



P. O. BOX 51  
SANTA ANA, CA. 92702



# SANTA ANA ROCK & MINERAL CLUB

## BOARD OF DIRECTORS

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Membership	Pam Greene	949 548-0752
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SARM EMAIL: sarmclub@gmail.com  
 WEB SITE: <http://www.sarmclub.org>  
 WEB MASTER: pam1.greene@gmail.com

WORK SHOP: At the Greene's (members only)  
 first full weekend of the month  
 9 am to noon  
 call Pam Greene at 949 548-0752  
 to request flexible times

## Santa Ana Rock & Mineral

P.O. Box 51  
 Santa Ana, CA 92702

## CLUB PURPOSE

The purpose of the Club is to offer an opportunity for those who are interested in rocks, minerals and fossils, to gather at regular meetings, display and examine items of interest in the hobby, to promote and also encourage the art and practice of lapidary, to exchange experiences and ideas, to organize field trips for members and guests, and to promote the general interest in and knowledge of the hobby.

MEETING: Visitors are welcome!  
 7:00 PM, 3rd Wednesday of the month  
 except July & December.

WHERE: 10739 Los Jardines West  
 Fountain Valley, Ca 92708

SARM is a member of CFMS  
 (California Federation of Mineralogical  
 Societies)

For more information on shows and events  
 check out their web site at  
[:http://www.cfmsinc.org](http://www.cfmsinc.org)



CLUB PUBLICATIONS: All items may be quoted unless otherwise noted, we only ask that credit be given and we'll do the same.

## CLUB CALENDAR -APRIL 2016

APRIL.2 & 3	*** SATURDAY & SUNDAY *** WORKSHOP 9:00 AM NOON
APRIL 20	WEDNESDAY 7 PM GENERAL MEETING SPEAKER: JEFF SWANGER TOURMALINE MINES
April 23	MULTI -CLUB FIELD TRIP SANTA MONICA MONICA MOUNTAIS
MAY	NO SCHEDULED WORKSHOPS IN MAY Call for flexible times
MAY 18	WEDNESDAY 7 PM GENERAL MEETING

## FLEXIBLE WORKSHOP

If you want to use the workshop at times other than the scheduled days, call Pam or Don at (949) 548-0752 to see if we're going to be home. We're pretty flexible. Short notice is fine. If we'll be home you can use it.

## MULTI CLUB FIELD TRIPS

April 23rd

Field Trip to the Santa Monica Mountains, for agates and fossils

Meeting Place: 9 AM at the SW corner of Kanan and Agoura Roads, Agoura (HWY 101, Kanan exit)

Car-pooling is strongly encouraged due to limited parking at some sites.

Trip leaders: Jason Badgley, jbadgeman@aol.com, 818-388-3220, & Andrew Hoekstra, ajhoekstra@yahoo.com, 562-584-3190.

Sunday April 17th

If there is sufficient interest, Andrew Hoekstra may lead a fossil collecting trip to Woodland Hills Sunday April 17th so that participants can continue that day to the Conejo show to attend a 2 PM fossil program for juniors:

Juniors can earn a AFMS fossil patch by attending the talk "Fun with fossils" presented by Mike Havstad - the hands-on session is open to the public with no advance registration required. If a participating kid is a member of a CFMS-affiliated club, they will earn the AFMS/FRA Fossils Badge upon completing the session. For further details, contact Mike at MRMIKERH@gmail.com.



## President's Message for April

Our March event drew great attendance. I am sure that Walton Wright should be credited with the turn out. Mr. Wright's knowledge and his specimens on display were quite impressive. It is remarkable to be in the presence of such creative individuals as those found in our club. James Burke sells the club's raffle tickets and he is an artist that works with minerals that can be worn or displayed. Carol Williams creates award - winning art pieces that are wearable. James De Marco produces beautiful display items, Pam Greene has shown us the delicacy of wire wrapping. Jonathan Magallon presents his specimens in braiding and thread work. Bruce Levine showed us his smoky quartz pendant. There are so many more that silently contribute their works for the benefit of the club. All these individuals have our deepest appreciation for their generosity. We look forward to our April meeting where Claudia Sanchez will prepare a delicious fare for us to enjoy as we welcome back those members that traveled to the Lucerne Valley in search of orbicular rhyolite. Please continue to expand the membership with friends and those you meet.

Trish Voss, President



## GENERAL MEETING

Wednesday, April 20, 2016

Our speaker for April is Jeff Swanger, CEO of Oceanview Mines, LLC and owner of the Oceanview, Pala Chief and Elizabeth R mines on Chief Mountain. Jeff has had an interest in pegmatites and mining since he was a boy growing up in nearby Escondido, CA. That interest developed into a passion, and Jeff has been mining in his spare time since he was in his teens. Now he's living his dream of discovering the next great gem pocket in the Pala Mining District.

Jeff's education has been on the job, both in his professional life and in his mining passion. His mining education came from working with many of the "old hands" of the Pala Mining District. In 1999, he approached miner Roland Reed, owner of the Elizabeth R Mine and unpatented Elizabeth R claim and reached an agreement to acquire the Oceanview Mine in 2000. Jeff started out with one business partner, and with just two mining partners, Phil Osborn and Otto Komarek. Along the way the mining team grew with the addition of Peter Renwick in 2001 and Steve Carter and Mark Baker in 2003. They labored for several years with only minor finds until their hard work was rewarded with the fabulous strike of the famed 49'er Pocket, discovered on Jeff's 49th birthday in 2007.

Jeff added on to the holdings of Oceanview Mines, LLC by acquiring the Elizabeth R Mine from Roland in 2010, and the Pala Chief Mine from Bob Dawson in 2011. He now owns all of the significant mines on Chief Mountain, and once again the mountain is alive with mining activity, for the first time in nearly a century.



Jeff Swanger holding the famed "Prince of Pala" beryl var. aquamarine specimen found in 2007.

SANTA ANA ROCK AND MINERAL CLUB  
MINUTES OF THE GENERAL MEMBERS MEETING  
HELD ON MARCH 16, 2016

Meeting called to order at 7:15pm with 19 members and 5 visitors in attendance. Meeting started with the Pledge of Allegiance led by VP Jonathan Magallon.

Activity:

At 7:20 V.P. Jonathan Magallon introduced the meetings guest speaker; Walton Wright. Walton brought many varied specimens most billions of years old for the club to enjoy. He spoke to dispel the myths of 'replacement' and 'suedo morph' when petrification occurs. Walton talked us through understanding how the world was first formed and how the first plants evolved to how they migrated to land and what was needed biologically to survive. The different stages of prehistoric plant life versus what we see today. Including the many factors involved/needed in 'preserving/petrifying' organic material from landscape anatomy, weather & atmospheric conditions as well as the diversity of minerals and conditions needed to preserve material.

Presentation ended at 8:45.

15 minutes of socializing and calling of opportunity drawings & the meetings door prize winner; George Robidoux. *Thank you members for your generous donations!*

CLUB BUSINESS: Called to order at 9:00pm

Minutes of January and February approved as printed in newsletters.

**TREASURER'S REPORT:** Stated by President as; Income \$231, Outgoing \$355.12 and balance \$2,720.82.

**FEDERATION:** Officer Jim DeMarco reports upcoming field trip with more information in newsletter and email blast.

**HOSPITALITY:** Officer Claudia Sanchez and Jonathan Magallon provided refreshments of fresh fruit and cookies as well as fresh coffee and water.

NEW BUSINESS:

Request for all members to bring to next meeting and notify/give secretary any club assets in their possession including paperwork they may have.

Meeting adjourned at 9:05pm.

Leah Harden-O'Brien, Recording Secretary

## Stone house in Portugal



## DIAMOND IS THE BIRTHSTONE FOR APRIL



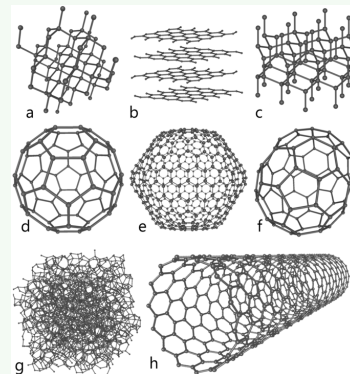
The name diamond is adopted from the Greek word *adamas*, meaning "invincible". In mineralogy, diamond is a metastable allotrope of carbon. Allotropes are different forms of the same element. Different bonding arrangements between atoms result in different structures with different chemical and physical properties. In diamonds the carbon atoms are arranged in a variation of the face-centered cubic crystal structure called *adiamond lattice*. Diamond is less stable than graphite, but the conversion rate from diamond to graphite is negligible at standard conditions. Diamond is renowned as a material with superlative physical qualities, most of which originate from the strong covalent bonding between its atoms. In particular, diamond has the highest hardness and thermal conductivity of any bulk material. Those properties determine the major industrial application of diamond in cutting and polishing tools and the scientific applications in diamond knives and diamond anvil cells.

Because of its extremely rigid lattice, it can be contaminated by very few types of impurities, such as boron and nitrogen. Small amounts of defects or impurities (about one per million of lattice atoms) color diamond blue (boron), yellow (nitrogen), brown (lattice defects), green (radiation exposure), purple, pink, orange or red. Diamond also has relatively high optical dispersion (ability to disperse light of different colors).

Most natural diamonds are formed at high temperature and pressure at depths of 87 to 118 miles in the Earth's mantle. Carbon-containing minerals provide the carbon source, and the growth occurs over periods from 1 billion to 3.3 billion years (25% to 75% of the age of the Earth). Diamonds are brought close to the Earth's surface through deep volcanic eruptions by a magma, which cools into igneous rocks known as kimberlites and lamproites. Diamonds can also be produced synthetically in a HPHT method which approximately simulates the conditions in the Earth's mantle. An alternative, and completely different growth technique is chemical vapor deposition (CVD). Several non-diamond materials, which include cubic zirconia and silicon carbide and are often called diamond simulants, resemble diamond in appearance and many properties. Special gemological techniques have been developed to distinguish natural, synthetic diamonds and diamond simulants.

**Allotropes of carbon**

- a) Diamond,
- b) Graphite,
- c) Lonsdaleite,
- d) C<sub>60</sub> Buckminsterfullerene or buckyball),
- e) C<sub>540</sub>,
- f) C<sub>70</sub>,
- g) Amorphous carbon.
- h) Single-walled carbon nanotube, or buckytube.



Until the middle of the twentieth century, there was no agreed-upon standard by which diamonds could be judged. GIA created the first, and now globally accepted standard for describing diamonds: Color, Clarity, Cut, and Carat Weight. Today, the 4Cs of Diamond Quality is the universal method for assessing the quality of any diamond, anywhere in the world. Ironically the diamond color evaluation of most gem-quality diamonds is based on the absence of color. A chemically pure and structurally perfect diamond has no hue, like a drop of pure water, and consequently, a higher value. However, in reality almost no gem-sized natural diamonds are absolutely perfect.

The color of a diamond may be affected by Chemical impurities and/or structural defects in the crystal lattice. Depending on the hue and intensity of a diamond's coloration, a diamond's color can either detract from or enhance its value. For example, most white diamonds are discounted in price when more yellow hue is detectable, while intense pink or blue diamonds (such as the Hope Diamond) can be dramatically more valuable.

Out of all colored diamonds, red diamonds are the rarest.

Diamonds have been treasured as gemstones since their use as religious icons in ancient India. Diamonds have been known in India for at least 3,000 years but most likely 6,000 years.

Sanskrit texts dating back before 400 B.C. found that people associated significant value and wonderment with crystals. Ancient theories touting the magical powers of diamonds were prevalent: some thought lightning bolts formed diamonds, while other theories asserted that diamonds were the tears of god.

During the Middle Ages, diamonds were thought to hold healing powers and to cure ailments stemming from the pituitary gland and brain. By heating the crystal and taking it to bed, it was thought to draw out the harmful toxins that were crippling the body.

It was also believed that diamonds could have an effect on an individual's balance and clarity and could boost their energy when combined with other crystals like amethyst.

Via the internet (mostly wikipedia)



April	8	Ray Heslop
April	14	Ray Walls
April	22	Doug Williams
April	25	James Church
April	26	Carol Williams



# UPCOMING CLUB SHOWS & EVENTS

April 2 - 3: CHICO, CA  
Paradise Gem & Mineral Society  
Silver Dollar Fairgrounds  
2357 Fair Street  
Hours: 10 - 5 daily

April 2 - 3: TORRANCE, CA  
South Bay Lapidary & Mineral Society  
Ken Miller Recreation Center  
3341 Torrance Blvd  
(entrance on Madrona Ave)  
Hours: Sat. 10 - 5; Sun. 10 - 4

April 8 - 10: VISTA, CA  
Vista Gem & Mineral Society  
Antique Gas & Steam Engine Museum  
2040 North Santa Fe Avenue  
Hours: 9 - 5 daily

April 9 - 10: MARIPOSA, CA  
Mariposa Gem & Mineral Society  
Mariposa County Fairgrounds  
5005 Fairgrounds Road  
(south of Mariposa on Hwy49)  
Hours: Sat 10 - 6; Sun 10 - 4

April 16 - 17: SAN JOSE, CA  
Santa Clara Valley Gem & Mineral Society  
Santa Clara County Fairgrounds  
344 Tully Road  
Hours: 10 - 5 daily

April 16 - 17: THOUSAND OAKS, CA  
Conejo Gem & Mineral Club  
Borchard Park Community Center  
190 Reino Road at Borchard Road  
Hours: 10 - 5 daily



April 23 - 24: ESCONDIDO, CA  
Palomar Gem & Mineral Club  
California Center for the Arts  
340 N. Escondido Blvd.  
Hours: Sat 10 - 5; Sun 10 - 4

April 23 - 24: PASO ROBLES, CA  
Santa Lucia Rock Hounds  
Paso Robles Event Center  
2198 Riverside Ave.  
Hours: Sat 10 - 5; Sun 10 - 4

May 7 - 8: ANAHEIM, CA  
Searchers Gem & Mineral Society  
Brookhurst Community Center  
2271 W. Crescent Avenue  
Hours: Sat 10 - 5; Sun 10 - 4:30

May 7 - 8: JACKSON, CA  
Amador County Gem & Mineral Society  
Kennedy Mine  
12594 Kennedy Mine Rd (off Hwys 49/88)  
Hours: 10 - 4 daily

May 7 - 8: RENO, NV  
Reno Gem & Mineral Society  
Reno Livestock Event Center  
1350 North Wells Avenue  
Hours: Sat 10 - 5; Sun 10 - 4

May 13 - 15: YUCAIPA, CA  
Yucaipa Valley Gem & Mineral Society  
Yucaipa Music & Arts Festival  
Adams St. & Yucaipa Blvd  
Hours: Fri 6 - 9; Sat 11 - 10,

## Bench Tips by Brad Smith

**DRILLING A STONE** One of the things my students often ask to do is drill a hole through a piece of gemstone. The usual thought is to get a diamond drill, but I've found these often break or burn up. The reason I think is that the drill pivots on the piece of diamond on the drill tip. By pivoting the diamond does not cut. When it doesn't cut, you tend to add more force, and the drill is damaged by excess heat. A much better approach is to use a core drill. This is a small hollow tube with a coating of diamond grit at the business end. The diamonds easily carve out a circular arc without undue pressure or heat buildup. Core drills are readily available from lapidary and jewelry supply companies. They come in sizes as small as 1mm and are reasonable in price, for instance \$6 for 2mm diameter. Chuck up the core drill in a drill press or a Foredom and be sure to keep the drilling zone wet to cool the tool and to flush out debris. Also, if you're drilling a through hole, go very easy on the pressure as the drill is about to break through. Otherwise you will usually chip off some of the stone surface around the hole.

More BenchTips by Brad Smith are at FaceBook [facebook.com/BenchTips](https://www.facebook.com/BenchTips)  
or at [groups.yahoo.com/group/](https://groups.yahoo.com/group/)

Get all of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon .com

# Tourmaline

## Crystal structure

Tourmaline is a six-member ring cyclosilicate having a trigonal crystal system. It occurs as long, slender to thick prismatic and columnar crystals that are usually triangular in cross-section, often with curved striated faces. The style of termination at the ends of crystals is sometimes asymmetrical, called hemimorphism. Small slender prismatic crystals are common in a fine-grained granite called aplite, often forming radial daisy-like patterns. Tourmaline is distinguished by its three-sided prisms; no other common mineral has three sides. Prism faces often have heavy vertical striations that produce a rounded triangular effect. Tourmaline is rarely perfectly euhedral (well-formed with sharp, easily recognised faces). All hemimorphic crystals are piezoelectric, (have the ability to generate an electric charge in response to applied mechanical stress) and are of pyroelectric class as well. The property of pyroelectric crystal is to measure change in net polarization proportional to a change in temperature.



## Color

Tourmaline has a variety of colors. Usually, iron-rich tourmalines are black to bluish-black to deep brown, while magnesium-rich varieties are brown to yellow, and lithium-rich tourmalines are almost any color: blue, green, red, yellow, pink, etc.

Rarely, it is colorless. Bi-colored and multicolored crystals are common, reflecting variations of fluid chemistry during crystallization. Crystals may be green at one end and pink at the other, or green on the outside and pink inside; this type is called water-melon tourmaline. Some forms of tourmaline are dichroic, in that they change color when viewed from different directions.

The pink color of tourmalines from many fields is the result of prolonged natural irradiation. During their growth, these tourmaline crystals incorporated Mn<sup>2+</sup> and were initially very pale. Due to natural gamma ray exposure from radioactive decay of <sup>40</sup>K in their granitic environment, gradual formation of Mn<sup>3+</sup> ions occurs, which is responsible for the deepening of the pink to red color.

## Treatments

Some tourmaline gems, especially pink to red colored stones, are altered by heat treatment to improve their color. Irradiation is almost impossible to detect in tourmalines, and does not, currently, impact the value. Heat treatment is also used to enhance tourmaline. Heavily included tourmalines, such as rubellite and Brazilian paraiba, are sometimes clarity-enhanced. A clarity-enhanced tourmaline (especially paraiba) is worth much less than a non-treated gem.

## Geology

Tourmaline is found in granite and granite pegmatites and in metamorphic rocks such as schist and marble. Schorl and lithium-rich tourmalines

are usually found in granite and granite pegmatite. Magnesium-rich tourmalines, dravites, are generally restricted to schists and marble. Tourmaline is a durable mineral and can be found in minor amounts as grains in sandstone and conglomerate, and is part of the ZTR index for highly weathered sediments.

From Wikipedia, the free encyclopedia, VIA  
Rock SLAB NEWS 5/2015

