



Daisy Mountain Rockchips

The purpose of Daisy Mountain Rock & Mineral Club is to promote and further an interest in geology, mineralogy, and lapidary arts, through education, field experiences, public service, and friendship.

VOLUME 3, ISSUE 3

MARCH 2018

FOLIATED METAMORPHIC ROCKS — What are They? And a look at Slate, Phyllite, Schist, & Gneiss, Metaconglomerate

By Susan Celestian

Metamorphic Rocks are rocks that have been transformed. The agents of metamorphism are heat, pressure and chemically active fluids. Pressure may be the primary agent, as in deep burial of rocks, or along fault lines. This is called **dynamic metamorphism**. When heat alone effects change, it is called **thermal** or **contact metamorphism**, as what will occur where hot igneous rocks come in contact with cooler pre-existing rocks. Where heat and pressure are active agents, the result is **regional metamorphism**. This latter style is the most common, and is associated with major tectonic events, such as mountain building, and involves rocks over many square miles.

As a guideline, metamorphism involves changes that **exceed those involved in diagenesis** (those changes that occur when sediments evolve into sedimentary rocks -- such as cementation), up through near-melting. Throughout metamorphism, the rocks behave as solids -- although often as mushy or plastic solids capable of flow. Ion exchange and recrystallization of minerals occurs, to produce mineralogy that is in equilibrium with the new temperature/pressure regime. As the regime changes, so too will the mineralogical and physical characteristics of the rock change. There are two main categories of metamorphic rocks (see Table 1). For rock types, see Figure 2.

Hmmm... You DMRMC members are Gneiss; I will never take them for Granite!

Metamorphism continued on page 5.....

2018 ANTHEM GEM & MINERAL SHOW



SATURDAY MARCH 24 9am—5pm
SUNDAY MARCH 25 10am—4pm
BOULDER CREEK HIGH SCHOOL
40404 N. GAVILAN PEAK PKWY
ANTHEM, AZ

Kids Activities, Jewelry, Gems, Minerals, Fossils,
Fluorescents, Beads, Wire Wrapping, Geodes, Raffles
Adults \$3, Seniors and Students \$2,
and Kids 12 and under are FREE.

Sponsored by the Daisy Mountain Rock and Mineral Club
Contact: Ed Winbourne (978) 460-1528

The show is over, and while the final tallies on attendance and income are not yet in, everyone who was there feels it was a rousing success.

The club posters were beautiful!! Thanks Stan Celestian and Rick Jackson!

Prior to the event, Linda Roose and Ed Winbourne appeared on Midday Arizona. They did a fabulous job highlighting the activities. <http://www.12news.com/.../2018-anthem-gem-mineral-.../75-8042962>

Set-up went swimmingly. The Kid's Corner was a great attraction -- Thanks Bill and Jeanne Smardo, and everyone for all the work accumulating the specimens for that. I think it is a full-time job for the Smardo's!

Eight new members signed up! Thanks Tiffany Poetsch for womaning the membership table!

There were 32 great vendors! Thanks Jim Reed!

2018 Show continued on page 7.....

INSIDE THIS ISSUE

Foliated Metamorphic Rocks	1, 5-6, 9, 12-13
2018 DMRMC Rock and Mineral Show	1, 7-8, 13
Minutes	2
First Aid Certification Course	3
Field Trips to Red Cloud Mine & Pete the Miner	4-5, 10-11
Upcoming Field Trips; Donations Request	15-17
Show list, Club Information	18
Minerals in Our Everyday Lives - Foliated Meta Rox	19
Flagg Mineral Foundation Mineral Symposium	20-22

Board Meeting Minutes — March 6, 2018

The meeting was called to order by President Ed Winbourne at 5:12 PM. Those present were: Ed Winbourne, Tiffany Poetch, Tammy Early, Howard Roose, Joe Gecho, Victoria Peterson, Whit Revel, Claudia Merek, Cynthia Buckner, Sue and Stan Celestian, Bob Evans, Bob Salter, and Clark Little. A quorum was established.

Motion made and unanimously carried to accept the February minutes. Upon arrival of Howard Roose he asked the minutes reflect Bill Smardo and Claudia Marek volunteered to investigate starting a youth program as part of our Club. Approved.

Financial Report:

Cynthia gave the monthly report (attached to hard copy of minutes). The report was approved for audit.

Motion made by Howard Roose, seconded by Tiffany Poetch and unanimously carried to approve payment of Walkie Talkies when they arrive.

March Gem & Mineral Show:

To date we have \$9,966 in revenue from vendors with expenses of \$1443 and signage and printing of \$898; \$230 for advertising in the In & Out magazine. Ed reported things are going smoothly for the show.

Old Business:

Projector: Joe Gecho reported the Optimum 142X projector can be used with a laptop. It is a higher resolution projector. There was discussion on what to do with the old projector. As it will not bring much in a sale, there was discussion on keeping it or donating it. This will be carried forward to April meeting.

Education: Bob Salter reported on costs incurred in educational presentations, stating the costs are minimal. He and Bill Smardo felt that \$300 per year would cover display trays, travel expenses (fuel) and sample purchases.

Motion by Bob Salter, seconded by Howard Roose, and unanimously carried to approve establishing a yearly budget for Education Committee of \$300.

Respectfully submitted,
Victoria Peterson, Secretary

Membership Meeting Minutes - March 6, 2018

The meeting was called to order by President Ed Winbourne at 6:30 P.M. There were 57 present. The speaker for the evening was Stan Celestian, Geologist and Club Vice President. Stan gave a very informative and lively presentation on the Tucson Gem and Mineral Show held in February.

March Club Show:

Bob Evans discuss the show set-up plan and need for volunteers. Friday the show set-up will begin at 4:30 p.m. at Boulder Creek High School and those volunteering with the set up will be treated to pizza.

There will be a Show meeting Thursday, March 8th, 7 pm at the Civic Center, everyone is encouraged to attend.

Robin spoke about members are contributing free rocks and books for the show.

Raffle:

After the break, raffle items were donated by Ed, Tiffany, Dave, Sue and Stan, Winners were Maria, Little, Michael Polak, Panza family, Bill Smardo, Nancy Gallagher, Claudia Merek, Linda Roose, Val Latham, Doug Duffy, and Shirley Cote.

Financial Report:

Cynthia Buckner gave the financial report (full report filed for audit). The club has \$8919.26 receipts for show, \$20,525.56 in savings, with total cash of \$29,650.91.

Field Trips:

Stan Celestian reported on the trip to Sycamore Creek where lots of Jasper was collected and at the Red Cloud Mine fluorescent material was collected. The next field trip will be to Pete the Miner. The trip coordinator is Bob Salter and it will be on Saturday, March 31. There is no fee for this trip.

Attendees will meet at McDonalds in Wickenburg at 9 a.m. Pete has a gallery/gift store with onyx, wood and stone. He also says he has piles of assorted minerals for collecting.

There being no further business, the meeting adjourned at 8:10 p.m.

Respectfully submitted,
Victoria Peterson, Secretary

13 Club Members Take First Aid Class

On Tuesday, March 20th DMRMC members participated in a First Aid Certification Course, presented by the Anthem fire department. Through the viewing of numerous video scenarios, and some hands-on acquaintance with materials, they learned the basic actions needed, while awaiting the arrival of the experts of 911. Everybody passed the test, at the end!

Some old ideas went out the door -- like a new perspective on CPR. For example, CPR no longer involves mouth-to-mouth intervals for adults. It is compressions only:

Call 911, ask for defibrillator (AED - Automated External Defibrillator), get person on the floor

Listen for breathing, feel carotid for heartbeat, feel for breath on cheek, rub chest hard with knuckles (looking for a response) If there is no heartbeat, breathing, or response, proceed to CPR

Position yourself vertically over the patient

Cross hands and lock elbows (arms straight), positioned between the nipples of the patient

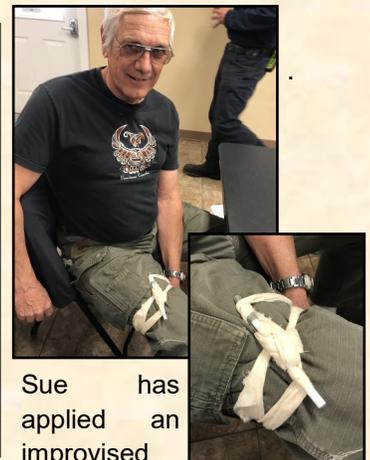
Push down, so that chest compresses at least 2 inches. Release. Repeat at a rate of 100-110 compressions per minute. If an AED is available, you can access a cadence count that will help you keep up the necessary pace.

If an AED is available, and there is no response to CPR, you may shock the patient¹, and then return to compressions. Reshock may be initiated after 2 minutes of continued compressions.

¹The AED speaks to you and talks you through the steps. It scans for the required lack of heartbeat, or irregular heartbeat, and will instruct you to shock the patient, only in specific circumstances.



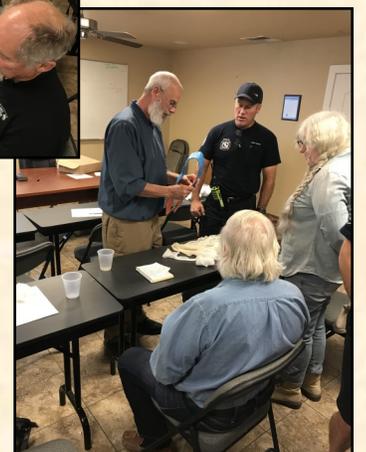
Left to Right each row: Jim Reed, Angela Azin, Laurie Manifold, Michael Pollock, Don and Wanda Richardson, Patrick Howley, Don Sechler, Howard Roose, Stan & Sue Celestian, Joseph Gecho, and Jennifer Gecho (behind the camera). Photo by Jennifer Gecho



Sue has applied an improvised

tourniquet to Stan's leg. Wanda uses a triangular wrap to create a sling for Patrick.

Those triangular wraps come in handy for all sorts of things! 🤪



Upper: Howard Googles for the cost of flexible foam splints; Right: Jim practices manipulating a flexible splint. Everyone should have one or two in their first aid kit! Available on Amazon in 3 colors.

FIELD TRIPS**SATURDAY, MARCH 3, 2018****RED CLOUD MINE***Photos by Susan Celestian*

The Red Cloud Mine, in the Trigo Mountains, was established in 1881, as a lead-silver mine. Serious mining proceeded until 1890, and again in 1949 (when \$1 million of silver was recovered from the dumps). Not much activity took place until 1938, when Ed Over produced world-class wulfenite (see the 1975 *Mineralogical Record*). Without a doubt, Red Cloud wulfenite is the most brilliant, gemmy orange-red wulfenite in the world -- often accented by tiny balls of red mimetite.



A nice-sized group made the long trek out to the Red Cloud Mine!

...Field Trips continued from page 4



Kofa Mountains, named for the King of Arizona Mine, are essentially a pile of horizontal beds of intermediate to mafic volcanic rocks. We passed these south of Quartzsite, on the way to the rendezvous point for the trip. Photo by Susan Celestian



Dump at the Red Cloud Mine



Roger, the mine manager and miner tells a bit of mine history, regional geology, and site orientation



Field Trip continued on page 10.....

...Metamorphism continued from page 1

TABLE 1 *Types of Metamorphic Rocks*

FOLIATED	These rocks display a sort of layering or parallel arrangement of minerals, that are flat or elongated (for example micas or tourmaline). Directed pressure forces the minerals to be arranged parallel to each other, and perpendicular to the pressure (see Figure 1).
NON-FOLIATED	When the minerals composing the parent rock are essentially equi-dimensional (for example, calcite or quartz), they are incapable of achieving any parallel arrangement. The resulting metamorphic rocks are dense and massive, without apparent foliation.

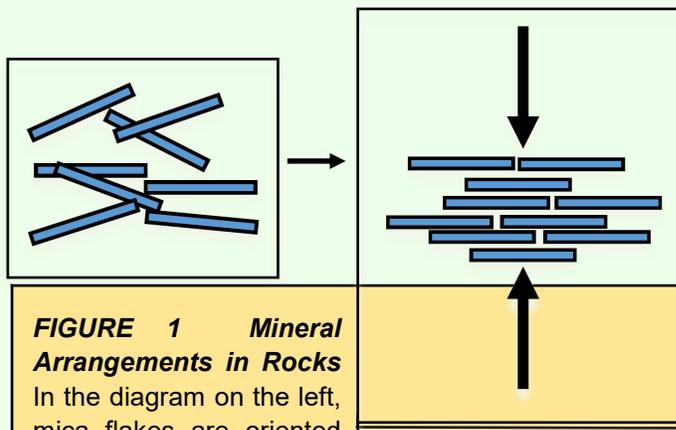


FIGURE 1 *Mineral Arrangements in Rocks*

In the diagram on the left, mica flakes are oriented randomly, as they would be in a sedimentary rock. On the right, directed pressure has forced the mica crystals to align parallel to each other, and perpendicular to the pressure.

Illustration by Susan Celestian

**FOLIATED METAMORPHIC ROCKS:
SLATE, PHYLLITE, SCHIST, GNEISS,
METACONGLOMERATE**

The foliated metamorphic rocks -- slate, phyllite, schist, and gneiss -- are listed in order from lowest- to highest-grade metamorphism. Low-grade metamorphic rocks were subjected to low temperatures (400-600° F) and pressures -- or high temperatures and low pressures, in the case of

Metamorphism continued on page 6.....

....Metamorphism continued from page 5

METAMORPHIC ROCK CHART

FOLIATED: Rocks with 'layers' or banding

SLATE: PARENT: **mudstone, shale or sometimes basalt**
Breaks into 'layers' or sheets (slaty cleavage)
Is denser/harder than shale, its parent rock
No visible crystals, although has a bit more sheen than shale

PHYLLITE: PARENT: **slate, mudstone, shale**
Very similar to slate, but larger crystal size (still invisible to naked eye) gives

SCHIST: PARENT: **mudstone, shale, granite or other igneous rock**
"Layers" (schistosity)
Very shiny, due to now-visible crystals of micaceous minerals - biotite, chlorite, muscovite

GNEISS: PARENT: **granite or sedimentary rock**
Black and white banding (due to the segregation of dark-colored, dense, and light-colored, less-dense minerals)
Crystalline

METACONGLOMERATE: PARENT: **conglomerate**
Retains look of sedimentary conglomerate, but is much denser (breaks through the pebbles) AND
Pebbles are squished, and elongated parallel to each other

NON-FOLIATED: Rocks with no 'layers' or banding

HORNFELS: PARENT: **mudstone, shale, clay-rich sedimentary rock**
Non-descript, dark, fine-grained, dense

MARBLE: PARENT: **limestone or dolomite**
Fine to coarse-grained (latter is sugary-looking)
Will fizz in acid (composition: calcite, dolomite)
Soft

QUARTZITE: PARENT: **quartz sandstone**
Very dense
Very hard (composition: quartz)

METACONGLOMERATE: PARENT: **conglomerate**
Retains look of sedimentary conglomerate, but is much denser (breaks through the pebbles)

SERPENTINITE: PARENT: **peridotite or Mg-rich gabbro/basalt**
Tends to be green-brownish, due to composition (serpentine-group)

ANTHRACITE: PARENT: **lignite, bituminous coal**
Black, shiny
Conchoidal fracture

Metamorphism continued on page 9.....

...2018 Show continued from page 1

The two food vendors served tasty food! Thanks Jackson's Beefy Dogs and Flyin' Hawaiian!!

The raffle prizes were great! Thanks donors/vendors!!

And we even had a celebrity guest -- Chef Ming from the Food Network! He even won a door prize.

Go to the club's Facebook page for more pictures, but here are a few I, your newsletter editor, took on Friday and Saturday.



A beautiful -- and surprise -- club poster by Laurie Manifold. Beautiful, Thanks Laurie!!



Setting Up on Friday afternoon.



PIZZA! After Set-up



BUSY, BUSY SATURDAY!



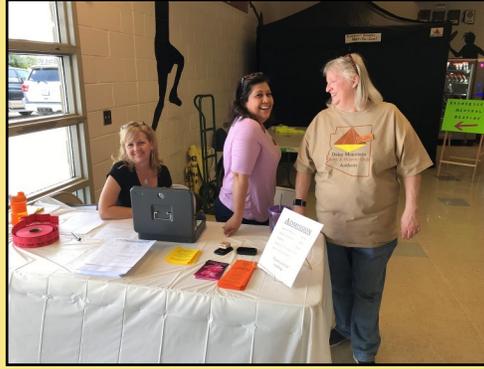
2018 Show continued on page 8.....



...2018 Show continued from page 7



Linda Roose and Jonathan Mitchell greet show visitors.



Greeters and ticket sellers give visitors a great first impression. Vanessa shows off her good side, while Ann Sailer and Lynnea Aanderud chortle with her. ☺

RAFFLE generates excitement!



Thanks Donors/Vendors for interesting and beautiful items!



Tammy Early mans the T-shirt sales table. New T-shirts were designed and ordered by Claudia Marek. Tammy also made jewelry for the TV spot, and donated some to the club sales table!

Howard Roose and Bob Evans sold treasures of Arizona and elsewhere at the club sales table.



Jennifer Gecho demonstrates wire wrapping and encourages folks to join her for the monthly classes.

2018 Show continued on page 14.....

...Metamorphism continued from page 6

contact metamorphism; while high-grade metamorphic rocks were subjected to high temperatures (> 600° F) and pressures. They (like all metamorphic rocks) occur in inter-grading zones around a magma body. The affected area may be only a few inches wide, or may extend for many miles -- all depending on the size and temperature of the adjacent magma body. See Figure 3.



FIGURE 4 Slate Photo by Stan Celestian

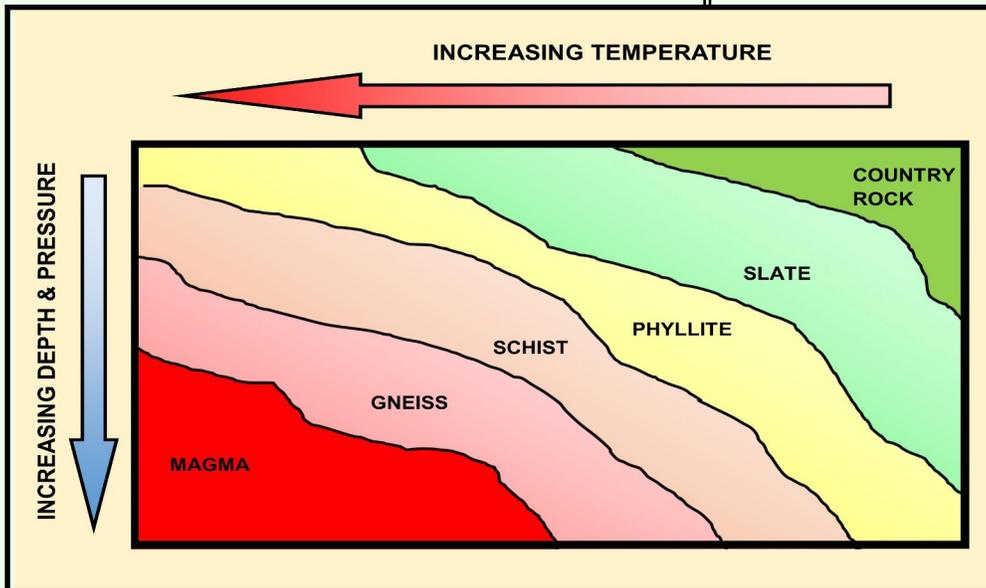


FIGURE 3 Metamorphic Zones Where the heat is greatest, adjacent to the intruding magma body, the parent rock experiences the most extreme changes (high-grade metamorphism), and the metamorphic changes decrease in degree as you move away from the magma body, and the temperature declines.

Illustration by Susan Celestian

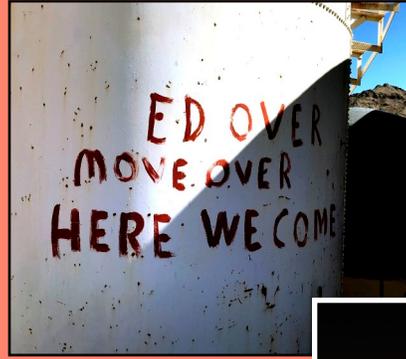
PHYLLITE results from a bit higher grade conditions. The micas begin to recrystallize into chlorite, and the crystals grow a bit larger -- although they are still not visible to the naked eye. However, the changes give phyllite a satiny sheen (*phyllitic sheen*). See Figure 5.

SLATE is a low-grade metamorphic rock, predominately derived from a parent shale. As the clays and micas start to align, the rock takes on a platy characteristic (*slaty foliation*), that may or may it all depends on the directions from which the pressure is exerted on the rock. There is not a major change in the mineralogy, although much of the clays re-crystallize into mica. Slate is denser than shale, and splits relatively easily into sheets, making it ideal as roofing shingles, pool table tops, flooring, and blackboards. See Figure 4.

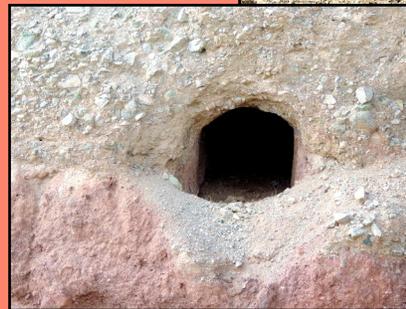


FIGURE 5 Phyllite Although looking very similar to slate, the platy crystals composing phyllite have grown large enough to impart a "phyllitic" sheen. Photo by Stan Celestian

...Field Trip continued from page 5



Collecting on the mine dump



Miners used to live in burrows in the hillsides -- not quite the Hilton!



Descending into the pit



Picturesque trash common to old mines

Field Trip continued on page 11.....

...Field Trip continued from page 10

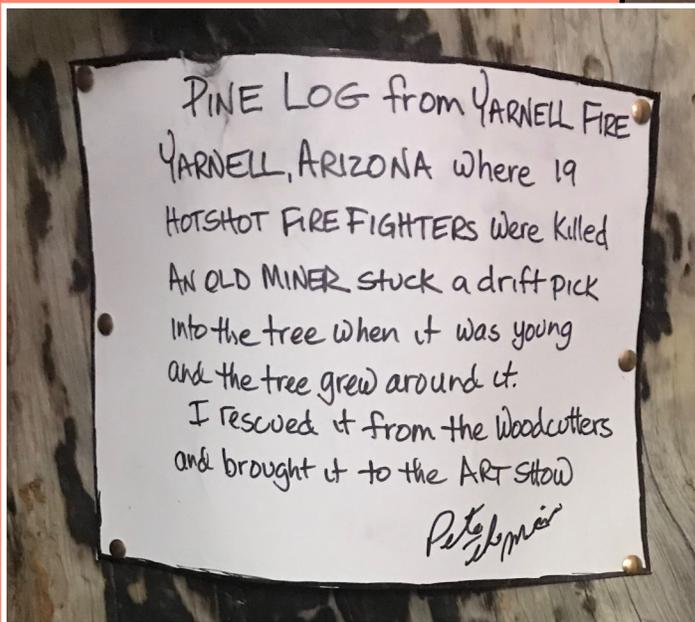
SATURDAY, MARCH 31, 2018

PETE THE MINER

Photos by Deanne Gosse



Big Saws! Big Yard! Big Sculptures!



...Metamorphism continued from page 9

In addition, very often other minerals crystallize within the mica groundmass -- minerals such as garnet, tourmaline, staurolite, and kyanite. These minerals are called *index minerals*, because they indicate more specifically what the temperatures and pressures were at the time the rock formed. In order of lower to higher-grade conditions, some of the index minerals are: chlorite, biotite, garnet, staurolite, kyanite, sillimanite. These large accessory minerals growing in the mica are called -- lovers of big words will like this one -- *porphyroblasts*. See Figures 6-8.



FIGURE 6 Tourmaline Mica Schist This rock is from near Castle Hot Springs. Notice that even the tourmaline crystals (porphyroblasts) are exhibiting rough parallelism. Photo by Stan Celestian

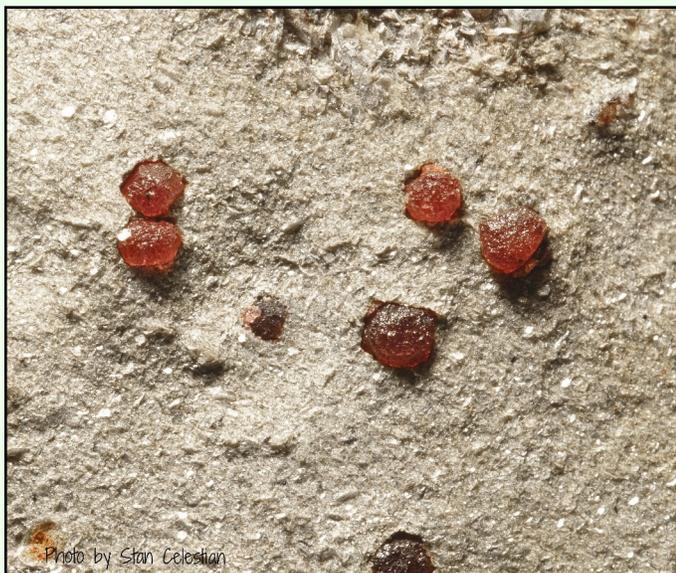


FIGURE 7 Garnet Mica Schist Pretty red garnets polka-dot this schist from Emerald Creek, Idaho. Photo by Stan Celestian



FIGURE 8 Pinal Schist This specimen displays extreme buckling of the mica layers, under compressive pressure. Photo by Stan Celestian

GNEISS is the highest grade of metamorphism, having been taken to the point of almost melting. The primary minerals are feldspar, pyroxene, amphibole, and quartz. Those should sound familiar, as they are the main components of most igneous rocks, also. In the case of gneiss, the foliation exists not as layers, but as banding. (*gneissic banding*). The banding is the result of the segregation of dark (ferromagnesian) and light minerals (quartz, feldspar, mica). The temperature/pressure conditions are so extreme, that the rock becomes mushy, or plastic, and is capable of deformational flow. See Figures 9-11.



FIGURE 9 Gneiss This gneiss is classically gneissic banded, and exhibits undulations, due to deformation and flow. Locality - Planet Ranch Road, north of Bouse, Arizona Photo by Stan Celestian

...Metamorphism continued from page 11

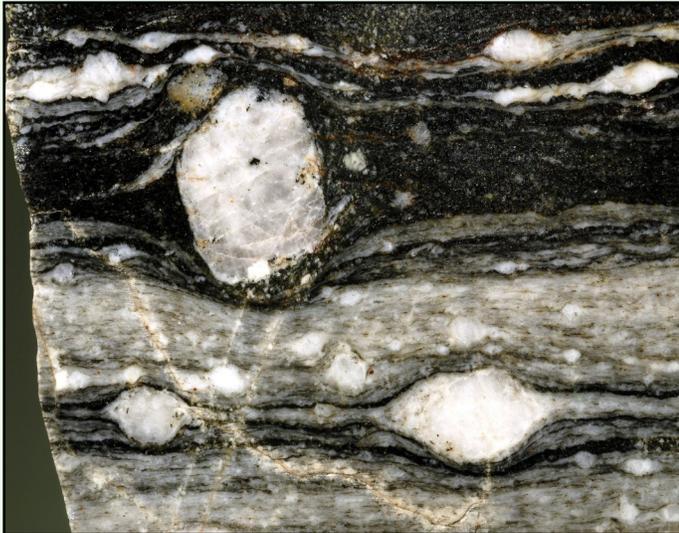


FIGURE 10 Augen Gneiss This gneiss is also beautifully banded, but it contains large streamlined porphyroblasts of feldspar and/or quartz. As the rock is compressed under extreme pressure, a mantle of new mineralization forms around the crystals, the crystals may rotate, and in the end streamlined, tapering clots dot the rock. These are called augen (German for 'eyes'). *Photo by Stan Celestian*



FIGURE 11 This is another augen gneiss. However, the augen are large garnets. *Photo by Stan Celestian*

METACONGLOMERATE is a rock type that can straddle the metamorphic fence, in the sense that it may be non-foliated or foliated. When the temperatures and pressures get high enough, the pebbles in the parent sedimentary conglomerate may become soft enough to flatten -- and they will flatten in a direction perpendicular to the direction of pressure, and hence lie parallel to each other. While the rock still looks very much like its sedimentary parent, with rounded pebbles, it is much denser. During the process of metamorphism, the edges of the pebbles become intergrown with the intervening matrix. When hit with a hammer, it will break through the pebbles (while a sedimentary conglomerate breaks around the pebbles.) See Figure 12-13.



FIGURE 12 Metaconglomerate This rock, from the shores of Lynx Lake, near Prescott, Arizona, got smashed when it felt pressures of life building up. *Photo by Stan Celestian*



FIGURE 13 This metaconglomerate has been sawn, exposing the intimacy of the pebble/matrix boundary -- this is a very dense rock. (Enlarge the view for a closer look!) *Photo by Stan Celestian*

...2018 Show continued from page 8



ROCKS,
MINERALS,
GAMES



GAMES AND PRIZES GALORE!



Bob Salter
arranged
rocks and
minerals
collected by
members,

plus
creations
wrought by
members



Nancy Gallagher called out winning raffle
and door prize numbers, and then Robin
Shannon awarded the prizes.



Dave Haneline arranged the
fluorescent booth, including a jar
of glowing scorpions, donated by
Stan Celestian. Here Esperite/Hardystonite (right) and a
brick (left duo), both from the famous fluorescence area of
Franklin/Sterling, New Jersey, show off their colors.

UPCOMING FIELD TRIPS

WHEN: March 31, 2018

WHERE: Pete the Miner

WHAT: Gold mine tour (fee)

WHEN: April 14, 2018 Be in Peridot by 10:25
Details to follow in an email.

WHERE: Peridot Mesa

WHAT: Peridot in basalt (fee)

LIMIT: 20

WHEN: April 28-May 1, 2018

WHERE: Topaz Mt., UT

WHAT: Topaz

This trip will necessitate one day of travel to the site, camping overnight, at least one day of collecting, and camping one more night.

[SEE POSTER PAGE 16-17](#)

WHEN: May 2018 (TBA)

WHERE: Payson area

WHAT: Zebra agate, peach agate,
Pennsylvanian fossils

WHEN: June 2018 (TBA)

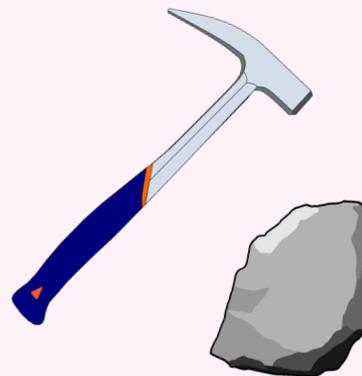
WHERE: Jerome

WHAT: Fossils, possible Gold mine tour (fee)

DATES SUBJECT TO CHANGE

NEEDED: QUALITY MINERAL (or OTHER) DONATIONS WITH LABELS -- for monthly raffle prizes, and for raffle and door prizes for the annual show. If you have specimens to donate, please see Robin Shannon. The Daisy Mountain Rock and Mineral Club is a 501(c)(3) non-profit organization, and will gratefully acknowledge your donation with a Tax Deduction Letter. Thank You!

“I'm fascinated by the narrative of geology, and I'm a veritable pack rat of a collector on the road. I keep a rock hammer in my car.” Marianne Wiggins



Sound familiar?

TOPAZ MOUNTAIN FIELD TRIP

April 28-May 1, 2018

Leader: Stan Celestian

You are invited on an epic journey to the Thomas Range of north central Utah. Within the range is Topaz Mountain. It has been a rockhounding mecca for many years. This year I am leading the pilgrimage to this iconic location to collect the treasures that lie hidden in the volcanic rock. Imagine the pure joy of the topaz crystals as they are released from their dark and lonely pockets in which they have endured without sunlight for millions of years. Their joy is nearly matched by the collector's excitement as they hold the newly freed gems in their trembling and blood stained hands. However, to set these little beauties free requires a bit of effort. First the drive to the locality is about 12 hours, which includes various mandatory stops. We plan on meeting at the intersection of Utah Route 6 and Brush Wellman Road which is about 11 miles northeast of Delta at 8 AM on Sunday morning April 28. The skies will be blue and the temperature a comfortable 75° F... perfect for the hike that awaits us. After a 42 mile drive (the last 4 are on a good dirt road) from the meeting place we will arrive at the camping area. In true rockhounding form, camping at its best - there are absolutely no facilities of any kind in the area. Once we are there the fun begins with a hike. The best collecting area is about 1/4 mile up the side of the mountain. We start at about 5800' and climb to about 6400'. The recommended gear for breaking the rhyolite boulders is a hammer, not a puny 2 or 3 pounder, but a beefy 12 or 16 pounder - something to make the rocks sing and echo off the surrounding mountains, a truly joyous sound. Pry bars, wedges, a smaller hammer (trimming) and a screwdriver are also useful to emancipate the topaz from the rocks. At the crystal dig site, I have found that a brief prayer to the crystal gods is also in order. However, to be appeased, they usually require a sacrifice of a bit of blood, which is inevitable when beating on the hard, ringing rhyolite. Oh, also bring safety goggles, gloves, sturdy hiking boots and a laser gun... a pack mule might be nice as well. (I think the club is going to purchase a couple.)

Once liberated from the rocks, you will want to treat them with kid gloves and the respect they truly deserve.

Protect your prizes promptly with all purpose paper and painstakingly pack them in a padded pouch for positive protection. As it turns out, the hike down is not as much fun as the hike up. With that in mind, be sure to bring a first aid kit along. You should also bring plenty of water as well as a light snack. You are not going to want to hike down for a lunch break and then back up for more collecting. That would be crazy. I suggest that you begin a workout routine now in preparation for the ordeal, I mean fun. (For those unable or unwilling to climb and dig, there are loose crystals in the washes at the bottom of the hill -- but they will be clear, having bleached out in the sunlight.)

I am planning on collecting Sunday and probably Monday as well. Sue and I will be camping at or near the foot of the trail that leads up to the collecting area. There will be a sign up sheet and an INDEMNIFICATION AND RELEASE AGREEMENT for the trip leader for the trip at the April 3 meeting for anyone interested in this adventure.

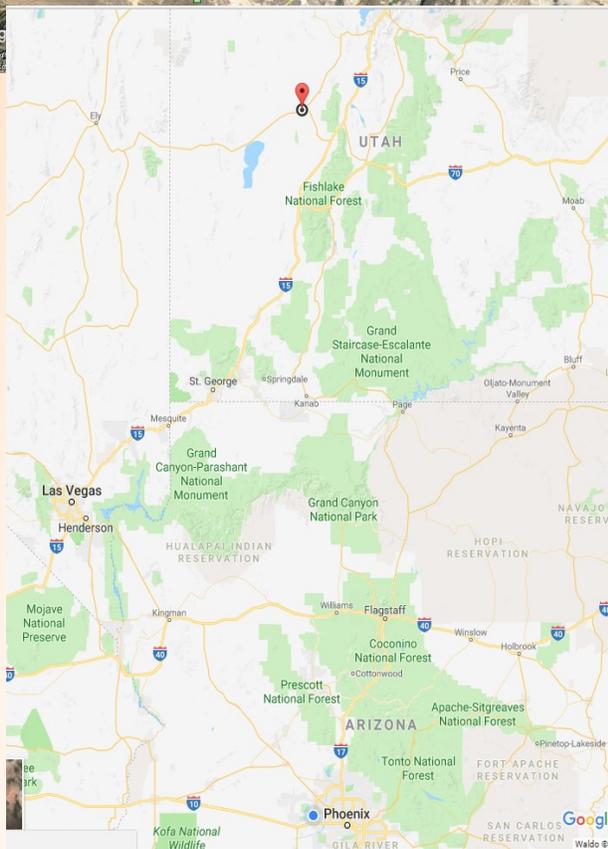
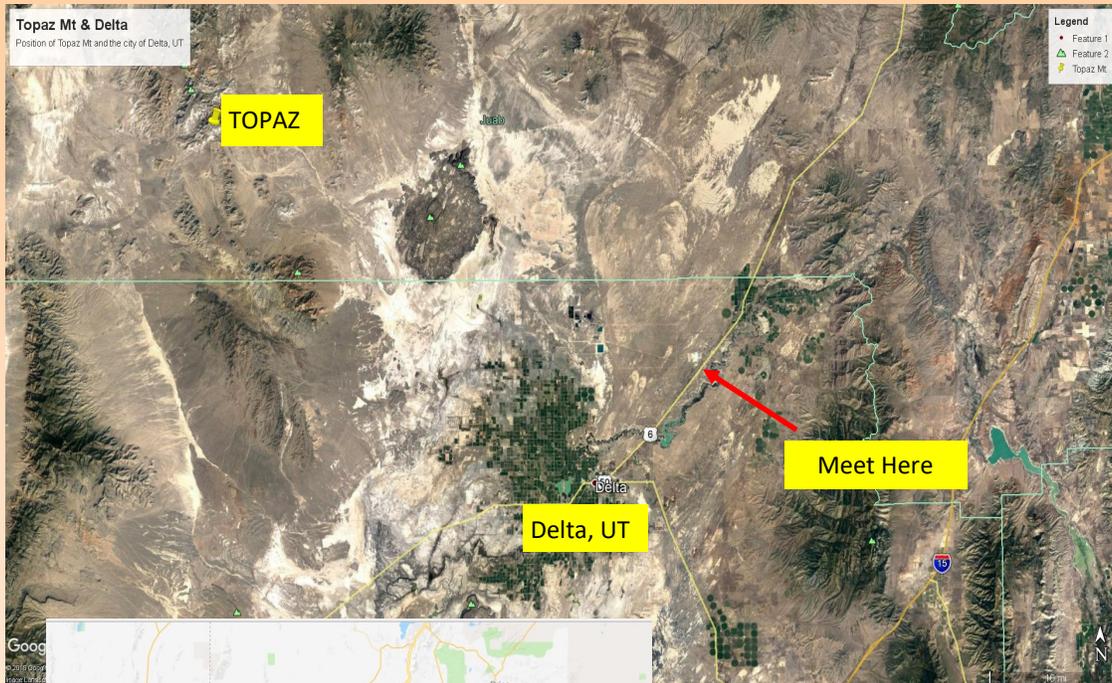


TOPAZ MOUNTAIN FIELD TRIP continued

Directions: If you are camping -- from Nephi, Utah, travel 33 miles southwest on State Highway 132 to Lynndyl. Turn south on U.S. Highway 6 and drive for approximately 5 miles. Turn west on the Brush Wellman road and travel 38 miles until you reach the Topaz Mountain sign. Turn north on the dirt road and drive about 2 miles, then turn west toward Topaz Mountain. Tenters can drive all the way into the "bowl"; RV'ers will have to camp outside the collecting area, where land is flatter, and shuttle in to collect.

If you are NOT camping: There are several motels in Delta, or even Nephi.

Meet site: intersection of Utah Route 6 and Brush Wellman Road which is about 11 miles northeast of Delta at 8 AM on Sunday morning April 28, 2018



As you approach the collecting area, the road may get rough, but there is a commercial collecting area there, and they probably keep the road quite passable.

REMEMBER: No facilities, so bring plenty of water, food, shelter -- and gas up

UPCOMING AZ MINERAL SHOWS

March 24-25 - Anthem, AZ Daisy Mountain Rock and Mineral Club; Boulder Creek High School Gym, 40404 N Gavilan Peak Pkwy; Sat 9-5, Sun 10-4; Admission: \$3 adults, \$2 seniors and children over 12, children 12 and under free.

April 28 - Cornville, AZ Verde River Rockhounds; Windmill Park, Cornville Rd; Sat 9-5; Admission: free.

May 5-6 - Kingman, AZ Mohave County Gemstoners; Kingman Academy of Learning (H.S. Gym), 3420 N Burbank; Sat 9-5, Sun 9-4; Admission: free.

June 1-3 - Flagstaff, AZ Coconino Lapidary Club; Silver Saddle Outdoor Market, 9001 US 89 N (US 89N & Silver Saddle Rd); Fri-Sat 9-5, Sun 9-4; Admission: free.

July 7-8 - Pinetop, AZ White Mt. Gem and Mineral Club; Hon-Dah Casino & Resort, 777 Highway 260; Sat 9-6, Sun 9-4; Admission: \$2.

August 3-5 - Prescott Valley, AZ Prescott Gem and Mineral Club; Prescott Valley Event Center, 1301 Main St.; Fri-Sat 9-5, Sun 9-4; Admission: Adults \$5, Seniors/Students \$4, children under 12 free with paid adult.

October 12-14 - Buckeye, AZ West Valley Rock and Mineral Club (HelzaRockin' Gem and Mineral Show); Buckeye Arena, 802 N 1st St (Miller Rd); Fri-Sat 9-5, Sun 9-2; Admission: Adults \$3, children under 13 free, with adult.

October 13-14 - Sierra Vista, AZ Huachuca Mineral and Gem Club; Cochise College, 901 N Colombo Av; Sat 9-5, Sun 10-4; Admission: Free.

October 20-21 - Sedona, AZ Sedona Gem and Mineral Club; Sedona Red Rock High School, 995 Upper Red Rock Loop Rd; Sat 10-5, Sun 10-4; Admission: Adults \$3, children free.

November 2-4 - Black Canyon City, AZ High Desert Helpers; High Desert Park, 19001 E. Jacie Ln.; Fri 9-4, Sat 9-5, Sun 9-4; Admission: Free. (Interesting group: http://www.highdeserthelpers.org/?page_id=12)

If you are travelling, a good source of shows AND clubs is <http://www.the-vug.com/vug/vugshows.html> or <http://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=AZ>

For out-of-the-country shows: <http://www.mindat.org/shows.php?current=1>

A good source for a list of Arizona Mineral Clubs and contact information is <http://whitemountain-azrockclub.org/>

NOTE FROM THE EDITORS

Have a geological interest? Been somewhere interesting? Have pictures from a club trip? Collected some great material? Send us pictures -- or write a short story (pictures would be great). We encourage topic suggestions also.

Deadline for the newsletter is the 22nd of the month.

Mail or Email submissions to:

Susan Celestian
6415 N 183rd Av
Waddell, AZ 85355
azrocklady@gmail.com

Facebook

Visit the club page periodically. See what is happening, and boost our visibility on the web. Go to: [The Daisy Mountain Rock and Mineral Club](#). It is set up so you can post photos of outings or related items.

WEBSITE

<http://www.dmrmc.com/>

Here you will find photos highlighting field trips, activities/classes, and our show, links to rockhounding regulations, newsletter archive, geologic articles, and links to geologic resources.

If you have comments, contact webmaster, Nancy Gallagher.

Officers and Chairpersons

President: Ed Winbourne.....ewinbourne@gmail.com

Vice President: Stan Celestian

Secretary: Victoria Peterson
g.victoriapeterson@yahoo.com

Treasurer: Cynthia Buckner

Publicity: Howard Roose

Membership: Tiffany Poetsch tnpoetsch@gmail.com

Editors: Susan & Stan Celestian.....
azrocklady@gmail.com

Field Trip: Stan Celestian stancelestian@gmail.com

Show Chair: Ed Winbourne

Meetings are held the **1st Tuesday of the month** at the **Anthem Civic Building**, 3701 W Anthem Way, Anthem, AZ 85086. Business meeting at 6:30 pm. We **do not meet in July or August.**

DMRMCLUB@GMAIL.COM

Membership Dues: \$20.00 Adults per Person
\$25.00 Family (2 people)
\$ 5.00 Additional children

Meeting Dates for 2018

Jan 2, Feb 6, Mar 6, Apr 3, May 1, June 5, Sept 4, Oct 2, Nov 6, Dec 4

MINERALS IN OUR EVERYDAY LIVES

Uses of Slate

Roofing: shingles and other coverings (slate is chemically resistant, moisture resistant, wind resistant, and has good insulating capabilities -- may survive and be effective for hundreds of years)

Flooring: interior or exterior (slate has good earthy colors, and is durable, non-porous, non-slip)

Cladding: shower/tub surrounds, walls, kitchen backsplash, hearths (slate will not fade - even when subjected to UV, is fireproof, and functions as electrical insulator)

Countertops and laboratory tops

Blackboards

Writing slates

Landscaping: paving stones, patio stones (see flooring)

Tombstones

Billiard Tables: slate is dense/fine-grained and elastic

Uses of Phyllite

See Slate: (phyllite shares many of the uses of slate -- flooring, cladding, writing slates, garden stone -- however, it may not be as durable as slate)

Aggregate: construction, road

Uses of Schist

Schist typically is rarely used as a construction or decorative material, as it is quite susceptible to weathering and deterioration, so is not durable.

However, it may be a source of tiny flakes of mica used in:

Cosmetics and Toothpaste: glitter

Paint: brightener, extender, increases durability and resistance (as flakes line up to create a barrier)

Joint Compound: filler, improves workability and consistency, crack prevention

Electrical Insulation

Grease: increase durability and improve surface

Drilling Fluids: seals porous sections of drill holes

Plastics: filler, reinforcer, reduces warping, increases heat stability, increases stiffness/strength/mechanical properties



26TH ANNUAL MINERALS OF ARIZONA SYMPOSIUM



APRIL 13TH, 14TH and 15TH 2018
DRURY INN - TEMPE

CHAIRPERSONS:
Phil Richardson
Ray Grant



**Minerals of Arizona
Twenty-sixth Annual Symposium**

Friday April 13, Saturday April 14, and Sunday April 15, 2018

@ Drury Inn – Tempe 1780 W. Ranch Rd.
(SE corner of Warner and I-10) in Tempe (Phoenix)
The Drury rooms include breakfast, happy hour and snacks.
For non-dealers contact the hotel directly at 480-940-3700

If you want a selling table you need to reserve a room by contacting Phil Richardson at richardsonutaz@gmail.com or call 602-679-0740

Friday Program:

Micro mount session 3 to 5 PM
Tailgating session 5 to 10 PM

Saturday Program:

Light Breakfast at 8 AM, talks from 9 AM to 4:00 PM at the Drury Inn – Tempe, program talks will include:

- Arizona Pseudomorphs
- Pioneer District, Pinal County
- Color of Wulfenite
- Remembering Dr. Arthur Roe
- Heavy Metals in Quartzite

Dinner at 6:00 PM with an auction of donated items.

Mexican Dinner Banquet at the Drury Inn, speaker Catie Carter, Curator of the Arizona Mining, Mineral, and Natural Resources Educational Museum.

Sunday Program: 9 AM to 11 AM: Portable XRF for analyzing gold and other minerals for their chemistry; trading or selling by individuals.

Dealers: Friday evening 5 PM to 10 PM there will be a mineral sale with dealers selling from a meeting room (each dealer can have one 8' table). Dealers may also sell on Saturday and Sunday during free time.

Registration: The registration fee (\$45) includes: Saturday light breakfast, coffee breaks, Saturday lunch, and Symposium Proceedings. The Dinner (Mexican Buffet) on Saturday night is an additional \$20.
Registration Form on next page.

Go to flaggmineralfoundation.org for the latest information.

Application form on page 22

**Minerals of Arizona
Twenty-sixth Annual Symposium
April 13-15, 2018**

Registration Form:

Please mail this form with the \$45.00/person registration fee before April 10, 2018, so lunch and other food can be ordered. Banquet cost is an additional \$20 per person.

Mail to: Flagg Mineral Foundation
P.O. Box 41834
Mesa, Arizona 85274

Make checks payable to: Flagg Mineral Foundation

Enclosed is _____ x \$45 for registrations and _____ x \$20 for Saturday Dinner.

Total \$_____ enclosed

Name(s)

Address

Email