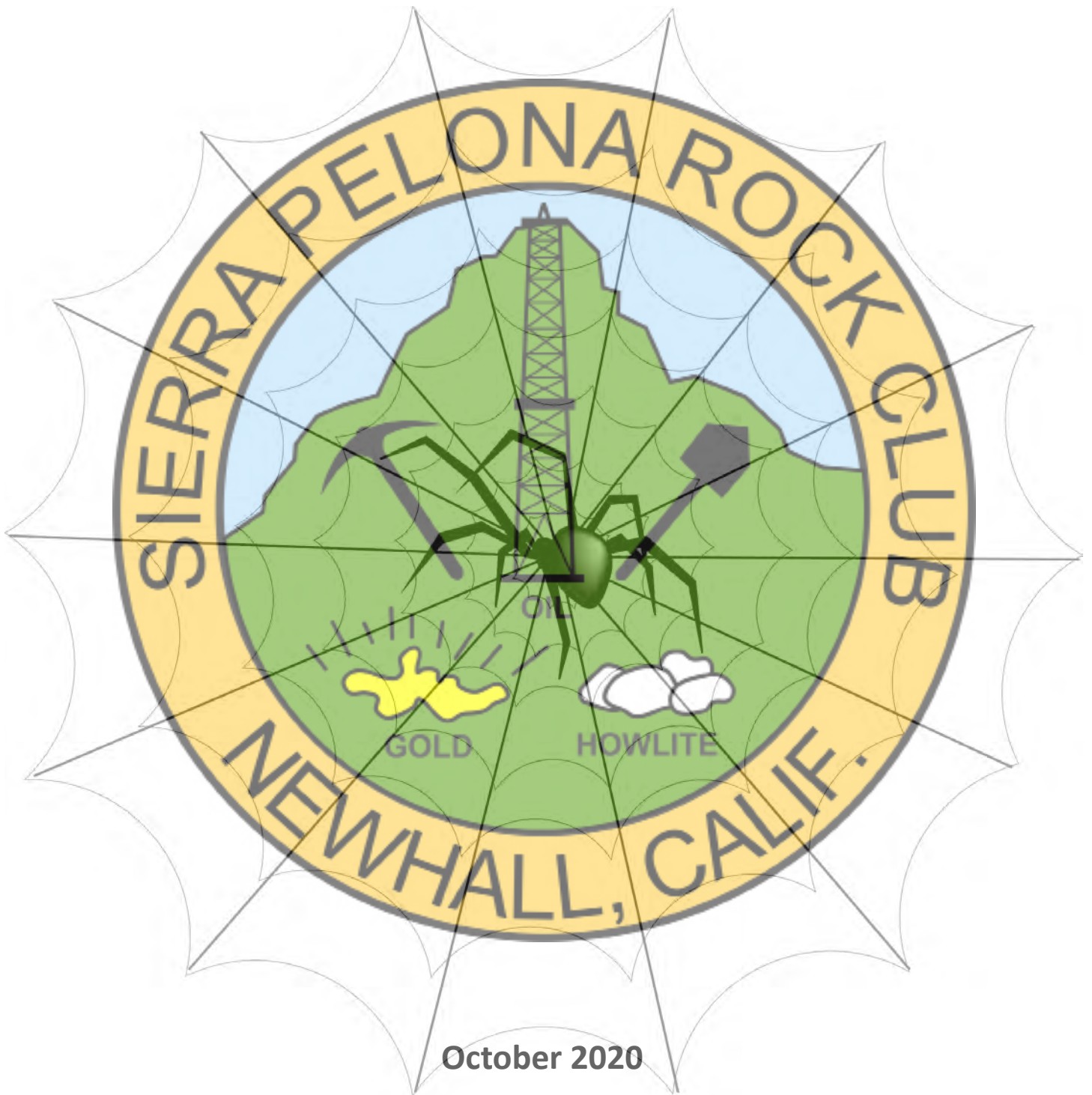


# The Sierra Pelona



October 2020

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*... Member of the California Federation of Mineralogical Society Inc. ...*

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The Sierra Pelona Rock Club is a non-profit organization founded in 1959 with the objective to sponsor activities and promote interest and education in: mineralogy, lapidary, geology, paleontology and related subjects.



### Hi Everyone

What a year this has been! It is way past time to get everyone healthy and back to normal. I can't wait to see 2021! Can't be worse, right?

As far as the club is concerned, we have had a couple Board meetings via Zoom, and the September General Meeting had 20 in attendance. It was nice seeing everyone, and I am looking forward to the October meeting for visiting friends and seeing the presentation that Evelyn has prepared. Also note that the meeting will be at 7pm. Attending members at the last Zoom meeting liked the time frame so we agreed to keep that time as long as we need to have our meetings via Zoom.

At this time, unfortunately, Zoom is the only way we can visit as a group. With the cooler weather, I know many of you will head out to the desert with a couple friends for collecting, but just so you know, it is very important that members realize these trips aren't club sanctioned. It's an insurance (and legal) thing at this time. But if you go, be careful and have fun.

So I hope we see all of you on October 20 at 7pm via Zoom. The invitation link will be emailed to all members a few days before.

Bill Webber  
President, SPRC

### October

Omid Aeen  
Alexander Hamilton  
Ashton Scott  
Katherine Webber

### November

Shana Brunes-Ruiz  
Frank Humelbaugh  
Jack Jenkins



### **Officers:**

President – Bill Webber  
Vice-President – Julie Tinoco  
Secretary: Heidi Webber  
Treasurer –Shana Brunes-Ruiz  
Federation Director (CFMS/AFMS) --Evelyn Velie

### **Chairpersons:**

Claim--Linda Jenkins  
Donation Rock Table--Akiko Strathmann  
Equipment--Bill Webber  
Field Trips – Julie Tinoco  
Historian -Open  
Hospitality – Ron Rackliffe  
Membership – Heidi Webber  
Website-- Larry Holt  
Pelonagram Publisher, Editor – Heidi Webber  
Programs –Tina White  
Publicity –Bruce Velie  
Sunshine--Brigitte Mazourek

The Sierra Pelona Rock Club, is a member of the California and American Federation of Mineralogical Societies, Inc. (CFMS/AFMS). The general club meetings (Open to the public) are at 7:30 PM, on the 3rd Tuesday of each month at:

**The Clubhouse of the Greenbrier  
Mobile Estates EAST  
21301 Soledad Canyon Rd  
Canyon Country, CA 91351**

Contact the Club or the Sierra Pelonagram Editor at:

**Sierra Pelona Rock Club  
P.O. Box 221256  
Newhall, Ca. 91322**

Or e-mail: [hwebber@pachell.net](mailto:hwebber@pachell.net)

Visit the SPRC website [www.sierrapelona.com](http://www.sierrapelona.com)

**SPRC General Meeting**  
September 5, 2020  
Via Zoom, Don Cogan-Moderator

The meeting was called to order at 7pm. 20 people were in attendance; all were quite excited to see each other after such a long time. Evelyn Velie gave the CFMS report. They are in need of a secretary. There will be no break in CFMS dues as they have a very small margin after insurance and other annual fees are paid. Julie Tinoco said that because of COVID-19, there will be no field trips at this time. We will re-visit this in January. Members are allowed to do their own thing with others, of course, but there will be no club-sanctioned gatherings of any type. Bill said there will be no workshops for the same reason. Everyone liked the 7pm time for the Zoom meetings, and so that is the time we will have our General Meetings until we can go back to our normal in-person meetings. The meeting was adjourned at 7:30 and members continued to visit until around 8pm.

Respectfully Submitted

Heidi S Webber  
Secretary, SPRC



**SPRC Board Meeting**  
October 6, 2020  
Via Zoom, Don Cogan-Moderator

The meeting was called to order at 7:03pm. In attendance were Bill and Heidi Webber, Julie Tinoco, Don Cogan and Bruce and Evelyn Velie. Shana had emailed the treasurer report, being unable to attend. The minutes of September were presented. Julie approved/Heidi seconded. Passed. Evelyn said that CFMS has also cancelled all events for the rest of the year. She also found a secretary for them. Dues? We will ask Shana for more information before any decision is made. Tina wasn't able to attend the meeting. Evelyn said she had a program she would like to do via Zoom. Don said he would help her get the program on line. I said I would contact Tina to see if she was ready to do a Zoom presentation. (I did, she responded she would like Evelyn to do her program for October). Heidi said she upgraded her Zoom account to full status but isn't ready to take the reins yet. Don said he would be happy to do the October General Meeting and help any way he can. He deserves a great Thank You for being so available to us. Evelyn motioned to adjourn/Heidi seconded, passed. The meeting adjourned at 7:45.

Respectfully Submitted

Heidi S Webber  
Secretary, SPRC

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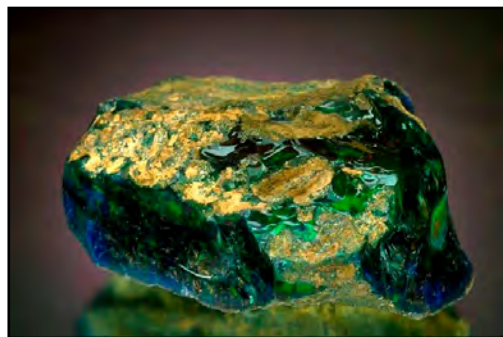
**Dig Your Own Unique Opals From Nevada**



Nevada is famous for its colorful black Opal You can dig Own Unique Opals in three areas open for rock hounds Nevada is famous for its beautiful, colorful black Opal. The state contains some very rich precious opal beds and has produced some spectacular and extremely valuable specimens. The Virgin Valley opal beds in northwest Humboldt County are perhaps the most famous gemstone locality in Nevada. High quality precious opal emitting a multihued rainbow of color is found replacing wood or other plant material in this remote location. The Virgin Valley Opal field is in an isolated desert area south of Highway 140 about 25 miles southwest of Denio. Precious opal was first discovered here in 1905 and a number of claims were located at that time. Exploration of these deposits has been continued intermittently by various parties since that time. The opal field lies within an area approximately 5 miles wide and 10 miles long in certain beds outcropping along the walls and slopes of Virgin Creek Valley.

## Geology of the Area

The formations here consist of volcanic ash tough and mud originally deposited in shallow lakes. The sediments are in part overlain by lava flows. The sedimentary beds have been divided into upper middle and lower divisions the upper beds contain fossil remains in the form of bones and teeth of mastodon camels and other fauna while the middle beds contain silicified wood and plant remains is principally in these middle beds that the opal occurs in the form of wood casts. These productive beds are buried by overburden sometimes as much as 100 feet thick. Many of the plant remains in the opal beds are only partly replaced by silica and still contain considerable carbonaceous material. Precious opal is sparsely and irregularly distributed throughout the deposit, but comprises only a very small part of it.



Many opal experts consider the Virgin Valley material to be some of the best, brightest and most beautiful opal yet discovered. The Virgin Valley deposits produce a wide variety material from intensely colored crystal opal to some of the world's finest black opal. Brilliant flashes of red, blue, yellow, green and all the rest of the rainbow emanate from these spectacular gems.

There are areas at Virgin Valley which are open to rockhounds who would like to pay to dig for the fiery precious black opal. You have a couple of different options, tailings diggings or bank diggings.

The three areas open for rock hounds are:

*(Prices and accessibility may have changed, be sure to contact the mine before you go.)*

### Rainbow Ridge Mine

Owned and operated by the Hodson family since 1949. Rainbow Ridge Opal Mine is located in Northwest Nevada, approximately 135 miles from Winnemucca, Nevada, and approximately 100 miles from Lakeview, OR. The closest town is Denio, NV, which is 35 miles away. Denio Junction has reopened and food, fuel and rooms are available. Tailings fee is \$100.00 per person per day.

Address: Sage Brush Rd, Winnemucca, NV 89445

### Royal Peacock Mine

Since 1981, the Royal Peacock Opal Mine has been open to the public as a pay-to-dig mine. It has yielded countless world-class precious opal specimens during that time. Digging isn't cheap, though. They charge \$190 per person per day to dig in the fire-opal-rich bank area and \$75 to dig in the mine dumps and tailings (piles of rock extracted from the mine).

Address: 10 Virgin Valley Rd, Denio, NV 89404

### Bonanza Opal Mine

The Bonanza Opal Mine is renowned for its fire opals. Since the early 1900s, the Virgin Valley has had a reputation for producing unique, world-class precious gemstones. At Bonanza, you can dig for opals amidst the rugged beauty of the Virgin Valley in northern Nevada.

The fee is \$70.00 per person/day. Children 12 and under are FREE with paid adult.

Address: 10 Virgin Valley Rd, Denio, NV 89404

*Reference: The Amazing Geologist*



## Obsidian: Volcanic Glass

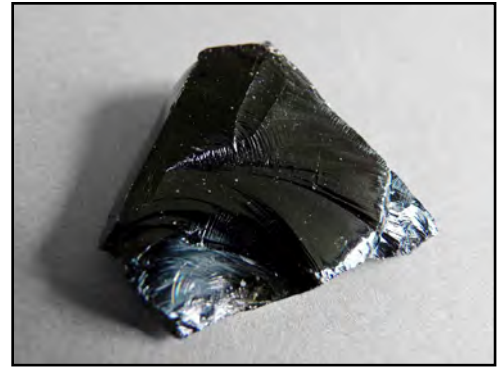
### Obsidian Definition and Origin

If you've ever held a black glassy arrowhead, you've held obsidian. Before it was expertly shaped into a sharp point, obsidian was formed through a complex and rare earth process.

Obsidian is a naturally occurring volcanic glass. It is formed during the eruption of felsic lavas, which are distinguished by having high concentrations of the chemical element silica. Because of their high silica content, felsic lavas do not behave like the mafic, or silica-poor, lavas we see on the island of Hawaii.

Silica forms bonds with oxygen in lava creating linked molecule chains. These linked molecule chains are called polymers and the process of forming them is called polymerization. Polymers increase the viscosity, or resistance to flow, of the lava.

A more familiar example of substances with differing viscosities is the difference between honey and water. Water has very low viscosity, so it flows very easily, whereas honey has a high viscosity and flows much more slowly. The silica-rich lavas that form obsidian flow extremely slowly due to the effects of polymerization of the silica atoms.



### Properties

Obsidian is marked by its absence of crystals. To understand the formation of obsidian, we must first review how crystals form. You can think of the components in minerals as building blocks. In order for minerals to grow, the correct blocks must be present and they must be able to connect in the lava.

The chains of polymers in the felsic lava get in the way of mineral components connecting with each other to form crystals. Also, the overall high viscosity of the lava prevents much movement from occurring. Because crystals cannot form in this situation, the lava cools into a volcanic glass containing no crystals!

Obsidian is mineral-like, but not a true mineral because as a glass it is not crystalline; in addition, its composition is too complex to comprise a single mineral. It is sometimes classified as a mineraloid. Though obsidian is usually dark in color similar to mafic rocks such as basalt, obsidian's composition is extremely felsic.

Obsidian consists mainly of SiO<sub>2</sub> (silicon dioxide), usually 70% or more. Crystalline rocks with obsidian's composition include granite and rhyolite. Because obsidian is metastable at the Earth's surface (over time the glass becomes fine-grained mineral crystals), no obsidian has been found that is older than Cretaceous age.

This breakdown of obsidian is accelerated by the presence of water. Having a low water content when newly formed, typically less than 1% water by weight, obsidian becomes progressively hydrated when exposed to groundwater, forming perlite.

Pure obsidian is usually dark in appearance, though the color varies depending on the presence of impurities. Iron and magnesium typically give the obsidian a dark brown to black color. Very few samples are nearly colorless.



*Snowflake Obsidian*

In some stones, the inclusion of small, white, radially clustered crystals of cristobalite in the black glass produce a blotchy or snowflake pattern (snowflake obsidian). Obsidian may contain patterns of gas bubbles remaining from the lava flow, aligned along layers created as the molten rock was flowing before being cooled. These bubbles can produce interesting effects such as a golden sheen (sheen obsidian).

An iridescent, rainbow-like sheen (rainbow obsidian) is caused by inclusions of magnetite nanoparticles.

### Appearance

A common misconception about obsidian is that its dark color is due to having crystallized from mafic lava. Mafic lavas crystallize to form basalt, which is also dark in color. Obsidian is commonly a translucent dark brown or black.

Unlike basalt, obsidian's dark color is due to high amounts of impurities rather than the presence of dark colored minerals. The color of obsidian depends on the chemical composition of the impurities.

A unique type of obsidian is called snowflake obsidian due to the presence of radiating cristobalite, a light-colored material. This obsidian variant is commonly used for jewelry.

### Occurrence

Obsidian can be found in locations which have experienced rhyolitic eruptions. It can be found in Argentina, Armenia, Azerbaijan, Australia, Canada, Chile, Georgia, Greece, El Salvador, Guatemala, Iceland, Italy, Japan, Kenya, Mexico, New Zealand, Papua New Guinea, Peru, Scotland, Turkey and the United States.

Obsidian flows which may be hiked on are found within the calderas of Newberry Volcano and Medicine Lake Volcano in the Cascade Range of western North America, and at Inyo Craters east of the Sierra Nevada in California.

Yellowstone National Park has a mountainside containing obsidian located between Mammoth Hot Springs and the Norris Geyser Basin, and deposits can be found in many other western U.S. states including Arizona, Colorado, New Mexico, Texas, Utah, Washington, Oregon and Idaho. Obsidian can also be found in the eastern U.S. states of Virginia, as well as Pennsylvania and North Carolina.

### Uses of Obsidian

One of the most familiar associations with obsidian is its use in arrowheads by Native Americans. Because the natural glass does not have an orderly internal structure, obsidian will break into conchoidal fracture. Conchoidal fracture is a smooth scallop-shaped surface formed when a glassy material like obsidian is broken. The tendency of obsidian to form conchoidal fracture is what allows it to form such sharp surfaces. People learned to skillfully chip away and sculpt obsidian to form extremely sharp and effective cutting tools.

Though not approved by the US Food and Drug Administration (FDA) for use on humans, obsidian is used by some surgeons for scalpel blades, as well-crafted obsidian blades have a cutting edge many times sharper than high-quality steel surgical scalpels, the cutting edge of the blade being only about 3 nanometers thick.

Obsidian is also used for ornamental purposes and as a gemstone. It presents a different appearance depending on how it is cut: in one direction it is jet black, while in another it is glistening gray. "Apache tears" are small rounded obsidian nuggets often embedded within a grayish-white perlite matrix.

*Reference: The Amazing Geologist*



*Oregon Rainbow Aurora Borealis Obsidian Credit :OldGrowthForests*