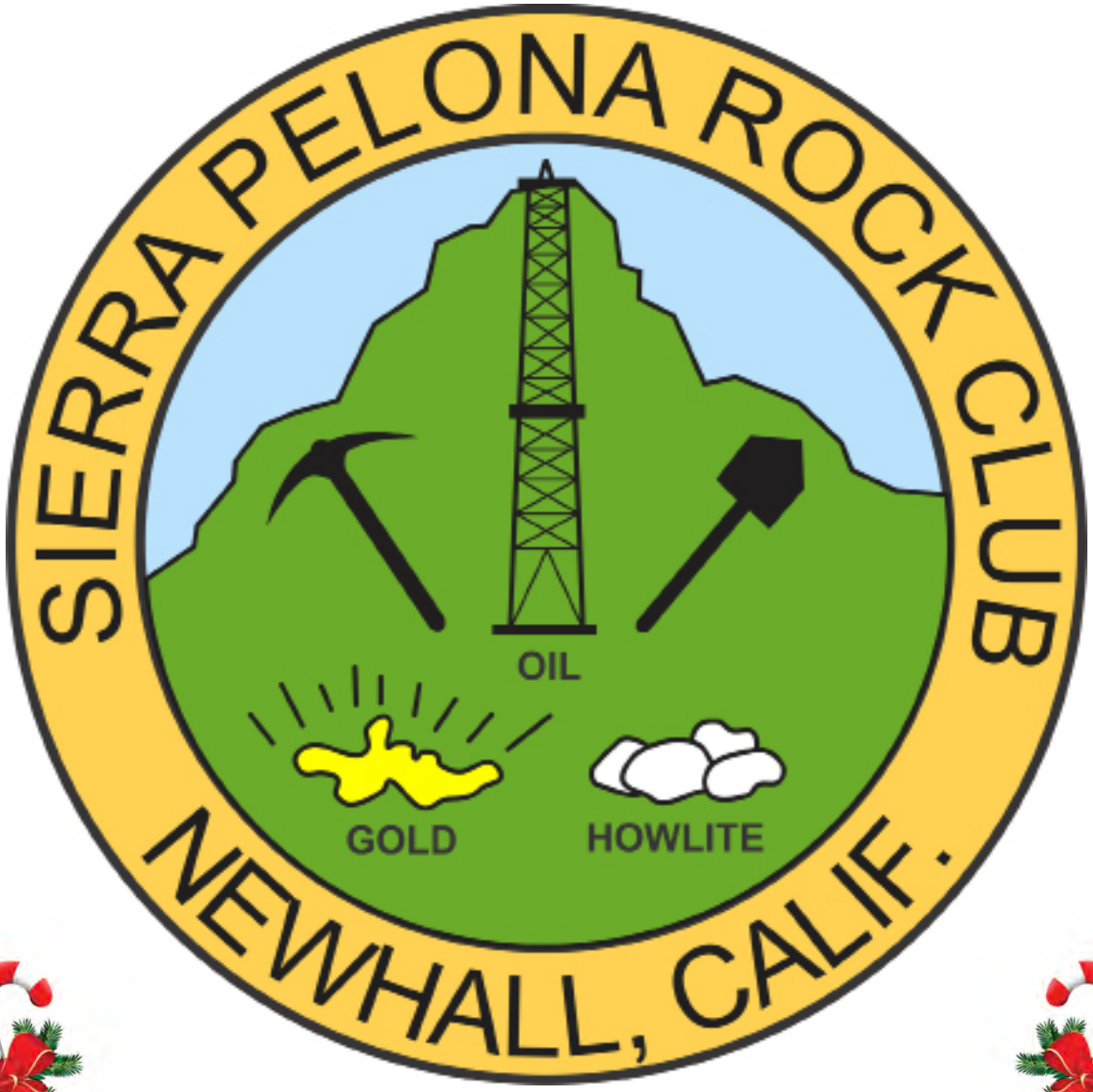
The Sierra Pelonagram



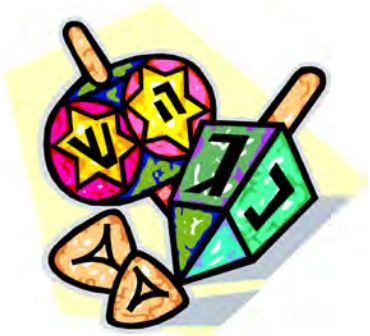
December 2020

... 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.

December
Dianne Erskine-Hellrigel
Mark Scott

January
Larry Holt
Larry Patrich
Martin Schreiner
Robin Shane
Bruce Velie
Austin Williams



SPRC General Meeting
November 17, 2020
Zoom

The meeting was called to order at 7pm. 16 members were in attendance.

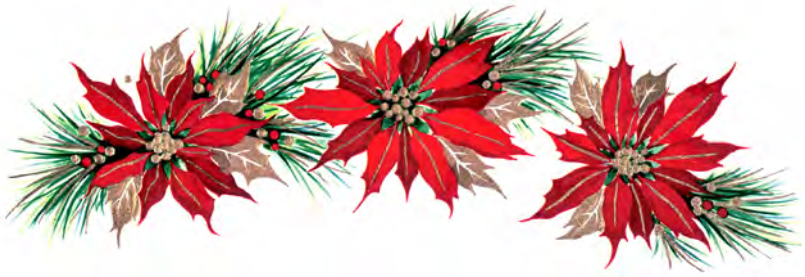
Dianne Wohlleben agreed to head the nominating committee. Ruth brought up the problem that our Bylaws don't say anything about electronic voting yet this is the only way we could safely and legally vote at this time. Heidi said she would be glad to get with Dianne and they could try to work out something that the club could endorse.

Bill restated the fact that dues this upcoming year have been reduced to $10 because of the inability for members to meet and do club activities.

The meeting was adjourned for Tina White's program "Geology of Stoddard Wells".

Respectfully Submitted

Heidi S Webber, Secretary, SPRC



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

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 –Open
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
Visit the SPRC website www.sierrapelona.com

President's Message

Hello All

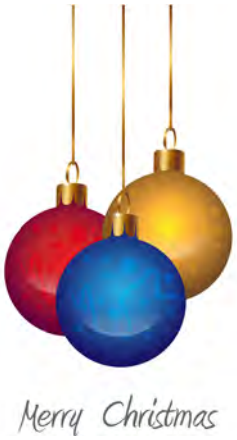
Well, another CV19-impacted month has gone by and it's starting to look like a minimum of several more months will need to be endured before hopefully it is under control. In the meantime, I hope that you all are staying as safe as you reasonably can both physically and mentally.

We have had decent attendance at the monthly Zoom meetings even though there isn't a whole lot to say. Tina White has continued to present great programs and of even greater benefit, we are socializing with each other--something that is greatly missed! It is so nice to just chat back and forth with each other, catching up on their news—like Tina White is engaged and showed us her ring! See what you are missing? So come join us at the December Zoom meeting and beyond. If you don't know how to Zoom, Heidi and Don Cogan will be more than happy to spend time showing you the ropes. It can be surprisingly easy, even if you don't consider yourself to be very computer savvy. Contact either one and set up a little tutoring session so you can join us.

Also, don't forget Dues are Due! We need to have them paid by February's Board Meeting. And because this year has been so skewed, we drastically reduced them to only $10. So get them mailed to the clubs PO box at Sierra Pelona Rock Club, PO Box 221256, Newhall, CA 91322.

In closing, I hope that all of you have a safe and happy holiday. We will see you in January.

Bill Webber
President, SPRC



SPRC Board Meeting
December 1, 2020
Zoom

The meeting was called to order at 7:09pm. In attendance were Bill and Heidi Webber, Julie Tinoco and Tina White. A quorum was made.

The main discussion was electronic voting. Because it isn't mentioned in the Bylaws and it requires in-person membership to change, yet voting for the new board is also required as in-person voting, the board was asked if they would agree to continue in their current position for another year providing none of the membership objected. All agreed and at that point, no other members said they would like to be voted in as a board member for any position, save Ron Rackliffe who said he would assume the CFMS position that Evelyn Velie is vacating as she is moving across the country. Congratulations Ron. This question will be asked at the December Zoom meeting and a detailed email was sent to all members describing our dilemma. That email will be attached to the bottom of these minutes for the record but won't be in the Pelonagram as this was for club members only. (As of the date I am writing these minutes, December 13, 29 members have affirmed these plans). We all agreed that as soon as we are allowed to meet in person, a vote for a change to the Bylaws to allow electronic voting will be implemented.

The meeting was adjourned at 7:30pm. (Julie/Heidi)

Respectfully Submitted

Heidi S Webber, Secretary SPRC

Scientists Solve the Mystery of How the Columns of Devils Tower Formed

A new study by geoscientists at the University of Liverpool has identified the temperature at which cooling magma cracks to form geometric columns such as those found at the Giant's Causeway in Northern Ireland and Devils Postpile in the USA.

Geometric columns occur in many types of volcanic rocks and form as the rock cools and contracts, resulting in a regular array of polygonal prisms or columns.

Columnar joints are amongst the most amazing geological features on Earth and in many areas, including the Giant's Causeway, they have inspired mythologies and legends.

One of the most enduring and intriguing questions facing geologists is the temperature at which cooling magma forms these columnar joints.

Liverpool geoscientists undertook a research study to find out how hot the rocks were when they cracked open to form these spectacular stepping stones.

In a paper published in Nature Communications, researchers and students at the University's School of Environmental Sciences designed a new type of experiment to show how as magma cools, it contracts and accumulates stress, until it cracks. The study was performed on basaltic columns from Eyjafjallajökull volcano, Iceland.

They designed a novel apparatus to permit cooling lava, gripped in a press, to contract and crack to form a column. These new experiments demonstrated that the rocks fracture when they cool about 90 to 140 C below the temperature at which magma crystallizes into a rock, which is about 980?C for basalts.

This means that columnar joints exposed in basaltic rocks, as observed at the Giant's Causeway and Devils Postpile (USA) amongst others, were formed around 840-890 C.

Yan Lavallée, Liverpool Professor of Volcanology who headed the research, said: "The temperature at which magma cools to form these columnar joints is a question that has fascinated the world of geology for a very long time. We have been wanting to know whether the temperature of the lava that causes the fractures was hot, warm or cold.

"I have spent over a decade pondering how to address this question and construct the right experiment to find the answer to this question. Now, with this study, we have found that the answer is hot, but after it solidified."

Dr. Anthony Lamur, for whom this work formed part of his doctoral study, added: "These experiments were technically very challenging, but they clearly demonstrate the power and significance of thermal contraction on the evolution of cooling rocks and the development of fractures".

Dr. Jackie Kendrick, a post-doctoral researcher in the Liverpool group said: "Knowing the point at which cooling magma fractures is critical, as -beyond leading to the incision of this stunning geometrical feature- it initiates fluid circulation in the fracture network. Fluid flow controls heat transfer in volcanic systems, which can be harnessed for geothermal energy production. So the findings have tremendous applications for both volcanology and geothermal research."

Understanding how cooling magma and rocks contract and fracture is central to understand the stability of volcanic constructs as well as how heat is transferred in the Earth.

Professor Lavallée added: "The findings shed light on the enigmatic observations of coolant loss made by Icelandic engineers as they drilled into hot volcanic rocks in excess of 800 C; the loss of coolant in this environment was not anticipated, but our study suggests that substantial contraction of such hot rocks would have opened wide fractures that drained away the cooling slurry from the borehole.

"Now that we know this, we can revisit our drilling strategy and further our quest for the new development of magma energy sources."

The above story is based on materials provided by University of Liverpool.

Pele's hair - Natural History Museum, London

Believe It or Not, This is Actually Lava

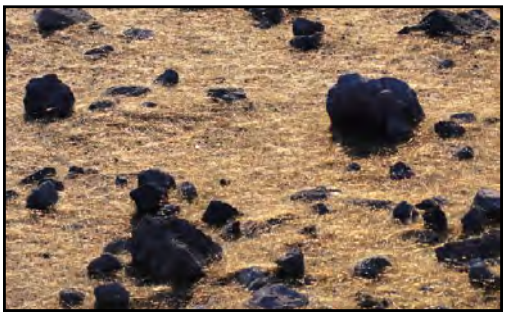
Pele's hair is a form of lava. It is named after Pele, the Hawaiian goddess of volcanoes. It can be defined as volcanic glass fibers or thin strands of volcanic glass. The strands are formed through the stretching of molten basaltic glass from lava, usually from lava fountains, lava cascades, and vigorous lava flows.

Pele's hair is extremely light, so the wind often carries the fibers high into the air and to places several kilometers away from the vent. It is common to find fibers of Pele's hair on high places like top of trees, radio antennas, and electric poles. This ease of travel interferes with the geomorphology.

Pele's hair does not only occur in Hawaii. According to Duffield (1977), it can be found near other volcanoes around the world, for example in Nicaragua (Masaya), Italy (Etna) and Ethiopia (Erta' Ale). It can be found all over the places, but it is usually found in gaps in the ground, mostly near vents, skylights, ocean entry, or in corners where Pele's hair can accumulate. In Iceland, for example, it's called "Nornahár," or Witch's Hair.

It is not recommended to touch Pele's hair, because it is very brittle and very sharp, and small broken pieces can enter the skin. Gloves should be worn while examining it.

The formation of Pele's hair occurs when molten basaltic glass is blowing-out from lava (Duffield et al., 1977). The strands are created when molten lava is ejected into the air and form tiny droplets, which elongate perfectly straight, from a lava fountain. It usually forms in lava fountains, lava cascades, and vigorous lava flows.



Pele's hair is abundant around Halema'uma'u Crater

Resource: Geology IN