# The Sierra Pelonagram



May 2025

. 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.



Wow, it's already May... the month of our last regular meeting before our summer break. But don't feel abandoned: our annual picnic is scheduled for early June, there will likely be an "unofficial field trip" to a Ventura or Santa Barbara County beach when the weather is consistently warm, and we'll plan a late-summer dinner gathering at a local restaurant.

This month Club members helped out at the Placerita Nature Center Open House; it was great that so many kids (and adults!) wanted to spin the wheel to win a cool rock. OK, there was also a piece of candy for all who spun, but the excitement over a tumbled rock was almost universal. And we may well have interested some folks into joining the Club. I look forward to seeing everyone at our upcoming Club events!

Tina White SPRC President

## Sierra Pelona Rock Club

General Meeting Greenbriar Estates Clubhouse April 15, 2025

The meeting was called to order at 7:10pm. The Pledge of Allegiance was led by Lise Meyers.

Julie (Silent Auction) and Dianne W (Raffle) were unable to attend, so those portions of the meeting were unable to go forward.

Ed Learn said that the treasury is in good shape. Tina explained various club activities for new members and guests. Heidi said that a field trip is planned to Afton Canyon on May 3 as a camping trip for those who want to camp and hotels in nearby Barstow are also available. All this depends on the weather, particularly wind as last year the entire camp blew away. Julie will advise as the time nears. It was mentioned that a possible field trip to the Rock and Mineral Exhibit at the Natural History Museum could happen depending on club member interest.

May 10 is Open House at Placerita Canyon Nature Center. SPRC plans to attend as always and will need people to man the table and wheel. Prizes will be rocks and candy which Heidi will buy.

Josephine Casilang was introduced to the club and given hers and Rudy's membership packets. Welcome Josephine and Rudy! The meeting was adjourned for Tina's program on South American Minerals.

Respectfully Submitted Heidi Webber, Secretary, SPRC



#### **Open House at Placerita Canyon Nature Center**

May 10 was Placerita's annual Open House and the SPRC was there with bells on. We had a lot of samples of rock on display as well as the ever-popular spinning wheel. Tina White, Bryan Hori and Marie Feneht and Mike Bosdet took the first half of the day and Julie Tinoco, Yolanda Resnick, Alison Bosdet and Mitch Bosdet took the last half.

The table was busy all day as kids and adults alike spun the wheel to win a shiny rock and a piece of candy. There were NO losers at this table!

At the end of the day, with hundreds of spins,

everything was packed up and put away until the Halloween weekend at Gilchrist Farms in October.



Julie and Yolanda Photo Credit: Jayme Thomas

Thank you everyone.

Sierra Pelona Rock Club Board Meeting via Zoom May 6, 2025

The meeting was CTO at 7:06. In attendance were Jo Lasky, Heidi Webber, Tina White Ed Learn, Julie Tinoco. Meetings of the April Board Meeting were approved. Tina W/ Julie, passed. Ed gave his treasurer's report. All is well. Tina/Jo, passed.

#### **Old Business:**

End Of Year Picnic June 7.

A Signup sheet will be at the General Meeting May 20. Club provides paperware, cutlery, cups. Heidi will email the flyer and notice of potluck.

We sold a bunch of hats and t-shirts at the April meeting. We spoke about a reorder of popular sizes.

Julie said the Acton field trip was decent, as there was around 2 hours before the rain hit. The Afton trip was canceled because it was going to be very windy.

#### **New Business:**

Julie will announce the June field trip at a later time.

Our usual summer dinner will be August 9, place TBD.

Kim and Eric Bolstad and Tim Hood applied to be members. Greg motioned to accept/Julie seconded and welcome new members.

Greg said the CFMS will have their board meeting Saturday May 10, just before the AV Gem and Mineral Show (May 10 and 11).

May go to Pala, Himalaya or Oceanview Tourmaline mines as a field trip when Evelyn Velie comes to town. Julie will make the decision and announcement if this is decided. Cost is \$75.

Heidi motioned to adjourn the meeting/ Tina seconded, motion passed and the meeting was adjourned at 8:09pm. The next board meeting will be June 3, 2025.

Respectfully Submitted Heidi Webber, Secretary, SPRC







**May** Brad Catmull Lise Meyers

June Connie Flores-Reisbeck Aron Lasky Akiko Strathmann Heidi Webber Janelle Williams Dianne Wohlleben

#### Officers:

President - Tina White Vice-President – Julie Tinoco Secretary: Heidi Webber Treasurer –Ed Learn Federation Director (CFMS/AFMS) --Greg Mazourek **Chairpersons:** Donation Rock Table--Dianne Wholleben Equipment--Bill Webber Field Trips – Julie Tinoco Co-chair Field Trips--Jo Lasky Historian -Open Hospitality – Heidi Webber Membership - Heidi Webber Website-- Larry Holt Pelonagram Publisher, Editor - Heidi Webber Programs – Tina White Publicity – Open Sunshine--Yolanda Resnick

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 7:00 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: <u>hwebber50@gmail.com</u> Visit the SPRC website <u>www.sierrapelona.com</u>

# What is Plate Tectonics?

## How do plates move?

Plate tectonics is a scientific theory describing the large-scale motion of seven large plates and the movements of a larger number of smaller plates of the Earth's lithosphere, since tectonic processes began on Earth between 3 and 3.5 billion years ago. The model builds on the concept of continental drift, an idea developed during the first decades of the 20th century. The geoscientific community accepted plate-tectonic theory after seafloor spreading was validated in the late 1950s and early 1960s.

The lithosphere, which is the rigid outermost shell of a planet (the crust and upper mantle), is broken into tectonic plates. The Earth's lithosphere is composed of seven or eight major plates (depending on how they are defined) and many minor plates. Where the plates meet, their relative motion determines the type of boundary: convergent, divergent, or transform. Earthquakes, volcanic activity, mountain-building, and oceanic trench formation occur along these plate boundaries (or faults). The relative movement of the plates typically ranges from zero to 100 mm annually.

## How do these massive slabs of solid rock float despite their tremendous weight?

T he answer lies in the composition of the rocks. Continental crust is composed of granitic rocks which are made up of relatively lightweight minerals such as quartz and feldspar. By contrast, oceanic crust is composed of basaltic rocks, which are much denser and heavier. The variations in plate thickness are nature's way of partly compensating for the imbalance in the weight and density of the two types of crust. Because continental rocks are much lighter, the crust under the continents is much thicker (as much as 100 km) whereas the crust under the oceans is generally only about 5 km thick. Like icebergs, only the tips of which are visible above water, continents have deep "roots" to support their elevations.

## How do oceanic plate boundaries get mapped?

Most of the boundaries between individual plates cannot be seen, because they are hidden beneath the oceans. Yet oceanic plate boundaries can be mapped accurately from outer space by measurements from GEOSAT satellites. Earthquake and volcanic activity is concentrated near these boundaries. Tectonic plates probably developed very early in the Earth's 4.6-billion-year history, and they have been drifting about on the surface ever since-like slow-moving bumper cars repeatedly clustering together and then separating.

# **Types of Plate Boundaries**

## **Transform boundaries**

Transform boundaries (Conservative) occur where two lithospheric plates slide, or perhaps more accurately, grind past each other along transform faults, where plates are neither created nor destroyed. The relative motion of the two plates is either sinistral (left side toward the observer) or dextral (right side toward the observer). Transform faults occur across a spreading center. Strong earthquakes can occur along a fault. The San Andreas Fault in California is an example of a transform boundary exhibiting dextral motion.

# **Divergent boundaries**

Divergent boundaries (Constructive) occur where two plates slide apart from each other. At zones of ocean-to-ocean rifting, divergent boundaries form by seafloor spreading, allowing for the formation of new ocean basin. As the ocean plate splits, the ridge forms at the spreading center, the ocean basin expands, and finally, the plate area increases causing many small volcanoes and/or shallow earthquakes. At zones of continent-to-continent rifting, divergent boundaries may cause new ocean basin to form as the continent splits, spreads, the central rift collapses, and ocean fills the basin. Active zones of Mid-ocean ridges (e.g., Mid-Atlantic Ridge and East Pacific Rise), and continent-to-continent rifting (such as Africa's East African Rift and Valley, Red Sea) are examples of divergent boundaries.

#### **Convergent boundaries**

Convergent boundary, also known as a destructive plate boundary, is a region of active deformation where two or more tectonic plates or fragments of the lithosphere near the end of their life cycle. This is in contrast to a constructive plate boundary (also known as a midocean ridge or spreading center). As a result of pressure, friction, and plate material melting in the mantle, earthquakes and volcanoes are common near destructive boundaries, where subduction zones or an area of continental collision (depending on the nature of the plates involved) occurs. The subducting plate in a subduction zone is normally oceanic crust, and moves beneath the other plate, which can be made of either oceanic or continental crust. During collisions between two continental plates, large mountain ranges, such as the Himalayas are formed. In other regions, a divergent boundary or transform faults may be present.

Reference:

Wikipedia: Plate tectonics USGS: What is a tectonic plate? Wikipedia: Transform fault Wikipedia: Divergent boundary Wikipedia: Convergent boundary