



BRECCIA

Santa Clara Valley Gem and Mineral Society

Volume 70 Number 10, October, 2022

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SCVGMS Information

Coming Events

October 18: Smithies

October 20: Planning Meeting for 2023
SCVGMS Show

October 25: General Meeting

The **Bragging Rights** theme is the color red.
Email pictures of your entries to **Alan Achor**
kayakbb7@gmail.com, and join in the fun.

October 27: Board Meeting on Zoom.

October 29 SCVGMS Rock and Mineral Sale

November 22: General Meeting with a **Silent Auction** and our **yearly elections for board member for 2023**.

November 22: Our Board Meeting will immediately follow the general meeting.

December 6: Installation Dinner where we have a delicious dinner, and then 2022 board members will be thanked and 2023 board members will be introduced.

March 18-19 SCVGMS Show

President's Message

A friend of mine was complaining about being in the Bermuda Triangle. I looked at her with a question on my face. 'You know', she said, 'the Bermuda Triangle of food – Halloween, Thanksgiving and Christmas.' Oh, THAT Bermuda Triangle. (Note to self: don't buy Halloween candy that you like.)

I started thinking about this and realized that the Santa Clara Valley Gem and Mineral Society was also in a Bermuda Triangle – maybe even a Bermuda Octagonal. We had the Founder's Day Picnic, soon we will add a Silent Auction, voting for new officers and board members, the Installation Dinner, closing out 2022, planning for 2023, planning for the Gem and Mineral Show, and introduction to a new SCVGMs slate of people running the club.

I know that our general year has the same problem – parties, school performances, guests in your house, vacations planned, Office Thanksgivings, Christmas get together, present buying, baking – YIKES! Can you think ahead just a bit?

1. Did you help at the picnic or at least attend? I did not go for several years but now I go every year and it is FUN, with lots of 'free' rocks.
2. Have you thought about signing up for an office or the Board? This helps the club stay intact and passes on the knowledge to keep it going.
3. Have you started collecting things to bring to the November Silent Auction? Now is the time.
4. Do you have ideas for the Gem and Mineral Show? We have had some good comments and are incorporating more kid based activities. Anything else?
5. Will you attend the December Installation dinner? This is where we get together and enjoy a great meal, visit with our rock buddies, say good-bye to last year's officers and hello to next year's officers. Sign up now!
6. Do you have any thoughts about 2022? What worked, what could be done better? Don't just sit there like a rock on a log – let us know.
7. Do you have any thoughts about 2023? Do you want to do anything new? Don't just groan like an un-oiled rock saw! Let us know!
8. Plan on what you would like to do for the Gem and Mineral Show – we expect everyone to volunteer. Preparation, security, hospitality, ticket sales, putting together a display case, demonstrating, and much, much, more.

I am looking forward to seeing you next month and at our various activities. Have a great month!

Madam President,
Michele Smith

Neighborhood Spooks
Photo by Jo Borucki



Planning Meeting for SCVGMS Show

Thursday October 20

Location: Mountain Mike's

301 East Hamilton Avenue

Campbell 95008

Phone: 408-378-9090

\$5⁰⁰ Charge per person for pizza and drink. Everyone is welcome!

SCVGMS November Elections

Elections for SCVGMS Board of Director members are held at our **November General Meeting**. Participating as one of the board members is a superb way of getting to know your fellow club members and an excellent way to serve SCVGMS. **If you are interested in any of the offices** listed below, contact Michele Smith, our president. Her email address is michelesmith801@comcast.net.

President-sets the agenda and presides at all meetings of the society using Robert's Rule of Order as a guide.

Vice-President-performs all duties of the president when ever the president is absent or unable to perform duties customary to the office. The vice-president is also responsible for all club publicity except for the publicity of our annual show.

Secretary-keeps an accurate record of the proceedings of all meeting of the society and the board of directors, keeps a roster of the members and uses it to create the membership directory that is made available to members, sends members notices of special meetings, and answers the routine correspondence of the society. The secretary may appoint members to help as needed.

Treasurer-receives all dues and other monies and disburses monies when so authorized by the board of directors, keeping a full and accurate accounting of all transactions. The treasurer also renders reports at the Annual Meeting, is responsible for timely and accurate filing of tax returns, and makes a monthly report to the board of directors and to the president.

Breccia Editor-prepares the Breccia each month except December when customarily, no Breccia is published. The editor may appoint an assistant.

Federation Director-reports on all Federation activities the month following Federation meetings.

Alternate Federation Director-reports on all Federation activities the month following Federation meetings.

Parliamentarian-shall be present at all Regular and Board meetings, be familiar with the Bylaws and Operating Regulations and refer to the Robert's Rule of Order as needed. The parliamentarian is a non-voting member of the Board of Directors, elected annually along with the officers and the board.

In addition to the above mentioned positions, there are five **Board Members at Large** positions. These members attend all board meetings and participate in the discussions and voting on any business at hand.

Sign Up for a Job - 2023

SCVGMS was begun in June, 1954, over 68 years ago. It is organized, maintained, and operated solely by volunteers. Help keep this great organization strong! Choose offices and/or committees where you would like to work and check your choices from the options below.

Mail or email this completed form to: **Michele Smith** at 801 Virginia Court, Campbell, CA 95008 or email: Michelesmith801@comcast.net

Name _____

Phone Number _____ **Email:** _____

Board of Directors (elected by the membership)

- President
- Vice President
- Secretary
- Treasurer
- Editor
- Federation Director
- Alternate Fed. Director
- Board Member (need 5)
- Parliamentarian (non-voting)
- Historian (non-voting)

Other ways to contribute:

- Put on a program.
- Submit articles for the Breccia.
- Lead a study group.
- Start a new study group.
- Work at the show (set up, tear down, sell tickets, security overnight, demonstrate skills).
- Start up a junior group again.
- Support the Santa Clara County Fair with SCVGMS displays.

Positions

- Bragging Rights
- Cabbers (study group)
- Smithies (study group)
- Rock Tumbling (study group)
- Other Study Group _____

Positions Continued

- Donation Receiving Committee (DRC)
- Show Committee Chair (2022)
- Field Trips
- Financial Advisory Committee
- Founder's Day Picnic Committee (Summer)
- Founder's Day Picnic Food
- Founder's Day Picnic BBQ
- Founder's Day Picnic Tri-Tip
- Founder's Day Picnic Raffle
- Founder's Day Picnic Bingo
- Hospitality
- Installation Dinner Committee (December)
- Installation Dinner Set Up
- Installation Dinner Food
- Installation Dinner Clean Up
- Librarian
- Member Displays
- Nominating Committee
- Public Lands Access (PLAC)
- Refreshments (by yourself or create a committee)
- Silent Auction
- Meet and Greet at Meetings
- Sunshine
- Trailer Custodian
- Trophies

Membership Dues Are Due Now!

SCVGMS membership dues are due for the year 2022. Your dues are essential to the operation of SCVGMS. They are \$5.00 for Junior, \$20.00 for an individual, and \$30.00 for the household.

Please send your check to **Treasurer, Santa Clara Gem and Mineral Society, Box 54, San Jose, CA 95103-0054** or to **Frank Mullaney, 5705 Begonia Drive, San Jose, CA 95124**

Thank you.

Website Links

Your Window to the World of Important Websites

Click on the blue area of whatever site you want to visit!

Link to Our SCVGMS Website: <http://www.scvgms.org/>

Note: After you click on the above link, if you want to see the Breccia and other news items, scroll down and click on “Download”, shown under the Newsletter option.

The American Federation of Mineralogical Societies (AFMS): <http://www.amfed.org>

California Federation of Mineralogical Societies (CFMS): <http://www.cfmsinc.org/>

To access the news from the **American Lands Access Association:** www.amlands.org

SCVGMS Facebook Page: <http://www.facebook.com/santaclaravalleygemandmineralsociety>

Sunshine



Rick Kennedy reported on the death of **Steven J. Perry**, who was a longtime friend and dealer at the Santa Cruz Show.

If you know of anyone needing some sunshine in their lives, please email **Margo Mosher** at margomosher@yahoo.com.

What! Why!

Why can't you hear a pterodactyl go to the bathroom? Because the “P” is silent.

Why can't you use “beef” as a password? Because it's not stroganoff.

What do you get when you drop a piano down a mine shaft? A flat minor.

Why does a chicken coop have two doors? If it had four doors it would be a sedan



Founder's Day Picnic

Our Founder's Day Picnic on a rainy, windy September 18 was a resounding success, thanks to the optimism and ingenuity of **Stephen May** as he directed his hard-working crew to set up inside at the Cabana Club. Sometimes Nature has a rather diabolic sense of humor. What! Rain in the middle of September! Even so, the tables groaned with the weight of delicious food, and Bingo awaited the more than 30 participants after they had enjoyed the feast. With Covid, hopefully on the wane, we are returning to some of the yearly events that we have enjoyed in past years.

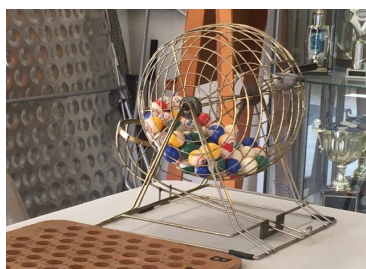
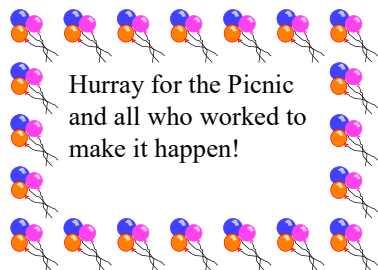


Stephen May



Frank Mullaney Calling the
Bingo Numbers

Education and Punning All on One Shirt! See [Periodic table - Wikipedia](#) for information about the minerals that you enjoy collecting.



Bingo Wheel, Ready to be Spun



Some of the Bingo Prizes

Bragging Rights

We had two beautiful entries for our September Bragging Rights contest where the theme was “Plume”. **Lynn Toschi** was the winner with his Plume Agate from Wingate Pass in Death Valley, and **Missy Fox** entered a Stinking Water Plume Agate from the Stinking Water Creek area near Juntura, Oregon.



Plume Agate
Wingate Pass, Death Valley
Lynn Toschi

Stinking Waters
Plume Agate
Missy Fox



The theme for the October contest is items that are red in color. To enter, email a photo and a description of your entry to **Alan Achor at kayakbb7@gmail.com**

Alan Achor-Bragging Rights Chairman

General Meeting Programs

The **September 27th presentation, “Opal: An Introduction”** was given by **Pete Goetz**. He is a superb teacher, and I learned more about opals in his about an hour long presentation than I had learned in my lifetime before. Throughout all of the information that he presented, he had excellent photos and illustrations to enhance our understanding. He began by explaining the structure and composition of opals, for example: that they are mineraloids rather than minerals because they do not have a crystal structure. He went on to explain how they are formed. He discussed the eight categories which are natural homogeneous precious opal, natural precious opal on host rock, natural precious opal in host rock, natural common opal, natural hydrophane opal, treated opal, composite opal, and synthetic or imitation opal. He spent enough time with each of the eight categories and had sufficient illustrations so that we had a good understanding as to what constituted each category. Opals are so beautiful, almost magic, and he did them justice. I hope that we will see more of his presentations.

October 25th presentation by Mary Pat Weber will be on **Urban Rockhounding in Tucson**, which will give advice on places to stay, places to shop and a review of the guidebook, along with a history of some of the changes in the Tucson Gem and Mineral Show.

By Jo Borucki

November 22 Silent Auction

Please come and participate in our silent auction, always fun and surprising as to what will be auctioned. The items that we all bring will be displayed on the tables and offered for bid. Each item has a bid sheet. The last name on the list wins the item, and pays the cashier. Bring just about anything. Items do not have to be gem or mineral related. We have auctioned off homemade candies and cookies, plants, pottery, tools, and thingamajigs. Bring your items, find an empty spot on a table, fill out a the paper that will be with your item, and get ready to have fun. Remember that your items are a donation to the club and that all money collected goes to help the club. We thank you in advance!

There will be three bidding time periods. The president will announce the start and the closing of each period. At the end of each time period, one of the three tables will be closed, signifying that the last name on any bid sheet wins the item, and if you are the high bidder, you can take the item and pay the treasurer. Cash or personal checks are both fine, and all proceeds go to the club treasury.

Come early to add your item to the fun, and to see what other people have brought that you might like. Bring your items to be auctioned, cash or check and a tote bag for the goodies that you have bought.

Member Displays

Please email a photo of the items that you wish to display to Michele Smith by the Sunday before the general meeting, so that the people who attend the meeting on Zoom rather than in person can view your items. **Please bring your items with you to the Cabana Club, if you are attending the meeting.**

Opals! Opals! Opals!!! Keeping in line with the evening's presentation, **Stephen May, Lynn Toschi, Dean Welder** and **Rick Kennedy** all brought opals they have personally dug from Virgin Valley. In particular, Lynn had some very impressive specimens from his many, many years of mining at his claim at Bonanza. **Bob Phelps** brought a very nice nodule of Brazilian agate that **Stephen May** will be cutting for him. **Kyle Van Woerkom** brought Jade from Mendocino County and a very nice piece of silver sheen Obsidian. **Rick Kennedy**, in addition to his opals, brought a Gold nugget, Garnets he recently dug and some books and display stands to give away to the members.

Don't know what to display? Any type of rock, mineral, or fossil (identified or not), your latest project, information on a field trip, ideas for a display case, or anything to do with rocks is appreciated. Sharing items helps to educate all who are attending. Show off what you love, so that we can enjoy it with you.

Rick Kennedy– Chairperson

Scared!

I asked an old man, "Even after 70 years of marriage, you still call your wife Darling, Honey, Sweetheart. What's your secret?"

Old Man: "I forgot her name 10 years ago and I'm scared to ask her what it is."

Field Trips

Oct. 8, (Sat.) Onyx Springs, Ca Death Valley, highway 190, 7 hrs. 23 min
Honey Onyx, pay per lb. Dig your own, private owner,
Sponsored by Lone Pine Gem & Mineral Society. (Way-South East)

Oct. 8-9 Hampton Butte and Glass Butte, Oregon.
(Green Petrified Wood) and Glass Butte, OR (Obsidian, many types)
A Co-op field trip led by SCVGMS
Contact trip leader: Stephen May (See contact information at the bottom of the page.)

Oct. 15, (Sat.) Pollard Flat, CA,
Pyrite Cubes. Sponsored by Shasta Gem & Mineral. (Way North)

Oct. 15-16, (Sat. - Sun.) Greenhorn Mountains
Sponsored by Yucaipa Mineral Society. (Way-South)

Oct 22-23, (Sat. - Sun.) Harthorne and Mina, NV areas
Microcline Feldspar, Copper minerals, Black Quartz Crystals, Epidote, Epidote in Quartz, Epidote in Calcite, Grandradite and Grossular Garnet. Fossils, and possible petrified wood.
Contact James Hutchings and Gene Doyle, James Hutchings's contact information; (530) 367-5108 at home or (916) 995-7380 on the road. E-mail: jhutchings22@hotmail.com. Gene Doyle's contact information; (408) 605-9457 (cell, you can text), eugene.doyle@sbcglobal.net.

Oct. 29-30, (Sat. - Sun.) Tonopah, NV, Tonopah Museum.
Variscite, Turquoise, Apache Tears, Chalcedony, Opalite Multi-Colors.
\$100 per person paid dig for the Variscite and Turquoise.
Sponsored by Yucaipa Mineral Society. (Way-East)

November 11-12 Black Butte/Stoney Creek, CA
Multicolor Jasper: Poppy or Orbicular
Contact Kevin Kirschman: kkirschman@prodigy.net or 209-769-1502 cell/text

December 10 Black Chasm Pioneer CA
Pioneer Volcano Rd, Volcano CA 95689 Cavern Cave Tour. Fee.
Contact Kat Duncan 209-694-3100 cell Home 209-694-361415701

For questions for the above listed field trips:
Contact Stephen May for details. Email: Stephenmay0990@gmail.com, Phone: 669-248-3993 or 408-306-6782

Information on Shows

October 8-9; 2022-Redwood City, CA Peninsula Gem and Geology Society AND Sequoia Gem and Mineral Society Redwood City Community Activities Building, 1400 Roosevelt Ave., Redwood City
Hours: Sat & Sun 10-5
Contact: (650) 575-3144, cci@pacbell.net Website: <http://pggs.org>

October 8-9, 2022- Grass Valley, CA Nevada County Gem and Mineral Society
Earth's Treasurers Show 2022 Nevada County Fairgrounds, 11228 McCourtney Rd., Grass Valley, CA 95945
Hours Sat 10-5, Sun 10-4
Contact: 4vanclan5@att.net Website: <https://www.ncgms.org/showinfo/>

October 9, 2022 - Fallbrook, CA Fallbrook Gem and Mineral Society Fall Festival of Gems & Minerals
123 W. Alvarado Street, Fallbrook CA
Hours: 9 AM-4 PM
Contact: (760) 728-1130, info@fgms.org Website: <http://www.fgms.org>

October 15, 2022 – West Hills, CA Woodland Hills Rock Chippers
First Methodist Church, 22770 Sherman Way, West Hills, CA 91304
Hours 10-5
Website: <http://www.rockchippers.org>

October 15-16 - Santa Rosa, CA Santa Rosa Mineral & Gem Society 45th Annual Mineral and Gem Show Santa Rosa Veterans Memorial, 1351 Maple Ave., Santa Rosa, CA
Hours: Saturday 10 AM -6 PM, Sunday 10 AM - 5 PM
Contact: (707) 849-9551, jolene4srmgs@gmail.com Website: <http://SRMGS.org>

October 15-16, 2022, Placerville, CA El Dorado County Mineral & Gem Society
El Dorado County Fairgrounds, 100 Placerville Dr., Placerville, Ca 95667
Hours: Sat & Sun 10-5
Contact: office@edcmgs.org Website: <http://www.eldoradocountymineralandgemmsociety.org>

October 29-30, 2022, Sacramento, CA Sacramento Mineral Society 6151 H Street, Sacramento, CA
Hours: Sat & Sun 10-5
Contact: (916) 672-5819, gemshow@sacramentomineralsociety.org
Website: <https://www.sacgemshow.com>

March 11-12 2023 – Turlock, CA Mother Lode Mineral Society Mother Lode Mineral Show Stanislaus County Fairgrounds, 900 N. Broadway, Turlock, CA Hours: Sat 10-5, Sun 10-5 Contact: bwendx2@yahoo.com Website: <http://www.turlockgemshow.com>

March 18-19, 2023 Santa Clara Valley Gem and Mineral Society

Santa Clara County Fairgrounds
Hours: Saturday and Sunday 10AM - 5:00PM
Contact: 408-265-1422 www.scvgms.org or facebook.com/santaclaravalleygemandmineralsociety

March 18-19, 2023 – Lemoore, CA Lemoore Gem & Mineral Club Lemoore Gem & Mineral Show
Trinity Hall, 470 Champion St., Lemoore, CA
Hours: Sat 10-6, Sun 10-4
Website: <https://facebook.com/AndLemoor>

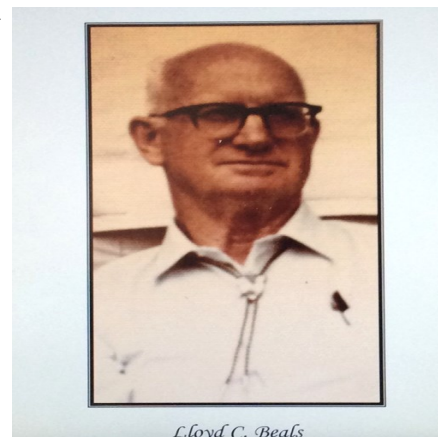
SCVGMS Show Resumes in 2023!

March 18-19, 2023

Santa Clara County Fairgrounds
Hours: Saturday and Sunday 10AM - 5:00PM
Mark your calendar!.

DRC News

Lloyd Curtis Beals (1905-1995) came from a wood working family and was a machinist for Boeing Aircraft. He transferred his skills and dedication to fine quality work by first constructing a small building in his backyard, known as “The Rock Shop’ and then creating excellent quality cabochons, pendants, and bolo ties. His workmanship is beautiful and widely respected and admired. His daughter, **Alice (Beals) White** and his grandson, **Ken White** have donated more than 600 of his beautiful cabochons, pendants, and bolos to DRC. The cabochons are mainly obsidian and Brazilian agate. We would like to express our gratitude to Alice and Ken for their generosity.



Lloyd C. Beals

SCVGMS Rock and Mineral Sale It Rocks! ROCKS MINERALS AND MORE

Saturday, October 29, 2022
10:00 am until 1:00 pm
801 Virginia Court
Campbell, CA 95008

Cash And Personal Checks Made Out To SCVGMS
(Santa Clara Valley Gem and Mineral Society)

Meet fellow rockhounds in person!

An American First:

Rockhounding & Fossil Collecting in a National Monument

AFMS Historian Rockhounding and fossil collecting, as you know, are not allowed in the United States national monuments. However, when the BLM initial planning process began for the Mojave Trails National Monument in California, Rockhounds got involved. Rockhounds were very aware this was their one and only chance to possibly keep their collecting sites accessible within the new monument.

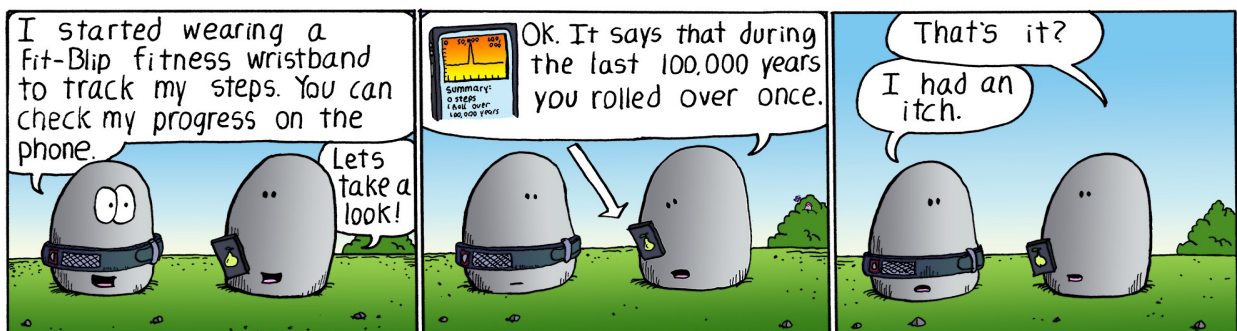
Rockhounds showed up, got involved and stayed involved during the initial planning process. Rockhounds learned how to submit public comments in the articulate way BLM management needed them presented, so the comments could be included in the official planning. Rockhounds submitted more public comments than any other organization or category of individuals involved in the planning process.

This was and is, amazing feedback for all Rockhounds. Many thought their aspirations too high a hill to even try to climb. Many thought the environmental groups already had the BLM planning “in the bag,” given the amount of lobbying money and attorneys they have at their use. Others leaned on their hope, hoping they could still collect in what has been one of their favorite collecting areas for more than 100 years. Rockhounds realizing last chances can be huge opportunities for success, worked together with American Lands Access, their societies, federation, the AFMS and the BLM. Rockhounds realized entitlement wouldn’t get them anywhere, but doing good work and working together would.

What’s up next? Although rockhounding and fossil collecting is currently allowed in the Mojave Trails National Monument, the next phase of planning the monument is coming up this year. Rockhounds will be showing up, getting involved, and staying involved again.

History is alive, always adding to its growth rings, as the future becomes our present and then our past. It will be up to Rockhounds to decide what our future will be. What Rockhounds have accomplished so far in the planning of the Mojave Trails National Monument, is monumental. If Rockhounds succeed in their efforts, and establish the approval of rockhounding in the final phase of the monument, it will be a major breakthrough for Recreational Rockhounding’s future.

By Jennifer Haley, AFMS Newsletter June 2022



[Rock comics by Rocklicker. New comic 7-6-20 | Rock Tumbling Hobby](#)

Moissanite Word Search

Moissanite has a Mohs Hardness **Scale** of 9.25, and therefore is not as hard as **diamond**, but it approaches being as hard. Our theme in this **Breccia** is **minerals** that are a Mohs Hardness of ten, and so I have created a word search for Moissanite because it is close to having a hardness of ten.

Moissanite **occurs** naturally and was first discovered in 1893 by the French **chemist** Henri Moissan. It is useful for commercial and industrial applications. Because it is very hard, it is used as a **substitute** for diamonds in cutting and grinding applications. It has also been used for fabrication of high-performance **semiconductor** devices.

It occurs **rarely** in **nature**, and so most moissanite is **synthetic**. In 1995, the company, Charles and Colvard, began to produce and sell synthetic moissanite having first obtained a US **patent**.

Some of its qualities include an **ultraviolet** fluorescence of orange-red, a specific **gravity** of around 3.2, a **adamantine** to metallic **luster**, birefringence of 3.13, an indistinct **cleavage**, and a conchoidal fracture. It is non-radioactive and non-magnetic. It is transparent and comes in **green**, **clear**, and **yellow**, though I think that, recently, blue moissanite is also being produced. Because of its sparkle and **color**, it is a beautiful gemstone. My husband, Bill and I chose it for rings for our 50th wedding anniversary.

Find all of the words in the word search shown below that are in bold and are underlined in the preceding paragraphs.

By Jo Borucki

W	T	Y	R	A	C	C	G	S	T	J	L	S	C	M
E	L	A	C	S	R	H	L	R	T	X	E	D	O	S
Y	L	E	R	A	R	A	E	N	E	M	P	I	S	U
R	C	G	N	B	R	D	E	M	I	E	S	O	A	B
A	A	C	R	E	V	T	N	C	I	S	N	D	Z	S
I	K	C	N	A	A	Y	O	O	A	S	A	I	C	T
C	C	I	O	P	V	N	D	N	M	M	T	Y	L	I
C	M	T	C	C	D	I	I	F	A	A	E	K	E	T
E	J	E	A	U	L	T	T	N	E	L	I	Q	A	U
R	F	H	C	S	E	Z	T	Y	L	R	Z	D	R	T
B	O	T	L	U	Y	I	E	O	C	C	U	R	S	E
Z	O	N	A	W	N	T	W	R	H	N	M	T	H	G
R	Y	Y	M	E	C	L	E	A	V	A	G	E	A	R
D	E	S	U	L	T	R	A	V	I	O	L	E	T	N
R	O	L	O	C	N	R	E	T	S	U	L	N	Q	K

Diamond

Diamonds have been found, and have been highly valued, for thousands of years. First discovered in India about 2500 years ago, these stones were prized for their optical properties – for their ability to refract light that makes diamonds sparkle – and also for their strength and hardness. Yes, diamond is one of the hardest substances we know, sitting atop the Mohs Hardness Scale at 10. Diamonds are so hard that they are used to engrave metal and to create powerful cutting tools.

Although we humans have known about diamonds for a few thousand years, they have been around, down in the Earth, for *billions* of years. Diamonds form when carbon atoms are subjected to both high pressure and high temperatures. High pressure? If you could pile ten, fully loaded tractor-trailer trucks one on top of the other, and balance those trucks on a postage stamp... all of that weight pushing down on that tiny area would be equivalent to the pressure needed to form a diamond from carbon. High temperature? The temperature of the bright orange molten lava that flows from the Mauna Kea volcano in Hawaii is about what is needed to form a diamond from carbon. So yes, to make a diamond requires high pressure and high temperature. Conditions that are found, typically, hundreds of miles below Earth's surface.

A diamond that forms from pure carbon is colorless and transparent. A trace amount of some other element, however, can imbue a diamond with color. Add a few atoms of nitrogen to carbon as a diamond forms, for example, and you get a yellow diamond. The atomic structure of nitrogen atoms enables them to absorb bluish light, so when white light passes through a diamond that contains even just one nitrogen atom for every million carbon atoms, it is stripped of the blue colors. Without the blues, the remaining light is slightly yellowish. And a diamond that contains more than just a few nitrogen atoms for every million carbon atoms takes on a richer, deeper yellow color. Such a diamond is what gemologists would call a *fancy* yellow diamond.

Impurities other than nitrogen can result in diamonds of other colors. A few boron atoms mixed in with the carbon as a diamond forms results in a blue diamond. Blue diamonds of high optical quality are rare, however, due to imperfections caused by, for example, an uneven distribution of boron atoms. So a blue diamond of *high* optical quality... that will be an expensive stone! Green and pink (sometimes referred to as “red”) diamonds have also been found. These diamonds get their color from imperfections that result from being exposed to natural radiation, for example, from radioactive materials such as Uranium buried deep beneath Earth's surface.

Close your eyes and think of a diamond. You probably see a clear stone with smooth faces, and crisp edges between them. Round? Oval? Pear-shaped? All true, yes – but gemstones like these are *cut* diamonds, stones into which smooth faces (facets) have been cut. A rough, natural diamond looks nothing like the stone you might find in a ring or on a necklace.

The diamond that comes out of the ground is, typically, an octahedron: two four-sided pyramids back-to-back. (See the image on the left in Figure 1.) More generally, diamonds are classified as having a cubic crystal habit, so there are, for example, rough diamonds that look like sugar cubes. (See the image in the center in Figure 1.) And many diamonds have no, or almost no, obvious crystal shape. (See the image on the right in Figure 1.)

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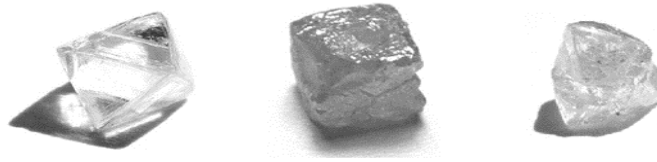


Figure 1. (left) A diamond in the shape of a dodecahedron, that is, two four-sided pyramids back-to-back. (center) A cubic diamond crystal. (right) A diamond with no obvious crystal shape.

To know a more complete story of diamonds and diamond formation, you need to know about kimberlite. The temperature and pressure in Earth's upper mantle, the layer of Earth right below the outer layer or "crust" of the Earth, is just right for diamond formation. It's also just right to produce the hot magma that rises to the surface in the form of volcanic eruptions. As that magma, that molten rock, rises from depths of a few hundred miles below Earth's surface, it forms igneous rock as it cools. That igneous rock is often kimberlite.

As the magma rises to become kimberlite, it carries with it a variety of minerals that crystalize as the magma cools. These minerals include diamonds; indeed, kimberlite is named after Kimberly, South Africa, the site of an early and immensely large diamond mine. I recently added a specimen of kimberlite to my collection. It's formless and light gray, so not a particularly interesting or attractive rock, and it does not contain any diamonds. But I enjoy having it because of its connection to diamonds!

High temperature and high pressure can form a diamond. Are there environments other than in Earth's mantle that provide these conditions? Yes! Deep space, for example.

There is no shortage of carbon out in space. Recent studies suggest that there could be as many as a million, billion carbon-bearing molecules in every gram of space dust. And we have direct evidence that some of this carbon experiences conditions that can lead to the formation of diamonds: NASA scientists have discovered diamonds in many meteorites that have crashed to Earth. Yes, these diamonds are small – they are often referred to as "nanodiamonds" – but they are diamonds nevertheless. And some researchers have suggested that there [is evidence of nanodiamonds in the Allan Hills 84001 meteorite](#).

Not impressed by diamonds in the Allan Hills 84001 meteorite, you say? Consider: this meteorite is recognized as having come from the surface of Mars. Mars! Astrophysicists believe this chunk of rock was created when an impactor struck Mars seventeen million years ago, blasting up bits of the rocky Martian surface into space. At least one fragment of one of those bits of Mars found its way to Earth, falling on an ice field in the Allan Hills region in Antarctica. Easy to spot against the whitish, icy background, the Allan Hills 84001 meteorite was found by meteorite hunters in 1984. The rock that comprises this meteorite formed some four billion years ago. And yes, it is rock from Mars. Pretty cool - diamonds from Mars!

So. This essay is one in series about the Mohs Hardness Scale. You're likely interested in the Hardness Scale because... well, because you're interested in rocks. But you're probably more interested in *collecting* rocks, and after reading this essay you might be thinking, "I wish I could add a specimen of rough diamond to my collection, but it would be way too expensive." True enough. But there's a solution: get a

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Diamond Continued from page 15

specimen of carbonado! A carbonado is a kind of diamond, one that is both easy to find for sale and also not particularly expensive. Yes, a carbonado is black and opaque – there are graphite molecules as well as a variety of non-carbon impurities in a carbonado crystal that prevent it from transmitting light – but a carbonado is mostly carbon and has a Mohs hardness of 10. It is, then, a diamond. So if you have no diamonds in your collection, go out and get a specimen of carbonado!

And after you add a diamond to your collection, perhaps consider organizing a small sub-collection: a specimen of talc, gypsum, calcite, fluorite, apatite, orthoclase feldspar, quartz, topaz, corundum, and diamond... arranged in order. Yes, a sub-collection of the stones that define the Mohs Hardness Scale. **The Girls Can Flirt And Other Queer Things Can Do!**

Prof. Philip R. Kesten, Ph.D., Department of Physics, Santa Clara University

General Meeting Minutes

September 27th, 2022

The September meeting of the Santa Clara Valley Gem and Mineral Society was called to order at 7:35 pm at the Cabana Club and on Zoom, so that our members could enjoy the meeting in the way they felt the most safe and comfortable.

Announcements: Dues are due and Frank Mullaney is here to take your money. Cash or checks.

Please sign in! SCVGMS Board meeting is this Thursday at 7:30 pm. On ZOOM.

New Members: No new members. If you want to join the club, one must attend at least two club meetings and have two sponsors from the club, it is easy to do!!

Board Meeting: Will be at on Zoom at 7:30.

Member Displays: By Rick Kennedy. Opals! Opals! Opals!!! Keeping in line with the presentation, Stephen May, Lynn Toschi, Dean Welder and Rick Kennedy all brought opals they have personally dug from Virgin Valley. In particular, Lynn had some very impressive specimens from his many, many years of mining at his claim at Bonanza. Bob Phelps brought a very nice nodule of Brazilian agate that Stephen May will be cutting for him. Kyle Van Woerkom brought Jade from Mendocino County and a very nice piece of silver sheen Obsidian. Rick Kennedy, in addition to his opals, brought a Gold nugget, Garnets he recently dug and some books and display stands to give away to the members.

Bragging Rights: The theme was Plume Agate. Lynn Toschi won for his piece of Death Valley Plume. The October Bragging rights will be "Red".

Rockhound of the Month: No award given this month.

Study Groups:

Cabbers: In search of a new leader.

Smithies: No report was given.

Hospitality: 20 in person members and 11 members on Zoom. There was one guest in attendance.

ALAA: Nothing new.

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General Meeting Minutes continued from page 16

SCVGMS Show: There was a show meeting on September 22nd at Mountain Mike's Pizza. The Show is on! It will be March 18 – 19, 2023.

Business cards for the show were available at the general meeting and many were picked up!

The big news is that the show committee made a deal with the fairgrounds and there will be free parking for everyone!!

Business cards for the show were available at the general meeting and many were picked up!

Field Trips: Stephen May has a list of upcoming field trips. See page 9 for details.

DRC: No report.

Federation Report: No new news.

Correspondence: Frank Mullaney reported receiving bills from McDaniel's Insurance, statements from State Farm and some dues.

Sunshine: Rick Kennedy reported on the death of Steven J. Perry, who was a longtime friend and dealer at the Santa Cruz Show.

Program: Tonight's presentation is being given by Pete Goetz on Opals.

Next Meeting: October 25th at 7:30 PM.

Meeting was adjourned at 9:30 PM

Respectfully submitted, Rick Kennedy SCVGMS Secretary

Board Meeting Minutes

September 29th, 2022

The meeting was called to order at 7:36 PM via the Zoom application.

Roll Call: All board members were present with the exception of Alan Achor

Reading of the minutes from the July 28th Board Meeting: M/S/P to approve the minutes as read (F. Mullaney, J. Borucki).

Reading of the minutes from the August 25th Board Meeting: M/S/P to approve the minutes as amended (F. Mullaney, S. May).

New Members: No new members.

Correspondence: Frank Mullaney reported receiving that McDaniel's insurance sent a bill for the officer's and director's insurance and some information from Dodge and Cox and some dues.

Treasurer's Report: Presented by Frank Mullaney. M/S/P to pay any outstanding bills (R. Kennedy, K. Welder).

Member Dues: Frank Mullaney gave out a list of members who have not paid their dues, Rick Kennedy will send out letters before the next meeting.

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Board Meeting Minutes continued from page 17

Committee Reports:

Federation: Nothing new since the general meeting.

Field Trips: Stephen May has a list of upcoming field trips. See page 9 for details.

Show Report: Jim and Missy Fox as well as Frank Mullaney had much to report:

M/S/P to offer Walt Wright \$500.00 to demonstrate as he has in the past (D. Welder, F. Mullaney).

M/S/P to offer Donna Kelley \$500.00 to demonstrate as she has done in the past (D. Welder, S. May).

The Gold Prospectors group has been reached out to. There have been changes to their organization. It is unclear if they will participate.

Business Cards are in and many were given out at the General Meeting.

Posters are in.

Car signs are approved and will be in within a week.

M/S/P to have the prizes for our drawing \$100.00 and \$50.00 cash as they have been in the past (F. Mullaney, M. Powers)

M/S/P to offer three \$1000.00 Grants to San Jose State University (S. May, M. Powers). Rick Kennedy will contact Jonathan Miller at SJS to start that process.

There was discussion about what kind of prizes might be appropriate to thank our volunteers.

There was discussion about reaching out to dealers who have already paid for parking and offering them a refund for the amount they have already paid.

There was discussion about having a table for SCVGMS Juniors to sell their own material.

Frank Mullaney will work on designing business cards for the 2024 show so that they can be completed and ready to hand out at our show.

Old Business:

DRC: Michele Smith reported that there will be a sale on October 29th from 10:00 – 1:00 at the home of Michele Smith.

2023 Officers: The Nominating Committee has been chosen and there are already new options for Secretary and President.

Installation Dinner: Rick Kennedy has contacted Willow Street and is waiting for a quote.

New Business:

Program Schedule:

October: Mary Pat Weber will give a presentation on Urban Rockhounding in Tucson, which will give advice on places to stay, places to shop and a review of the guidebook, along with a history of some of the changes in the Tucson Gem and Mineral Show.

Length of meetings: There was discussion about the length of our meetings and what might be done to keep them from running too long.

Next Board Meeting: October 27th, at 7:30PM on Zoom.

Meeting adjourned at 8:56pm

Respectfully submitted, Rick Kennedy, SCVGMS Secretary

Santa Clara Valley Gem and Mineral Society

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Phone Number (408) 265-1422

Like us on Facebook:

<http://www.facebook.com/santaclaravalleygemandmineralsociety>

SCVGMS ELECTED OFFICERS

President: Michele Smith (408)374-1897
Vice President: Stephen May (408)306-6782
Secretary: Rick Kennedy (408)529-9690
Treasurer: Frank Mullaney (408)691-2656
Editor: Jo Borucki (408)245-2881
Federation Director: Karen Welder (408)353-2675
Alternate Fed. Director:
Paul Kidman (408)356-4995

Board Members at Large

Jim Fox (408)356-7711
Missy Fox (408)356-7711
Michelle Powers (408)694-8686
Alan Achor (408)749-0771
Deb Runyan (408)866-7564

Parliamentarian: Dean Welder (408)353-2675

SCVGMS COMMITTEE HEADS

Bragging Rights Chair: Alan Achor
Donation Receiving Committee Chair:
Michele Smith
Festival Chairpersons 2023: Jim and Missy Fox
Field Trip Coordinator: Stephen May
Founder's Day Picnic Chairman: Stephen May
Founder's Day Raffle: TBD
Founder's Day Bingo: TBD
Hospitality: Pat and Louis Schuesler
Installation Dinner: Rick Kennedy, Jim and Missy Fox
Member Displays: Rick Kennedy
Refreshments: TBD
Silent Auction: TBD
Sunshine: Margo Mosher
Trophies: Frank Mullaney
Librarian: Deb Runyan
Webmaster: TBD

Note: Some of these committee heads may change. Michele Smith and Stephen May are working to fill all positions.

An Invitation

This society is pleased to invite guests to attend general meetings, study groups, and field trips. General meetings are normally held the fourth Tuesday of every month with meet and greet time beginning at 7:15 followed by the meeting at 7:45 PM at 100 Belwood Gateway (the Cabana Club), Los Gatos, CA 95032. Belwood Gateway is just south of Blossom Hill Road between Leigh Avenue and Harwood Road.

The next **General Meeting is scheduled for October 25 at 7:45 at the Cabana Club and is also available on Zoom. The Board Meeting is scheduled for October 27 at 7:30 on Zoom.**

Our Society's Purpose: The inculcation of a love of rocks and minerals by the furtherance of members' interests in the earth sciences and by education in all facets of related educational activities with the promotion of good fellowship, proper ethics, and conduct.

Our Membership Requirements: Attendance at two general meetings within twelve months. This society is a member of the California Federation of Mineralogical Societies (CFMS) and is affiliated with the American Federation of Mineralogical Societies (AFMS). **Our Newsletter**, the Breccia, is published ten times annually. **The deadline for all articles is the Sunday after the general meeting. The Breccia editor is Jo Borucki** who may be contacted by email at joborucki@yahoo.com or by phone at (408)245-2881. The Breccia is proofread by Pat Speece. Exchange bulletins may be sent to Jo Borucki, 1196 Sesame Drive, Sunnyvale, CA 94087 or emailed to joborucki@yahoo.com. Permission to copy is freely granted to American Federation of Mineralogical Societies (AFMS) affiliated clubs when proper credit is given.

Study Group Leaders

**Smithies: Pat Speece 408- 266-4327 pat.speece@comcast.net,
Cell Phone/Text: 408-332-6665**