Maplewood Rock and Gem Club

September 23

In this issue

September meeting

Monday, September 18th at 7 pm
Our September meeting will include a silent auction and raffle, so you can go home with an addition to your collection.

The Rock of the Month presentation, "Field Trips and Why they are important" will by given by Lynz Taylor. She will show some of her finds, like jade, serpentine, diatom opal, and petrified wood. She will also share resources for connecting with groups that lead rockhounding field trips.

If your last name begins with A-M, please bring food to share. The snacks are appreciated by those who come directly from work and everyone else.

Remember to wear your name badge. There is a $0.25 fine for forgetting yours.

Banner image

The banner photo is a moonstone ring which is from josahalyssamoreno.

Heather Martin and her brother.

August Success!

Thanks to all the volunteers who helped with the August Rock Show. All together, we rocked it! The net proceeds were $4,718!

We are grateful to Heather Martin (shown at the left with her brother) who organized the show. She signed up vendors, organized the tables, and did much, much more.

Thank you for helping!

In addition to the generous volunteers named below, there were many others who pitched in to help make this show a success. Thank you to everyone!

Linda Willemarck: Planned and organized our sales tables; composed big signs to attach to the fence; priced the club table items; and staffed the indoor club table.

Lynz Taylor: Set up and took down tables; marked where outdoor booths were to be placed; marked parking spaces so people wouldn't park their cars haphazardly; set up parking lot barriers with flags; swept and cleaned up afterwards; gave breaks to vendors; provided snacks to vendors; helped price items; and set up the outdoor club table.

Linda Willemarck and Melanie Milnes: Created and distributed flyers; produced other advertising including social media posts.

Jim Johnson: Distributed signs around the neighborhood and picked them up again after the show.

Bruce Samuels: Hung signs on our fence; posted parking signs at the church; recorded income and expenses; took down fence signs and put them away; and provided overnight security.

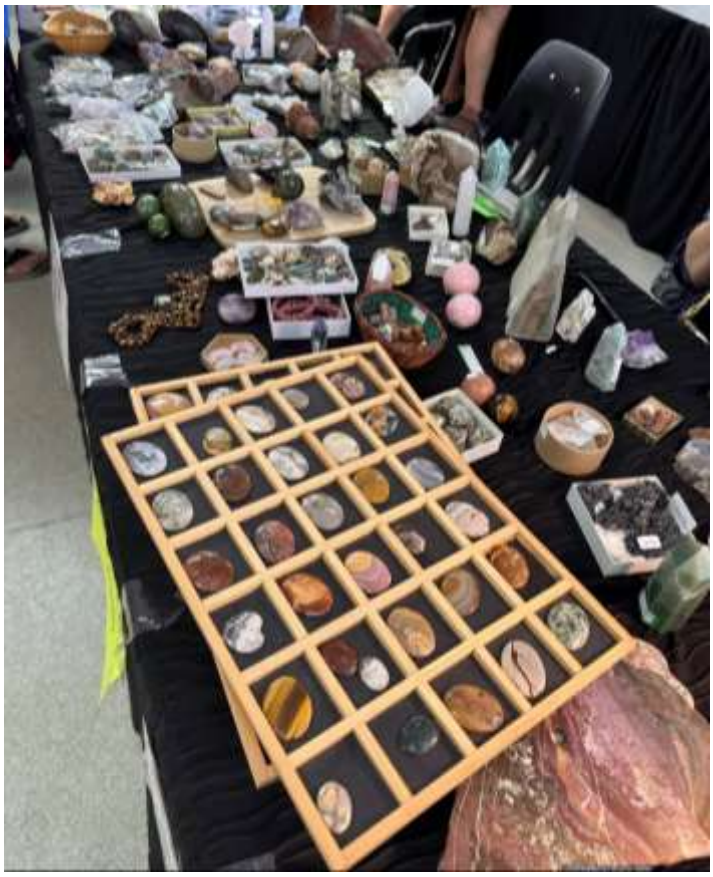
Nancy Samuels: Helped set up and staff the outside club table; and provided overnight security.

Paul King (the Silverworks vendor): Set up the wavy man and took him down afterwards.

Dalton & Jacob McGee: Helped bring in outside tables and gear.

Amber Murphy: Helped break vendors from their booths on Saturday.

Michele McGraw: Gave an interview to My Edmonds News, a local community publication; and set up and staffed the outdoor club table.



Linda Willemarck's inside club table.

Mike Collins: identified and priced items for the club tables.

Ryan Davis put in hours helping me write up the price tags/identifying info as well as worked with me on Saturday for a few hours at the Club table.

Many more of our members chipped in to help in some way! We could not have had such a successful show without each of you! Thank you!

New storage shed – almost done

EJ Nichols, Ashok Badhe, April Nichols, and Barry Nevin leveling the gravel.

On one of the hottest days in August, volunteers from our club and the West Seattle and North Seattle clubs, prepared the site for the shed to be built. They raked and spread out a pile of gravel while leveling it across all directions.

On August 23 a crew came and built the shed on top of the gravel.

At the left is Lynz Taylor who was onsite much of the day.

Not shown is Michele McGraw, President, who was onsite all the long day of the build.

Above is the south end of the shed. At the left is Bruce Samuels who was also onsite all day. Below is the shed after the build crew left. We still have some finish work to do, like building a ramp from the door to the grass and painting the shed.

Exploring the Source of "Spanish Diggings" Quartzite

By Jim Miller

Background

While doing fieldwork as a budding geologist in Colorado, I was lucky enough to find a few small arrowheads made out of quartzite. I was amazed that any stone could be shaped by hand into sharp-edged tools and projectile points. Quartzite is typically pretty rough and tough, so I was all the more fascinated that Native Americans could craft arrowheads with this material.

Through the years I gradually learned the art of flintknapping, and I became proficient at making arrowheads and knives out of a variety of stone types, including obsidian, jasper, chert, flint and agate.

Flintknapping with quartzite

Then, more than a decade ago, a friend in South Carolina sent me the first of several packages containing "Spanish Diggings" quartzite. Perry wanted to see if I could work the stone effectively. The quartzite I was familiar with is really difficult to break by hand, so I was a bit apprehensive at first. But to my surprise, this variety of quartzite flaked quite well and produced tools with very sharp edges. The photos below show two projectile points that I made with stone that my friend Perry had sent me.

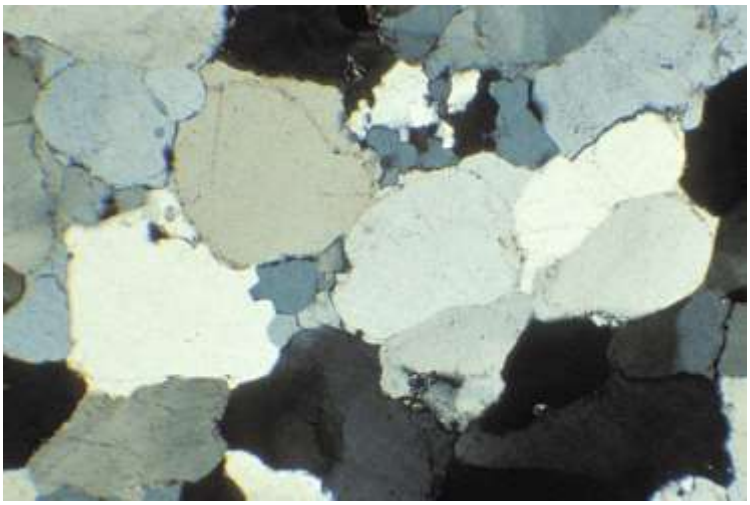
Meta-quartzite and Ortho-quartzite

I really liked the stone, so I did a little bit of research. First of all, there are two basic varieties of quartzite. Meta-quartzite is sandstone that was buried several miles below the ground surface and subjected to enough heat and pressure to fuse and re-crystallize the sand grains into a solid mass. Almost all of the quartzite

cobbles that can be found in modern and ancient streambeds are of the meta-quartzite variety. This stuff is really tough and difficult to knap.

The other variety of quartzite, which is applicable to Spanish Diggings material, is ortho-quartzite. Unlike its metamorphic cousin, ortho-quartzite is a sand deposit that was buried deep enough to be compressed into sandstone, but not so deep as to have the sand grains fused by heat and pressure.

In ortho-quartzite, the spaces between the sand grains (pore spaces) have been filled with silica cement. The result is a very hard stone with almost zero porosity. The silica cement holds the sand grains together such that flakes travel through the grains themselves, as well as through the silica cement. Interestingly, on a microscopic level, the flake edges of ortho-quartzite have micro-serrations where the edges pass back and forth between quartz sand grains and silica cement.



Quartz sandstone; Cambrian basal quartzite, Loch Assynt

This is a pure quartz sandstone, in which the sand grains are cemented by quartz that has formed as outgrowths and overgrowths on the original sand grains. The view under crossed polars reveals the irregular and interlocking shapes of the grains of quartz. This texture makes the rock very hard and strong, rather like a metamorphic quartzite formed by the action of heat and pressure. Sedimentary rocks like this, in which the quartz cement formed at low temperature, are commonly called orthoquartzite. Note that in places you can see the rounded outlines of the original sand grains, marked by oxide dust.

Photo: Crossed polars. Field of view 2 mm across

By D.J. Waters, Department of Earth Sciences, May 2003

"Spanish Diggings"

So, what is the story behind the name "Spanish Diggings"? Discovered by a cowboy in 1879, the site location includes numerous deep pits surrounded by broken stone. The original assumption was that Spanish Conquistadores had excavated the pits searching for gold. So much for assumptions… The pits actually were dug by Native Americans while seeking knappable stone of high quality.

The site has been a source of quartzite for tool making for at least 10,000 years. The distinctive quartzite obtained from Spanish Diggings was widely traded in

antiquity, and artifacts made of the quartzite have been found throughout the Rocky Mountain area and as far east as Ohio and Indiana.

It turns out that my friend Perry had visited the source location for Spanish Diggings quartzite. He was kind enough to describe the route to get to this remote site in eastern Wyoming.

My wife and I attempted to travel to the source location in a rental vehicle in 2013, while on a road trip to Wisconsin. Although we were able to follow Perry's directions to the final leg of the "road" to Spanish Diggings, we were stymied at a cattle guard by access conditions that the rental car dared not challenge (see these two photos).

At that point, I put this location on my bucket list for future exploration.

Lapidary Shop

Our lapidary shop is reserved for members who have paid their dues. Inside are five slab saws, three CabKing™ machines for polishing cabochons, and two trim saws.

Shop Stewards

Rich Osborne
Bruce Samuels
Ashley Martin
Nathan O'Brien

Shop@maplewoodrockclub.com

Sign up for shop time

All shop users must sign up for a time slot at least a day before the session. On their first visit, new shop users will be trained on shop procedures and safety before being able to use any equipment.

You can sign up for shop time online. The system will send you a confirmation email which you should save until after your session. You will need the email if you want to cancel your reservation. Each Thursday we have shop sessions available:

- Session 1: 3:00 to 5:30 pm
- Session 2: 5:30 to 8:00 pm (except on the first Thursday of each month)

How to cancel

If you sign up for shop time online and later realize you won't be able to make it to the session, you need to cancel your reservation no later than the day before the session. This enables someone else to sign up. If you do not cancel, you will be charged for the session. To cancel, click the link in the confirmation email you received after you signed up.

What to bring

You need to bring $7 (cash or check) to pay for the session. Additionally, you might like to bring these:

- Face mask to not breathe rock dust or for Covid protection
- Hearing protectors

Before you leave the shop

The shop stewards are volunteers who generously give 6 hours a week to enable us to use the tools. Before you leave a tool station, please wipe it down and leave it in the same condition as you found it. If you discover a problem with a saw or tool, please let the Shop Steward know.

If you were born in September...

Happy Birthday!

May your day be filled with warm fall sunshine, and

may your pockets be filled with beautiful rocks.

You are fortunate to have two birthstones: sapphire and moonstone. Moonstone (like the one above) has a pearly sheen from the light reflecting off of alternating layers of orthoclase and albite. The play of light, called the *schiller effect* or *adularescence*, reminds people of moonlight.

Throughout history many disparate cultures associated moonstone with moonlight. Ancient Hindu mythology taught that the stone was made of solidified moonbeams.

Field Trips

Here are the field trips in our area as published on the Mineral Council website. Click *Field Trips* in the left column for up to date details on that website. The field trips led by Pow Wow require the participants to pay annual dues of $7.50. The trips that don't have specific dates, are tentative.

Date and Time	Host and Location	Details
Sept. 16 at 10 am	Hwy 410 and Forest Road 19 Tony Johnson (253) 863-9238	Thunder eggs, fossils, and lilypad jasper.
October ? at 9 am	Money Creek Campground	Picture jasper
Nov ? at 9 am	Blanchard Hill Northbound I-5 take Alger Exit. Meet at Gas & Go	Dalmation Stone & Green Chert

Spread some sunshine

Nancy Ross leads our Sunshine committee. If you are aware of a member who might be cheered by a get-well card, please contact her, and she will write and send a card.

Classified Ads

Our website now has a Classifieds page for members to post items for sale, items they want to buy, and helpful tips and information. If you would like to share a link to a favorite rock shop or post a notice about a tumbler you are selling, check out the Classifieds page on the website.

Marysville Rock and Gem Club

www.marysvillerockclub.com

47th Annual Rocktoberfest 2023

Join us for a weekend of fun, family and shopping!

October 7-8, 2023

Saturday and Sunday: 10 am – 5 pm

Evergreen State Fairgrounds

Display Bldg #500

14405 179th Ave SE, Monroe WA

(Off Hwy 2, Just West of Monroe, WA)

Free Admission!!

DISPLAYS :	GREAT SHOPPING:	ALSO FEATURING:
• Gemstones	• Mineral Specimens	• Lapidary Demonstrations
• Minerals	• Petrified Wood	• Children's Activities
• Fossils	• Fossils	• Raffles
• Rocks	• Handmade Jewelry	• Hourly Door Prize Drawings
	• Gems	• Grab Bags
	• Rock Art & Carvings	• Food Vendors

Rock shows

Date and Time	Host and Location	Details
Oct. 6, 10 am – 6 pm Oct. 7, 10 am – 6 pm Oct. 8, 10 am – 5 pm	Portland Regional Rock and Gem Club Wingspan Event Center 801 NE 34th Ave Hillsboro, OR	$7 Kids under 12 are free with an adult!
Oct. 7, 10 am – 5 pm Oct. 8, 10 am – 5 pm	Marysville Rock and Gem Club Evergreen State Fairgrounds Display Bldg. #500 14405 179th Ave SE Monroe, WA	

Rock Candy

Here is one view from the Ochre Trail in Roussillon, France.

Washington State Mineral Council

Our club, along with many other rock and gem clubs in the state, is a member of the Washington State Mineral Council. This organization helps us by

- advocating for access to public lands
- advocating for beneficial land use policies
- compiling and sharing maps and other information
- publicizing shows and field trips so members learn about and can participate in events at other clubs

Read their latest Newsletter.

New Shop Steward

Nathan O'Brien has joined the team of Shop Stewards. This will ease the scheduling for the team as they cover 50 Thursdays each year. Thank you, Nathan!

Grit for sale

The Shop Stewards sell grit on Thursdays when the shop is open. Please let them know a day ahead that you will stop by to purchase grit.

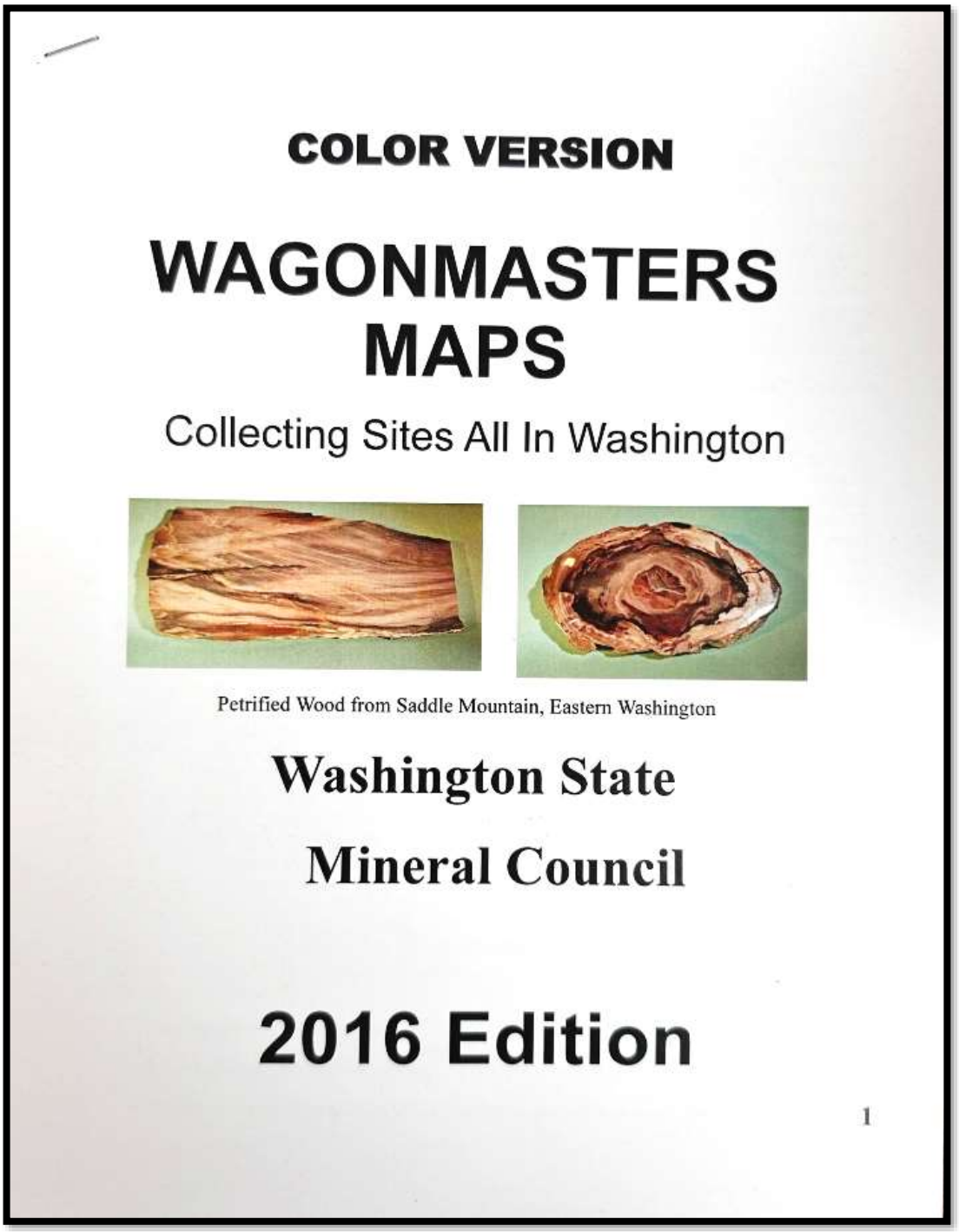
To contact the Shop Stewards, email shop@maplewoodrockclub.com

Each grit package is $4, and this is what they sell:

- 1 lb of 60/90
- 1 lb of 120/220
- ¾ lb of pre-polish
- ½ lb of polish

Maps for Rockhounds

The Washington State Mineral Council has put together a 62-page booklet with maps for finding rock hounding sites. You can buy a copy for only $20 at the meeting.



COLOR VERSION

WAGONMASTERS MAPS

Collecting Sites All In Washington

Petrified Wood from Saddle Mountain, Eastern Washington

Washington State Mineral Council

2016 Edition

1

Juniors – Precious and Semi-Precious Gems

Ruby ring with diamonds by James Petts; CC BY-SA 2.0

Four gems are called precious, and all the rest are semi-precious. You would think precious gemstones are more valuable than semi-precious gems.

Emerald

Thousands of years ago, when gems were divided into those two groups, precious gems were more valuable because they were harder to find and more desired. Now, we base the value of a gem on things like color and the amount of cracks or other minerals trapped inside, so a high quality chrysocolla could be more expensive than an emerald with hardly any color and filled with cracks.

The precious stones are all very hard and colorful, except for colorless diamonds. They are also translucent, which means light shines through them.

Diamond

You can remember the four precious gems by remembering REDS which stands for ruby, emerald, diamond, and sapphire.

Sapphire by LesFacettes CC BY-SA 3.0

Above:
These are semi-precious gems (and one precious gem, ruby) that have been polished. The Lace Agate should be labeled "Blue Lace Agate".

There are many, many more semi-precious gemstones than we can show here, because all gemstones are semi-precious, unless they are rubies, emeralds, diamonds, or sapphires.

At the right:
This cerussite gem is called the "Light of the Desert". It is the world's largest faceted cerussite. This gem is so soft you couldn't wear it as jewelry. It has a Mohs rating of 3 – 3.5.

Precious Factoids

Juniors, if you come to the September meeting and tell Lynz Taylor your answers you can earn a prize. You will also earn a bonus point for naming the four precious gemstones. If you get 3 or more points (correct answers), you will win a prize!

1. Precious gems are always
   a. more expensive than semi-precious gems
   b. colorful
   c. red, white, or blue
   d. transparent

2. Transparent means
   a. Powerful
   b. Pretty
   c. You can see light shining through it.
   d. The Mom or Dad of someone named Tran

3. Semi-precious gems are
   a. All gems except for the four precious gems
   b. Never translucent
   c. Precious gems that are broken
   d. Never sparkly

4. We can remember the four precious gems by these letters:
   a. YETI
   b. REDS
   c. BOLT
   d. WOOF

Listwanite – a carbon sink

Listwanite by Bruce Samuels

An odd beginning

Listwanite forms in an unusual way. In the beginning, peridotite, an ultramafic rock, forms as a course-grained, intrusive igneous rock in the upper mantle of an oceanic crust. As the oceanic plate submerges under a continental plate, this peridotite can be obducted (forced upward) where it mixes with other rocks and becomes part of *ophiolite* rocks.

Ultramafic rocks have less than 45% silica. In peridotite, silica is primarily composed of olivine and pyroxene. It contains very little or no feldspar.

At or near the surface the peridotite is altered as CO_2-rich fluids seep into faults and fractures in the rock. The carbonized fluid combines with magnesite, calcite, dolomite, ankerite, and/or siderite in veins of the rock. The remaining silica within the peridotite becomes quartz, serpentine, and/or talc. This carbonized rock is called listwanite. The bulk of it is carbonate, serpentine, talc, and sometimes mariposite (green mica), fuchsite, and gold.

Carbon sink

Listwanite is an important rock in these days of global warming, because it serves as a carbon sink. Liquid CO_2 flows into the peridotite where it is locked into the rock as a solid mineral.

Aliases

Listwanite has a few other names that are commonly used: *listvenite, listyenite,* and *listwaenite*.

Environmental geologists are currently looking at ways to lock CO_2 in solid minerals, which are more stable than liquid or gaseous forms. Listwanite is exactly the result they want, but the natural process is far too slow to offset current CO_2

emissions. Scientists are looking for a way to geoengineer CO_2 uptake in mafic and ultramafic rocks, so the process will happen more rapidly.

For example, in Iceland the CarbFix Project is attempting to fracture and heat mafic and ultramafic rocks and then inject them with CO_2 rich fluids. Similar research, the 44.01 Project in the Semail Ophiolite of Oman, is working with ultramafic peridotite.

Patafisik's photo of Italian listwanite was captioned with:

Come to the Sizan Quarry, between Sizan and Villa: the rocks are fault breccias from the Oligocene age, carbonised serpentinites, with the presence of chromium mica (fuchsitic), which gives the emerald colour. Challand-Saint-Victor, Aosta Valley, Italy.

Mariposite

Mariposite is named after Mariposa, California, where it is found in several outcrops.

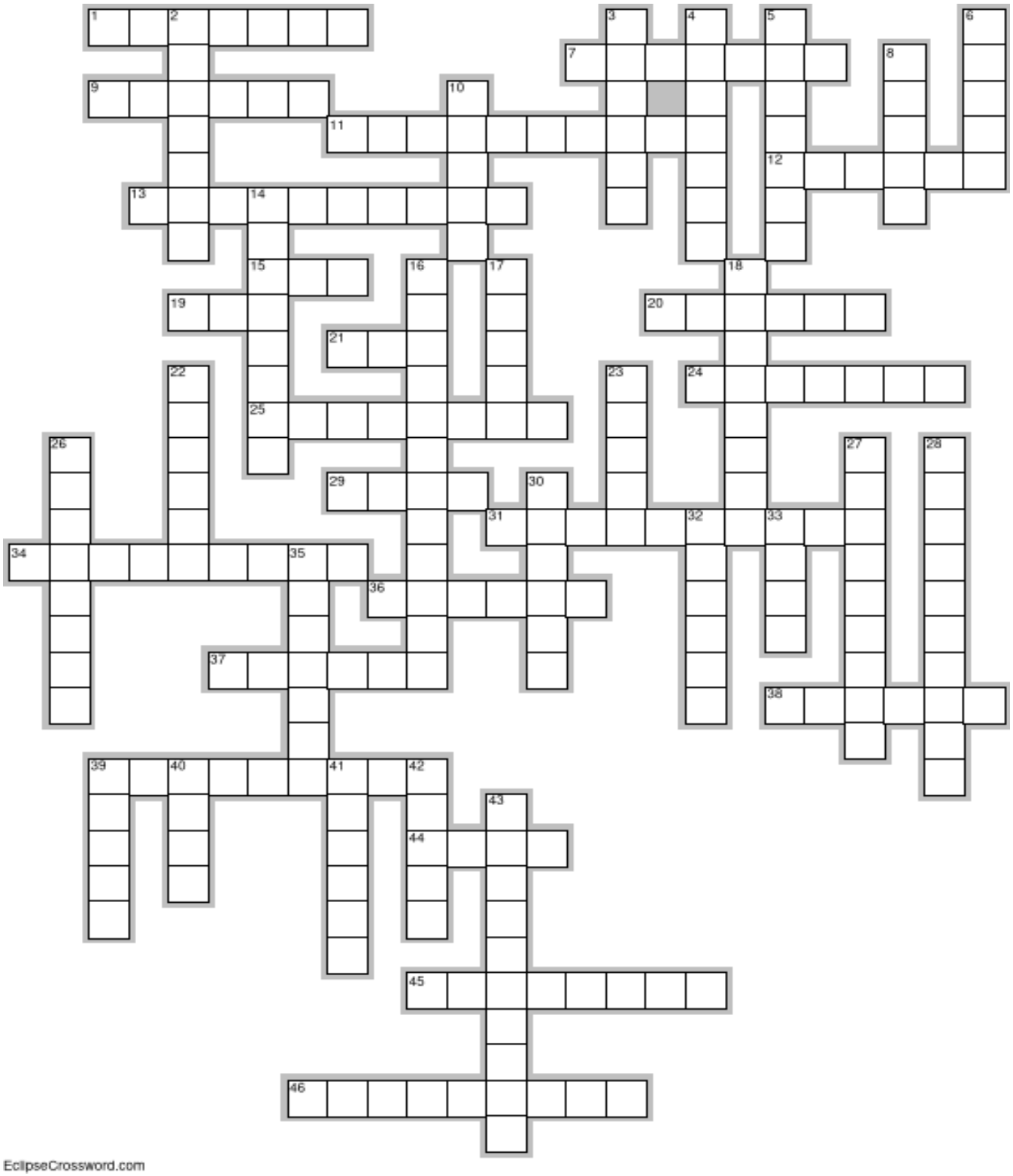
Mariposite is primarily green mica and it can contain minute specks or even small veins of gold.

During the California gold rush, prospectors sought mariposite, and sometimes were rewarded with gold.

Listwanite from a quarry in the region of Aosta Valley, in Italy

By Patafisik; License CC BY-SA 3.0

Listwanite Puzzle



EclipseCrossword.com

Across

1. place where rockhounders have been unearthing rocks
7. pertaining to the current subject
9. sunglasses
11. a rock that sounds like a snake
12. eagle toenails
13. a rock containing less than 45% silica
15. the non-melodic song of a black bird
19. enquire
20. a location for commercially digging out rocks
21. Ra was the Egyptian god of this
24. a tool for cutting stones
25. in process
29. the softest mineral
31. rock featured in this puzzle
34. first name in our name
36. the main component in 95% of known rocks
37. one type of igneous rock
38. man a screwdriver was named after
39. a family of minerals primarily composed of CO_{32-} such as dolomite and limestone
44. the sound of a lion
45. portable lights for camping
46. a member of Maplewood Rock and Gem Club, for example

Down

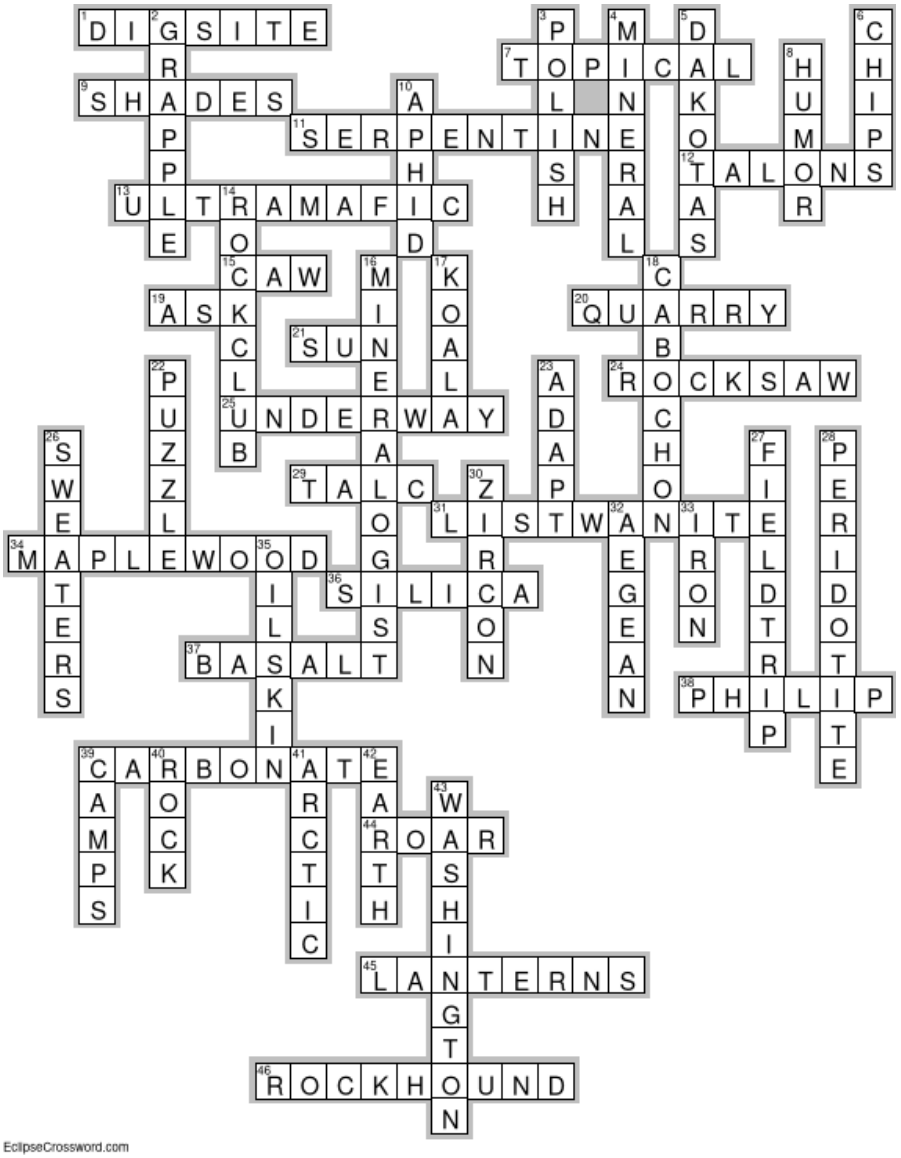
2. to seize, hold, or fasten
3. lapidary process for making rocks shine
4. a naturally occurring homogeneous solid with a definite chemical composition
5. a pair of states near Montana
6. small pieces of rock broken off of a larger piece
8. a good sense of _____
10. small insect that eats leaves; the favorite food of lady bugs
14. organization of people who like rocks
16. an expert in 4 Down
17. Australian animal that eats eucalyptus leaves
18. rock jewelry piece e.g.
22. Sudoku or Wordle e.g.
23. adjust, modify
26. something a rockhounder might wear in early Spring
27. an outing, such as one for finding rocks
28. ultramafic intrusive igneous rock that forms in the upper mantle of an oceanic crust
30. can look like a diamond, but is much less expensive
32. a warm sea near Greece
33. Fe
35. heavy cotton cloth made water resistant
39. places you would pitch tents on a rockhounding trip
40. solid substance made up of minerals
41. home to narwhals and polar bears
42. a planet in our solar system
43. a state where you can find listwanite

Words of the Month

Meta-quartzite is sandstone that was buried several miles below the surface and subjected to enough heat and pressure to fuse and re-crystallize the sand grains into a solid mass. This is a metamorphic rock. This is the most common variety of quartzite.

Ortho-quartzite is not a metamorphic rock. Ortho-quartzite is formed when sandstone is buried, but not as deep as for meta-quartzite. In this case there is enough pressure to compact the sandstone, but not enough to crystalize the sand grains. Instead, silica seeps into the cavities between the sand and solidifies making a strong sedimentary rock.

Listwanite Puzzle Answers



Connect with us

Website: http://www.maplewoodrockclub.com/
Facebook page: Maplewood Rock & Gem Club
Facebook group for members: MRGC Sales and Trades
Email us: info@maplewoodrockclub.com

Address: 8802 196th St SW, Edmonds, Washington 98026

Our Board

Our club is run entirely by volunteers; and we are grateful for the time, energy, and expertise they give to our community.

President: Michele McGraw
Secretary: Carla James
Treasurer: Bruce Samuels
Members at large: Nancy Ross, Rich Osborne, and Nancy Samuels.

Image licenses

We use abbreviations in the license attributions. Here are the definitions.

CC: Creative Commons license
BY: attribute the author, link to the license, and indicate if changes were made.
SA: share alike - If you publish the image, you must use the same license.
ND: no derivatives - You may not alter the image.
NC: non-commercial use - You may not use the image for commercial use.
3.0 or other number: version of the license

Sister Club in Australia

Our sister club in Australia is the Atherton-Tableland Mineral & Lapidary Club in Tolga, Queensland. Connect to them on Facebook:

www.facebook.com/groups/197340266987276

One hundred million years ago the eastern edge of the Australian continent extended much farther to the east. Tectonic forces broke off and submerged the eastern section into the ocean while a rising mantle caused the remaining land to lift.

Beginning 4 million years ago large basalt flows filled river valleys and formed a relatively flat landscape. Following that period the volcanoes became more gaseous spewing lava in violent eruptions. This landscape is now called the Atherton Tablelands. You can learn more on Wikipedia.

News to share?

Did you go rockhounding? Have you acquired a beautiful new specimen? Please send stories, images, or simply ideas for articles that Nancy would write to the newsletter editor, Nancy Samuels at MRGC@nancysamuels.com.

This issue

Maplewood Rock and Gem Club News

Volume 9, Publication year: 72