The Sierra Pelonagram

December 2013

... 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.

Welcome to new member Jane Gates!

Dues for 2014 will be due on January 1 and late by the General Meeting held in February. Dues are $20 per year.

Upcoming CFMS Shows

January 2014
January 18 - 19: EXETER, CA
Tule Gem & Mineral Society, Visalia
Website: www.tulegem.org
February 2014
February 15 - 24: INDIO, CA
San Gorgonio Mineral & Gem Society, Banning
Email: bert67@verizon.net
February 21 - 23: NEWARK, CA
Mineral & Gem Society of Castro Valley
Website: www.mgscv.org
March 2014
March 1 - 2: ARCADIA, CA
Monrovia Rockhounds
Website: www.Moroks.com
March 1 - 2: VENTURA, CA
Ventura Gem & Mineral Society
Website: www.vgms.org
March 8 - 9: SAN MARINO, CA
Pasadena Lapidary Society
Email: joenmar1@verizon.net
March 8 - 9: SPRECKELS, CA
Salinas Valley Rock & Gem Club
Website: www.salinasrockandgem.com
March 8 - 9: TURLOCK, CA
Mother Lode Mineral Society, Modesto
Website: www.turlockgemshow.com

December Babies

Nancy Hilliard	Dec. 1
Morgan Langewisch	Dec. 14
Jon Meredith	Dec. 15

January Birthdays

Jud Figatner	Jan. 10
Bonnie Forstner	Jan. 14
Dianne Henry	Jan. 30
Larry Holt	Jan. 29
Debbie Meredith	Jan. 11
Martin Schreiner	Jan. 9

Officers:
President – Greg Langewisch
Vice-President – Bill Webber
Secretary: Heidi Webber
Treasurer – Greg Mazourek
Federation Director (CFMS/AFMS) – Shep Koss

Chairpersons:
Claim - Mike Serino
Donation Rock Table - Akiko Strathmann
Equipment - Bill Webber
Field Trips – Open
Historian -Open
Hospitality – Evelyn Velie
Membership – Janelle Williams
On-Line Presence (FB and website) - Larry Holt
Pelonagram Publisher, Editor – Heidi Webber
Programs – Shep Koss
Publicity –Bruce Velie
Storage - Vlad Litt
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 http://www.sierrapelona.com/

Well, 2014 is fast approaching and with the exception of our upcoming Holiday party, there's not much left to do but reflect upon this year's activity.

It's been a lot of fun being club President this year. I think, as a group we've done a lot with the club. We've had field trips from the beaches to the deserts, all across Southern California. We've had some wonderfully informative and entertaining programs. We started regular workshops, where many of our members have made some nice pieces from rocks we found in the dirt and sand. We even started a wire wrapping and jewelry making group so folks have something to do with those rocks we pick up off the ground.

So, thanks for letting me be a part of the clubs development this year. Please continue your support of the club, its board and chairpersons throughout 2014. I cannot over-emphasize the importance of your support to the clubs success. The value of a club is directly linked to the activity of its members. So, volunteer for something, attend a field trip, bring in some materials to display, show up to a workshop or wire wrapping group meeting, demonstrate some skill or lapidary technique that we might learn from and generally have fun with the club in 2014. After all, what else are you here for?

I hope everyone has a safe and joyous holiday season. I can't wait to see you all at the party!

The Prez.

General Meeting
November 19, 2013
Greenbriar Estates Clubhouse

The meeting was called to order at 7:30. There were 3 guests and 21 members in attendance.

Evelyn spoke of the Holiday Dinner pot luck to be held at Placerita Canyon Nature Center. She asked members to RSVP by Dec. 15 so as to have an idea of how many to buy for.

Bruce spoke about the upcoming election. At that time, there was only one person wanting to run for office other than the current officers, 2 of whom want to step down. No official announcements will be made until the December general meeting, which is the pot luck dinner.

Greg L said that he will try to schedule another wire wrap session in January but because of the uncertainties of when the clubhouse will be shut down for remodel, he can't be sure of being able to do so. This will also apply to any meetings we normally have. Alternate sites are being discussed. This issue should only last a couple of weeks. (Since this meeting, we have found that the remodel won't start till mid-January—at this time.)

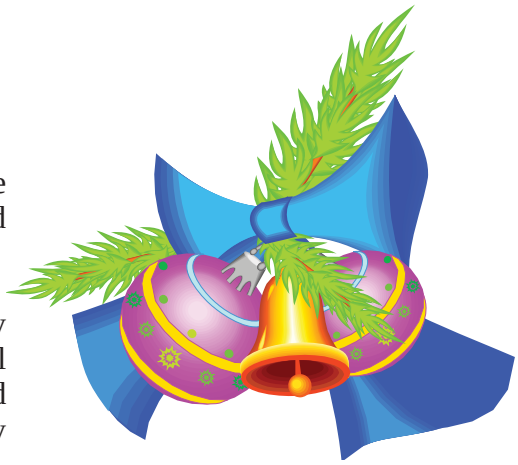
There will be another workshop at Bill and Heidi's house sometime in January, the date TBD. A lot will depend on the weather.

The meeting was adjourned at 7:45 and handed over to Shep for his program.

Respectfully Submitted

Heidi S Webber
Secretary, SPRC

SPRC Business Meeting
December 3, 2013
Greenbriar Estates Clubhouse



The meeting was called to order at 7:10. In attendance were Tina White, Greg Mazourek, Greg Langewisch, Bill and Heidi Webber, Bruce and Evelyn Velie and Shep Koss.

Evelyn said that there were only 8 RSVP's for the Holiday Dinner so far. She will send out another email. There will be a White Elephant sale/auction at the Holiday dinner and a silent auction of rock-related materials. Greg M, normally our auctioneer, won't be in attendance—anyone???

Bruce and Evelyn donated a cash box in new condition they found at Goodwill. Thanks guys, we really needed one.

Election: At this time, there are no contested positions for the board. Ron Rackliff would like to take over as treasurer from Greg M, who wants to step down. Ron L expressed an interest in becoming Vice-president. Bill W said he would be OK with becoming President again. Heidi said she was willing to keep her position as secretary and Shep accepted the fact that he is our CFMS representative for life. If no one comes forward to run for a position, then there will be no election and the new board will be announced at the General Meeting/Holiday Dinner on December 22.

We discussed the upcoming clubhouse renovation. Ron R said he can probably get his church's meeting room for the January General Meeting. (Bruce just informed me and Greg-Dec. 15-that the renovation won't start now until sometime after the middle of January, so we may still be able to meet then.) Membership will be notified as soon as we know anything for certain.

Bill said he was going to Johnson Brothers for coolant and saw blades.

Shep said the winner of the CFMS drawing is a member of the Ventura Gem and Mineral Society.

Greg Mazourek nominated Jane Gates for membership. Bill seconded and the motion passed. Welcome Jane!

Greg L asked the club to buy a hand flat polisher for the club. Heidi motioned the club buy this for no more than $200. Greg L seconded/passed.

New Business: Bruce suggested we hire a band for the Holiday Dinner. We thought it was a good idea but not right now.

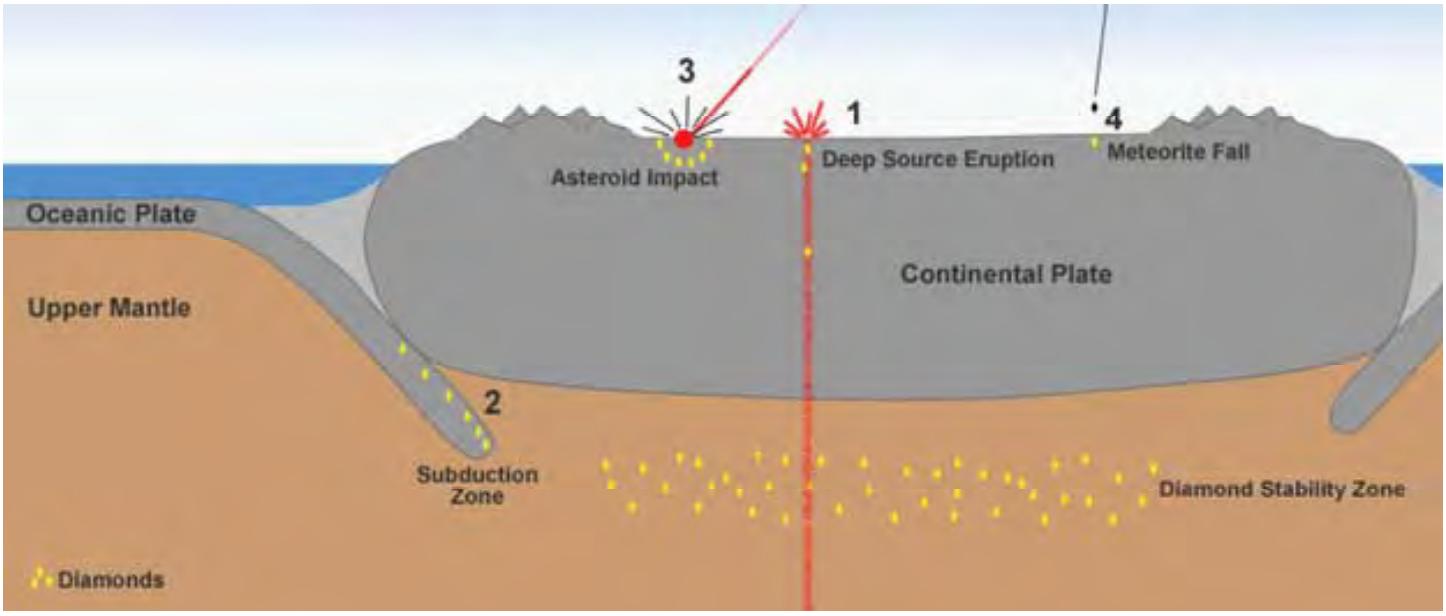
Greg L motioned the meeting be adjourned, Bill 2nd/passed. Adjourned at 7:50.

Respectfully Submitted

Heidi S Webber
Secretary, SPRC

How Do Diamonds Form?

Contrary to what many people believe, most diamonds do not form from coal.



Diamonds found at or near Earth's surface have formed through four different processes. The plate tectonics cartoon above presents these four methods of diamond formation. Additional information about each of them can be found in the paragraphs below.

Methods of Diamond Formation

Many people believe that diamonds are formed from the metamorphism of coal. That idea continues to be the "how diamonds form" story in many science classrooms.

Coal has rarely played a role in the formation of diamonds. In fact, most diamonds that have been dated are much older than Earth's first land plants - the source material of coal! That alone should be enough evidence to shut down the idea that Earth's diamond deposits were formed from coal.

Another problem with the idea is that coal seams are sedimentary rocks that usually occur as horizontal or nearly horizontal rock units. However, the source rocks of diamonds are vertical pipes filled with igneous rocks.

Four processes are thought to be responsible for virtually all of the natural diamonds that have been found at or near Earth's surface. One of these processes accounts for nearly 100% of all diamonds that have ever been mined. The remaining three are insignificant sources of commercial diamonds.

These processes rarely involve coal. Refer to the above illustration by the number on the paragraph.

1) Diamond Formation in Earth's Mantle

Geologists believe that the diamonds in all of Earth's commercial diamond deposits were formed in the mantle and delivered to the surface by deep-source volcanic eruptions. These eruptions produce the kimberlite and lamproite pipes that are sought after by diamond prospectors. Diamonds weathered and eroded from these eruptive deposits are now contained in the sedimentary (placer) deposits of streams and coastlines.

The formation of natural diamonds requires very high temperatures and pressures. These conditions occur in limited zones of Earth's mantle about 90 miles (150 kilometers) below the surface where temperatures are at least 2000 degrees Fahrenheit (1050 degrees Celsius) . This critical temperature-pressure environment for diamond formation and stability is not present globally. Instead it is thought to be present primarily in the mantle beneath the stable interiors of continental plates.

Diamonds formed and stored in these “diamond stability zones” are delivered to Earth’s surface during deep-source volcanic eruptions. These eruptions tear out pieces of the mantle and carry them rapidly to the surface. This type of volcanic eruption is extremely rare and has not occurred since scientists have been able to recognize them.

Is coal involved? Coal is a sedimentary rock, formed from plant debris deposited at Earth’s surface. It is rarely buried to depths greater than two miles (3.2 kilometers). It is very unlikely that coal has been moved from the crust down to a depth well below the base of a continental plate. The carbon source for these mantle diamonds is most likely carbon trapped in Earth’s interior at the time of the planet’s formation.

2) Diamond Formation in Subduction Zones

Tiny diamonds have been found in rocks that are thought to have been subducted deep into the mantle by plate tectonic processes - then returned to the surface. Diamond formation in a subducting plate might occur as little as 50 miles (80 kilometers) below the surface and at temperatures as low as 390 degrees Fahrenheit (200 degrees Centigrade). In another study, diamonds from Brazil were found to contain tiny mineral inclusions consistent with the mineralogy of oceanic crust.

Is coal involved? Coal is a possible carbon source for this diamond-forming process. However, oceanic plates are more likely candidates for subduction than continental plates because of their higher density. The most likely carbon sources from the subduction of an oceanic plate are carbonate rocks such as limestone, marble and dolomite and possibly particles of plant debris in offshore sediments.

3) Diamond Formation at Impact Sites

Throughout its history, Earth has been repeatedly hit by large asteroids. When these asteroids strike the earth extreme temperatures and pressures are produced. For example: when a six mile (10 kilometer) wide asteroid strikes the earth, it can be traveling at up to 9 to 12 miles per second (15 to 20 kilometers per second). Upon impact this hypervelocity object would produce an energy burst equivalent to millions of nuclear weapons and temperatures hotter than the sun’s surface.

The high temperature and pressure conditions of such an impact are more than adequate to form diamonds. This theory of diamond formation has been supported by the discovery of tiny diamonds around several asteroid impact sites

Tiny, sub-millimeter diamonds have been found at Meteor Crater in Arizona. Polycrystalline industrial diamonds up to 13 millimeters in size have been mined at the Popigai Crater in northern Siberia, Russia.

Is coal involved? Coal could be present in the target area of these impacts and could serve as the carbon source of the diamonds. Limestones, marbles, dolomites and other carbon-bearing rocks are also potential carbon sources.

4) Formation in Space

NASA researchers have detected large numbers of nanodiamonds in some meteorites (nanodiamonds are diamonds that are a few nanometers - billionths of a meter in diameter). About three percent of the carbon in these meteorites is contained in the form of nanodiamonds. These diamonds are too small for use as gems or industrial abrasives; however, they are a source of diamond material.

Smithsonian researchers also found large numbers of tiny diamonds when they were cutting a sample from the Allen Hills meteorite. These diamonds in meteorites are thought to have formed in space through high speed collisions similar to how diamonds form on Earth at impact sites.

Is coal involved? Coal is not involved in the creation of these diamonds. The carbon source is from a body other than Earth.

This natural, beautiful white diamond crystal has mostly good clarity and is still embedded in the kimberlite host rock that brought it to the surface of the earth. The kimberlite has numerous eye visible olivine crystals throughout as well as other associated minerals. The specimen was recovered at about the 500 meter depth of the Udachnay pipe, which is located 600 K M to the north from the city of Mirniy. *(photo and caption from mineralminers.com)*

The Most Convincing Evidence

The most convincing evidence that coal did not play a role in the formation of most diamonds is a comparison between the age of Earth's diamonds and the age of the earliest land plants.

Almost every diamond that has been dated formed during the Precambrian Eon - the span of time between Earth's formation (about 4,600 million years ago) and the start of the Cambrian Period (about 542 million years ago). In contrast, the earliest land plants did not appear on Earth until about 450 million years ago - nearly 100 million years after the formation of virtually all of Earth's natural diamonds.

Since coal is formed from terrestrial plant debris and the oldest land plants are younger than almost every diamond that has ever been dated, it is easy to conclude that coal did not play a significant role in the formation of Earth's diamonds.

Source: Geology.com; Contributor: Hobart King

Our Wishes to All of You For a Very Happy and Safe Holiday!