



Looking north from Arizona / Utah state line ~ The Grand Staircase Escalante” of the Colorado Plateau

**Robin Williams, Newsletter Editor
Calaveras Gem and Mineral Society
P.O. Box 517
Angels Camp, CA 95222**

APRIL 2021 EDITION

Calaveras Gem & Mineral Society, Inc.
 P.O. Box 517
 Angels Camp, CA 95222

Clubhouse: 2500 Meacham Ranch Road
 Website: www.calaverasgemandmineral.org
 Est. in 1948 and incorporated in 1950 as a non-profit charitable organization dedicated to share our love of rocks & minerals and all the lapidary arts with our community. Member of both the California and American Federation Mineralogical Societies.

APRIL BIRTHSTONE



Cullinan I. Diamond
 Star of Africa

2021 BOARD of DIRECTORS



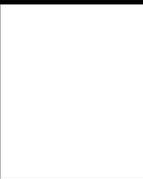
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ADDITIONAL CLUB POSITIONS:

SHOPmaster

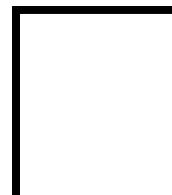
Shop Steward(s)



WEBmaster
 Andrew Brown
brown.andrewg@gmail.com



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 Loretta Pagni
lorettapagni@aol.com



PROGRAMS

**A Message from
Our 2021 PRESIDENT...**

I was so happy to see so many members at our last meeting. It was so wonderful that members could get together and chat with each other many of whom we had not seen for quite a while.

Several new members signed up and we are very pleased to welcome them.

Our Mini Gem Fair was a huge success. I would like to thank everyone who participated to make this event the success that it was. Thanks to all.

Anna Christiansen,
2021 President



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APRIL 18th Meeting Info

- 3rd Sunday, APRIL 18th, 2021
- Meet & Greet at 11:00 a.m.
- General Membership Meeting 11:15 a.m.
- opt: Board Meeting TBA

Don't Forget Your Mask and
PLEASE, DO NOT ATTEND IF:

- You are sick.
- You have been traveling.
- You have been exposed to Covid.
- You have Covid.

A Safety Tip
from Marilyn Bodle

**Rock Polishing And Why
We Should ALWAYS Be
Wearing A Mask.**

I was taught to consider anything ending in **-ite** to be highly dangerous...

malachite, phenacite, apatite, hydroxyapatite, fluorite, pyrite, amazonite, hematite, iolite, lepidolite, labradorite, azurite, prehnite, and the most dangerous crocidolite (blue asbestos) are just some of the dangerous **-ites**.

But, there are many other highly toxic materials not ending in **-ite** like... chrysotile (white asbestos), quartz, galena, cinnabar, lapis lazuli, moonstone, tiger's eye, serpentine...and even if you are not polishing a toxic stone your Genie Buddy in the shop with you might be!

It's pretty safe to say that the materials that make stones so beautiful can be dangerous and deadly when improperly handled. Please use proper equipment and ventilation when cutting and polishing all stones.

Happy Polishing! -Marilyn Bodle

GENERAL MEETING MINUTES from MARCH 21, 2021

Calaveras Gem and Mineral Society
General Membership Meeting
March 21, 2021

Meeting called to Order at 11:16 a.m. by
President Anna Christiansen.

Pledge of Allegiance.

Board Members Absent:

Federation Director: Marion Roberts

Introductions: 26 members 4 Guests

Minutes: February 21, 2021 meeting

Pat Gulyas made a motion to accept the
February 21, 2021 minutes as presented.
Kat Duncan seconded the motion. Minutes
accepted as presented without changes.

Club Correspondence

- Romy and Harold Mueller made a donation to the club.
- Rocky 5 emailed Lynn Becker that he is unable to attend the tail gate and appreciated the invitation.

Treasurer's Report:

- No report was given.
- No bank statements available.

Committee Reports

Federation Report: Phyllis Kyle

Phyllis reported that Camp Paradise will be offered this year if enough people sign up to attend. The dates are August 22 – 28 and August 29 – September 4.

Camp Zzyzx remains closed and will not be offered this year.

Pat Gulyas gave an overview of Camp Paradise. Camp Paradise is a lapidary camp located by Clipper Mills east of Marysville. The tuition includes room and board, three meals a day and a plethora of lapidary classes for beginners and experienced artists. Cont. →

Some classes may require purchases of supplies; other classes the instructor may offer supplies at a fee. There is no charge for the classes. Sandy Kilcrease brought Camp Paradise applications (on the desk).

Field Trips: Bob Young

The field trip to Fallon was a huge success.

A field trip to Placerites, Nevada, will be held the second week in April.

- The trip will be 3-4 days as the drive is 5 hours.
- Camp or stay in a hotel in Lovelock.
- A 4-wheel drive vehicle is not needed; however, a high clearance would be desirable.
- Bob will disseminate more details to the club members via email.

Historian/ Sunshine

Loretta, the club historian and all-around sunshine girl, continues to reside in Avalon skilled facility in Sonora. Club members are encouraged to send Loretta a note; she appreciates all contact from club members.

Mail to: Loretta Pagni
c/o Avalon Health Care
19929 Greenley Road
Sonora, Ca 95370

Newsletter Editor: Robin Williams

Robin is requesting pictures for the Golden Frog monthly newsletter from members sharing your activities: field trips, working on a project or out rock hounding.

Shop Report: Bill Bruce

The shop equipment is overall working except the titan saw. Saw issues are getting resolved. Maintenance of the saws is ongoing. The saw oil arrived and is in shop.

Shop stewards are Bill Bruce and Neil McKeown. Kat Duncan and Brandon Atchley will be trained as shop stewards to become part of the shop team.

SHOPS OPEN: SATURDAYS, 10:00 – 2:00.

GENERAL MEETING MINUTES from MARCH 21, 2021

Welcome New Members:

- Mark & Valerie Sailer
- Jonathan & Raelani DeMorais
- Brandon Atchley

Mark & Valerie, Jonathan & Raelani and Brandon were voted in by the attending members. Thank you for joining CGMS!

New Club Clothing: Anna Christiansen distributed the club "wear"- Polo Shirts and Caps. Club members can order club wear by contacting Anna with an order.

New Business

CGMS received a request from the Friends of the Library to have a table at the tailgate seeking donations for a Bookmobile.

After a discussion, Robin Williams made a motion to make a \$50.00 donation to the Calaveras County Library. Pat Guylas seconded the motion. The motion passed by a majority.

Old Business

Safety Preparedness: Robin Williams

Robin Williams discussed club's pre-Covid intention to become more safety aware and how to prepare for safety at club events. The discussion was tabled and will be revisited at a later date.

Programs: Tom Harrington

Tom reported he and Kathy will be moving out of state and he will no longer be Program Chair. Requesting a club member to consider taking on program chair to coordinate programs that are presented at the monthly meeting. Tom is available to speak with anyone interested and share ideas, to create a transition. All club members can offer ideas for programs.

Potlucks & Programs:

There is hope beginning in May, Potlucks and Programs will resume at the monthly meetings, the third Sunday of the month. Details will be announced through email.

Future Rock Sale Opportunity: Bob Young

June 24 -26 Ely Nevada. The rock sale will be in combination with a couple days of rock hounding. Bob will provide more details.

Tail-Gate/Gem Sale: Lynn Becker

Lynn reported on the details that need to be completed for the upcoming Tailgate/Gem show. She is requesting club members volunteer to finalize the tasks in preparation for the March 27 sale. Lots of details need to be attended to.

Meeting adjourned at 12:24 p.m. by President Anna Christiansen.

Next meeting: April 18, 2021

Meetings respectfully submitted,

Debby Brooks, Secretary
Calaveras Gem and Mineral Society

Location of the "Colorado Plateau"



Top left: Utah Top Right: Colorado
Bot. Left: Arizona Bot. Rt: New Mexico

Welcome to the COLORADO PLATEAU. (See Map on Page 5)

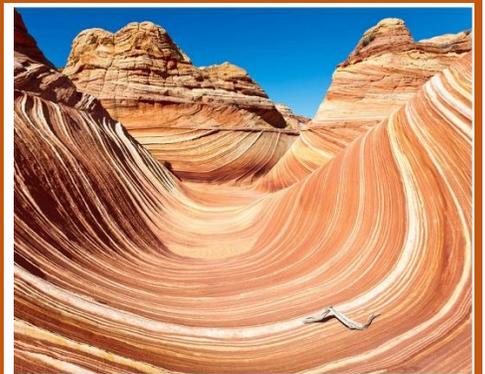
When I started this research about the Sandstone Layers Of The Colorado Plateau, I had the very naïve notion that once I learned the COLOR of each sandstone sediment FORMATION layer, I would be able to look at a photo of the Utah/Arizona sandstone and instantly know its Formation Name. Boy! Was I wrong!



San Rafael Reef



Navajo sandstone in detail. Colorado Plateau, Utah/Arizona.



The "Wave"

1. The "**White Navajo Sandstone**" isn't only **WHITE**...it can also be **RED**...
...And black, brown, crimson, vermillion, purple, orange, salmon, pink, gold, yellow and ...?



Arches Park "caves"



Wahweap Hoodoos



Capitol Reef

2. The "**Red Entrada Sandstone**" isn't only **RED**...it can also be **WHITE**...
...And brown, tan, light yellow-orange, gray and...?

Well, so much for using the COLOR of sandstone as a way to know the "name of the sandstone".

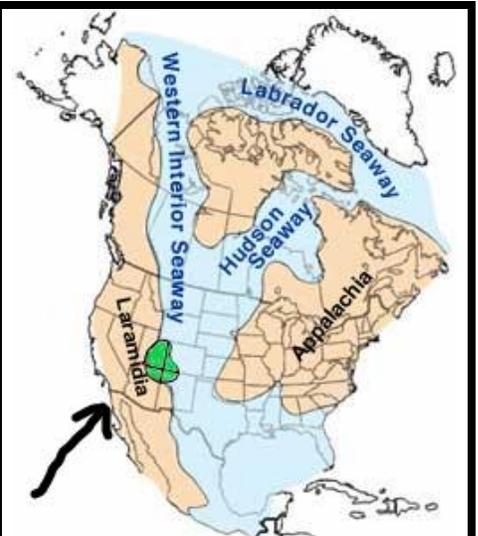
OK, back to my research...

We all learned that Sedimentary Rock forms in horizontal layers under the earth's oceans. Right?

...so, since the Colorado Plateau was once under an inland sea, the layers must be the same through-out the entire 'level' plateau. Right?!

Perfect! I'll just learn the sandstone layer names *because* each type of formation will be made out of the same layers. Right?!

(The bright green splotch is the Colorado Plateau...)→→



I can check my “search history” for the exact count, but I think I have now read over 1,500 different geological reports, studies, findings, histories, chemical analysis, plate tectonics, geologic time lines, rebuttals, observations, Travel Blogs, and Field Trip Reports about the Colorado Plateau and discovered that the Plateau has about 22 different sediment layers.

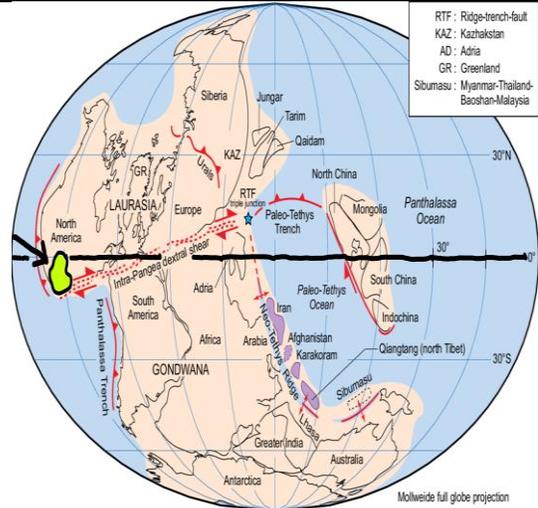
Next, I discovered that due to plate tectonics, the Colorado Plateau was quite a world traveler! It appears that it took a brief few million years vacation “as a beach” on the EQUATOR while it was forming its 22 sediment layers!

The **COLORADO PLATEAU** (the bright green splotch on the globe...) was formed near sea level south of the EQUATOR!

Yep. That’s where LAURASIA was located while the **COLORADO PLATEAU** was forming...*in a belt of strong trade winds.*

These winds moved the sand and built dunes that covered an area **bigger than the Sahara Desert!**

NOTE: A large accumulation of desert sand is called an **ERG** (aka **sand sea**).



PANGEA - Showing LAURASIA and GONDWANA

So far, so good...parallel mineral sand sediments, near sea level, creating many horizontal layers...it should be easy to recognize the 22 different layers! Easy peasy.

Wrong! On so-o-o many “layers”!

NOT ALL 22 Sandstone FORMATIONS are found in ALL PARTS of the COLORADO PLATEAU

NEWS FLASH! the COLORADO PLATEAU ISN'T flat, horizontal, or at sea level!

Elevations above Sea Level:

Avg. 2,200 ft. 6800-7400 ft. 5,000 ft. 6,000 ft 7.000 ft +7,000 ft. 8000-9000 ft.

At Colorado River:	At Grand Canyon Rim:	STEPS: 1 Chocolate	2 Ver.	3 White	4 Gray	5 Pink	(Bryce Canyon)
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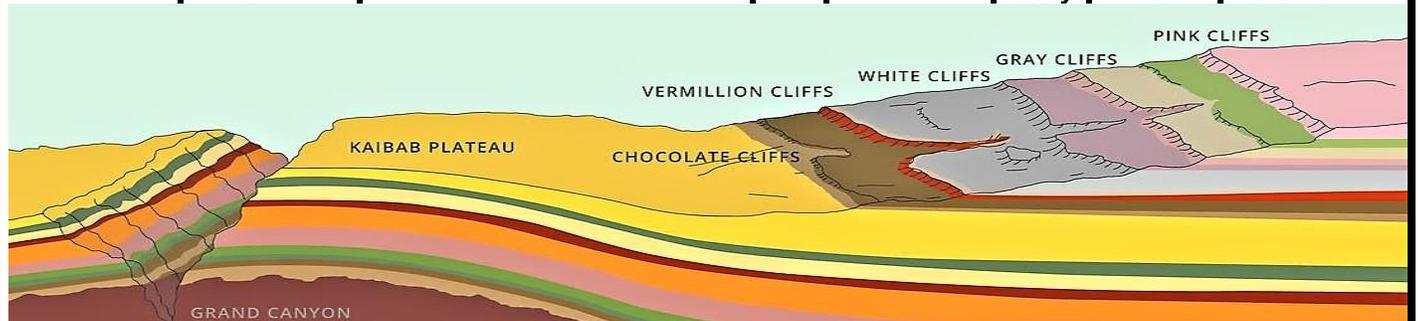


Diagram of lower southern portion of Colorado Plateau called the “5 steps” of the “GRAND STAIRCASE ESCALANTE” (Escalante = one who climbs)

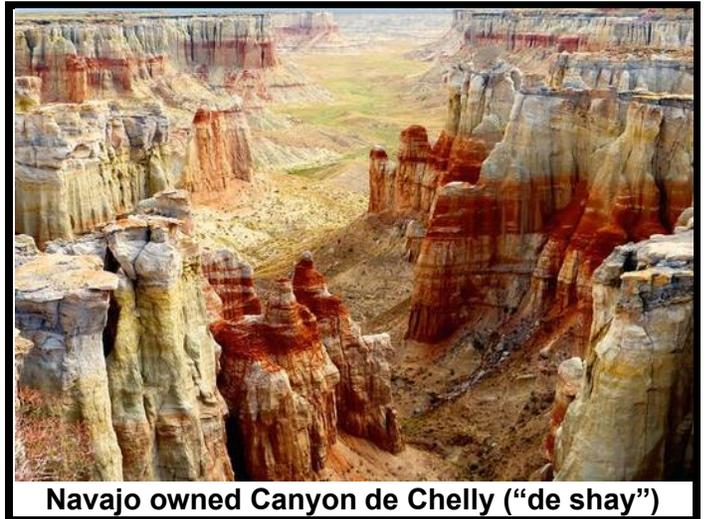
(Hey! Don’t laugh! Back when I was in school they were still scoffing at the silly notion of Tectonic Plates, Subduction zones, and Continental Drift !)

Remember those 1,500+ different geological reports I mentioned?
Well, here's what I discovered about the Sediment Formations of the Colorado Plateau:

1. THE NAMES OF ABOUT 22 SANDSTONE STRATA LAYERS and all of their sub-groups.
2. WHEN THEY FORMED: ... Proterozoic...Permian...Triassic, Jurassic, Cretaceous...
3. WHERE THEY ENDED UP: State & Federal Parks, Canyons, and as cool features (i.e. the WAVE)
4. HOW THEY GOT THEIR COLORS: from iron, plant-life, living organisms, etc.
5. "WHAT" THEY FORMED: ...Cliffs, Plateaus, Hoodoos, Arches, Monoliths, etc
6. DEPTHS OF THE SANDSTONE FORMATIONS: ...from inches to thousands of feet!
7. COMPOSITION OF EACH FORMATION: ...sand, clay, silt, slate, limestone, fossils, etc.
8. CLIMATE CONDITIONS DURING EACH FORMATION: ...arid, wet, windy, flooding, etc.
9. PLATE TECTONICS: ...uplifts, folds, slumps, volcanic influences, etc.
10. THERE IS NO SIMPLE WAY TO LEARN WHICH LAYER IS WHICH.



Blue Canyon, Az (on Hopi Land)



Navajo owned Canyon de Chelly ("de shay")

While I ponder what area of the Great Southwest Adventure to explore for the May issue, here's some fun DIDJUNOs that I discovered during my WEB journey...

DIDJUNO...that you can suffer from **ALTITUDE SICKNESS** while visiting the parks on the **COLORADO PLATEAU**?

ZION is at 3,000 feet in elevation.
BRYCE CANYON is at 8,000-9,000 ft.
CEDAR BREAKS is at 10,000 ft.

Beware: higher elevations can trigger altitude sickness: headache, nausea, lack of energy and appetite – but could also be deadly- pulmonary edema, or water on the lungs. Victims can die if they aren't transported right away to a lower altitude, says Tod Schimelpfenig, the curriculum director of Wilderness Medicine Institute in Lander, Wyo.

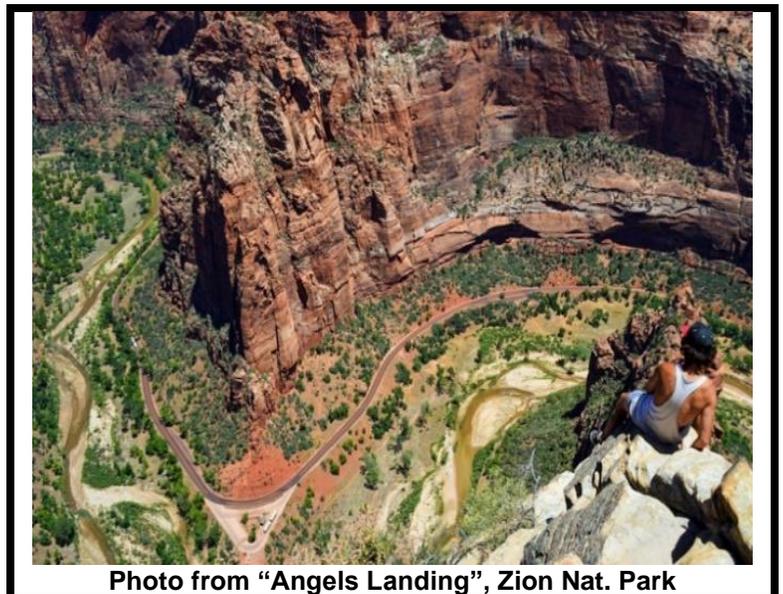


Photo from "Angels Landing", Zion Nat. Park

DIDJUNO... The largest ERG (sand sea) to ever exist in North America is in the Jurassic-age **NAVAJO SANDSTONE** (approx. 180-190 million years old) and that it is up to 2,500 feet thick!



You'd be a dot at the bottom (here ↑) of this **NAVAJO Sandstone** in Snow Canyon State Park!

DIDJUNO...Erosion and weathering over time have removed many **FEET** and in some cases **MILES**—of rock from the surface of the Southwest?!

DIDJUNO...that rocks can be changed from **RED** to **WHITE**? (And without Clorox!)

Non-technical version:

See the rusty iron spots? → Those are called **Moqui Marbles**. Navajo Sandstone is very porous so as fluid seeped through the pores, and probably with the help of microbes, it sucked out all the **RED IRON**. The iron then gathered into balls called "**concretions**", leaving the sandstone "bleached white".



As the sandstone weathers, the "balls" are released and roll down the cliff-sides to be scattered on the ground in huge numbers. (But, it's illegal to take even one from a Park.)

DIDJUNO...nobody thought about Moquis until their "cousins" were discovered on **MARS**. No joke. They called them **Martian Blueberries** (due to the false colors of the space photos). Then the scientists saw the **Moki marbles** and put 2 and 2 together...Eureka! They said, "These formed from water...we think there might be water on Mars, too!"

NEWS FLASH: Sep 28, 2020 www.nature.com

Large amounts of underground ice have been found on Mars; the volume of water detected is equivalent to the volume of water in Lake Superior. In September 2020, scientists confirmed the existence of several large saltwater lakes under ice in the south polar region of the planet Mars!

APRIL 2021

SUN	MON	TUES	WED	THURS	FRI	SAT	
	MARIPOSA GEM SHOW April 10-11, 2021 Mariposa, CA HAS BEEN RESCHEDULED				1	2	3 SHOP 10-2
4	5	6	7	8	9	10 SHOP 10-2	
11	12	13	14	15	16	17 SHOP 10-2	
18 Meeting 11 a.m.	19	20	21	22	23	24 SHOP 10-2	
25	26	27	28	29	30	MAY 1 & 2 Kennedy Mine GEM SHOW Jackson, CA (Info below)	

APRIL BIRTHDAYS

Roberta Swartz	10
Dino Saiz	11
Tak Iwata	15
Vivien Roberts	17
Harold Mueller	19
Andrew Clemo	22

HAPPY BIRTHDAY!

Don't see your name here?
 Contact Robin at
 robinski@yahoo.com to have
 your birthday added to the list.

CLUB FIELD TRIPS

CONTACT BOB YOUNG if he does not have your EMAIL info.
All trip data will be via EMAIL. (See page 2)

CO-OP FIELD TRIPS:

April 12-15	Owens Valley CA El Dorado G & M Society various location for Quartz Crystals, Blue Beryl, Ammonite Fossils, Hematite, Limonite, Chrysocolla & Copper Minerals, Epidote Fan Crystals, Root Beer Onyx, Contact Thaleia Georgiades 530-957-3800 Thaleia@thaleia.com
May 15-16	Fallon Dayton Silver Springs Areas NV Feather River Lapidary and Mineral Club for Jasper, Agate, Garnet, Selenite, Barrel, Hematite. Contact Manuel Garcia H 530-586-7052 cell 530-228-6909 mmpg@att.net

In JUST 3 WEEKS – GEM SHOW in Jackson!

May 1 - 2, 2021 ~ Kennedy Mine ~ Gem and Craft Show
 by Amador County Gem & Mineral Society
 Saturday: 10 am – 5 pm Sunday: 10 am – 4 pm
 Contact: (209) 296-4061 blackwolf@vgolcano.net