

# 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.

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This is an Inuksuk -- or more properly *inunnguaq*. In general, inuksuit (plural) are single rocks or cairns (stacked rock) that the Inuit, and other tribes of the Arctic, use as navigation indicators, markers for food caches or hunting grounds, and as message centers. In more modern times the related inunnguaq took on a more human form, perhaps with spiritual meaning. For the 2010 Vancouver Olympics, Canada adopted the humanoid inuksuk as the official logo, and the figure above -- made of British Columbian nephrite -- was purchased as a souvenir.



# JADEITE

Really Jade: Jadeite vs Nephrite

By Susan Celestian

I've been writing these articles in alphabetical order, and this month's should be "I". However, I also like to write about something that you might reasonably collect, or something popular. And after Ice, there really aren't any I-minerals that you are likely to encounter. SO, I'm skipping to J. AND since I chose Jadeite, I'm also going to include Nephrite, as they are collectively known as Jade.

Jade has been a prized gem material in Asian countries (China, Japan, Korea, Myanmar, India, Philippines, and others) for a very long time. It's a little hard to get a definitive figure, but evidence of the use of jade in Japan and China goes back to 6000 BC (according to Wikipedia) -- that's over 8000 years! Despite noticeable variations in the properties of jade material, it was not until 1863 that Alexis Damour established that "jade" could be divided into two different minerals: jadeite (composed of pyroxene) and nephrite (composed of amphiboles).

**Jadeite Chemical Formula** -  $\text{Na}(\text{Al}, \text{Fe}^{3+})\text{Si}_2\text{O}_6$

**Crystal System** - Monoclinic (3 axes of unequal length, and one not at 90° to the other two)  
Go to <https://www.mindat.org/min-2062.html>

**Growth Forms/Habits** - massive, fibrous, granular

**Hardness** - 6-7

**Luster** - Sub-Vitreous, pearly, sugary

**Streak** - white

**Color** - white, apple-green, green-white, purplish blue, violet, blue-green, black; may be banded or spotted

**Diaphaneity** - translucent to opaque

**Specific Gravity** - 3.24-3.43

**Cleavage** - generally not seen

**Fractures** - splintery

**Other** - sometimes confused with serpentinite, however the latter is much softer and less dense (lighter).

**Uses** - axe heads, beads, carvings, jewelry, bowls/containers

Jadeite is principally sourced from Myanmar (formerly Burma). Deposits are also known from Russia, British Columbia, Japan, Northern Italy, Guatemala, and the United States, with minor deposits elsewhere around the world.

Jadeite forms by metamorphosis (metasomatism: fluid facilitated chemical reactions) at high pressure/low temperature regimes associated with subduction at continental margins - generally associated with serpentinite. Composed of compact to somewhat fibrous microcrystals, it is fairly hard (only slightly less hard than quartz), and very tough (i.e. hard to break). Polished surfaces are vitreous in luster. Typically it occurs as pods or veins. It is harder and heavier than nephrite.

**Nephrite Chemical Formula** - It is a ROCK, composed of minerals in the actinolite-tremolite series  $(\text{Ca}_2(\text{Mg}, \text{Fe}^{2+})_5\text{Si}_8\text{O}_{22}(\text{OH})_2) - (\text{Ca}_2(\text{Fe}^{2+}, \text{Mg})_5\text{Si}_8\text{O}_{22}(\text{OH})_2)^4$

**Crystal System** - The minerals are both monoclinic

**Growth Forms/Habits** - massive to fibrous

**Hardness** - 6-6.5 (although may be locally harder with included minerals)

**Luster** - sub-vitreous, dull, greasy, waxy

**Streak** - white

**Color** - white, greens, gray, yellowish; sometimes black, red, pink, violet; often spotted or banded

**Diaphaneity** - translucent to opaque

**Specific Gravity** - 2.95

**Cleavage** - generally not seen

**Fractures** - splintery

**Other** - sometimes confused with serpentinite, however the latter is much softer and less dense (lighter).

- may have included garnet, magnetite, chromite, graphite, pyrite, and other minerals

- state mineral of Wyoming

These days, the principal source of nephrite is British Columbia, Canada. Other important sources lie in China and Siberia. Australia & New Zealand are additional sources. Although, there are sites for rockhounds to collect nephrite in Wyoming, coastal central and northern California, and Alaska.

[Jade](#) continued on 19...

## INSIDE THIS ISSUE

Each item is now hyperlinked to the page on which it is found

Jadeite - OR -- Jade: Jadeite vs Nephrite	2, 19-22
Speaker of the Month -- <a href="#">Michael Sandford</a>	3
DMRMC Scholarship Winner - <a href="#">Grace Mills</a>	3
April Board & General Meeting <a href="#">Minutes</a>	4-6
DMRMC <a href="#">Picnic</a> in review	7-8
Field Trips: <a href="#">Sycamore Creek</a> , <a href="#">Agate Mt.</a> , <a href="#">Luna, NM</a> , <a href="#">Globe</a> , <a href="#">DoBell Ranch</a> , <a href="#">Payson</a>	9-18
Geo Mini : <a href="#">Tafoni</a>	23-24
<a href="#">Club Information</a> , <a href="#">Field Trip Schedule</a>	25
<a href="#">Announcements</a> , <a href="#">Show list</a> , <a href="#">Words of Wisdom</a>	26-27

## MAY SPEAKER - Michael Sandford

Opened in February 14, 2020, the Black Canyon Mining & Mineral Museum was established to preserve mining history mines associated with Black Canyon City (particularly the Maggie Mine, Kay Copper Mine, and Tip Top Mine. As co-founder and reigning curator, Michael Sandford introduced the museum to the club.

The museum is arranged as a chronological story of the area, including fossils from the more ancient rocks, native archaeological history/artifacts, minerals, meteorites, and mining history/artifacts.

A small mineral show was to occur the weekend after the meeting, and the plan is to have an event twice a year -- in May and October.



Traditionally a live canary accompanied miners into the mines. If noxious gases were present, the canary would die, thus signaling the alarm to vacate the area.

### **BLACK CANYON MINING & MINERAL MUSEUM**

**34301 S. Old Black Canyon Hwy  
Suite 7**

**Black Canyon Plaza**

**P.O. Box 1521 Black Canyon City, AZ  
85324**

**(623) 374-5798**

**Currently open Saturdays only 10-4  
Normal days (Wed-Sat) will probably  
resume in the Fall.**

## AND THE WINNER OF THE 2022 DMRMC SCHOLARSHIP IS.....

**Grace Mills**



Grace will be receiving \$1000 from the DMRMC, to pursue her degree in Environmental Engineering at the Colorado School of Mines in Golden, Colorado.

Grace has excelled in her academic pursuits, including Advanced Placement classes. She is in the Boulder Creek HS (BCHS) Wind Ensemble and Marching Band, and has served as vice-president and president of the Band Council. She has played varsity soccer all for years at BCHS. And she is a member of the National Honor Society, through which she volunteers an average 2 hours per week. Grace will graduate with a 4.76 GPA.

Grace's AP Calculus teacher says of her: *It is clear to me that Grace is a gifted, highly motivated young lady with tremendous character and integrity.*

And in Grace's own words on her application to DMRMC: *I am planning to pursue a career in environmental engineering in order to help develop infrastructure that will mitigate the negative effects humans have on Earth's natural processes. This career stood out to me because it combines my two greatest interests -- environmental conservation and mathematics -- in a way that can have a lasting positive impact on the world.*

**CONGRATULATIONS GRACE!**

May 2<sup>nd</sup>, 2022

### Zoom Board Meeting Minutes

- In attendance: Bill F., Bob S., Claudia M., Deanne G., Don R., Ed W., Rebecca S., Renee I., Stan C., and Sue C.
- Bill F. called the meeting to order
- April minutes accepted
- Deanne G. talked about the finances
  - Income from lapidary, t-shirt sales, and member dues
  - Expense from club picnic, t-shirt refund
  - School has not sent invoice from the show yet
  - Show yearly comparison was done
    - More children attended in 2019
    - Less vendors in 2022
    - Spent less on ads in 2022
    - Spent more on rentals in 2022 (inflation was a factor)
    - Some items were hard to compare due to more in-depth breakdown of each section in 2022
      - Will continue to separate kid's corner, raffle, admissions, club sales, and food moving forward
  - Cynthia B., the previous treasurer, had a stroke
    - Club approved to send her flowers
    - We all hope that she makes a speedy recovery
- Claudia M. discussed the 2022 scholarship winner
  - Grace was approved to receive award
    - Will go to Colorado School of Mines for Env. Engineering
    - \$1,000 will be awarded
  - Board approved award to be increased to \$1,000 moving forward
    - A specific money-generating event was suggested to help offset price increase
    - Club already raises funds for scholarship with general meeting raffles, show income, and other income
  - The board will consider allowing previous winners to reapply for scholarships in the future
    - To be voted on in future meeting
- Tiffany P. talked about the membership
  - At time of meeting, active member count was at 285
    - Children under 18 are free
- Stan C. discussed the claim's committee
  - Went to Mushroom Rhyolite site
    - In the BLM map, NE section 21
    - Looking at a 6-acre area in question

...Minutes continued from page 4

- Geodes, quartz crystals, rhyolite, epidote, and chalcedony can all be found on site
    - May claim 2 small 600ft x 300ft areas
    - Will cost around \$125/yr each as surface-only claims
      - Will check with BLM list for active claims
      - Then will start the paperwork to purchase claim
  - Will charge other rockhounds to use claim(s)
- The club picnic was discussed
  - About 46 members attended (76 ~~rsvp~~ed)
  - Thank you, Stan C., for bringing the cornhole and prizes
    - Will do games/activities moving forward
  - Great times, laughs, conversations, and food had by all who attended
  - Leftovers will be brought to general meeting
  - Thank you, Claudia M., Renee I., and Ron I. for setting up picnic
- Wire wrapping is still on pause
  - Unless someone wants to volunteer to teach class
    - Email [dmmclub@gmail.com](mailto:dmmclub@gmail.com) if interested
- Bill F. talked about the field trips
  - Always RSVP to field trips with name, # in party, and location
  - Dragon mine was well attended
    - Everyone found thundereggs at location
  - Luna Agate was moved to May 20<sup>th</sup>
    - Will be a weekend trip
      - Camp or use hotel nearby
  - The CO trip in June may not happen
    - Check emails for updates
  - Dobell Ranch may be added
    - Check emails for updates
  - Rocky Mountain Federation conference is coming up
    - All members are welcome to attend
    - Can vote on matters at conference
  - July and August will only have out-of-state or indoor trips
    - Phoenix area is too hot those months
  - Members can always suggest locations for field trips
    - Email [dmmclub@gmail.com](mailto:dmmclub@gmail.com) with suggestions
- The 2022 rock show was recapped
  - Invoice from the school has not been sent to club yet
  - The principal of the elementary school is leaving this year
    - May alter arrangement with school
  - Vendor price may increase next year
    - Will be voted on in future meeting
  - Only service dogs will be allowed inside gym next year
    - Some vendors have allergies

Minutes continued on page 6....

...Minutes continued from page 5

- It was beneficial to avoid Anthem Days
  - Overall, the show was a great success
    - Thanks again to everyone who helped make it so!
  - Stan C. discussed the silent auction
    - Photos posted on club Facebook page
    - Will have 2 items for May general meeting
  - Art submissions were discussed
    - Will discuss voting when all submissions are received
      - Voting will depend on amount of submissions
      - May 29<sup>th</sup> due date
      - Submissions should be in final format
  - A member suggested adding more kid friendly events to schedule
    - Do not have enough volunteers for summer camp at this moment
      - Will revisit idea in future
    - Children are always welcome to attend field trips
    - Will try to add more museums to schedule
    - Will consider adding special junior 30-min meeting in the future
    - We have more STEM nights planned this year
      - That could help grow our junior participation
      - Currently have about 15 junior members in club
- Please remember to always wear your name tag during club events

I was unable to attend the general meeting, but all pertinent information was covered in the board meeting.

Respectfully submitted,

Rebecca Slosarik

## ADD SOME EXTRA NICE SPECIMENS TO YOUR COLLECTIONS WITH THE MONTHLY SILENT AUCTION



DINOSAUR BONE  
GUITAR PICK made  
by DMRMC member  
Steve Goldberg

**THE MONTHLY RAFFLES  
ARE SO MUCH FUN!**



# CLUB PICNIC Saturday, April 30, 2022

*Photos by Susan Celestian & Claudia Marek; text by Susan Celestian*

About 40 club members gathered at Anthem Community Park for a repast of hamburgers, hotdogs, augmented by tasty salads and desserts. Stan Celestian brought a cornhole board and orchestrated a competition for rock-related prizes (that he made). The weather was divine, and everyone had a great time, eating and socializing.



Master Chef Ron Isaak



Master Organizers Renee Isaak & Claudia Marek



# Celebrate!



*Picnic continued on page 8....*

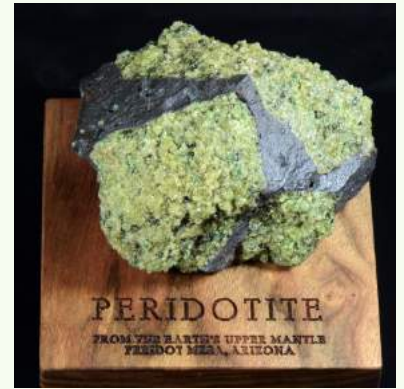
...Picnic continued from page 4



Entertainment Director  
Stan Celestian



FIRST PLACE - Clark Little



SECOND PLACE - Yolanda Josey

Despite a couple of "toss offs", a clear Third place winner could not be established, so First & Second place winners chose their awards. Clark chose a mounted chunk of peridotite from San Carlos Reservation, and Yolanda chose a lighted acrylic carving (by Stan) of a crystal collected by Stan at the Red Cloud Mine, complete with remote control.

*Build up your muscles.  
You never know when  
cornhole might appear  
again!*





# FIELD TRIP TO SYCAMORE CANYON

## Saturday, May 7, 2022

*Photos & Text by Bill Freese*

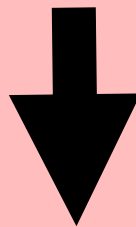
A dozen folks joined me on an easy trip to Sycamore creek between Fountain Hills and Payson. We all were able to get some beautiful Jasper specimens. The bright red is usually the prize but there are other colors as well. Everyone filled their buckets quickly and enjoyed the warm day with a little breeze. Rockhounding is fun!



A new member takes home a big beautiful boulder.



Nice bright red with white quartz veins!



FOR MORE PHOTOS OF THIS TRIP, CHECK OUT THE [DMRMC FACEBOOK PAGE](#)

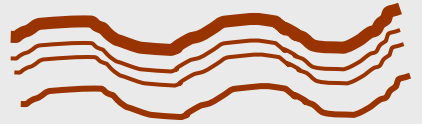
...Field Trips continued from page 9

# FIELD TRIP TO AGATE MOUNTAIN

## Wednesday, May 11, 2022

Text and photos by Bill Freese & Susan Celestian

The DMRMC had a mid-week trip this week to Agate Mountain, east of Payson, AZ. I told everyone that this trip is 4x4 only, so we had a few folks that needed to truck-pool. We ended up with 14 rockhounds including myself and we used 6 vehicles. This trail takes you to the top of Agate Mtn which is comprised of all quartz, much of it banded. Plenty to choose from in different colors and patterns. All had an adventure with treasures to take home.



Field Trips continued on page 11....

...Field Trips continued from page 10

**AGATE MOUNTAIN continued:**

*The Flora*



Arizona Mariposa Lily  
(*Calochortus ambifuus*)



Southwestern Mock  
Vervain (*Glandularia  
gooddingii*)



Toumey's Agave (*Agave toumeyana*)



Engelmann's Hedgehog  
(*Echinocereus engelmannii* ssp  
*fasciculatus*)



Engelmann's Prickly Pear  
(*Opuntia engelmannii*)



Spreading Fleabane  
(*Erigeron divergens*)



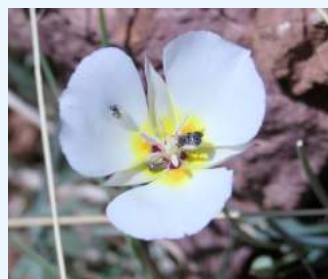
Spinystar (*Escobaria vivipara*)



Panamint liveforever  
(*Dudleya saxosa*)



Pinkflower Hedgehog  
(*Echinocereus bonkerae* ssp  
*bonkerae*)



Winding Mariposa Lily  
(*Calochortus flexuosus*)



Red-Gland Spurge  
(*Euphorbia melanadenia*)

....Field Trips continued on page 12...

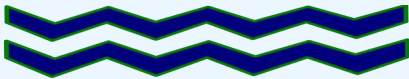
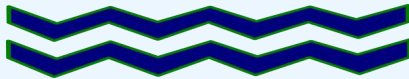
...Field Trips continued from page 11

# FIELD TRIP TO LUNA AREA

## Saturday/Sunday, May 21-22, 2022

Text by and photos by Bill Freese (unless otherwise indicated)

OMG, what a weekend! The DMRMC took an extended weekend trip to the far east side of AZ. We stayed in Springerville which was very friendly. We ventured out to multiple locations by Luna Lake and in NM looking for Luna Agate. We were very successful at some locations and all of the 18 folks on the trip had a great time. I will bring some samples to our June meeting. Everyone arrived on Friday and had dinner at a local restaurant, then Saturday & Sunday were the big collecting days. Ten stayed over until Monday, and were treated to a presentation from paleontologist Doug Wolf. Then we went out looking for some fossils. A very successful weekend and I think we will do it again next season.



...Field Trips continued on page 13...

...Field Trips continued from page 12

**LUNA continued:**



Next time you are in Springerville, visit the [White Mountain Dinosaur Exploration Center](#).



Alpine Cancer-root  
( *Conopholis alpina* )  
Photo by Marilee Edwards



North American Porcupine  
(*Erethizon dorsatum*) skull, found  
by Stan Celestian  
Photo by Susan Celestian



Western Blue Flag  
(*Iris missouriensis*)



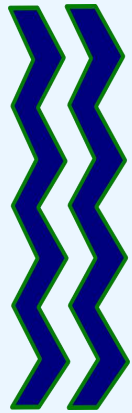
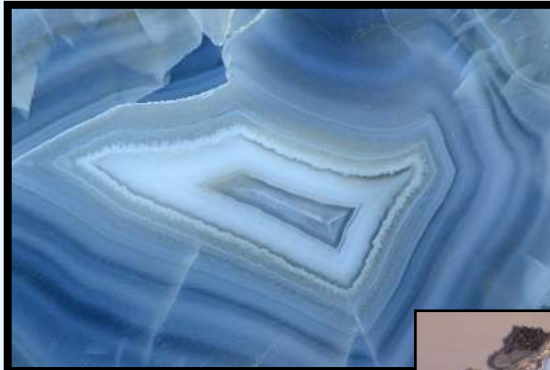
Greater Short-horned Lizard  
(*Phrynosoma hernandesi*)  
Photo by Susan Celestian

...Field Trips continued on page 14...

...Field Trips continued from page 13

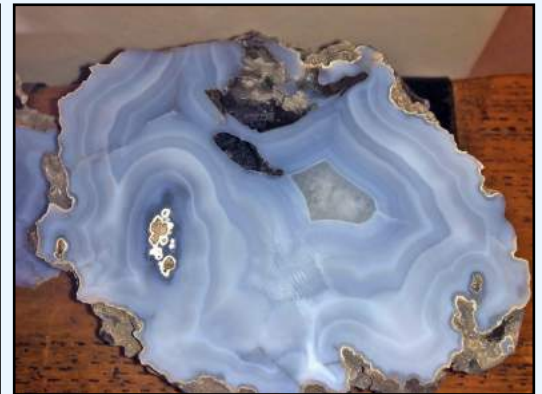
**LUNA continued:**

I'm sure we will be seeing agates collected by other attendees of this field trip; however, here are a few collected by Stan Celestian. I personally was skeptical that we'd find any blue agate, but I am pleased that it is there. Bill, I stand corrected. Post those pix on the club Facebook page!!! *Photos by Stan Celestian*



Three of Stan Celestian's agates.  
*Photos by Robin Shannon*

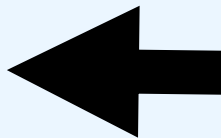
Robin Shannon's faves!  
*Photos by Robin Shannon*



Mike Maurer found some quartz crystals.  
*Photos by Mike Maurer*



**FOR MORE PHOTOS OF THIS TRIP, CHECK OUT THE [DMRMC FACEBOOK PAGE](#)**



Field Trips continued from page 14

# FIELD TRIP TO GLOBE

## Wednesday, May 25, 2022

*Text by and photos by Bill Freese*

The DMRMC had a mid-week trip to a site north of Globe for Travertine -- white with colorful stripes. This was another long drive to the site, but that was the easy part. Once we got there, we had to hike up the side of a mountain and then the rock required much work to remove it from the seam. Everyone was able to get some great pieces for their workout. We had 12 people attend and everyone survived.



....Field Trips continued on page 16...

...Field Trips continued from page 15

MORE TO TRIPS THAN ROCKS.....



Gorgeous view from the travertine quarry.



Spur-throated Grasshopper (*Melanoplus*)



Green Lynx Spider (*Peuetia viridans*)



Brownfoot (*Acourtia wrightii*)



Red Barberry (*Berberis haematocarpa*)



Tree Cholla (*Cylindropuntia imbricata*)



Engelmann's Prickly Pear (*Opuntia engelmannii*)



Narrow-leaved Yerba Santa (*Eriodictyon angustifolium*)



Soaptree Yucca (*Yucca elata*)



Southwestern Prickly Poppy (*Argemone pleiacantha*)

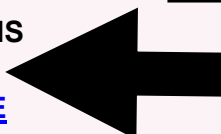


Skunkbush Sumac (*Rhus trilobata*)

Threadleaf Groundsel (*Senecio flaccidus*)



FOR MORE PHOTOS OF THIS TRIP, CHECK OUT THE [DMRMC FACEBOOK PAGE](#)



...Field Trips continued on page 17...



...Field Trips continued from page 16

# FIELD TRIP TO DOBELL RANCH

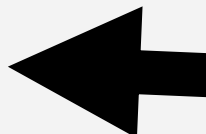
## Friday, May 27, 2022

Text by and photos by Bill Freese

We had a last-minute addition to the DMRMC schedule, a trip to DoBell Ranch for petrified wood. We always invite other clubs to join us on this trip since it is a long way to Holbrook, AZ and we ended up with 15 people on the trip with 2 people from the Sedona & Payson clubs. It was a warm breezy day up there and everyone enjoyed finding the perfect pieces. We even had some kids that were off for the summer join us. Always a good trip with great hosts.



FOR MORE PHOTOS OF THIS TRIP, CHECK OUT THE [DMRMC FACEBOOK PAGE](#)



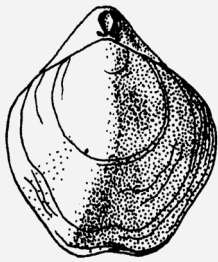
...Field Trips continued on page 18...

...Field Trips continued from page 17

# FIELD TRIP TO PAYSON

## Saturday, May 28, 2022

*Text by and photos by Bill Freese*



The last trip of a very busy month for the DMRMC was to the Payson area. First we stopped at the Paleo Site to collect some fossil sea creatures (a kid's favorite) and the 15 folks that joined us all had a great time in the beautiful weather. A few of us continued on to a second site for Zebra Jasper/Chert. Always a great stop for some cool pieces.



### PART 1: OBJECTIVE - FOSSILS OF THE NACO FORMATION

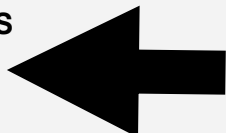


HAVE FOSSILS FROM THE PALEO SITE YOU WANT TO ID??? GO TO SUE C'S [NACO ALBUM](#) ON FLICKR

### PART 2: OBJECTIVE - ZEBRA & PEACH CHERT



FOR MORE PHOTOS OF THIS TRIP, CHECK OUT THE [DMRMC FACEBOOK PAGE](#)



...Jade continued from page 2

Like jadeite, nephrite forms by metamorphosis (metasomatism: fluid facilitated chemical reactions) at low pressure/low-moderate temperature regimes associated with subduction at continental margins - generally associated with serpentinite, and along faults within slabs of rock that have been thrust upon the continent (obduction) ([Taylor & Francis Online](#)). Composed of interlocking micro-fibrous crystals, it is **very very** tough aka "the toughest mineral stone on Earth". It does not break easily -- so has historically been used to make knives and weapons. It is softer and lighter than jadeite. It occurs as boulder fields, large blocks, and large lenses. Boulders in British Columbia can reach weights of 200 TONS, and are not often under 100 pounds. Go [HERE](#) to see one.

Despite the claims of many, it is nearly impossible to tell the difference between Jadeite and Nephrite with the naked eye. As you can see from the tables of physical characteristics, found on page 2, they share nearly all of those characteristics. And in the following images, you will see how much alike they are.



**FIGURE 1 GREEN JADEITE** This jadeite is a pretty apple green. It is from northern Myanmar. Photo by Dave Dyet, public domain



**FIGURE 2 PURPLE JADEITE** This jadeite is from the Bursa Province of Turkey. Photo by [James St John](#), and licensed under [CC BY 2.0](#).



**FIGURE 3 WHITE JADEITE** This jadeite Chinese incense burner is carved from white jadeite, aka mutton fat jade. Photo by [James St John](#) and licensed under [CC BY 2.0](#)

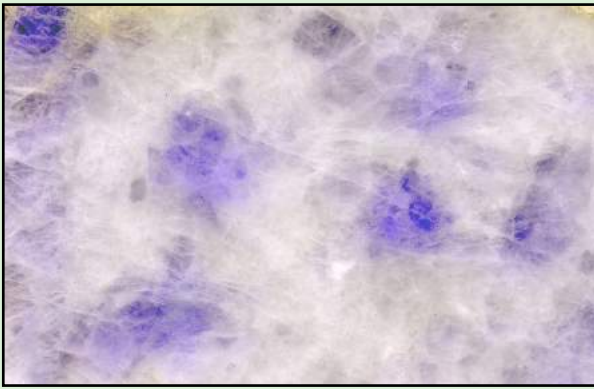


**FIGURE 4 GREEN & WHITE JADEITE** This bi-colored jadeite cabbage carving is on display at the Palace Museum in Taipei, Taiwan. Photo by Gary Todd, public domain.



**FIGURE 5 CHROMIUM JADEITE** Vibrantly colored by the inclusion of chromium, this jade is from Tawmaw, Myitkyina-Mogaung District of western Kachin State, Indo-Burma Range of northern Burma. Photo by [James St John](#) and licensed under [CC BY 2.0](#)

...Jade continued from page 19



**FIGURE 6 POLKA-DOT JADEITE** This unusual jadeite is from the Uyu River, Kachin State, Indo-Burma Range, Burma. Photo by [James St John](#) and licensed under [CC BY 2.0](#)



**FIGURE 7 JADEITE**

This Maya plaque was created between 600-900 AD. It was on loan from the Guennol Collection to the Brooklyn Museum. Photo courtesy of the Brooklyn and licensed by Creative Commons.



**FIGURE 8 JADEITE or NEPHRITE?** This is a beautiful carving on display in a factory for carving jade, in Beijing, China. The shade variations and translucence make this “pop”. Interestingly, according to several sources, jadeite was not introduced into China until the 1700s.<sup>1</sup> If this is jadeite, the source country is probably Myanmar. If the source country in China, it is nephrite.

Photo by Susan Celestian

<sup>1</sup> <https://www.worldhistory.org/article/1088/jade-in-ancient-china/>



**FIGURE 9 JADEITE** This Chinese incense burner exhibits the lovely translucence prized in jade (on display at the Field Museum of Natural History in Chicago, IL). Photo by [James St John](#) and licensed under [CC BY 2.0](#)



**FIGURE 10 BLUE JADEITE** This is another Chinese incense burner, but in one of the rarer colors -- blue (on display at the Field Museum of Natural History in Chicago, IL). Photo by [James St John](#) and licensed under [CC BY 2.0](#)

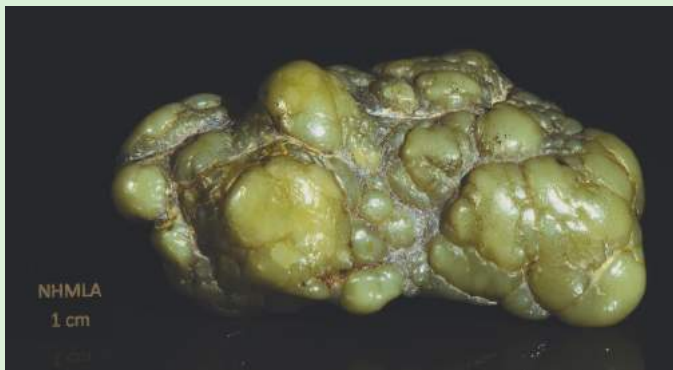
...Jade continued from page 20

**FIGURE 11 GUATEMALAN JADEITE** Revered by the ancient Mayans, Guatemalan jadeite has re-emerged in the last 50 years as a desirable lapidary stone, with a wide variety of pleasing colors.

*Photo by Stan Celestian*



**FIGURE 12 NEPHRITE** This waxy-looking rock is a nephrite ventifact from Wyoming (on display at the Univ. of Wyoming Geology Museum). *Photo by James St John and licensed under CC BY 2.0*



**FIGURE 13 NEPHRITE** This cool yellow-green lumpy waxy-looking rock is nephrite from Monterey, CA. *Photo by Stan Celestian and used with permission of the Natural History Museum of Los Angeles County Gem & Mineral Hall*

**FIGURE 14 NEPHRITE** Traditionally fishermen wore carved jade fishhooks for luck. This is a Māori double fishhook carved from New Zealand nephrite. *Photo by Eric Brochu and licensed under CC BY-NC 2.0*



**FIGURE 15 NEPHRITE** Here is about a quarter of a boulder of British Columbian nephrite. Stan & Sue Celestian received, as a wedding gift, a similar chunk of jade from Alaska

*Photo by Stan Celestian*



**FIGURE 16 NEPHRITE** The lovely translucence of these green cabochons illustrate why jade is sought out for jewelry. This material is probably from British Columbia. *Photo by Stan Celestian*

...Jade continued from page 21



**FIGURE 17 NEPHRITE BEADS** These lovely beads are just another example of the beauty of jade. *Photo by Stan Celestian*



**FIGURE 18  
JADE  
ROLLER**

Face rollers are traditionally made of jade (in this case nephrite). For centuries, the Chinese used them to draw out negative energy and balance chi. Today, they are used as cosmetic appliances, to massage the face. One of the properties these rollers exhibit, is that they always

feel cool to the touch, and therefore just feel good on your face. They would feel the same if made of some other stone, such as granite, as rock is a fairly good thermal conductor, and draws heat away from you -- thus the cool feeling. However, jade has more traditional and mystical panache.

*Photo by Stan Celestian*

## GENERAL RESOURCES FOR JADE

<https://www.mindat.org/min-2062.html>

<https://en.wikipedia.org/wiki/Jadeite>

<https://wordpress.org/openverse/search/?q=jadeite>

<https://www.rockngem.com/guatemalan-jade/>

<https://www.mindat.org/min-2881.html>

<https://en.wikipedia.org/wiki/Nephrite>

<https://wordpress.org/openverse/search/?q=nephrite>

[http://cmscontent.nrs.gov.bc.ca/geoscience/PublicationCatalogue/Paper/BCGS\\_P2004-02-57\\_Makepeace.pdf](http://cmscontent.nrs.gov.bc.ca/geoscience/PublicationCatalogue/Paper/BCGS_P2004-02-57_Makepeace.pdf)

<https://www.crystalgemstones.net/giant-nephrite-jade-boulder-discovered-in-canada.html>

<https://www.worldhistory.org/article/1088/jade-in-ancient-china/>

<https://www.ajsgem.com/articles/jade-jadeite-and-nephrite.html#:~:text=While%20jadeite's%20structure%20is%20an,the%20tougher%20of%20the%20two.>

<https://geology.com/gemstones/jade/>

<https://www.itoigawahisui.jp/page/20>

<https://www.ga.gov.au/education/classroom-resources/minerals-energy/australian-mineral-facts/jade>

<https://www.tandfonline.com/doi/abs/10.2747/0020-6814.47.2.113#:~:text=Most%20nephrite%20occurs%20along%20fault,faces%20or%20lower%20P%20DT%20conditions.>

The Chinese LOVE jade. Go [here](#) for a look at the fervor in some of China's jade fields. This video is about 5 minutes long.

Also, there was a Canadian documentary TV series, called *Jade Fever*, on Discovery Channel Canada. It follows a mining family in Jade City, BC, as they unearth and process nephrite jade -- some HUGE boulders, that had to be cut up in the field. There were 7 seasons filmed, before it was cancelled. The series is available on YouTube for viewing. It's rather interesting to see how miners and dealers in British Columbia find and cut up giant boulders of nephrite jade.

# GEO MINI

## Tafoni

By Susan Celestian

One of the more architecturally interesting landscape features, common in desert climes, is a weathering feature called *tafone* -- plural is *tafoni*.

What are tafone, you ask? Well..... They are small to large pits that form by weathering of granular rocks, such as sandstone, conglomerate, and granite. They occur as smooth, rounded cavities, often in clusters, and sometimes in a honeycomb configuration. Frequently, they can be seen to follow along bedding planes, which are areas of weakness in sedimentary rocks.

As in all climates, weathering in the desert is facilitated by water -- even if it is available only occasionally. Water seeps into cracks and spaces between grains, causing chemical reactions that weaken the rock. Grains of the rock are then easily removed by wind, water, and/or gravity -- leaving behind a tiny pit. That pit then becomes a place where water can accumulate. So the next time it rains, water sticks around a bit longer in any pits. Chemical deterioration of minerals, AND pressure exerted by salt crystallizing in the rock (something that happens in dry climates), causes further weakening of the rock around the pits; so the subsequent removal of that weakened material further enlarges any pits. Over time, the pits continue to enlarge, producing visible cavities. Voila' -- tafoni!

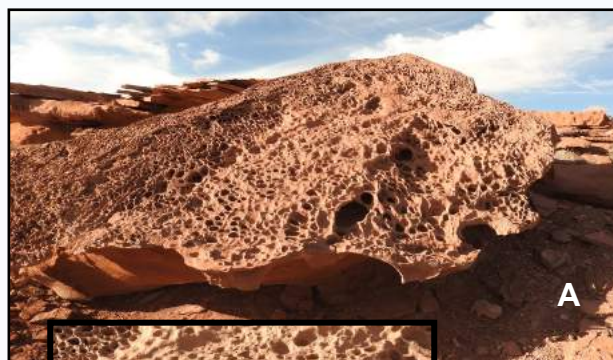


**FIGURE A PAPAGO BUTTES** The Papago Buttes are pocked by tafoni, resulting from weathering of the conglomerate.

*Photo by Susan Celestian*



**FIGURE B PAPAGO BUTTES CLOSER** Here is a pretty large tafoni -- one in which hikers can congregate to gaze upon the view across the Phoenix valley. *Photo by Susan Celestian*



**FIGURE C MOENKOPI FORMATION** The sandstone of the Moenkopi Formation in Northern Arizona is prone to the formation of tafoni. The pits in views A-B seem to be randomly oriented; while in view C, they are aligned along bedding planes.

*Photo by Susan Celestian*

...Tafoni continued from page 23

# Greek Taphos for Tomb



**FIGURE D CAPITOL REEF NP** Another sandstone that easily weathers yields to weathering by forming tafoni. Note the influence of bedding planes.

*Photo by Susan Celestian*

# tafoni



**FIGURE E CAPITOL REEF NP** Closer views of the tafoni in Capitol Reef NP. *Photo by Susan Celestian*



**FIGURE F CAPITOL REEF NP** DMRMC Editor-in-Chief relaxing in a tafoni -- called a waterpocket in Capitol Reef NP.

*Photo by Stan Celestian*

*Corsican tafoni for  
"holes", or tafonare  
for "to perforate"*



**UPCOMING FIELD TRIPS**

Here is a general list of upcoming trips, for the next 3 months. Details will be emailed to the general membership.

**May**

Sycamore Creek (Jasper) - 7th Sat  
Agate Mt. - 11th Wed

Luna Agate (long weekend) - 20th-23rd  
Globe 'onyx' - 25th Wed  
DoBell Ranch - 27th Fri

Payson (fossils) & Christopher Creek (zebra jasper) - 28th Sat

**June**

Lynx Creek (gold) - 4th Sat  
Lava Tube/Parks - 11th Sat



Gold collected at Lynx Creek. Field of view is 1"  
*Photo by Stan Celestian*

*DATES AND DESTINATIONS SUBJECT TO CHANGE*

*Bill and the field trip committee will be actively looking for productive spots for field trips. If you have any suggestions, you are encouraged to contact him at bfreese77@cox.net*

***FUTURE SPEAKERS***

***No information at time of publication***



Is on hiatus. Watch your email for potential zoom or video lessons.

**FACEBOOK**



Visit and join the club page periodically. See what is happening, and boost our visibility on the web. Go to: [The Daisy Mountain Rock and Mineral Club](https://www.facebook.com/daisyMountainRockandMineralClub). It is set up so you can post photos of outings or related items. Share with friends!

**AWARD-WINNING WEBSITE**

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

If you have comments, contact Nancy Gallagher.

**INSTAGRAM**



Follow the club on Instagram. Go to <https://www.instagram.com/daisymountainrockclub/> and follow today. Share with friends!

**Officers, Chairpersons, & Trustees**

- President:** Ed Winbourne.....ewinbourne@gmail.com
- Vice President:** Bill Freese..... bfreese77@cox.net
- Secretary:** Rebecca Slosarik .. rslosarik1@gmail.com
- Treasurer:**...Deanne Gosse deanne.gosse@gmail.com
- Publicity:** Jessie Redmond...
- Membership:** Tiffany Poetsch tpoetsch@gmail.com
- Editors:** Susan & Stan Celestian..... azrocklady@gmail.com
- Field Trip:** Bill Freese ... bfreese77@cox.net
- Mine Steward:** Stan Celestian .....stancelastian@gmail.com
- Show Chair:** Ed Winbourne
- Trustees:**

Cynthia V	Claudia M
Susan C	Tiffany P
Bob E	Jim R
Don R	Howard R
Jessica C	Rebecca S
Renee I	Bob S.
	Nancy G

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

[DMRMCLUB@GMAIL.COM](mailto:DMRMCLUB@GMAIL.COM)

**Membership Dues:**  
First year \$30, then \$20.00 Adults per Person  
First year \$45, then \$25.00 Family (2 people)

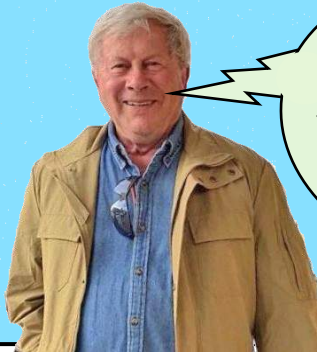
**Meeting Dates for 2022**

Jan 4, Feb 1, Mar 1, Apr 5, May 3, June 7, Sept 6,  
Oct 4, Nov 1, Dec 6

## Words of Wisdom

passed along by our own

**Bob Evans**



As they say in Nigeria --  
A goat's frown cannot  
stop it from being taken  
to the market.

### UPCOMING AZ MINERAL SHOWS

**June 17-19 - Las Vegas, NV** Southern Nevada Gem & Mineral Society (in conjunction with Rocky Mt. Federation & Mineral Society Conference; Orleans Hotel & Casino; Fri-Sat 9-4, Sun 9-2; Admission: Adults \$5. See [flyer](#) on page 27.

**July 9-10 - Show Low, AZ** White Mountain Gem & Mineral Club; Elks Lodge, 805 E Whipple St; Sat 9-5, Sun 10-4; Admission: Adults \$2, 18 & under free with school ID.

**October 7-9 - Buckeye, AZ** West Valley Rock & Mineral Club; Buckeye Arena, 802 N 1st St; Fri-Sat 9-5; Admission: Adults \$3, under 13 free.

**October 8-9 - Sierra Vista, AZ** Huachuca Mineral & Gem Club; Sierra Vista Mall, 2200 El Mercado Loop; Fri-Sat 9-5; Sun 10-4; Admission: free.

If you are travelling, a good source of shows AND clubs is <http://the-vug.com/educate-and-inform/mineral-shows/> OR <http://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=AZ> OR <https://www.rockandmineralshows.com/Location/?displayShows=true>



Out of the kindness of his heart (and with tongue in cheek) Stan Celestian offered his "services" for wirewrapping and provided this example -- a volcanic bomb wrapped in red wire, symbolizing the intense heat of a volcano.

Any takers? I thought NOT!

**NEEDED: QUALITY MINERALS (or OTHER) DONATIONS WITH LABELS** -- for monthly raffle and silent auction; and for raffle, door prizes, and sales tables at 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!

### NOTE FROM THE EDITOR

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).

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



Visit <http://rmfms.org/> for news about conventions, events, and associated clubs. If you are travelling, you might want to contact a club local to your destination. Maybe they have a field trip you could join, while in town.

### NORTH MT OPEN STUDIO - JUNE

**You are invited to NMVC Open Studio. Lapidary & Silversmithing on Thursdays and the first, third and fifth Saturdays in a month, from 9:00 to noon with cleanup starting at 11:50.**

**Face masks are now optional.**

Only four people can sign up, and must do so for the full three hours that the shop will be open each day. First come, first served. Usage fee is \$8/hour.

**Notice: Please bring your own towels, polishing compounds and buffing wheels as they will no longer be provided. Mandatory: wear a mask.**

Please arrive no later than 8:45 a.m. The center may close to the public at 10.

Email your request for the day(s) you are interested in participating ASAP. Email Shirley Cote at [crystalc17@gmail.com](mailto:crystalc17@gmail.com)

**June – Thursday's dates are 2, 9, 16, 23, 30 There is a planned Silversmith Class on Saturdays, if Doug does not fill the class there will be Open Studio on Saturday, June 11, and 25. Will keep you informed.**

If more than four people wish to participate on the same day, please expect to be bumped or rotated to another day as efforts to accommodate everyone will be taken.

We would also like to inquire as to anyone wishing to come in for **Lapidary Only Open Studio on Mondays - 9am-12pm.** Email Shirley at [crystalc17@gmail.com](mailto:crystalc17@gmail.com) Usage fee is \$8/hour.

**June - Monday's dates are 6, 13, 20, 27**

# VIVA LAS VEGAS ROCKS

## June 17 - 19, 2022 at the Orleans Hotel



### Rocks, Gems & Jewelry Show

Presented By

Southern Nevada Gem & Mineral Society



Hosting The Rocky Mountain Federation & Mineralogical Society Conference

**Daily**

Admission 5.00

Children Under 12 Free

Tickets Entered in Drawing

**Orleans Hotel & Casino**

Reservations

800 675-3267

ID: ASN2C06

**Exhibition Hours:**  
Friday 9am to 4pm  
Saturday 9am to 4pm  
Sunday 9am to 2pm

50 + Vendors

Displays

Speakers

Raffles

Kids Activities

Door Prizes



**SNMGMS Contacts:**  
sngmspresident@gmail.com  
sngmsshowchair@gmail.com  
www.snvngms.org

