

# Jade State News

Wyoming State Mineral & Gem Society, Inc.

Award-Winning WSMGS Website: [wsmgs.org](http://wsmgs.org)

Volume 2020, Issue # 2



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The WSMGS conducts meetings quarterly and as special events require.

## The Color of Minerals

By Stan Strike

RMFMS WY State Director

When I look at a mineral, the first thing I usually notice is its color. But why are some minerals always the same color — such as gold and azurite — while other minerals can be different colors, such as quartz and fluorite?

The answer to this question requires a brief review of why we see color, and why rock hounds should not rely solely on color to identify minerals.

### Why We See Color

White light, such as sunlight, contains all the primary colors of the visible spectrum: red, orange, yellow, green, blue, indigo and violet (often shortened to the acronym ROYGBIV, or ROY G. BIV).

The colors making up visible light each have specific wavelengths of energy, but combined we see visible light, but when separated, we may see a rainbow: ROYGBIV.

Red has the longest wavelength, with the least energy, and violet has the shortest wavelength, with more energy. When light passes through water droplets, it separates according to how much energy each color has. The wavelengths of color having the least energy are bent, or refracted, the most. Violet, having the shortest wavelengths, is refracted (bent) the least. Therefore, when you see a rainbow, red is always on the top and violet on the underside.

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**State/regional rock show still planned  
for June 19-21. See pages [6-7](#) and [22-23](#)**

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## Colors of Minerals

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The color of an object we see is dependent upon what light wavelengths are absorbed by the object, and what combination of wavelengths of light are reflected back to our eyes.

The wavelength of light that is most strongly reflected or scattered is what gives an object its visible color, because this is the one that most clearly reaches our eyes.

Minerals are made up of elements, and each element has a specific property as to absorbing and reflecting light. The same element can create different colors, depending on how much energy is present within each mineral as it is formed.

The primary elements that absorb visible-spectrum color are the transition metals on the Periodic Table. The most familiar of the 38 transition metals are iron (red, green, yellow); cobalt (blue); and nickel (green). Others include vanadium (red, orange); manganese (red); chromium (red, green); gold (yellow); titanium (blue); and copper (green, blue). Some rare-earth elements also create color through their absorption patterns, including scandium, yttrium, lanthanum, and cerium.

The combination of elements making up minerals creates the rainbow of different colors that we see.

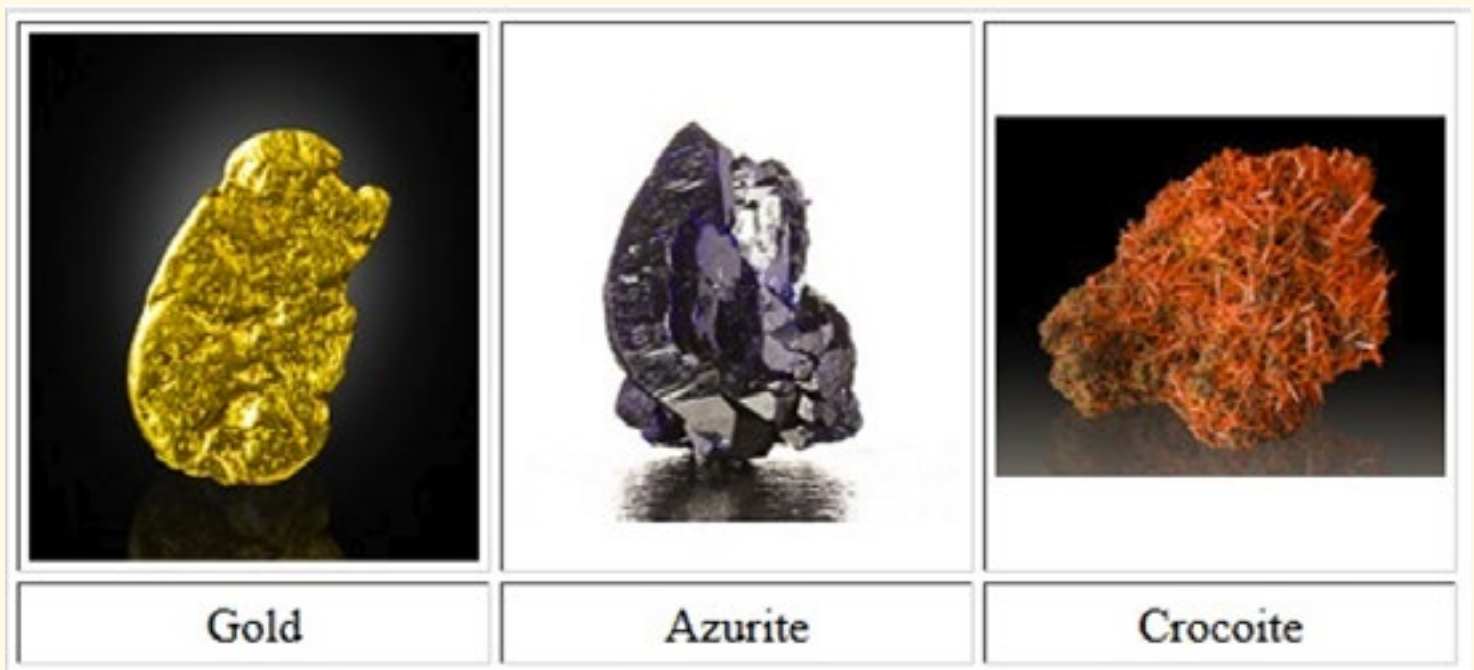
## Two classes of minerals: Idochromatic and Allochromatic

### Idichromatic Minerals

These minerals always have the same color because of the presence of the same combination of elements in the minerals' chemical formula. These minerals always absorb certain wavelengths of light and reflect the same combination of wavelengths of color that we see.

Examples:

- Gold (Au) is yellow, because the element absorbs all other colors except yellow.
- Azurite is blue, because the copper in azurite molecules absorbs all other colors except blue.
- Crocoite is red-orange, because the chromium in crocoite molecules absorbs all the other colors.



Photos courtesy of Treasure Mountain Mining

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# Colors of Minerals

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## Allochromatic Minerals

These minerals would be colorless in their pure form, but they contain additional elements that create different visible colors. To greatly simplify, there are four causes of color in allochromatic minerals: impurities, inclusions, charge transfer and color centers.

### Impurities

Tiny amounts — as little as one-tenth of 1 percent — of an impurity in the molecular structure of a mineral can determine that mineral's color. The amount and type of impurities affect the color of the mineral.

#### Examples:

- Amethyst: Add some iron to clear, pure quartz and it becomes purple.

- Citrine: Inclusions of iron ( $\text{Fe}^{+++}$ ) cause the yellow color in citrine.

- Rose Quartz: Trace amounts of titanium or manganese turn quartz pink.

- Green fluorite: X-Ray diffraction tests of fluorite from the William Wise Mine in New Hampshire showed that the element yttrium, a known coloring agent, constituted 0.2 percent of the sample.

- Aquamarine: Inclusions of iron ( $\text{Fe}^{++}$ ) are responsible for the blue color in beryl.

- Heliodor: Iron ( $\text{Fe}^{+++}$ ) in beryl's molecular structure turns it yellow.

- Morganite: Manganese as  $\text{Mn}^{++}$  turns morganite pink.

- Red beryl: The red color is caused by Manganese ( $\text{Mn}^{+++}$ ).



Amethyst



Citrine



Rose Quartz



Morganite



Green Fluorite



Aquamarine



Heliodor



Red Beryl

Photos courtesy of Treasure Mountain Mining

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## Colors of Minerals

(Continued from Page 3)

### Inclusions

Inclusions of a second mineral, or even air, within a host mineral also can alter a mineral's color.

#### Examples:

- Prase quartz: Hedenbergite inclusions in quartz give prase its green color.
- Green quartz: Chlorite inclusions in quartz cause it

to turn green.

- Jasper: Hematite inclusions can turn jasper red.
- Milky quartz: Inclusions of very small air bubbles in clear quartz turn it white, in which case it is called milky quartz.
- Rutilated Quartz: Rutile inclusions in quartz give it a golden hue.



Photos courtesy of Treasure Mountain Mining

### Charge Transfer

When two or more elements in a mineral exchange electrons, this is called charge transfer. The movement of electrons results in selective absorption of light.

#### Examples:

- Sapphires contain small amounts of titanium (Ti) and iron (Fe). The electron transfer between titanium and iron causes light in the yellow through

red spectrum to be absorbed, producing the deep blue color sapphires.

- Aquamarine: Small amounts of iron in valence states ( $\text{Fe}^{++}$  and  $\text{Fe}^{+++}$ ) cause an electron transfer that absorbs red light, resulting in the color blue.
- Tourmaline: Manganese ( $\text{Mn}^{++}$ ) and titanium ( $\text{Ti}^{4+}$ ) swap electrons, creating a yellow-green color.



Photos courtesy of Treasure Mountain Mining

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**State/regional rock show still planned for June 19-21. See pages [6-7](#) and [23](#) for details.**

# Colors of Minerals

(Continued from Page 4)

## Color Centers

A color center is a defect in the molecular structure of a mineral. The defect is often due to damage from heating or natural radiation. UV light (from prolonged exposure to sunlight, for example) can also cause color change.

Color centers can be removed by adding energy, as is sometimes done by heating gemstones to change their color. There are two types of color-center defects:

- An unattached excess electron in the atoms making up an element can be trapped in a empty space in the mineral's chemical structure.
- A missing electron in the atoms making up an element creates a change in the mineral's chemical formula. In both cases, the flaws result in the absorption of cer-

tain wavelengths of light, and the colors reflected (not absorbed) are seen as the mineral's color.

### Examples:

- Purple fluorite: When a negative ion is missing from the structure (sometimes referred to as a Frenkel defect), it creates a site that attracts and traps a free electron. The trapped electron creates an electron color center, which is responsible for the color in purple fluorite.



Photos courtesy of Treasure Mountain Mining

- Smoky quartz: Radiation, either natural or man-made, creates a hole in the silicon dioxide molecule, which changes colorless quartz to smoky quartz.

- Topaz: The color in natural yellow, orange or brown topaz results from a color center that is stable to light. If colorless topaz is irradiated, it creates a hole in the color center, making it yellow, orange, brown or blue.

## Enhancing the Color of Minerals That Contain Transition Elements

Understanding how Mother Nature produces and changes the colors of minerals, man has learned to use methods that cause electrons to transition or move within the atoms making up certain kinds of elements (transition elements). Adding extra man-made energy to these elements enhances or changes the natural colors of these minerals so that the color "imitates" rarer and more expensive minerals.

**Example 1:** Since 1950, almost all natural prasiolite (green quartz) has come from a small Brazilian mine or has been mined in Lower Silesia in Poland. Prasiolite is a transparent to translucent quartz variety, although clear gem quality material is rare and expensive.

Today most prasiolite that is being imitated and sold is produced by heating natural amethyst in a laboratory oven to about 500 degrees Celsius. This heating changes the amethyst's color from purple to green or yellowish green.

**Example 2:** It was reported that a mineral dealer found that by irradiating colorless topaz he could give it a very enhanced permanent blue color. Natural blue topaz was

very expensive and no one could easily tell that the irradiated blue gems were not natural and was being sold as "blue ice" topaz. The problem was, the dealer was not telling customers the topaz had been irradiated.

By using man-made energy sources to treat minerals containing transition elements, rock hounds have been able to produce intense and altered mineral colors. It is now general practice by reputable mineral dealers to disclose any treatment affecting mineral color. Naturally colored minerals are more highly valued than those that have been treated. To avoid deception, it is wise to buy minerals from reputable sources and to learn about minerals before buying them.

### References:

1. [Examining Valence Electrons-Rock & Gem Newsletter-November 7, 2019 By Bob Jones](#)
2. <https://geology.com/gemstones/prasiolite/>
3. <https://en.wikipedia.org/wiki/Prasiolite#/media/File:QuartzPrase>
4. [www.treasuremountainmining.com/](http://www.treasuremountainmining.com/)
5. <http://www.webexhibits.org/causesofcolor/12.html>

*Rocky Mountain Federation of Mineralogical Societies convention*  
&  
*Wyoming State Mineral & Gem Society show*

# Gem & Mineral Show 2020

Theme

***ROCK & ROLL WITH  
WYOMING ROCKS***

*Hosted by the Sublette County Rock Hounds*

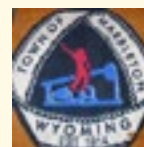
**June 19<sup>th</sup>, 20<sup>th</sup>, & 21<sup>st</sup>**

at the Sublette County Fairgrounds  
10937 Hwy 189, Big Piney, Wyoming

**Friday & Saturday 9-5, Sunday 9-4**

*Dealers, lectures, demonstrators, exhibits, field trips, Mr. Bones, Fossil  
Butte National Monument walking fish fossil, fluorescent mineral  
display, kids' activities, food concession & more!*

**Admission: \$2.00 adults, kids free**



and a funding contribution made by Pinedale Travel & Tourism Commission [www.VisitPinedale.org](http://www.VisitPinedale.org)

Contact: [jimgray@wyoming.com](mailto:jimgray@wyoming.com)

# 2020 WSMGS Annual Mineral & Gem Show IS HAPPENING!

By Jim Gray, via [wsmgs.org](http://wsmgs.org)

The good news is, we are going to be able to have our Rock Show June 19, 20, and 21. Set up will be June 18th. A potluck dinner will take place at 5 p.m. June 18. The annual Wyoming State Mineral and Gem Society meeting will begin after the potluck at 6:30 p.m. that evening.

There may be some restrictions, but as of now it's a go. Please get your delegates forms and exhibit entry forms to me by June 1st, if you have not already sent them. I previously emailed those forms, as well as the Rocky Mountain Federal Mineralogical Society proxy and delegate forms. You need to send the RMFMS forms to Janet (her contact information is on the form).

If any rockhounds or clubs want to donate rocks, tumbled stones, door prize items, raffle items, etc., please let me know; all contributions are appreciated.

I hope everyone is healthy and can come. It's going to be a great show — The Wyoming State Mineral and Gem Society show and the Rocky Mountain Federation Convention, all hosted by the Sublette County Rock Hounds.

Be sure and get your reservations in for the motels, or call Leane for RV spots at the fairgrounds. Leane's phone number is 307-260-6443 for RV spaces.

Rumor has it there may be a Rodeo the same weekend, and the Fire Department may be doing the annual fish fry on Saturday.

Please help us get the word out. Post the flyer to all your friends on Facebook, copy and hang up on your way here at convenience stores, gas stations, etc.

Jim Gray, President  
SCRH & WSMGS Show Chairman  
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## MAKING GEOLOGIC MAPS EASIER TO VIEW

The use of cellphones and portable devices equipped with GPS-enabled applications has increased the demand for digital map files with geospatial location information. This information allows apps and products to display the user's location on a map. Popular programs such as Google Earth have also led to requests for geologic maps in compatible formats.

The Wyoming State Geological Survey distributes geologic maps on its website as portable document files (PDF), Geographic Information System (GIS) shapefiles, and as printed hard copies. In an attempt to increase utility to these maps, the agency is working to offer two

additional digital formats—the Georeferenced Tagged Image file format and Keyhole Markup Language.

In addition to updating the available file formats, the WSGS plans to redesign its webpages and application for locating and retrieving map files. All file formats will be made available in one location, allowing users to choose the format suited to their needs.

The project will be partially funded by the USGS National Geological and Geophysical Data Preservation.

**Reference:** [Wyoming State Geological Survey-Geo Notes winter/spring 2020 newsletter](#)



# Rockhounding on Facebook



**By Stan Strike**  
**RMFMS WY State Director**

Recently, with COVID-19 virus social distancing as a reality and the spare time it created, I decided to investigate our local rock club's Facebook page.

I have to admit that I started this exploration of Facebook with some misgivings. Several years ago, I was advised to join Facebook to sell my tomato plants. Suddenly everyone wanted me to be their friend, but I did not sell one plant.

With some research, I learned that Facebook is a social networking website that lets users connect with friends and share photos, status updates and other information.

One feature of Facebook is that it lets you create and join groups. These groups give Facebook users with similar interests a forum in which to talk and share information, stay up to date on the group's topic, and meet new people. Joining a group on Facebook is simple, even for beginners.

As I joined our local rock club's Facebook group, I discovered that many of our club members had taken an active part in the discussion format and had volunteered rockhound-related photos and lapidary tips. I applied to "Join Group," supplied some limited personal information and agreed to follow the group's participation rules. I then received an email informing me that I had been allowed to join the group.

Within days, I received suggestions as to other groups that I might consider joining. In the pretense of doing research for this article, I began investigating Wyoming rockhound Facebook groups and asking to become a member. Here are my accumulated groups to date:

- Central Wyoming Rockhounds

- Rock and Mineral Photos
- Cody 59ers Rock Club
- Rockhounding in Wyoming
- Cody Rocks
- Rock Tumbling Hobby Lapidary Discussion
- Natrona County Rockhounds Club
- Wyoming Amateur Geologists
- Northeast Wyoming Rockhounds
- Wyoming Gem and Jewelry Artisans
- Riverton Mineral and Gem Society
- Wyoming Rockhouser

Viewing the above listed Facebook groups, I could see what I had been missing. The discussions and photos in these groups provides a forum for rockhounds to share information and spectacular finds, and they create excitement to get rockhounds out into the field to explore Wyoming.

For those of you who would like to start Facebook rockhounding, the following basic information will help you get started.

## Easy steps to sign up for Facebook

On a smartphone or tablet: Download the Facebook app. Once downloaded, touch the app icon to begin filling out your registration form for a new account.

On a computer: Launch a new tab in your browser (Firefox, Safari, Internet Explorer, etc.) and go to <https://facebook.com/>. Once you have entered the Facebook app or website, you will see a sign-up form where you can register a new Facebook account.

- Start filling out the registration form. Enter your first and last name in the first two fields.

- Next, set up a password for your future account. Also, select your birthdate and gender.

- Once the registration form — which includes a profile of who you are — is completed, you should click on the "Sign Up" button, enter your established password and begin using Facebook.

A simple Facebook search will help you discover Facebook groups that are relevant to your rockhounding interests. Finding these groups is easy. The tougher part is deciding which types of groups will be most useful for your needs and interests.

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# Rockhounding on Facebook

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## Search for relevant groups

1. Log into your Facebook profile.
2. Enter a relevant keyword in the search box at the top left of the page.
3. Click the Groups tab to see a list of groups related to your search term.
4. Click on the name of the group to learn more, or click Join to become a member of the group.

In order to join most groups, you will be required to agree to their stated requirements.

5. All new membership requests in a closed group must be approved by an administrator of the group.

Posts in closed groups are only visible to members, so there's a sense of being involved in an exclusive community. The group itself appears in Facebook searches, and the description and member list are visible to anyone on Facebook. It doesn't offer complete privacy, but members can feel comfortable knowing that the posts they share are visible only to members of the group.

Be aware that the more groups you join, the greater the chance that you'll be overwhelmed with posts, and that could make it difficult for you to participate in regular discussions. Facebook allows you to join up to 6,000 groups, but this would be an impossible number of communities to keep up with, so it's important to zero in on the groups that offer the most benefits for you. Here are three ways to find them.

The Groups page on Facebook will show you which groups you manage and belong to. You can also discover groups to join based off Facebook's suggestions, and a ton of other categories. To access the Groups page, click on "Home," then you'll see the Explore section, where you can click "Groups."

On a mobile device, the groups link is a circle with the forms of people inside it, located second from the left in the navigation bar on the bottom of the page. You also can access your groups by selecting the menu in the lower-right corner on the navigation bar, then click the Groups tab, and select the desired group from the list.

## How to interact with Facebook Groups

The purpose of most groups is to share information specific to each group's stated interests. Some group members only read other people's posted information via their discussions and photos. However, if you want to be an active member, you will want to join discus-

sions, ask questions, and/or post photos and videos.

## Tips to help you with groups on Facebook

### Desktop Computer Interactive Procedures

1. Open Facebook. Go to <https://www.facebook.com/>. This will open your Facebook News Feed if you're logged in. If you aren't logged in, enter your email address (or phone number) and password in the top-right side of the page.
  2. Go to the page where you want to add a post. For a group, click Groups on the left side of the page, click the Groups tab, and then click the group you want to navigate to.
  3. Add text to a post. If you're posting to a group page, you'll find the "Write Post" box below the cover photo. Type your content into the post box, then, if you're done, click "Post." It's the blue button in the bottom-right corner of the window.
  4. Add more content to your post. If you want to add more to your post, click one of the options located below the post box:
    - Photo/Video — Allows you to select a photo or video from your computer to upload to the post.
    - Tag Friends — Allows you to select a friend or group of friends to tag in the post. Tagged friends will receive the post on their own pages.
    - Check in — Lets you add an address or a location to your post.
    - Poll a Feeling/Activity — Lets you select an emotion or activity to add to the post.
- After adding more content to your original post -- Click Post. It's the blue button in the bottom right corner of the window.
5. To edit a post, tap on the three dots in the top right corner of it and tap "Edit Post" in the menu that comes up. Once you are satisfied with the new edited post, tap "Save" in the top right corner.

### Smartphone Mobile Interactive Procedures:

1. Download the Facebook app from the Apple app store, Google Play Store, Amazon Appstore, etc., on your smartphone or tablet.
2. Open the Facebook app. The Facebook app icon looks like a white "f" on a dark-blue background. Facebook will open to the Facebook homepage if you're

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## Rockhounding on Facebook

(Continued from Page 9)

already logged in. If you aren't already logged in, enter your email address (or phone number) and password, then tap Log in.

3. Select the group you want by selecting the menu in the upper-right corner, then click the Groups tab, and select the desired group to interact. You can also access your groups list by clicking on the circle with the forms of people inside it, located second from the left in the navigation bar.

4. Tap the post box. If you're posting to a group, you'll find the box just below the cover photo. There will generally be a phrase like "Write something" or "What's on your mind?" in the box where you can type your text.

5. Upload a photo or a video. Tap Photo/Video near the middle of the post screen, then select a photo or video to upload and tap Done. Doing so adds the photo or video to your post. You can tap multiple

photos or videos to upload them all at once. Skip this step if you want to upload a text-only post.

6. Add more content to your post. On the middle of

the screen, you will see the following post options:

Photo/Video - Add more photos or videos.

Check In - Allows you to add an address or location to your post.

Feeling/Activity/Sticker - Lets you add an emotion, activity, or emoji.

Tag People - Allows you to add a person to this post. Doing so puts the post on their page as well.

After adding more content to your original post -- Click Post. It's in the top-right corner of the screen. Doing so will create your post and add it to the page you're on.

**Adapted References by Stan Strike:**

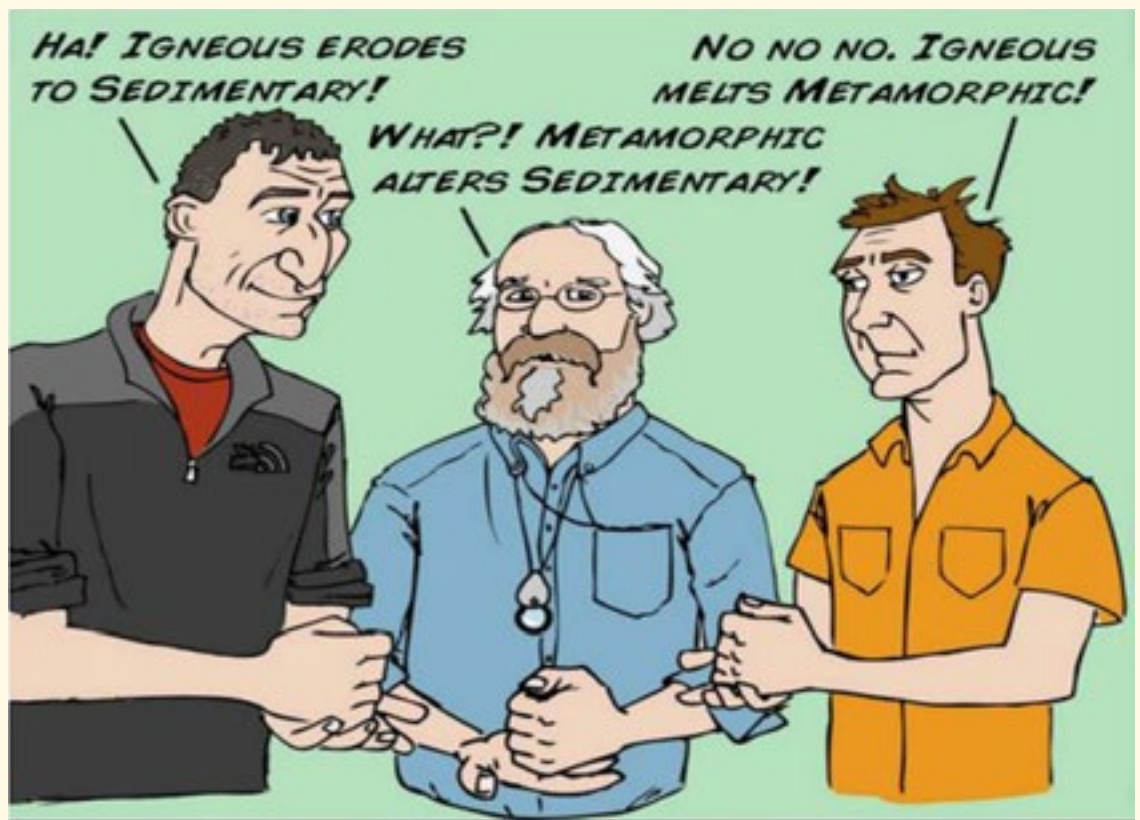
1. <https://blog.hootsuite.com/facebook-groups-business/>

2. How do you join a Facebook Group?-Yahoo Search Results

3. How to use Facebook to enter discussions or photos?-Yahoo Search Results

4. <https://www.wikihow.com/Post-to-Facebook>

The understandably less popular geology version of Rock-Paper-Scissors: Rock-Rock-Rock.



REFERENCE: <http://i.imgur.com-> Geology Memes collected by Bryn Mawr College Mineralogy.



# Geology of Buffalo Bill State Park

A publication of the Wyoming State Geological Survey



**A view of Cedar Mountain, which borders the eastern edge of Buffalo Bill Reservoir and comprises the lower (southeastern) section of the Rattlesnake Anticline.** JSN photo by Ilene Olson

Buffalo Bill State Park is situated just east of the Absaroka Range in a geologically complex area of northwestern Wyoming. The park encompasses billions of years of Earth's history and geologic features such as the Great Unconformity, a dormant volcanic field, and the world's largest known ancient landslide.

## GEOLOGIC HISTORY

Below the Buffalo Bill Dam in Shoshone Canyon and along U.S. Highway 14/16/20 between Buffalo Bill State Park and the town of Cody, a tan sandstone overlies pink and black crystalline rock. This contact, known as the Great Unconformity, marks a more than 2-billion-year gap in the geologic record; the underlying crystalline rock is Precambrian in age (2.8–2.5 billion

years old), while the overlying sandstone is Cambrian (less than 541 million years old). The Great Unconformity can be observed from the hiking trail



**Photograph of the Great Unconformity along U.S. Highway 14/16/20. Dashed black line indicates the approximate contact between Precambrian crystalline rocks and the overlying Cambrian Flathead Sandstone.** Photograph courtesy of Mark P. Fisher (geowyo.com).

**Continued on Page 12**



# Geology of Buffalo Bill State Park

(Continued from Page 11)

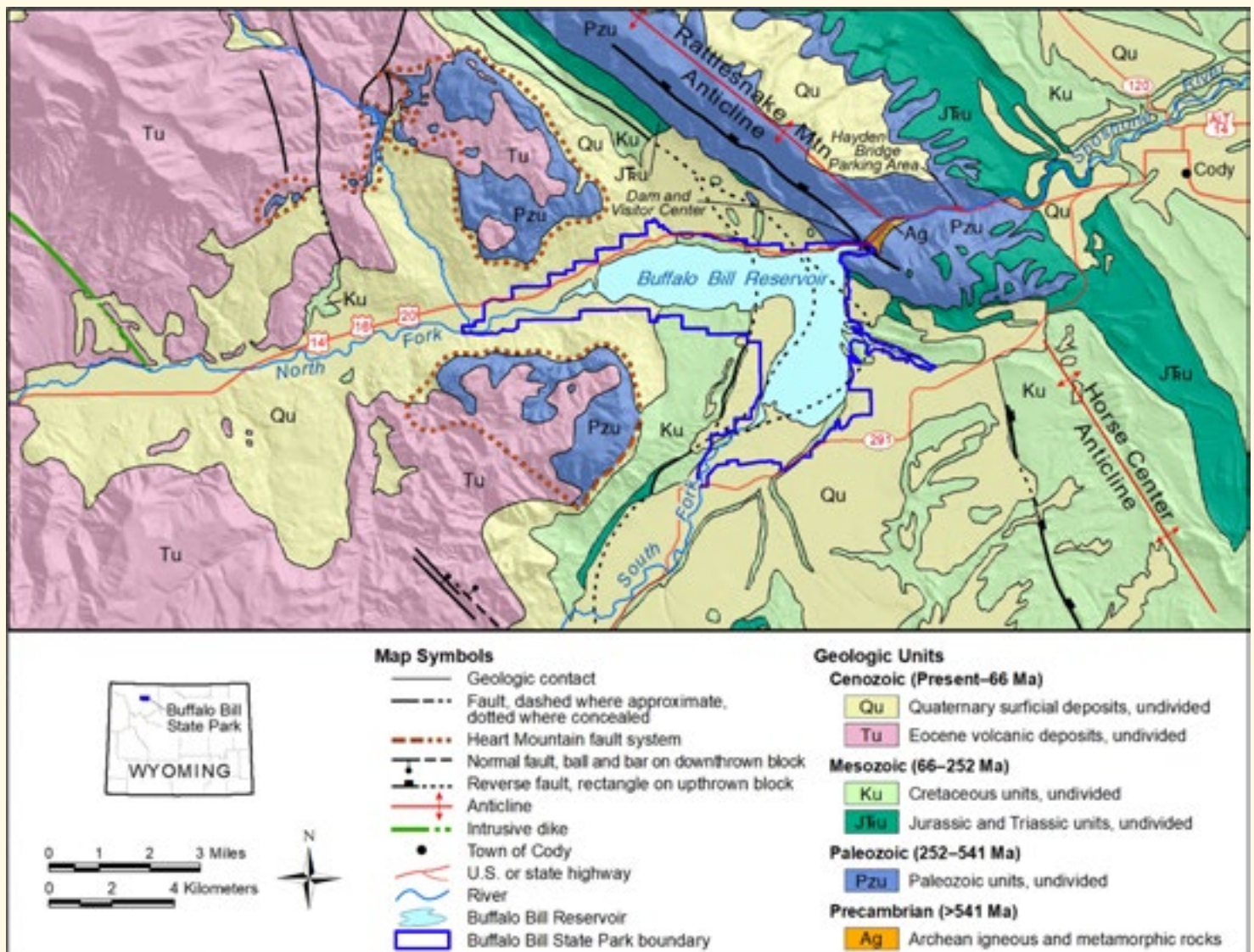
beginning at the Hayden Bridge parking area.

The Flathead Sandstone—the first geologic unit above the Great Unconformity—represents the start of hundreds of millions of years of diverse depositional environments. Rivers and streams deposited sediments that would become sandstones, and oceans collected mud and calcium carbonate from marine organisms that later lithified (turned to rock) to become shale and limestone.

The geologic event that shaped much of the terrain seen in and around the park occurred between 70–35 million years ago. This significant mountain-building episode, known as the Laramide orogeny, exerted compressional forces on all the older formations, forming large faults and arch-shaped folds called anticlines. Steeply tilted

sedimentary rocks are on the flanks of these anticlines, while Precambrian basement rocks are commonly exposed at the center of the folds. Rattlesnake Mountain, visible from the Buffalo Bill Dam and Visitor Center, is an example of one such anticline.

Near the end of the Laramide orogeny, a period of extensive volcanic activity occurred in the now-dormant Absaroka volcanic field. The volcanoes deposited large amounts of igneous and volcanic-derived sedimentary rocks, forming the Absaroka Range, west of the park. Intrusive dikes formed in the subsurface when magma moved through fractures in these rocks and cooled below ground; erosion has since exposed many of these dikes.



Generalized bedrock geologic map of the region surrounding Buffalo Bill State Park. Ages of rocks are in millions of years (Ma).

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# Geology of Buffalo Bill State Park

(Continued from Page 12)

An example of an intrusive dike is exposed as a long prominent ridge west of the park. At the same time that volcanism was forming the Absaroka Range, extensive landslide activity — including the geologically famous Heart Mountain detachment — was taking place.

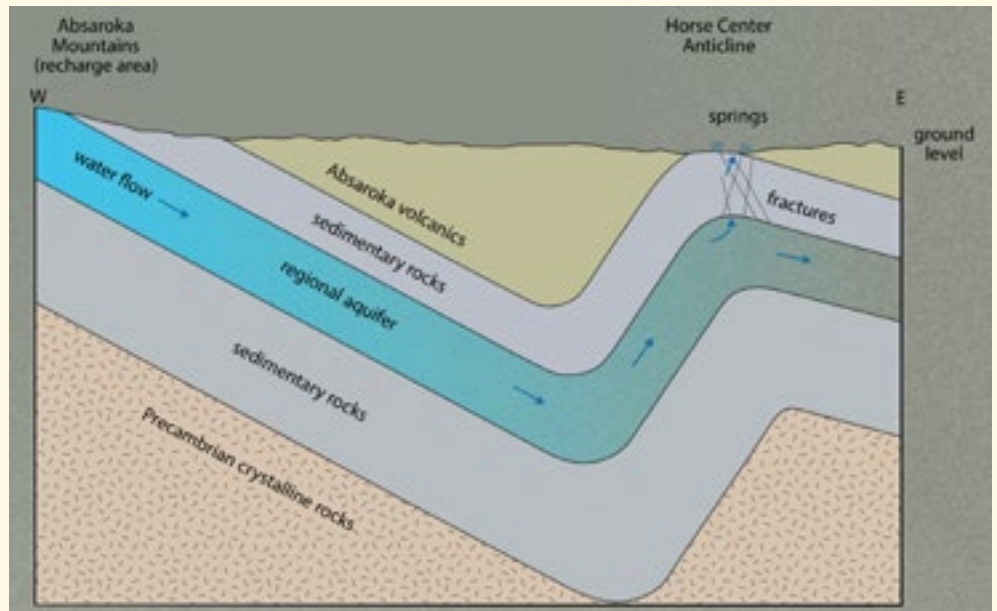
The Heart Mountain detachment, the largest landslide ever found on Earth's surface, slid between 50 and 49 million years ago. Rocks within the detachment moved a minimum of 45 km (28 mi) from their source.

Geoscientists estimate that when the landslide came to rest, the resulting deposit covered an area ranging from 3,400–5,000 km<sup>2</sup> (1,300–1,900 mi<sup>2</sup>). Deciphering how this massive landslide occurred and transported such a large volume of rock over a great distance is a source of debate and controversy among geologists.

## HYDROGEOLOGY

The North and the South forks of the Shoshone River feed Buffalo Bill Reservoir. These two rivers flow east from the Absaroka Range and provide nearly all of the water in Buffalo Bill Reservoir.

This part of northwestern Wyoming also contains the Cody hydrothermal system.



Generalized hydrological model of the Cody hydrothermal system.

The system begins along the eastern flank of the Absaroka Range where snowmelt and rainfall enter regional aquifers, flowing down-gradient through fractures and faults toward Cody.

As groundwater travels through the subsurface, it reaches depths at which the natural geothermal gradient heats it to temperatures of more than 43°C (110°F).

After the heated groundwater flows under the park, it rises toward the surface through fractures in the south-

eastern flanks of the Rattlesnake Mountain and Horse Center anticlines. As the water moves upward, it cools slightly and discharges from springs along the Shoshone River at about 32°C (90°F). De Maris, Shoshone, and Needle hot springs, east of the Buffalo Bill Dam, are identifiable by conspicuous white travertine (a type of limestone) and yellow sulfur deposits along the river.

A fourth hot spring, called Colter's "boiling tar" spring, is beneath Buffalo Bill Reservoir.



For more information, visit: [wyoparks.state.wy.us/index.php/places-to-go/buffalo-bill](http://wyoparks.state.wy.us/index.php/places-to-go/buffalo-bill)

Wyoming State Geological Survey • P.O. Box 1347 Laramie, WY 82073-1347

[www.wsgs.wyo.gov](http://www.wsgs.wyo.gov) • phone: (307) 766-2286 • email: [wsgs-info@wyo.gov](mailto:wsgs-info@wyo.gov)

**State/regional rock show still planned for June 19-21. See pages [6-7](#) and [23](#) for details.**



# Lapidary Wet Polishing Guide:

## Petrified Wood, Opal, Agate and Other Gem Stones

Barranca's polishing pads are designed to achieve a monument quality finish on all straight or shaped surfaces. The unique design of the polishing pads allows for rapid and even removal rates with minimal effort. When used correctly, these pads provide a clear advantage over all other polishing methods.

### Polishing Steps:

1. Cut or shape material to the desired surface or pattern using either a diamond blade or diamond cup wheel.
2. Using a clamping device, secure material to be polished to a proper work surface.
3. Remember, polishing is a process that takes time and requires each grit size pad to be used properly to achieve a quality finish.
4. Using the 50, 120, or 220 coarse grit pad, remove all rough scratches and cut marks. Smooth the surface as much as possible with these specific grit pads. The smoothing of the surface during this stage of polishing will determine the quality of the finish that will be achieved. After working the area, dry the surface to determine if all large scratches have been removed. Using a lumber crayon or pencil, mark the surface to determine the depth of the scratches remaining.
5. Once all large scratches have been sufficiently removed, the finer grit pads can be used to achieve the quality finish. The fine grit pads consist of 400, 800, 1800, and 3500. If more luster or color from the polished surface is desired, use the extremely fine 8500 grit pad.
6. After completing the polishing process, the following steps must be followed if a mirror finish is desired:
  - Make a paste of cerium oxide, aluminum oxide or tin oxide using water.

- Apply paste to felt wheel.
- Run felt wheel with slight pressure against the surface to generate heat.
- After paste dries, polishing is complete.
- Wash surface with water and dry.

The surface should have a high luster or finish. If the surface appears to have small scratches, repeat step 5. In some cases it may be necessary to repeat steps 4 & 5.

### 7. Important Points in the Polishing Process:

- Barranca Diamond polishing pads are designed to be used solely with water to minimize the wear on the pads and prevent hazardous dust. (The use of water acts to cool the polishing pad material, flush away grindings, and eliminate hazardous dust). Always wear eye protection at all times.
- Never skip grit sizes during the polishing process. Skipping grit sizes will result in an unsatisfactory finish to the stone.
- Diamond polishing pads wear out prematurely due to the overworking of the material or by not using a sufficient amount of water. Do not use an excess amount of water.
- Failure to spend adequate time polishing with each grit size pad will result in an unsatisfactory finish.
- Selection of the flexible Velcro™ (rubber) backer pad for shaping and curved work is highly recommended. Use the rigid backer pad for the straight edge and flat face material.
- Flat 4" 100 mesh wheel can be used to plane down uneven surfaces, remove stubborn scratches and knock off saw nubs.

Reference: [Instructions from Barranca Diamond Products, Inc. Wet Polishing Guide](#)



# WSMGS Electronic Board Meeting

## April 2020

### **I. Electronic Meeting Instructions to Board Members:**

As a WSMGS Board Member, I ask you to read this Electronic Meeting email and VOTE on all Action Items by selecting "Reply All" after typing your name and indicating a "Agree or Disagree" vote for each numbered Action Item. The Deadline for your responses by "Reply All" email will be Monday, April 27th. If you have questions about any item call or text me at 307-260-6442 or [pres@wsmsg.org](mailto:pres@wsmsg.org) Board members are encouraged to submit old or new business items that have not been included in this meeting and a special attachment will be sent out for the entire WSMGS Board's consideration.

### **II. President's Report by Jim Gray:**

A. R.O.Y. (Rockhound of the Year) nominations are due April 1, 2020. Forms for the Club nominations and the State nomination were emailed out to all of the Clubs in January and several times since then. Return the forms to the WSMGS President via email: [pres@wsmsg.org](mailto:pres@wsmsg.org) or by U.S. Mail-Jim Gray PO Box 1351, Big Piney, WY 83113.

B. Sublette County Rock Hounds will be hosting the Wyoming State Mineral and Gem Society Show and the Rocky Mountain Federation of Mineralogical Society Convention June 19, 20, 21, 2020. I would like to see all the WSMGS member clubs have a display case.

The theme is Rock and Roll with Wyoming Rocks.

C. I will attach a motel and campground list for the area. I strongly suggest that reservations are made now for the best selection. Pinedale is only 30 minutes travel time with motels as well. One Motel in Pinedale has offered a discount for the Rock Show.

D. If any other clubs' members would like to help, please let me know.

E. We will be having three field trips, one to the blue forest, one to Kemmerer for fish fossils (fee dig), and one local to the Big Sandy area.

F. "Multi-Federation Field Trip June 13-16, 2020 by Doug True, AFMS Inter-Regional Field Trip Chair Blue Forest for petrified wood, dig Fish Fossils (fee) and we're working on several other trips in the area, all in conjunction with the Rocky Mountain Federation Show and convention being held in Big Piney. Wyoming. June 19, 20, and 21, so make it a vacation and visit Wyoming. For information about this trip, contact Doug True. [dtruefossils12@yahoo.com](mailto:dtruefossils12@yahoo.com). For show and other trip information contact Jim Gray. [jimgray@wyoming.com](mailto:jimgray@wyoming.com), or Roger McMannis. [rogerm@wyoming.com](mailto:rogerm@wyoming.com) for field trip information. We are looking forward to this great show.

G. A reminder to the Board and to all of the Clubs to get the information together for any members who have died since last June so a memorial can be done by RMFMS at the annual convention delegates meeting in June.

H. As of today the only clubs that donated to the purchase of a new state trailer have been Sublette County

Rock Hounds, Natrona County Rock Hounds, Cody 59ers Rock Club, and Riverton Mineral and Gem Society Inc. These clubs have donated \$500.00 each and they will have their club names posted on the side of the trailer. WSMGS letters will be 8", clubs that have donated \$500.00 will be 6", and the rest of the clubs will be 4". If a club would like to donate, the letters will be larger.

I. I would like to increase the amount of money the WSMGS donated to the purchase of meat for the annual state show to \$200.00 because \$100.00 doesn't buy very much of anything in today's markets.

J. I would like to increase the Section 4. Dealers from 5 to 10, to 10 to 20 without the approval of the board. Over 20 will need approval of the board

### **III. Vice President's Report by Linda Richendifer:**

a. WSMGS affiliated rock clubs need to submit their Annual Election of Officers Report as soon as club officers are determined for the new year.

b. The WSMGS Vice President will update the Annual WSMGS Club Directory and it was sent to the email contacts in each club. This WSMGS Club Directory is for WSMGS affiliated club use only and IS NOT FOR PUBLIC DISSEMINATION. The WSMGS makes every effort to protect the personal information of its members via the

**Continued on Page 16**

## WSMGS Electronic Board Meeting, April 2020 (Continued from Page 15)

use of Alias Email Addresses for each WSMGS affiliated Club and the WSMGS officers.

### **IV. Secretary's Report By Leane Gray:**

A. Prior Electronic WSMGS Board Meeting Minutes are as printed in the Jade State News, which are available online: wsmgs.org under the heading Newsletters.

### **V. Treasurer's Report by Stan Strike:**

A. WSMGS Club Report Reminders

a. January 1st to May 15th- Form 990N must be electronically submitted to the IRS (The Registered agent for each club should receive this form from the IRS in advance of the deadline). Clubs may contact the IRS directly by email: la2.alt.www4.irs.gov/pub/rup\_login\_1

b. I intend to resign as RMFMS Wyoming State Director so the Board should vote to elect a replacement from the Board members (Jim Gray) who will be recommended to the RMFMS to be approved at the RMFMS Delegate meeting in June in Marbleton. I will be representing Wyoming until that approval vote occurs.

c. I will be asking all clubs to send a delegate to Marbleton for the RMFMS Delegate meeting or submit a Proxy Vote for me to represent their club.

d. I suggest voting on a travel stipend for Board members' expenses in the amount of \$150 to attend WSMGS Annual meeting and help at the show setting up, etc. with the exception of members who would also be dealers at the show, then no travel stipend will be paid.

e. I suggest that all Board members attend the annual WSMGS meeting unless excused by the President.

f. I suggest that the Board vote on whether or not to restore the show cases donated by Rex Young club. And, where is the Heritage case made by Rich Heumier?

B. Deadline for Annual Report to WY Sec. of State Varies by WSMGS Club -- Deadline for renewal of "Non Profit Corporation Annual Report" varies by club and is due the 1st day of the month in which the club was first recognized by the Wyoming Secretary of State as a Non Profit Corporation.

(The Registered Agent for your club should receive this form in advance of the club's deadline

WSMGS Clubs' Incorporation Dates:

Cheyenne  
Mineral & Gem Society December 2, 1969

- Cody 59ers Rock Club February 1, 2012

- Natrona County Rock Hounds April 15, 1954

- Rex Young Rock Club Not Incorporated

- Northeast Wyoming November 8, 2018

- Riverton Mineral & Gem Society August 17, 2012

- Shoshone Rock Club February 8, 1962

- Sublette County Rock Hounds March 21, 2018

- WSMGS Board Incorporated November 23, 1964

C. See the current Treasurer's Report on Page 17.

### **VI. Historian Report by Roger McMannis:**

A. Reminder all MSMGS clubs

need to send activities and meeting minutes or annual reports please.

B. The WSMGS Historian has only received one report to date. In review, the WSMGS Board asks that each affiliated club send a summary of their yearly club activities to the WSMGS Historian. This can be a simple summary or copies of your club's minutes. The purpose of this report is to provide safe storage and a continuous record of your club's history.

C. Please email them ASAP with Attention to Roger McManis: hist@wsmgs.org OR mail to him P.O. Box 1081- Big Piney, WY 83113.

### **VI. Jade State Newsletter by Ilene Olson:**

A. Clubs are encouraged to submit news items, abbreviated minutes, and photos for publication in the Jade State News.

Submission dates to Jade News Editor [jsn@wsmgs.org] are the 1st of February, May, August, and November.

B. The WSMGS would like to encourage clubs to nominate non-club members individuals/couples from your region who have been active in promoting the Earth Sciences to be recognized by receiving recognition in the Jade State News as Wyoming Rock Stars! Check out former winner write-ups on the WSMGS website: wsmgs.org-Menu-WSMGS Topic Library-WSMGS Awards.

### **VII. WSMGS Website by Marlene Sibley:**

A. The WSMGS needs Action Photos from each of your clubs.

**Continued on Page 17**

## WSMGS Electronic Board Meeting, April 2020 (Continued from Page 16)

Please include the photographer's name for proper photo credit and a short caption summary as to activity. Send photos to: webmaster@wsmsg.org

### VIII. Old Business:

A. No old business to consider at this meeting.

### IX. New Business:

A. The Board and Clubs are asked to think about what Museum the WSMGS would like to donate to this come year.

B. The annual WSMGS meeting will be June 18, 2020, at Big Piney, Sublette County Fairgrounds, at 6:30 pm. The information packet for the annual meeting and show have been send out by the President to the Clubs so Delegate/Alternate forms and RMFMS Convention Proxy forms can be completed and returned before the Show and Convention in June.

C. Natrona County Rock Hounds is interested in doing the WSMGS show 2021 in Casper. NE Wyoming Rock Hounds has shown interest for 2022. No club has official filled you the letter of intend and returned to the Board.

\*\*\* **VOTE Action Item #1** - Increasing the amount that the WSMGS donated to the Club doing the WSMGS show from \$100.00 to \$200.00 toward the purchase of the meat.

Name:

AGREE OR DISAGREE:

### +++VOTE Action Item #2

Increase Section 4 Dealers. No less than five (5) and no more than (12) commercial dealers are to be

contracted for any WSMGS show increase to, no less that (12) and no (20) without approval of the WSMGS Board of directors.

Name:

AGREE OR DISAGREE:

\*\*\* **VOTE Action Item #3** – Award a travel stipend for Board members' expenses in the amount of \$150.00 to attend WSMGS Annual meeting and help at the show setting up, etc., with the exception of members who would also be dealers at the show, then no travel stipend will be paid.

Name:

AGREE OR DISAGREE:

\*\*\* **VOTE Action Item #4** – vote on whether or not to restore the show cases donated by Rex Young club.

Name:

AGREE OR DISAGREE:

\*\*\* **VOTE Action Item #5** – vote on whether or not to recommend Jim Gray as Wyoming State Director to the RMFMS to be approved at the RMFMS Delegate meeting in June in Marbleton.

Name:

AGREE OR DISAGREE:

All Votes received via email, documentation attached and outcome is tallied as follows:

### SUMMARY OF VOTING:

ACTION ITEM 1= **all agree**

ACTION ITEM 2= **all agree**

ACTION ITEM 3= **all agree**

ACTION ITEM 4= **all agree**

ACTION ITEM 5= **all agree**

Updated information for by-laws was sent via email to Marlene Sibley, Webmaster

**X. MEETING ADJOURNED-**  
**Monday, April 27, 2020**

### Voting Documentation for April 2020 Electronic Board Meeting of the Wyoming State Mineral And Gem Society:

April 1, 2020

\*\*\* VOTE Action Item #1 - Increasing the amount that the WSMGS donated to the Club doing the WSMGS show from \$100.00 to \$200.00 toward the purchase of the meat.

NAME: Jim Gray

AGREE OR DISAGREE: Agree

+++VOTE Action Item #2 Increase Section 4 Dealers. No less than five (5) and no more than (12) commercial dealers are to be contracted for any WSMGS show increase to, no less that (12) and no (20) without approval of the WSMGS Board of directors.

Name: Jim Gray

AGREE OR DISAGREE:

### Agree

\*\*\* VOTE Action Item #3 – Award a travel stipend for Board members' expenses in the amount of \$150.00 to attend WSMGS Annual meeting and help at the show setting up, etc., with the exception of members who would also be dealers at the show, then no travel stipend will be paid.

Name: Jim Gray

AGREE OR DISAGREE:

### Agree

\*\*\* VOTE Action Item #4 – vote on whether or not to restore the show cases donated by Rex Young club.

Name: Jim Gray

AGREE OR DISAGREE:

### Agree

\*\*\* VOTE Action Item #5 – vote

**Continued on Page 18**



## WSMGS Electronic Board Meeting, April 2020 (Continued from Page 17)

on whether or not to recommend Jim Gray as Wyoming State Director to the RMFMS to be approved at the RMFMS Delegate meeting in June in Marbleton.

Name: Jim Gray

Agree OR DISAGREE:

**Agree**

**Stan Strike-WSMGS treasurer:**

April 5, 2020

Jim,

I would vote **Yes to Action Items**

#'s 1,2,3,4, 5

**Ilene Olson, Jade State News Editor:**

April 20, 2010

**1. Agree**

**2. Agree**, with the following wording change: Increase Section 4 Dealers. No less than five (5) and no more than (12) commercial dealers are to be contracted for any WSMGS show increase to, no less than twelve (12) and no more than twenty (20) without approval of the WSMGS Board of directors.

**3. Agree**

**4. Agree**

**5. Agree**

**Leane Gray, WSMGS Secretary:**

April 4, 2020

**Action Item 1= Agree**

**Action Item 2= Agree**

**Action Item 3= Agree**

**Action Item 4= Agree**

**Action Item 5= Agree**

**Roger McMannis, WSMGS Historian:**

April 4, 2020

**#1 Agree**

**#2 Agree**

**#3 Agree**

**#4 Agree**

**#5 Agree**

### WSMGS Treasurer's Report, April 2020

WSMGS — Cody Bank of the West				
Item	Date	Deposit from/Check written to	Amount	Balance
Deposit	10/7/19	Donation New WSMGS State Trailer	\$500.00	\$500.00
Deposit	10/7/19	Donation New WSMGS State Trailer	\$500.00	\$1,000.00
Deposit	10/7/19	Payment for Old WSMGS Trailer	\$1,000.00	\$2,000.00
Deposit	10/7/19	Transfer From Valley Credit Union	\$1,283.89	\$3,283.89
Deposit	10/23/19	Refund — WY Sales Tax Paid New Trailer	\$80.00	\$3,363.89
Deposit	10/23/19	Closed Valley Credit Union Account	\$275.01	\$3,638.90
Check 101	10/23/19	Voided — Park Co. Treas. — Old Trailer Sold	\$0.00	\$3,638.90
Check 102	10/23/19	Cody 59ers Rock Club — 80% of \$275	(\$200.00)	\$3,438.90
Bank	10/16/19	Direct Charge By Bank — Printed Checks	\$30.00	\$3,408.90
Check 126	11/7/19	8th Street Ivy Inn — Malene's Thank You	(\$50.00)	\$3,358.90
Deposit	11/22/19	Cody 59ers 2020 dues	\$162.00	\$3,520.90
Check 103	12/9/19	RMFMS — 2020 Dues/Insurance	(\$12.90)	\$3,508.00
Deposit	12/9/19	Sublette Co. Rockhounds — 2020 dues	\$246.00	\$3,754.00
Check 104	12/11/19	Ilene Olson — Nov. 2019 JSN	(\$75.00)	3,679.00
Deposit	12/16/19	Closed Account Transfer Refund	\$583.86	\$4,262.86
Deposit	12/16/19	Shoshone Rock Club 2020 Dues	\$51.00	\$4,313.86
Deposit	1/3/20	Cheyenne 2020 Dues	\$115.50	\$4,429.36
Deposit	1/3/20	Riverton JSN Donation	\$100.00	\$4,529.36
Deposit	1/9/20	Rex Young — Torrington 2020 Dues	\$33.00	\$4,562.36
Deposit	1/9/20	NE WY RockHounds 2020 Dues	\$81.00	\$4,643.36
Deposit	1/10/20	Riverton M&G Soc. 2020 Dues	\$216.00	\$4,859.36
<b>Ending Balance</b>				<b>\$4,859.36</b>

# Club News



## Sublette County Rock Hounds Club officers plan for state rock show in June

May 2, 2020

Jim called a meeting of club officers to order at J L Rock Shop May 2, 2020, 9:00 am. Jim and Leane Gray, Mike Schaffer, Roger McMannis, and Debby Jess were present. Discussion began about having the show in June and we still think it is possible by then so plans will go ahead to have it and get ready. Different ways were discussed to make sure that all volunteers, vendors and attendees would be safe and what precautions we can put in place to attain this.

Roger has checked into disinfectant sprays that we can use and have available for each vendor to spray merchandise and tables, and we will be ordering this soon. Jim thought that we might have our showcases right at the door so folks could look at those as they come in and space apart for the admissions table to not have a bottle neck there.

We also discussed having handheld thermometers to use and will encourage everyone to wear masks if still recommended. Jim Gray has a meeting pending with Sublette County's designated physician who is overseeing the COVID-19 pre-

cautions. He has already met with the Sublette County Fairgrounds Manager to discuss the show and possible restrictions to consider now such as spacing, the number of people in the building at a time and food service.

We will create a back-drop to better display Club t-shirts and hats for sale during the show. Leane Gray will inventory the current stock and order what is needed at the show.

Any members who want to order t-shirts or hats must bring order and payment to Leane no later than our May 16th meeting in order to have them before the show. For Club members: Small through XL t-shirts are \$15, 2XL and 3XL are \$17, and hats (mesh back or low profile) are \$12. Colors are fluorescent orange, fluorescent green, red, white, grey, and royal blue.

Field trips are planned during the day while the show is going on. Scheduled so far are:

Thursday — Fish Fossil Dig with Jim Laughter. Discounted prices for participants during the show are: ½ day for \$70 per person, and full day for \$100 per person.

Friday — Blue Forest Area

Saturday — Another Local Area (Open to ideas and leader)

Sunday — Big Sandy area.

Our Banners and flyers, posters and rack cards will need to be placed as soon as we can before the show. We will plan to get our banners and trailers out on May 30th. This date

will be a working meeting. We discussed where to place our banner trailers and that we have the wood for them but it needs to be cut and painted. These will be double sided.

It looks like we may be short a couple of banners, so Debby Jess made a motion to purchase two banners with both the regional and state names on them for the Fairgrounds and the Chamber of Commerce in Pinedale at an approximate cost of \$200.00 each.

Leane Gray seconded and motion carried. These will be able to be used again for later shows.

In discussing where we will be placing these, Jim let us know that Rent-a-Raft in Hoback Junction has been great to allow us to place a trailer the last couple of years, along with this year, on their property and we talked how we could thank them for doing this.

Debby Jess made a motion to get a Smith's gift certificate for \$50 for them, Roger McMannis seconded and motion carried.

The Club also sends out a big Thank You to several members who have provided polished rock for our show, including Jim & Leane, Roger & Diana, Melody Ames, Ed & Linda Trimmer, and Charla Goe. Linda DiGiro, Joe and Dawn Humes for sifting topaz. This has really helped out.

The books for kids at the show, and the extra polished stones have

## Club News

(Continued from Page 19)

been ordered and received for the June show. Jim Laughter has committed to providing (for a small cost or by donation) small fish fossil slabs for the RMFMS banquet table favors, and the pins are on order to go with the fish. The pins and mini Wyoming flags will be given to all showcase exhibitors.

There will be pins for Club volunteers too. Leane has ordered banners for stations/areas at the show in our club colors so things will look uniform.

The next club MEETING and work session will be on the 16th at 1:00pm at the Encana Park under the covered area on East 1st Street, Marbleton, and we will be spreading out to meet with guidelines given for groups meeting. We will plan a working meeting also on May 30th with the place to be announced as soon as possible; this will be the day to disperse after the meeting to put up banners and distribute flyers throughout the region.

Meeting adjourned with those who could stay working on banner trailer wood etc. See you at our next meeting!

Respectfully submitted,

**Jim Gray, President,**  
**Mike Schaffer, Vice President,**  
**Leane Gay, Treasurer,**  
**Debby Jess, Secretary,**  
**Roger McMannis, Field Trip.**

### Cody 59ers: May meeting, handbook and field trip

Yes, we will have a meeting in May.

The meeting will be at 6:30 p.m. on Thursday, May 28, and you can join on Zoom. Tim Kirtland is allowing us to use his account and will be our technical expert to guide us all. Please join me in thanking Tim for his help with these meetings.

The program will be on "How To Cut And Polish Rocks" and Gary Olson will give a demonstration and speak to us via Zoom. Gary always gives a good presentation.

We will also show our new equipment and tell members how they can access it.

The meeting will be short, about 30 minutes, but we will have 3 business items:

1. Approve our delegates to the state show
2. Get a team together to build a show case
3. Approve our new handbook. I plan to send the handbook out by the weekend so everyone can look it over.

I have attached the proposed handbook. Please look it over and let me and Nella know of any changes by Friday p.m. if possible. Thanks to Nella and Elaine who have worked on this project.

I would like to have online silent auction. I propose we take pictures and take on line bids until the Zoom meeting starts. We could use our website or Facebook. What do you think?

John, Nella and I have all spoken about a "Social Distanced Field Trip". Members would take their own vehicle and we would keep safe distances.

- Date: Saturday, May 23, 2020
- Time and Place: Meet at old Airport Parking lot. We will leave at 9:00 a.m. sharp.

- Destination: Gravel beds near Basin, Elk creek and 15 Mile Creek (near Worland). Three stops, depending on weather. If roads are wet, we may go to alternate locations near Manderson and Greybull.

- Expected rocks: jasper, chryso-colla; chert; some agates possible; petrified wood, possible stromatolite cobbles.

- Details: All day trip, have full tank of gas, bring lunch, water.

- Safety: This will be a social distanced field trip. Each family group should bring own car. We will keep a safe distance from each other in the field. Bring hand sanitizer or hand wipes. Not many biting insects out yet but bring insect repellent for pant legs (Ticks are out).

- Leader: Greg Jones

We normally don't have a meeting in June but, since we have missed a couple, how about one on Thursday June 25? It could be an outdoor meeting/ ice cream social. T\ We will have at least one field trip in June too. Thoughts?

Thanks for all your help. Here is to good rock hunting this summer.

**Greg Jones, President**

**See Page 22 for a list of hotels, motels and campgrounds in the Marbleton and Big Piney area for the WSMGS and RMFMS rock show**



## Club News

(Continued from Page 20)

### Shoshone Rock Club: January and February meeting highlights in photos



Dan Dalton of Powell demonstrates obsidian knapping using a pressure technique for the Shoshone Rock Club in February. Above is a mounted obsidian knife Dan made and attached to an antler handle. JSN photo by Ilene Olson



Janet Cozzens of Powell displayed some of her wire-wrapped jewelry at the club's March meeting, and she talked about some of her wire-wrapping methods. Photos courtesy of Janet Cozzens



# Upcoming events

## Area Gem and Mineral Shows

### June 19-21, 2020

#### Wyoming State Mineral & Gem Show RMFMS Convention

Sublette County Fairgrounds  
10937 Hwy 189

Marbleton, Wyoming

See flyer on Page 6

For more information about the 2020 Wyoming Mineral and Gem Show and the Rocky Mountain Federation of Mineralogical Societies Convention, see ages 6, 7 and 22.

### July 11-12, 2020

#### Casper Gem & Mineral Show

Ramkota Hotel, 800 N. Poplar  
Casper, Wyoming

### Sept. 10-20, 2020

#### Denver Gem and Mineral Fall Showcase

For ten days in Denver, 12 separate shows feature more than 900 vendors and exhibitors, each displaying and selling gems, minerals, fossils, jewelry, and lapidary tools and supplies.

For more information, visit

[www.xpopress.com/showcase/profile/2/denver-gem-mineral-fall-showcase/](http://www.xpopress.com/showcase/profile/2/denver-gem-mineral-fall-showcase/)

## Casper Gem & Mineral Show

NCRC presents the 73rd Annual  
**GEM & MINERAL SHOW** July 11-12, 2020

Sat 9-5 Sun 9-4  
Admission \$3  
under 12 free  
Ramkota  
Hotel  
800 N Poplar  
Casper WY

Actual  
Raffle  
Item

Raffle: Amethyst Cathedral, hunk of Edwards Black Jade, hunk of Olive Jade and much more  
Silent Auctions: WY rocks in the rough  
Door Prizes: \$10 rockhound bucks  
Demonstrations: Flint Knapping & Primitive Stone Tools



## Lodging in & around Big Piney-Marbleton, Wyoming

<b>BIG PINEY - MARBLETON</b>			
Marbleton Inn	307-276-5231	405 Winkleman Avenue	Hotel
Big Piney Motel	480-217-0677	216 S. Front Street	Motel
Country Chalet	307-276-3391	9 Hwy 189	Motel
Triple Peak Bed & Breakfast	307-276-3408	116 Profit Road	Bed & Breakfast
Rob's Roost	307-276-3611	23 E. 3rd Street	RV Park
Sublette County Fairgrounds Leane Gray	307-260-6443	10937 Hwy 189	RV Park
<b>LABARGE</b>			
Wyoming Inn	307-386-2654	129 W. Birch Creek Road	Motel
Red Cliff Motel	307-386-9269	129 E. 4th Avenue	Motel
<b>DANIEL</b>			
Daniel Junction	307-859-8274	11072 Hwy 189 & 191	RV Park & Cabins
Timberline Lodge	307-859-8339	807 Merna North Beaver Road	Lodge
Wyoming Mountain Cabin	307-223-2970	201 Merna North Beaver Road	Cabins
<b>BOULDER</b>			
Big Sandy Lodge	307-749-1401	Big Sandy Trailhead	Lodge & Cabins
Boulder Inn Motel	307-537-5480	8782 Hwy 191	Motel
Boulder Lake Lodge	307-537-5400	#48 Bridger Drive	Lodge & Cabins
Highline Trail RV Park	307-537-3080	8718 Hwy 191	RV Park
Wind River View RV Park & Campground	307-537-5453	8889 Hwy 191	RV Park
<b>FARSON</b>			
Sitzman's Motel	307-273-9246	4072 Hwy 191	Motel
<b>KEMMERER / DIAMONDVILLE</b>			
Antler Motel	307-877-4461	419 Coral Street	Motel
Best Western Fossil Country Inn & Suites	307-877-3388	760 Hwy 189 - 30	Hotel
Fairview Motel	307-877-3938	61 US Hwy 30	
Super 8	307-877-6901	3 US Hwy 189-30	Motel
<b>PINEDALE</b>			
Baymont Inn & Suites	307-367-1424	1624 W. Pine Street	Hotel
Best Western Pinedale Inn	307-367-6869	864 W. Pine Street	Hotel
Chambers House Bed & Breakfast	800-567-2168	111 W. Magnolia	Bed & Breakfast
Gannett Peak Lodge	307-231-5755	44 N. Sublette Avenue	Motel
Hampton Inn & Suites	307-367-6700	55 Bloomfield Avenue	Hotel
High Country Suites	307-367-5770	1133 W. Pine Street	Hotel
Lakeside Lodge Resort & Marina	307-367-2221	Fremont Lake	Cabins
Lodge at Pinedale	307-367-8800	1054 W. Pine Street	Hotel
Log Cabin Motel	307-367-4579	49 E. Magnolia	Cabins
Pinedale's Cozy Cabins	307-367-3401	66 N. Madison	Motel
Rim Station RV Park	307-859-8229	milepost 129 on Hwy 191	RV Park
Rivera Lodge Bed & Breakfast	307-367-2424	442 W. Marilyn Street	Bed & Breakfast
Sundance Motel	307-367-4789	148 E. Pine Street	Motel
Wagon Wheel Motel	307-367-2871	407 S. Pine Street	Motel



# WSMGS Rock Clubs

## Riverton Mineral & Gem Society

P.O. Box 1904  
Riverton, WY 82501

rivertonmgs@wsmgs.org  
www.RivertonMGS.com

Meets 2nd Mon. 7 p.m.  
(Jan.-May, Aug.-Nov.)

Senior Center, 303 E. Lincoln, Riverton

President: ..... Linda Richendifer  
Vice-President: ..... Stan Grove  
Treasurer: ..... Cristy Quinn  
Secretary: ..... Holly Skinner  
JSN: ..... Kim Brown  
Historian: ..... Open  
Field Trips ..... Ted Knowles

## Cheyenne Mineral & Gem Society

P.O. Box 21412  
Cheyenne, WY 82001

cheyennemgs@wsmgs.org

Meet 2nd Wed. 7 p.m. (August-May)  
IBEW Union Building  
810 Fremont Street-Cheyenne

President: ..... Open  
Vice President ..... Open  
Treasurer: ..... Jan Shively  
Field Trip ..... Mark Shivel

## Natrona County Rockhounds

P.O. Box 123,  
Casper, WY 82644

natronarockhounds@wsmgs.org

Meets 1st Monday 7 p.m. (April-Dec)  
Shop Open 6-8 p.m. Tue & Fri at  
Clubhouse, 5211 Rambler, Mills

President: ..... Martin "Mac" Goss  
Vice-President: ..... John Hines  
Treasurer: ..... Kenny Platte  
Secretary: ..... Martin "Mac" Goss

## Cody Fifty-Niners Rock Club

P.O. Box 1251  
Cody WY 82414

cody59ers@wsmgs.org  
www.Cody59ers.com

Meets 4th Thursday (Sept-May) 6:30 p.m.  
Park County Courthouse, EOC room,  
1002 Sheridan Ave., Cody

President: ..... Greg Jones  
Vice-President: ..... John Severeide  
Treasurer: ..... Aubrey Smith  
Secretary ..... Janet Lorher  
Historian: ..... Stan Strike  
Field Trips ..... Nella Flurkey



## Sublette County Rock Hounds Club

P.O. Box 1351  
Big Piney, WY 83113

subletterockhounds@wsmgs.org

Meets 1 p.m. 3rd Saturday (March-Dec)  
The Bench Grill  
415 Winkleman, Marbleton

President: ..... Jim Gray  
Vice-President: ..... Mike Schaffer  
Treasurer: ..... Leane Gray  
Secretary: ..... Deb Jess

## Shoshone Rock Club

P.O. Box 256,  
Powell, WY 82435

shoshonerockclub@wsmgs.org

Meets 2nd Tuesday 7 p.m.  
Powell Library  
317 E. Third St., Powell

President: ..... Dorine Strom  
Vice-President: ..... Mary Vogel  
Treasurer: ..... Linda Thomas  
Secretary: ..... Linda Jennings  
JSN: ..... Ilene Olson  
Historian: ..... Linna Beebe  
Field Trips ..... Dorine Strom

## Rex Young Rock Club

112 East 3rd  
Lingle, WY 82223

rexyoungrockclub@wsmgs.org

Meets 2nd Wednesday 7:00 p.m.  
Senior Center  
216 E. 19th Ave., Torrington

President: ..... Kim Nielsen  
Vice-President: ..... Sherman Lenhart  
Treasurer: ..... Helen Vogel  
Secretary: ..... Joyce Trowbridge  
JSN: ..... Joyce Trowbridge  
Historian: ..... Joyce Trowbridge  
..... Dale Tikalski

## Northeast Wyoming Rockhounds

2107C N. Hwy 14-16  
Gillette WY 82716

newyrockhounds@wsmgs.org

Meets odd # months  
Check email for dates

President: ..... Jeff Hulings  
Vice-President: ..... Dennis Brown  
Treasurer: ..... Beth Raab  
Secretary: ..... Vanessa Grove