

# The Sierra Pelonaogram



September 2017

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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.



### San Simeon Field Trip

Diane Wohlleben

We had a great time collecting near San Simeon driving up a narrow dirt road with the creek and sycamore trees and wild raspberry bushes on the left side of the small dirt road, and cattle on the other side. Trina and Omid leading, and stopping in the correct location, we all piled out forging through the brush stepping over cow pies going down to the creek with our heads looking down to pick up our precious rocks along the way to the edge of the creek.

Omid found the safe place with large enough boulders to hop on and get across the creek without getting our feet wet. It was a rock-hunters paradise with the oohs and ahhs starting with Julie and Robin.

Beautiful sparkling quartz crystal rocks and some dark purple/bluish rocks were the first to delight our eyes. Then Jasper and Plasma Agate.

Come to the "Show and Tell" on September 19th to see our treasures.

*(Do you have a story to tell? Please feel free to submit it to me by the 10th of the month and I will be thrilled to include it in the Pelonagram. Thanks Diane!)*



### Birthdays

#### September

J.P. Castilla	Sept. 25
Teresa Edwards	Sept. 5
Julie Tinoco	Sept. 29

#### October

Omid Aeen	Oct. 4
Josh Derenski	Oct. 3
William Edwards	Oct. 2
Olive Edwards	Oct. 20



### Officers:

President – Ron Rackliffe

Vice-President – Trina Aeen

Secretary: Dianne Wohlleben

Treasurer – Kay Denson

Federation Director (CFMS/AFMS) --Evelyn Velie

### Chairpersons:

Claim--Mike Serino

Donation Rock Table--Ron and Akiko Strathmann

Equipment--Bill Webber

Field Trips – Julie Tinoco

Historian -Open

Hospitality – Tina White

Membership – Heidi Webber

On-Line Presence (website)-- Trina Aeen

Pelonagram Publisher, Editor – Heidi Webber

Programs –Evelyn Velie

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@pacbell.net](mailto:hwebber@pacbell.net)

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

**SPRC Board Meeting**  
Greenbriar Estates Clubhouse  
8/22/17



### President's Message

Hi everybody!

Hope all of you have had a great summer. It was good seeing all of you at Rattler's, too bad it got too loud from the band next door to be able to talk.

Our next trip will be on the 23rd and we will be hunting the elusive Rose Quartz. It is a bit of a drive but I hope to see a lot of you there. We are lucky to have permission from the claim owner –Paul.

We will have the AV club joining us on this trip; it is always good to meet and enjoy the company of others with the same interests.

Ron R

Called to order by President at 7:20PM

Attendees: Ron, Kay, Heidi, Dianne, Julie, Trina, Evelyn, Bruce

Old Business:

No new membership applications

Discussed Tax information, Articles of incorporation: Heidi gave papers to Kay and Heidi will email Old and new Bylaws to Kay, RE: 501 c-3 Non Profit Status

New Business:

General Membership Sept. 19, 2017

Up-coming trip to San Simeon Beach Aug. 26, 17. Meet at Walmart on Copper hill.

General Membership meeting Tue., Sept. 19th

Pizza, Bingo, and Show and Tell of your summer rock collecting experiences.

Field trips:

Sept. 23, Rose quartz, Near Bakersfield

Oct. 21st. Clear Creek Plasma Agate, Near Coalinga

Dec, 2nd Trona, near Ridgecrest

Dec. 8th Christmas Brunch

Upcoming Workshop, Sat. Sept. 30th, and Wire Wrapping Oct. 4th.

A discussion about the club selling a lost wax kiln that was donated to us was tabled.

Meeting was Adjourned at 8:20PM

Submitted by

Secretary Dianne Wohlleben

## Obsidian



Obsidian talus, Obsidian Dome, California

Obsidian is a naturally occurring volcanic glass formed as an extrusive igneous rock. It is produced when felsic lava extruded from a volcano cools rapidly with minimal crystal growth. Obsidian is commonly found within the margins of rhyolitic lava flows known as obsidian flows, where the chemical composition (high silica content) induces a high viscosity and polymerization degree of the lava. The inhibition of atomic diffusion through this highly viscous and polymerized lava explains the lack of crystal growth. Obsidian is hard and brittle; it therefore fractures with very sharp edges, which were used in the past in cutting and piercing tools, and it has been used experimentally as surgical scalpel blades

### Origin and Properties

Obsidian is the rock formed as a result of quickly cooled lava, which is the parent material. Tektites were once thought by many to be obsidian produced by lunar volcanic eruptions, though few scientists now adhere to this hypothesis.

Obsidian is mineral-like, but not a true mineral because as a glass it is not crystalline; in addition, its composition is too variable to be classified as a 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 break-



Polished snowflake obsidian, formed through the inclusion of cristobalite crystals



down 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 other transition elements may give the obsidian a dark brown to black color. Very few samples are nearly colorless. 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.

### 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 mountain-side 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.

There are only four major deposit areas in the central Mediterranean: Lipari, Pantelleria, Palmarola and Monte Arci.

Ancient sources in the Aegean were Milos and Giali.

Acıgöl town and the Göllü Dağ volcano were the most important sources in central Anatolia, one of the more important source areas in the prehistoric Near East.



Mahogany Obsidian

### Historical use

The first known archaeological evidence of usage was in Kariandusi and other sites of the Acheulian age (beginning 1.5 million years BP) dated 700,000 BC, although the number of objects found at these sites were very low relative to the Neolithic. Use of obsidian in pottery of the Neolithic in the area around Lipari was found to be significantly less at a distance representing two weeks journeying. Anatolian sources of obsidian are known to have been the material used in the Levant and modern-day Iraqi Kurdistan from a time beginning sometime about 12,500 BC. The first attested civilized use is dated to the late fifth millennium BC, known from excavations at Tell Brak.

Obsidian was valued in Stone Age cultures because, like flint, it could be fractured to produce sharp blades or arrowheads. Like all glass and some other types of naturally occurring rocks, obsidian breaks with a characteristic conchoidal fracture. It was also polished to create early mirrors. Modern archaeologists have developed a relative dating system, obsidian hydration dating, to calculate the age of obsidian artifacts.

### Americas



Lithic analysis can be instrumental in understanding prehispanic groups in Mesoamerica. A careful analysis of obsidian in a culture or place can be of considerable use to reconstruct commerce, production, distribution and thereby understand economic, social and political aspects of a civilization. This is the case in Yaxchilán, a Maya city where even warfare implications have been studied linked with obsidian use and its debris. Another example is the archeological recovery at coastal Chumash sites in California indicating considerable trade with the distant site of Casa Diablo, California in the Sierra Nevada Mountains.

Pre-Columbian Mesoamericans' use of obsidian was extensive and sophisticated; including carved and worked obsidian for tools and decorative objects. Mesoamericans also made a type of sword with obsidian blades mounted in a wooden body. Called a macuahuitl, the weapon was capable of inflicting terrible injuries, combining the sharp cutting edge of an

obsidian blade with the ragged cut of a serrated weapon.

Native American people traded obsidian throughout the Americas. Each volcano and in some cases each volcanic eruption produces a distinguishable type of obsidian, making it possible for archaeologists to trace the origins of a particular artifact. Similar tracing techniques have allowed obsidian to be identified in Greece also as coming from Milos, Nisyros or Giali, islands in the Aegean Sea. Obsidian cores and blades were traded great distances inland from the coast.

In Chile obsidian tools from Chaitén Volcano have been found as far away as in Chan-Chan 400 km (250 mi) north of the volcano and also in sites 400 km south of it.



Glass Mountain, a large obsidian flow at Medicine Lake Volcano

Obsidian was also used on Rapa Nui (Easter Island) for edged tools such as Mataia and the pupils of the eyes of their Moai (statues), which were encircled by rings of bird bone. Obsidian was used to inscribe the Rongorongo glyphs.



### Current use

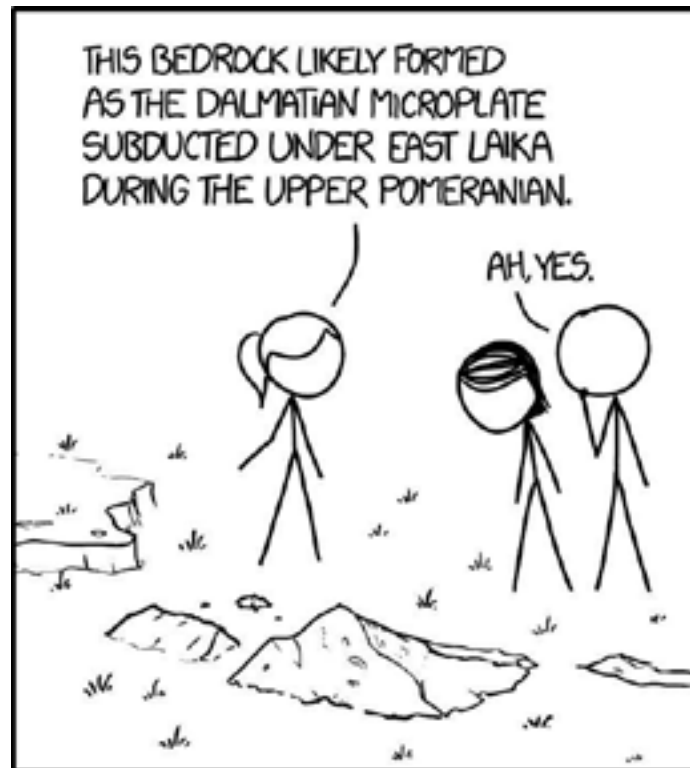
Obsidian can be used to make extremely sharp knives, and obsidian blades are a type of glass knife made using naturally occurring obsidian instead of manufactured glass. Obsidian is used by some surgeons for scalpel blades, although this is not approved by the US Food and Drug Administration (FDA) for use on humans.

Well-crafted obsidian blades, as with any glass knife, can 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. Even the sharpest metal knife has a jagged, irregular blade when viewed under a strong enough microscope; when examined even under an electron microscope an obsidian blade is still smooth and even. One study found that obsidian incisions produced fewer inflammatory cells and less granulation tissue at seven days, in a group of rats, although no differences were found after 21 days. Don Crabtree produced obsidian blades for surgery and other purposes, and has written articles on the subject. Obsidian scalpels may currently be purchased for surgical use on research animals.



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.

Plinths for audio turntables have been made of obsidian since the 1970s; e.g. the grayish-black SH-10B3 plinth by Technics. *Reference: Wikipedia*



GEOLOGY TIP: THERE ARE SO MANY MICROPLATES AND AGES THAT NO ONE REMEMBERS THEM ALL, SO IN A PINCH YOU CAN BLUFF WITH DOG BREEDS.