan

A simple word find where you try to find the following words hidden in the puzzle across or down.

I can also make up harder ones if anyone is interested.

Have fun!



- Agate
- Fossil
- Geode
- Hands
- Hole
- Jasper
- Mine
- Pebble
- Pick
- Rock
- Sack
- Shovel

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



## Field Trips

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

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

**July 14** *Darrington Rock Club - Taylor River* - Meet at Ken's Truck Stop on I-90 before 9:00 - Quartz crystals, concretions - Bring a rock hammer, and wading boots

**July 22-23** *Spokane Rock Rollers - Crystal Park, Montana* - Call Mike Shaw for info - Quartz crystals - Bring digging & light rock tools  
*Mike Shaw mikeshawmoose@yahoo.com (509) 251-1574 or (509) 244-8542*

### CMS July Field Trip by Roger Danneman

For the July field trip we are going over to Red Top Mountain, NE of Cle Elum. You can take your pick of two dates. July 14th Roger Danneman will lead the group, and July 21st Dennis Batchelor and Tony Johnson will lead the group.

This is the west side of Red Top which is relatively undug as opposed to the area towards the top of Red Top. There is no hike involved, but you do need to cross a rock slide which is fairly steep. Dig site is just above the rock slide and under a tree canopy which can be a nice shade from the summer sun. The agate is fairly plentiful just under the surface there, and is a light bluish grey color. The jasper has nice creamy blue and brown tones, sometimes with blue veins or inclusions. Crystals can be found in the hard rock and in the rock slide. I found a crystal vug there last year next to the road.

For either date, meet at 9:45 AM at the Mineral Springs Store (Mineral Springs Resort on Google Maps) 27510 US-97. If you pass FR 9738 (Blue Creek Rd), you've gone too far, as this is the road that the group will take towards the dig site. Mineral Springs is about a 2 hour drive from Renton/Kent, over Snoqualmie Pass. Group leaves promptly at 10:00. Bring digging and hard rock tools.

### The June 9th Club Trip To Greenwater Report by Roger Danneman

On June 9th we took a field trip to the upper Greenwater area, just below Government Meadows.

We had a group of 13 vehicles and about 30 people from CMS and the Puyallup Valley Club. Weather was a mix of clouds, light rain and sun breaks. Nice temperatures for digging.

Stop 1 was about 11 miles from Hwy410 on FR70 - Just a quick stop to look for agate nodules.

Stop 2 was a quick stop to show the earth tone jasper site.

Stop 3 - End of FR70 toward Government Meadows but the road branches and we took the lower road to the dig sites. There are holes/pits that people have previously dug with opal pieces laying all around them. You can start in any hole or can find another suitable spot and just dig a new pit. Lots of common opal here, some with nice color variations. Petrified wood is present, but considerably more difficult to find.

Stop 4 - We drove back down the mountain (about  $\frac{2}{3}$  of the way back to Hwy410) and turned left onto FR72 which we then drove up about a mile to a large rock slide. Here we looked for agate and crystal and jasper material. After about 20 minutes here, the heavy rain started, about 3:15-3:30. Some material found here that day, still in the rough.

Pictures available on the CMS Website Fieldtrips tab <https://www.cascademineralsociety.org> and on Facebook Group Page <https://www.facebook.com/groups/1168207926650075/>

### Safety First- And Last by Jim Doran

How many of us go collecting without letting someone know where we'll be? Not bringing a cell phone for emergencies? Collecting alone?

If we are guilty of even one of the items above, there is a high probability that this collecting trip may end very badly.

Why risk serious injury or even worse?

How difficult is it to let someone know where you'll be in case something serious does happen?

Today, there's no excuse for not bringing a cell phone with you when you go collecting. It may end up being the difference between a good trip or a very bad trip for you or your collecting partner. How would rescue people get to you if you can't contact them or someone who could contact them for you?

You should never collect alone. Yes, I realize that many us have done so. If nothing happened, then we should consider ourselves very lucky.

What if the odds finally catch up to you and you get hurt or injured?

Not a pleasant scenario to consider is it? Nor would it be pleasant for family of loved ones.

Lets make sure that all our collecting trips are successful and safe. via Gem & Mineral Journal, 7/16; from EFMLS News, 6-7/10



# Shows

***July 27 - 29:*** Friday & Saturday 9 am - 6 pm; Sunday 9 am - 5 pm

**Washington Agate and Mineral Society**

*Rock and Gem Show during Tenino Oregon Trail Days*

Parkside Elementary School

301 Central Avenue E

Tenino WA



## Gold And Fools Gold: Which Is Which?

Since James Marshall's discovery of gold at Sutter's Mill in 1848, more than 106 million troy ounces of gold have been mined in California. This huge amount of gold was obtained through sacrifice, determination and many long hours of hard work by thousands of miners throughout the years.

During this long period of mining activity, other minerals were encountered in the streams of California that closely resembled the much-sought-after gold ore. A bright golden gleam from the bottom of a pan full of gravel caused many gold-hunters' hearts to skip a beat. Tests at the assayer's office would later prove that the find was not gold, but merely a gold-colored mineral. Often a man would return to his claim empty-handed, having been fooled by a worthless, "false" gold - "fool's gold".

What exactly is fool's gold? It is any mineral that can be mistaken for gold, including a number of common California minerals. The minerals most often mistaken for gold are iron sulfides-pyrite, chalcopyrite, pyrrhotite, marcasite-and biotite.

Pyrite is the mineral most often referred to as fool's gold. It occurs as veins or as scattered grains in many types of rocks. Seen in exposed surfaces in a rock or as grains in a stream, it is often brown color on the outside, because the exposed parts have been oxidized to limonite, a more stable iron mineral. The crystal faces are often striated parallel to the edges of the face. Pyrite can be distinguished from gold by its greater hardness, its lower specific gravity (or weight), its dark streak, and by the striations on crystal faces when they are present.

Chalcopyrite, pyrrhotite, and marcasite are not as common as pyrite, but can be found in veins or as scattered grains in many rock types in California. These minerals, like pyrite, all have a dark streak and are lighter in weight and harder than gold. Pyrrhotite, when pure, is magnetic and can be picked out of mixed gravel with a strong magnet. None of these minerals commonly occur in crystalline form and most often are found as irregularly shaped, homogeneous masses. They all tarnish easily, going from bronze or brassy yellow to yellowish or greyish brown.

Biotite is a common accessory mineral in the igneous rocks of the Sierra Nevadan batholith. As these rocks are eroded, the small black flakes of biotite are washed into streams and, after a short exposure to air and water, turn a dull brassy yellow. These flakes, because of their light weight and flat shape, often are concentrated in quiet eddies and along sand banks. Flakes of biotite are the most common form of fool's gold seen in the Sierra Nevada foothills by those who are panning for gold. While gold does occur in small flakes and is as soft as biotite, it has a golden yellow streak and is very much heavier.

The table compares the physical properties of gold and the 5 most common fool's gold minerals:

<i>Mineral</i>	<i>Color</i>	<i>Hardness</i>	<i>Specific Gravity</i>	<i>Streak*</i>	<i>Formula</i>
<i>Biotite</i>	<i>black</i>	<i>2.5-3.0</i>	<i>2.7-3.1</i>	<i>none</i>	<i>complex silicate</i>
<i>Chalcopyrite</i>	<i>brassy yellow</i>	<i>3.5-4.0</i>	<i>4.1-4.3</i>	<i>green black</i>	<i>CuFeS<sub>2</sub></i>
<i>Marcasite</i>	<i>pale bronze yellow</i>	<i>6.0-6.5</i>	<i>4.85-4.9</i>	<i>brown black</i>	<i>FeS<sub>2</sub></i>
<i>Pyrite</i>	<i>pale brassy yellow</i>	<i>6.0-6.5</i>	<i>4.95-5.1</i>	<i>green black</i>	<i>FeS<sub>2</sub></i>
<i>Pyrrhotite</i>	<i>bronze yellow</i>	<i>3.5-4.5</i>	<i>4.58-4.64</i>	<i>grey black</i>	<i>Fe (n1)Sn</i>
<i>Gold A</i>	<i>golden yellow</i>	<i>2.5-3.0</i>	<i>19.33</i>	<i>(pure) golden yellow</i>	<i>Au</i>

\* Streak refers to the color of the powdered mineral and can best be seen by rubbing the specimen across a piece of white, unglazed porcelain. A Gold is malleable, the fools gold minerals are not.