

The Sierra Pelonagram



September 2020

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

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.

President's Message



Hi Everyone

I hope you have had a peaceful and uneventful summer. Right now, we are in the middle of an unprecedented heat wave, so I hope you are staying safe and cool.

As the club is starting to gear up for fall and winter, events we normally have simply won't be able to happen. We can't have in-person meetings. We are trying to figure out how we can have field trips that keep distancing in effect—which would mean no carpools. No holiday parties can be held. Gilchrist Farms in October is highly doubtful.

However, Don Cogan has offered his Zoom account and to act as moderator for our board and general meetings.

Club elections are coming up too, which is another thing we need to consider, as are club dues. Rest assured, we are working diligently to work things out to the betterment of the club, to keep all of you engaged, and to keep safe. If you have any ideas, please email me or any board member, or attend the Zoom board meetings. Let one of us or Don know so you can get the Zoom invite.

Another very important thing is that Evelyn and Bruce Velie are moving as soon as they sell their home. Of course, we wish them the very best with gratitude for their involvement in the club the last eleven years. We will miss them. This move also means that we absolutely need someone to become the CFMS representative. This is an extremely important position as the representative is our voice to the CFMS. Please consider this position, give Evelyn a call if you aren't sure of what your duties would be.

It is very important that we stay in touch as much as is safely possible. This is new territory for all of us and we are trying to figure it all out. We will get through this; it just may take some time.

Bill Webber
President, SPRC



SPRC Board Meeting

Zoom Meeting
September 1, 2020

The meeting was called to order at 7pm. Don Cogan, Bill and Heidi Webber, Julie Tinoco, Tina White and Ron Rackliffe were in attendance via Zoom.

Don discussed using Zoom for our meetings. One of his clubs, The Local Group (astronomy) has used it successfully this summer, having guest speakers and using visual programs. Tina is working on learning Zoom for her presentations and will contact Don if she has any problems. Don will schedule the Zoom meetings and Heidi will disperse the invitations to the members.

Julie Tinoco said that participation is still up in the air about Gilchrist Farms fundraising in October. We need to be very careful as there are many members of the club considered high-risk concerning COVID-19. We have decided to not do any club official field trips at this time. We are still brainstorming on how to do it safely, including no carpooling, but it is still difficult when collecting to stay strictly separated.

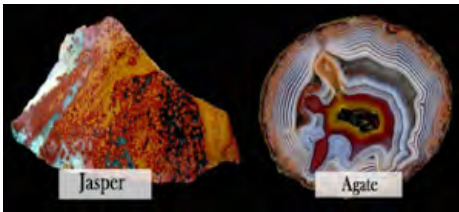
Shana Bruner-Ruiz is out of town and was unable to present a treasurer's report. She will do so when she returns.

Tina White said she will learn how to present her programs on Zoom. She has a few co-workers who use Zoom for teaching and are willing to show her. If she has any problems, Don said to contact him for help.

Bill Webber said there won't be any workshops at least until after the first of the year at which time all club events will be evaluated.

Julie motioned we adjourn/Ron R seconded. The meeting was adjourned at 8:19pm,

Respectfully Submitted
Heidi S Webber, Secretary, SPRC



*Jasper photo by: Ira Bradford.
Agate photo by Achat Sphaerolith*

What is the Difference Between Agate and Jasper

The simple answer is if you put light behind the material and you can see through it, then it is an Agate if you can't then you're holding Jasper. The more complex answer is that it is not always that straightforward. The simple science behind this question is that both Agates and Jaspers are comprised of Quartz- which is one of the most common minerals on the planet. Quartz is comprised of two major types- macrocrystalline (large crystal) and cryptocrystalline (small crystal).

Now here is where it can get confusing, one major variety of cryptocrystalline quartz is Chalcedony. Chalcedony includes Carnelian, Chrysophase, Agate, Bloodstone, Jasper and others. When Chalcedony in concentrically banded it is called an Agate. Occasionally the banding is larger than the crystal and the banding is not visible-like with most Carnelian.

Sub-variety of Chalcedony is opaque quartz called Jasper. Jasper can be banded or striated, depending on how it formed, and are most commonly red, yellow, green, brown or a mixture of these colors.

Jasper is an opaque rock of virtually any color stemming from the mineral content of the original sediments or ash. Patterns arise during the consolidation process forming flow and depositional patterns in the original silica rich sediment or volcanic ash. Hydrothermal circulation is generally thought to be required in the formation of jasper.

The banding in agate is based on periodic changes in the translucency of the agate substance. Layers appear darker when they are more translucent (this may appear reversed in transmitted light). This effect may be accompanied and amplified by changes in the color of neighboring layers, due to other co-precipitated minerals.

Reference: Amazing Geologist, FaceBook

Birthdays

September

JP Castilla
Cheryl Cogan
Logan Gunter
Owen Gunter
Alexandria Smith
Margaret Stamboulion
Julie Tinoco

October

Omid Aeen
Alexander Hamilton
Ashton Scott
Katherine Webber



Officers:

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

Chairpersons:

Claim--Mike Serino
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:

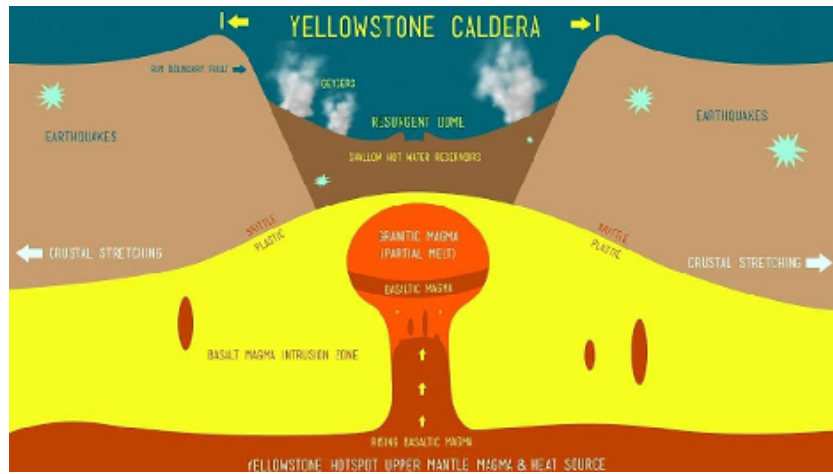
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Will Recent Earthquakes Affect the Volcanos in Yellowstone?

With the two strong earthquakes in southern California recently—a M6.4 on July 4 and a M7.1 a day later—it's a natural question: Will these earthquakes trigger volcanic eruptions? Including perhaps at Yellowstone? There was apparently a spike in Internet searches on this very question, so we thought it would be a good idea to address it up front in this week's edition of Yellowstone Caldera Chronicles.

If you want the short version of the story, here it is: Earthquakes like those of the past week are unlikely to trigger volcanic eruptions, although they might trigger microearthquakes at some volcanoes.

Now for the long version of the story. Let's start with some historical perspective. M6-7 earthquakes are, unfortunately, pretty common occurrences in the western United States. Since 1900, in the continental USA there have nearly 100 earthquakes greater than M6, and there have been 9 greater than M7 (both of these numbers go up if you include Canada and Mexico). Most of these events are in California, but they have also occurred in Oregon, Washington, Nevada, Utah, Idaho, Montana, and Wyoming. If we assume that rate is representative of the average, that means there would be about 10 M7+ events per century in the western USA.

Yellowstone has not erupted in 70,000 years, and that was a lava flow, not an explosive eruption. That means there might have been something like 7000 M7+ earthquakes in that time period. None caused Yellowstone to erupt.

Using a simple dose of common sense, we can see this is the case just from recent history. In 1992, there was a M7.3 quake—the Landers earthquake—about 25 miles (40 km) north of Palm Springs in southern California. And in 1999, there was an M7.1 event—the Hector Mine earthquake—about 55 miles (90 km) north of Palm Springs. Neither of these caused an eruption, in Yellowstone or anywhere elsewhere—not at Coso (in California, near Ridgecrest, the site of the recent strong earthquakes), not at Long Valley caldera (in eastern California, near Mammoth), and so forth.

Proximity to Yellowstone doesn't matter. In 1959, the M7.3 Hebgen Lake earthquake occurred right on the Montana-Idaho border, essentially on the western boundary of Yellowstone National Park. And of course, there was no eruption.

But it's not as if strong earthquakes don't have any impact at all on the volcanoes of the United States. They sometimes do. Just not in ways that are obvious.

For example, both the 1992 Landers and 1999 Hector Mine earthquakes in southern California triggered some seismicity—mostly M1 or less—at Long Valley caldera. Perhaps even more amazingly, the 2002 M7.9 Denali earthquake, in Alaska, triggered small earthquakes at many mainland US volcanoes—Mount Rainier, Coso, Long Valley caldera, and even Yellowstone!

You might ask, how do we know that the smaller quakes are triggered by the larger quake? Good question! Based on seismic data, we can see that these smaller quakes start at the same time as the waves from the distant large earthquake arrive. Some of these triggered swarms have lasted for days.

The next logical question is: What do these triggered quakes mean? There are a few possible explanations. It might be that the seismic waves from the distant strong earthquake cause water and gas—fluids that might come from magma reservoirs—to move around beneath the ground. As the fluids move in the subsurface, they cause rock to break. Presto! Small earthquakes! Another possibility is that passing seismic waves cause small increases in fluid pressure. Since hydrothermal systems are already at a critical pressure (which is why there are geysers), any small increase can cause microfractures, and thus small earthquakes. Probably both possibilities are true, and act in different ways at different volcanoes.

Large earthquakes can also cause changes in hydrothermal systems, like Yellowstone's geysers. The 1959 Hebgen Lake earthquake was the most striking in this regard. Within a day of that earthquake, at least 289 springs in Yellowstone had erupted as geysers, and 160 of these were springs with no previous record of eruption! Even after the 2002 Denali, Alaska, earthquake, some geysers changed their patterns, erupting more, or less, frequently. But not every geyser was affected—some, like Old Faithful, did not seem to feel the earthquake at all. This fickle response is a testament to the fragile nature of geyser plumbing systems.

So strong earthquakes can indeed have an impact on volcanoes. But triggering eruptions? That's not common, especially in the mainland USA, where hundreds of M7+ events have clearly had no impact on volcanoes like Yellowstone, Long Valley, Coso, and elsewhere.

American Hotel

CERRO GORDO | MOJAVE DESERT

April 21, 2013 — Said to be the oldest hotel in California east of the Sierras, the American Hotel was erected in 1871 by an Englishman named John Simpson and his wife. An advertisement for this new centerpiece of the Cerro Gordo mining camp ran in the Inyo Register with a date of June 15, 1871.

The downstairs featured a big bar, ornate dining room, kitchen and sitting rooms, while men working a shift in the mines could rent a bed in one of the dormitory rooms upstairs for 12 hours at a time.

Would Los Angeles have grown to prosperity in the 1870s and '80s — with multi-story buildings replacing low-slung adobes, and a ready market for farmers' surplus crops — if not for the riches of the Cerro Gordo mines? Angelenos of the day didn't think so.

An estimated \$17 million worth of silver and lead ore — \$400 million in 2013 dollars — poured out of the Cerro Gordo mines in Inyo County. From the late 1860s to the late 1870s, it passed through the Santa Clarita Valley and Beale's Cut along a 200-plus-mile journey to the emerging pueblo.

Teamsters driving 14 mules, on average, stopped at a dozen different watering holes along the way, including, as of 1873, the original Lang Station in Soledad Canyon. That was the year John Lang arrived and built a hotel just east of what is now the 14 Freeway at Shadow Pines. Three years later, the Southern Pacific would dedicate a rail depot at Lang's already popular rest stop.

Teamsters had to be on the lookout for highwaymen like Tiburcio Vasquez and his lieutenant Cleovaro Chavez, who demanded what might politely be called tolls. With dozens of mule teams plying the route in both directions — to Los Angeles with ore; back to Cerro Gordo with fodder, liquor and sundries — teamsters sometimes managed to warn each other of bandit activity when their paths crossed. In those instances, it's said they would stash their ore along the road for later retrieval.

The following is a short history of the richest silver and lead mines in California.

Pablo Flores, a prospector who possibly hailed from Nicaragua and studied mineralogy at the Colegio de Minirio (est. 1793) in Mexico City[1], had been scouring the hills of California and Nevada for precious metals when, in 1865, he discovered silver and lead (which occurred together) on Buena Vista Peak in the Inyo Mountains, located between the Sierra Nevadas on the west and Death Valley on the east.

Flores sent two companions to Virginia City, Nev., for provisions. Never seen again, they were presumably killed by Indians. Flores then went to Virginia City himself, told his friends what he'd found, and soon the area filled with Mexican and Anglo miners.

Renamed Sierra Gordo[1] and then Cerro Gordo ("Fat Hill"), the peak sits eight miles east and 5,000 feet above Owens Lake. It became part of the Lone Pine Mining District, formed April 5, 1866, in response to the discovery.

Another miner, Jose Ochoa, was pulling 1.5 tons of ore every 12 hours from the San Lucas Mine — one of an eventual 700 claims in the Cerro Gordo region — and hauling it by mule to a mill near Fort Independence, the Inyo County seat.

That got the attention of a Quebec-born settler at Fort Independence, Victor Beaudry, who opened a general store to serve the miners. Smelting ore in crude furnaces and using "vasos" (vessels) to refine it into a portable silver and lead mixture, the miners traded it for provisions at Beaudry's store.

The brother of Los Angeles real estate tycoon and later L.A. mayor (1874-76) Prudence Beaudry, Victor Beaudry extended enough credit to enough miners that he was soon able to foreclose on their claims and gobble up most of the Cerro Gordo mines, including a half-interest in the largest, the Union, perched above the camp.

In April 1868, mining engineer Mortimer Belshaw arrived from San Francisco. Instead of buying mines, he finagled a one-third interest in the mountain's largest galena lode (silver-bearing lead ore), which the Union and other mines were tapping.

Belshaw and his partner, Abner B. Elder, took some smelted ore via San Pedro to San Francisco, where they organized the Union Mining Co. with a third partner and financial backer, Egbert Judson, president of the California Paper Co.

Belshaw and Elder returned to Cerro Gordo, built an eight-mile toll road up the mountainside — the Yellow Grade Road (named for the yellowish shale), aka Cerro Gordo Road — and fired up a new, steam-powered smelter in September 1868 near the mountaintop, above the camp. Elder kept the furnace going 24/7 and produced 120 silver-and-lead ingots daily, each measuring 18 inches long and weighing about 85 pounds.

At the same time, Beaudry was building a somewhat less efficient smelter on the west side of the camp. (A chimney from Beaudry's smelter still stands in 2013; Belshaw's doesn't.) Rather than compete, Belshaw and Beaudry threw in together and enjoyed total control over Cerro Gordo. Production increased to an average of seven tons a day and topped out at nine. The ore literally couldn't be hauled down the mountain fast enough.

In December 1868, Belshaw and Beaudry hired another French Canadian, the famous freighter Remi Nadeau (1819-87), to haul the ore to Los Angeles. Thirty-two teams carted \$50,000 worth of silver and lead — only half of the maximum output — down the Yellow Grade Road every day to start a three-week trek to Los Angeles where the silver and lead were separated at a proper refinery.

In 1870, Beaudry started piping 1,300 gallons of water per day from the Inyo mountain springs (now Mexican Spring) to storage tanks at the camp. Also imported was borax from Death Valley, for use as a flux in the furnaces.[2]

Nadeau's shipping contract expired in December 1871 and it went to James Brady who, in June 1872, built and launched an 85-foot steamer, the Bessie Brady, named for his daughter, to ferry ore from Swansea, the town he established on the east side of Owens Lake, to Cartago on the west side. This shaved a few dollars and a couple of days off of the transport.

But torrential rains and other complications hampered freighting, and Brady couldn't properly perform on his contract. The ingots piled up. Plus, at this time, Brady and Belshaw were at odds over conflicting mining rights on the mountain (bound to happen when one man owns a mining claim and another purports to own the lode that the first man intends to mine). Brady won the argument in court but lost the shipping contract.

Nadeau agreed in June 1873 to resume shipping, on condition that the two "bullion kings," Belshaw and Beaudry, would make him a full partner in the new Cerro Gordo Freighting Co. and spend \$150,000 to build stations a day's ride apart — including one at John Lang's spread in Soledad Canyon.

In 1874, the Southern Pacific Railroad pushed north as far as San Fernando, so after clattering through Beale's Cut on its southern journey, the ore traveled by train the rest of the way. (Lang connected to the rail line two years later.)

Belshaw refurbished his furnaces which were now producing 400 ingots daily, double the 1871 rate.

As many as 100 Nadeau teamsters driving 80 teams consisting of 14 mules and three high-sided wagons carried \$700,000 worth of ore annually to Los Angeles and spent half that much, about \$1,000 daily, on local farmers' entire surplus feed crops — 2,500 tons of barley and 3,000 tons of hay, or roughly 27 percent and 40 percent, respectively, of L.A. County's entire yield.[1]

Cerro Gordo's population at this time tipped the scales at 4,500 — a mix of Anglo, Indian, Hispanic and Chinese workers, most living in bunkhouses and earning a top rate of \$4 per day. The mining camp sported general stores, saloons, restaurants, at least two hotels (including the lavishly appointed American Hotel built in 1871 by Mr. and Mrs. John Simpson), two competing dance hall-brothels (one burned down mysteriously one night in March 1880, along with eight other buildings[1]), doctors', lawyers' and assay offices and blacksmiths — but no church, school or jail. Payday was followed by carousing at the saloons and brothels and often ended in gunfire; men sandbagged their bunks to insulate themselves against stray bullets.[2]

Mines have an average life expectancy of about five years, and despite the feverish pace of production, Cerro Gordo's first boom lasted somewhat longer, and the mountain continued to produce on and off for decades.

Major mining activity slowed after 1876, when Belshaw shut down his furnace. The Union works burned down in August 1877; they were repaired, but now the mine was in debt. Wages were cut to \$3 a day and half of the miners left. The Union closed in October 1879 and a month later, Beaudry's furnace was shut. Nadeau hauled out the last 208 ingots and a 420-pound glob of silver on Nov. 21, 1879. Even the Bessie Brady was lost to fire in June 1882.

By then the early "bullion kings" were gone. Beaudry left in 1876, splitting his time between his home in Montreal and brother Prudence's adopted home of Los Angeles, where Victor died in 1888. Belshaw moved in 1877 to the Northern California town of Antioch where he mined, among other things, and died in 1898.

For his part, Nadeau invested his money in sugar beets, wine grapes, barley and land in downtown Los Angeles where, in 1886, he built the lavish, four-story Nadeau Hotel, the likes of which the pueblo had never seen. Today it's Times Mirror Square.

Cerro Gordo wasn't finished.

Small quantities, by comparison, of lower-grade silver ore continued to be extracted into the 20th Century. Then, in 1907, high-grade zinc ore was discovered at the 900- to 1,000-foot level in the Union Mine. A 200-ton reverberatory smelter was constructed at the base of the mountain east of Keeler and a cable tramway was strung above the Yellow Grade Road to carry the ore down in buckets. Results were mixed until 1911 when Louis D. Gordon got his hands on the operation. In 1914 he took title to the property from the previous owner, the Four Metals Co., and incorporated the Cerro Gordo Mines Co.

Cerro Gordo was booming again. A 5.6-mile, gravity-powered Leschen and Sons wire-rope aerial tramway replaced the initial Montgomery tram and moved 20 tons of zinc ore daily to the railroad at Keeler. From there it went to the United States Smelting and Refining Co. in Utah for processing.

Electricity and telephones arrived in 1916. Explorations continued for new silver and lead deposits. From 1911 to 1919, the reopened Union gave up 8,022 tons of lead and 720,000 ounces of silver. Starting around 1915, slag (waste material) from the old dumps was re-processed. Old tunnels were extended and new tunnels were driven; one, the Estelle, about two miles below camp, started in 1908 and by 1923 had reached the impressive length of 8,100 feet, running straight through half of the upper Inyo mountain range. In all, 37 miles of tunnels snake through the mountain.

Gordon eventually moved on, and American Smelting of Utah took over the mines. Total yields for 1929 were 3 million pounds of lead, 290,420 ounces of silver, 786 ounces of gold, and unknown amounts of zinc and tungsten. (Earlier miners apparently pocketed the gold, which didn't always make the official reports.[2])

World War II brought the U.S. Army to Cerro Gordo to mine for zinc, a strategic material.[2]

The mines fell silent in 1959.

In 1948, an RKO employee named Barbara left her assistant-director husband at Lone Pine and found herself on the Death Valley side of Cerro Gordo. In 1949, Barbara and a new boyfriend moved to Cerro Gordo as caretakers and were awarded ownership when the prior owner, W.C. Riggs, went bankrupt while owing them back wages.

The boyfriend died and Barbara remarried (Jack Smith). In 1985 the couple transferred ownership to Smith's niece Jody Stewart, who with eventual husband Mike Patterson moved to the property and began restoring buildings for tourist and overnight use — including the American Hotel, the 1868 Belshaw House (now a bed-and-"make your own" breakfast), the general store (now a museum) and a 1904 bunkhouse (which accommodates 12 guests).

Jody died in 2001, Mike in 2009. Today (2013) the property is owned by Mike's son Sean Patterson, a construction contractor in Bakersfield. A resident caretaker is on hand to help restore more buildings, give tours and prevent mischief. If you plan to visit, call 760-876-5030 before you go. Bring money for souvenirs and a donation.

— Leon Worden 2013

Update 2018: The 300-plus acre Cerro Gordo property sold in June 2018 for an undisclosed sum above the \$925,000 asking price.

On June 21, 2020, Cerro Gordo suffered a major tragedy in that several buildings in the town burned, including the American Hotel. A fund-

raiser organized by the nonprofit Friends of Cerro Gordo has already collected more than \$17,000 that will be used to rebuild the hotel to current construction and safety codes. "The loss of the American Hotel is incalculable," said Roger Vargo, president of Friends of Cerro Gordo, "due to its historic value to the growth of Los Angeles and much of the Old West."

Major Sources

Citation numbering in the text corresponds to the sources below.

- 1) "Cerro Gordo: A Ghost Town Caught Between Centuries" by Cecile Page Vargo, 2011.
- 2) Retired schoolteacher Robert Desmarais, the caretaker/historian at Cerro Gordo in April 2013.
- 3) Owner Sean Patterson's official Cerro Gordo website, CerroGordo.us.
- 4) "Desert Fever: An Overview of the Mining History in the California Desert Conservation Area," Bureau of Land Management report by Larry M. Vredenburgh, Gary L. Shumway and Russell D. Hartill, 1980.



The site of the Cerro Gordo fire is shown Wednesday, two days after the American Hotel, an icehouse and the home of notorious killer Billy Crapo burned. (Brian van der Brug / Los Angeles Times)

