

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

Colorado Springs
Mineralogical Society
Founded in 1936
Lazard Cahn
Honorary President
October 2019
PICK & PACK
Vol 59 Number 8

CSMS General Assembly

Thursday, October 17, 7:00 PM

Speaker: Ben Elick & Steve Veatch

Topic: "THE CRESSON MINE: THE UNTOLD STORIES"

Please note: Members whose names begin with A-L are responsible for refreshments in September

****In case of inclement weather please call****

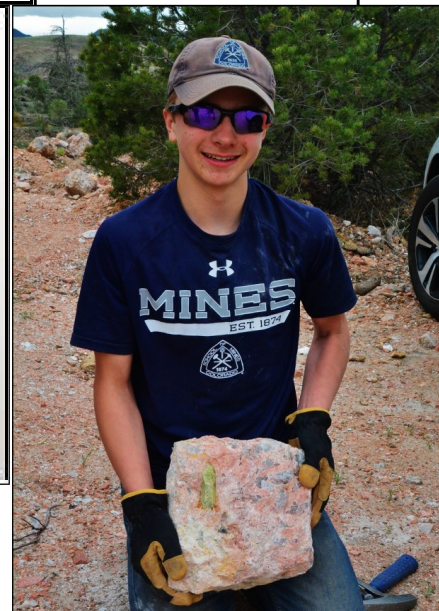
Mt. Carmel Veteran's Service Center 719 309-4714

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OCTOBER PROGRAM

Come celebrate the world premiere of this fabulous story as Ben Elick & Steven Veatch reveal the secrets of this famous mine through old letters, newspaper clippings, crumbling documents, and rare photos. Learn about the mine's storied underground cavern of gold. It was so rich that the miners shoveled gold crystals into bags for weeks. This is a story so big, so bold, that you will never forget it!



COLORADO SPRINGS MINERALOGICAL SOCIETY PO BOX 2 COLORADO SPRINGS, COLORADO 80901-0002

CSMS Calendar

October & November 2019

Thu.	Oct 3, Nov 7	-----	Board Meeting	7p.m., Pikes Peak United Methodist Church
Tue.	Oct 1, Nov 5	-----	Fossil Group	7p.m., Methodist Church, Jerry Suchan, 303 648-3410
Thu.	Oct 17, Nov 21	----	Pebble Pups, Jrs.	5:30p.m., Mt. Carmel Ctr., Steve Veatch, 719 748-5010
Thu.	Oct 17, Nov 21	----	General Assembly	7p.m., Mt. Carmel Center
Thu.	Oct 24	-----	Crystal Group	7p.m., Mt Carmel Ctr. Kevin Witte, 719 638-7919
Thu.	Oct 24	-----	Faceting Group	7p.m., Home of Bertha Medina Contact John Massie 719 338- 4276
Appointment Only ----- Jewelry Group				Bill Arnson, 719 337-8070
Appointment Only ----- Lapidary Group				Sharon Holte, 719 217-5683

For more information on any of the sub-groups, meetings, and other CSMS valuable information, go to our website: www.csms1936.com

Upcoming Events of Interest to CSMS Members

Submitted by Pete Modreski

Unless as noted, all of these societies' and institutions' lecture series are free and open to the public:

Tues, Oct. 15, "Golden Beer Talks" at the Buffalo Rose, 1119 Washington Ave., Golden. Held on (usually?) 2nd Tuesdays. Doors open at 6; Talk begins at 6:35; Intermission – 7-7:15; Q&A/clean up 7:15-8. Here is the rest of the schedule for the Fall:

Nov 12, Bob Raynolds, Geologist, CSM Adjunct Prof and DMNS Research Associate, "Australopithecines to the Anthropocene: A Geologist's View of Where We Came from and Where We Are Going"

Dec 10, Barb Warden, Goldentoday.com, "Funiculars of Golden Colorado".

Sat.-Sun., Oct. 5-6, Colorado Scientific Society will host a weekend field trip, "Geology and Geoheritage of the Florissant-Cañon City-Florence area". It will include Florissant Fossil Beds National Monument; Skyline Drive by Cañon City; Royal Gorge; the Florence coal, oil, and gas basin; the Cope-Marsh quarries at Garden Park; and the Cripple Creek and Victor Gold Mine. You must be a CSS member to take part, but anyone may join the Society if they wish to go on the trip; see <http://>

coloscisoc.org/

Tues., Oct. 8, 7:00-9:00 p.m. Western Museum of Mining and Industry Speakers' Bureau Lecture: "**Cripple Creek's Cresson Mine: The Untold Stories**", by Ben Elick. WMMI, 225 North Gate Rd., Colorado Springs. \$5 per person, free to museum members. RSVP to 718-488-0880 or rsvp@wmmi.org; to book in advance: <https://fareharbor.com/embeds/book/wmmi/items/108438/calendar/?flow=41147>

Oct. 13-19 is the annual **Earth Science Week**. I (Pete Modreski) will be leading a geology hike/field trip for the public sometime during or around this week--details TBA.

Sat., Oct. 19, 9 a.m. – 3 p.m., "Girl Scout Day" at Dinosaur Ridge. An event similar to Scout Day on Sept. 28; more info about this day will be forthcoming.

Mon., Oct. 28, 3:00-4:00 p.m., Denver Museum of Nature & Science Earth Sciences Colloquium, Physical processes in carbonate sediments: Ooids, mud, hurricanes, and more, by Lizzy Trower, CU Boulder. All are welcome. VIP Room at DMNS.

(CONTINUED ON PAGE 3)

For more lecture series during the year see:

Colorado Café Scientifique in Denver, monthly lectures on science topics held either at Blake Street Station or Brooklyn's, Denver; open to the public, no charge other than refreshments you may choose to purchase; see <http://cafescicolorado.org/>.

Colorado Scientific Society (3rd Thursday, 7 p.m.), see <http://coloscisoc.org/>. Meets at Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood CO, except when noted.

CU Geological Science Colloquium (Wednesdays, 4 p.m.) see <http://www.colorado.edu/geologicalsciences/colloquium>

CSU Dept. of Geoscience Seminars (Fridays, 4 p.m.), see <https://warnercnr.colostate.edu/geosciences/geosciences-seminar-series/>

Van Tuyl Lecture Series, Colorado School of Mines, (Thursdays, 4 p.m.): <https://geology.mines.edu/events-calendar/lectures/>

Denver Mining Club (Mondays, 11:30), see <http://www.denverminingclub.org/>.

Denver Museum of Nature and Science, Earth Science Colloquium series, 3:00-4:00 p.m., VIP Room unless noted, day of the week varies. Museum admission is not required; see <http://www.dmns.org/science/research/earth-sciences/>

Denver Region Exploration Geologists Society (DREGS; 1st Monday, 7 p.m.), <http://www.dregs.org/index.html>

Florissant Scientific Society (FSS); meets monthly in various Front Range locations for a lecture or field trip; meeting locations vary, normally on Sundays at noon; all interested persons are welcome to attend the meetings and trips; see <http://www.fss-co.org/> for details and schedules.

Golden Beer Talks (2nd Tuesday, 6-8 p.m.), at the Buffalo Rose, 1119 Washington Ave., Golden. Doors open at 6; Talk begins at 6:35; Inter-

mission – 7-7:15; Q&A/clean up 7:15-8:00. [“Golden’s grassroots version of TED talks, Expand your mind with a beer in your hand”, http://goldenbeertalks.org/](http://goldenbeertalks.org/) **Nerd Night Denver** is a theater-style evening featuring usually 3 short (20-minute) TED-style talks on science or related topics; held more-or-less monthly at the Oriental Theater, 4335 W. 44th Ave., Denver; drinks are available; for ages 18+. Admission is \$6 online in advance, \$10 at the door. See <https://www.nerdnitedenver.com/>.

Rocky Mountain Map Society (RMMS; Denver Public Library, Gates Room, 3rd Tuesday, 5:30 p.m.), <http://rmmaps.org/>

Western Interior Paleontological Society (WIPS); beginning January 2019, WIPS will meet on the 1st Monday of the month, 7 p.m., at Lowry Conference Center, 1061 Akron Way, Denver. See <http://westernpaleo.org/>.

**LITTLETON GEM & MINERAL CLUB
SILENT & VERBAL AUCTION**

Saturday, October 19, 2019

Note the NEW LOCATION

**Heritage United Methodist Church,
7077 S. Simms Street
Littleton, CO 80127-3241**

**Seller set up starts at 11 AM,
Silent auction starts at Noon,
Verbal auction starts at 1 pm;
Checkout starts at 3:30 pm**

Bring your minerals, gems, jewelry, fossils, books, and equipment to sell. Club retains 20% commission. Non-club members are limited to 2 flats. Payment is by cash or check.

Email Lesley Sebol at Lesleysebol@gmail.com to pre-obtain a seller/buyer number or get it at the door.



NOV.

8-10

Open to the public.

Children under 9
years old NOT
permitted.

International Gem & Jewelry Show

Denver, Colorado (Fall 2019)

Hosted by the International Gem & Jewelry Show (Intergem), and the Denver Mart

Annual Gem & Mineral Show
November 15-17, 2019
 Jefferson County Fairgrounds, Exhibit Halls
 15200 W. 6th Ave., Golden, CO
 Hours: Fri. & Sat. 10 AM - 5 PM, Sun. 11 AM - 4 PM

Gems, Jewelry, Carvings, Books
Minerals, Fossils, Lapidary

Artisan Jade	Lithus/Lithographie
Black Stone Lapidary	Mineral Scope
Bright Star Gemstones	Moore's Minerals
Buckskin Booksellers	Mo's Rock Shop
Costigan's Minerals West	ORCA Gems
Cut Edge Gems	O'Dark Thirty Boyz
E & J Rare Gems	Pavilion Minerals
Dan's Used Rocks	Pinnacle Minerals
Earthstone-The Solitaire	Porter Minerals International
G & C Creations	Prospector's Choice
Hearts n' Spirit	Riverrun Designs
Jensen's Minerals	Rocky Mtn. Mining
K & M Enterprises	Spirit Whiskies

Information: 303-693-0854, 303-986-1667, 303-660-9564

Public Welcome!

Free Admission and Parking!

2019 CSMS Pikes Peak Gem, Mineral, and Jewelry Show Exhibits

At long last, the trophies have been created for the 2019 CSMS Pikes Peak Gem and Mineral Show. We are a club with many exceptional long-time self-collectors and many people who either travel the world or attend the many mineral shows looking for special pieces to add to their collections. This year we added two additional exhibitor award classifications to our show. We added a Pebble Pups Award to highlight the work being done by our younger members. Second, we resurrected the Chris Christensen Award described in our clubs' bylaws.

I wish to thank Pete Modreski and Kaye Thompson for judging both the Pebbles Pups displays and the displays entered into the competition for the Chris Christensen Award. They did a wonderful job reviewing the cases. There were three awards given this year. The People's Choice Award is being given to Roger Pittman for his Colorado Minerals display. The public just loved the display and his wonderful presentation of the minerals. Congratulations to Josh Hair for his Poebrotherium display. Josh is the recipient of our first Pebble Pups Award. I hope that Josh receiving this award will encourage more Pebble Pups to exhibit at our show. Our Pebble Pups do some outstanding work and their exhibiting at our show gives them recognition and helps advertise the educational opportunities that we have available for our junior club members. Congratulations to Kevin Witte for the judges selecting his case for the Chris Christensen Award. Kevin is one of our prominent self-diggers of Colorado minerals and head of the Crystal Study satellite group where you can learn from his expertise.

I know that exhibitors will spend considerable time putting together their display. It is a time to dig through your collection and remember the great fun you had collecting or buying that special specimen. Besides exhibiting at the CSMS Show, there is also the opportunity to participate with your display in the Denver Gem & Mineral Show at the Denver Merchandise Mart in September.

Bob Landgraf

BELOW: Roger Pittman – Recipient of the People's Choice Award with his Colorado Minerals display.

Photo by Frank Rosenberg



ABOVE: Josh Hair – Recipient of the Pebble Pup's Award with his Poebrotherium display.

Photo by Frank Rosenberg

(CONTINUED ON PAGE 7)

PEBBLE PUPS CORNER



CSMS Pebble Pups & Earth Science Scholars

The Earth Science Scholars & Pebble Pups meet at the Mt. Carmel Veterans Center every THIRD Thursday at 5:30 PM until 6:15 PM or so. We only meet during the academic year, and we include January. So, it is Sept through May.

Special announcements and field trips are noted on our blog:

<http://pebblepups.blogspot.com>

and through the CSMS website: <http://www.csms1936.com>

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AT LEFT: These are the three awards given. Note that the Chris Christensen award has a replica of a cahnite crystal named after Lazard Cahn, one of the charter members of CSMS. The Pebble Pups award has a replica of a rhodochrosite crystal mounted on actual Sweet Home Mine host rock.

Photo by Bob Landgraf

AT RIGHT: A faceting case honoring long time member Roy Wilson, entered by Sharon Holte.

Photo by Frank Rosenberg



BELOW: Kaye Thompson with her memorial case for Jack Thompson.

Photo by Frank Rosenberg



BELOW: Kevin Witte – Recipient of the Chris Christensen Award for his Colorado self-collected case.

Photo by Frank Rosenberg



VIVIANITE FROM LEADVILLE, COLORADO



Mike Nelson csrockguy@yahoo.com



ABOVE: Precambrian Harney Peak Granite exposed at Sylvan Lake in the Black Hills.

As I write this manuscript for the October Newsletter we are coming upon the Autumnal Equinox (September 23 in 2019) where the length of the nights about equals the length of the days. From now until the Winter or Hibernial Solstice (December 21, 2019) we will continue to lose daylight hours and the nights will become longer (and colder). The Gregorian calendar states that the Autumnal Equinox is the beginning of the fall season—depends on your locality. In Colorado Springs it still seems like summer weather. Three weeks prior to the Equinox I was camping and fishing in northern Minnesota and many maples were flame red, the day temps were low low 50s and the wind was strong from the north. Early migrating waterfowl were already on the move to warmer climes. Fall had arrived.

On September 13th of this year (as I write) I am camped in the Black Hills of South Dakota and have just observed the Harvest Full Moon (full moon closest to the Autumnal Equinox) rise over the Precambrian granite surrounding Legion Lake. It seemed like a very spiritual experience and I was thrilled to contemplate on my good fortune. As a bonus, the next day I had, most likely, a once in a lifetime experience—I saw two young Mountain Lions, kits with soft gray fur with black spots and long tails with a curl, crossing a forest road in front of me. I did not see momma although I have seen Utah adults in the past.

All of my daydreaming about weather changes (along with decorations for sale in big box stores) reminds me that the holiday season is approaching down the road and along with that comes an end to my field trips in the northland! So, yesterday I was off to one of the most famous mines in the Black Hills—the Tip Top (home some to tens of micro specimens containing the phosphate radical, PO_4). I have several phosphate nodules wrapped up awaiting my microscope at home. Therefore, today I want to describe a nice phosphate collected in the Leadville area of Colorado.

Vivianite is a hydrated iron phosphate mineral [$\text{Fe}_3^{++}(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$] that is somewhat rare in Colorado except for the Treece and Ibex Mines in the Leadville Mining District. Eckel and others (1997) described vivianite from Leadville as among the “finest specimens of the mineral found in the country.” Now, collectors of minerals from the Blackbird Mine in Idaho may wish to dispute that statement! But I have not seen the crystals of vivianite (as long as 3 inches) housed in the Denver Museum of Nature and Science (Eckel and others, 1997) so will not cast my vote in either direction.

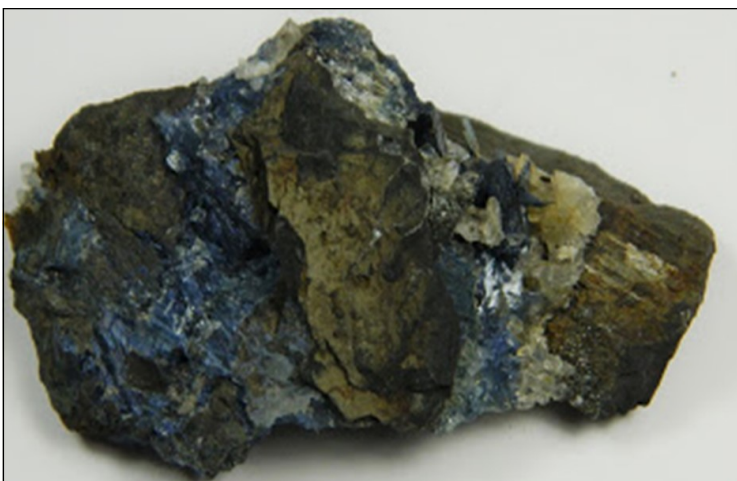
I have a few specimens of vivianite in my collection so at the Denver Spring Show I was not particularly looking for new samples. However, in glancing at the tables a specific specimen popped into my brain since it was: 1) colorful crystals of vivianite (my other crystals are very dark, essentially black); 2) collected from Leadville; and 3) cheap at \$2. It was further intriguing

since my first line of information (MinDat.org on my cell phone) only showed five photos of Leadville vivianite and most were not something that I would write home to mama about. The price certainly was right for someone who receives a monthly social security check, so it came home with me, and I consider it a good decision!

Vivianite is one of those interesting minerals containing the phosphate radical (PO_4) that I love to collect and “study.” Phosphates are often grouped together with the arsenates (AsO_4), and vanadates (VO_4) since these three radicals are about the same atomic size and frequently substitute for each other when combining with metal cations. In some cases, there is a solid solution series between minerals such as mimetite (lead arsenate)—lead phosphate (pyromorphite)---vanadinite (lead vanadate). In others, the minerals are individuals and no solution series seem to exist.

Vivianite is a mineral of many colors, and in fact, can change color over its lifetime. Freshly exposed vivianite is generally colorless but with time oxidizes to green to bluish green to blue crystals. Continued oxidation of the iron from Fe^{++} (ferric) to Fe^{+++} (ferrous) will produce crystals so dark blue they appear black in color. Many crystals have a vitreous luster although they can grade into pearly or dull specimens. Colorless crystals are transparent while lighter colored specimens become translucent and massive specimens generally are rather opaque. As with the color, mineral streak ranges from colorless to various shades of blue. Vivianite is quite soft, ~2.0 or less (Mohs). The best “showy” specimens have prismatic (elongated along the C Axis) or flattened/bladed (along

the B Axis) crystals and often form in stellate cluster; however, there are a variety of other morphological forms.



Matrix with indigo blue to purple crystals of vivianite. Collected Treece or Ibex Mine at Leadville, Colorado. Width of photo ~5.5 cm.

Above three photomicrographs from specimen showing individual crystals of vivianite with scattered quartz.

Width FOV ~1.4 cm.

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2019 CSMS OFFICERS

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John Massie, Vice-President

Sarah Shilling, Secretary

Ann Proctor, Treasurer

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Laurann Briding, Member-at-Large

Bill Arnson, Member-at-Large

Ernie Hanlon, Past President

SECRETARY'S SPOT by Sarah Shilling

General Meeting Minutes for the
Colorado Springs Mineralogical
Society - 9/19/2019

CSMS General Assembly Meeting

2019 CSMS CHAIRPERSONS

John Massie, Program Coordinator

John Massie, Show Volunteer Coordinator

Mike Webb, Field Trip Coordinator

Steven Veatch, Science Fair Chair

Frank & Ellie Rosenberg, Librarians

Mark Schultz, Social Committee Chair

Ann Proctor, Store Keeper

Lisa Kinder, Show Chairman

Lisa Kinder, Webmaster

Lisa Kinder, Facebook Keeper

Mike Nelson, Federation Representative

TBD, Federation Representative

2019 SATELLITE GROUP CHAIRPERSONS

Crystal, Kevin Witte/Bob Germano

Faceting, John Massie/Doreen Schmidt

Fossil, Jerry Suchan/Joyce Price

Jewelry, Bill Arnson

Lapidary, Sharon Holte

Pebble Pups, Steven Veatch/
Betty Marchant

2019 CSMS LIAISONS

Florissant Fossil Beds
National Monument, Steven Veatch

Western Museum of
Mining & Industry, Steven Veatch

Vivianite is thought to occur as: 1) as a secondary mineral in metallic ore deposits; 2) in pegmatites as an alteration product of primary phosphate minerals; or 3) as a mineral associated with the phosphate found in sedimentary deposits. However, Petrov (2008) noted the mineral is not characteristic of the oxidized zone but of “deep unoxidized levels of ore deposits.” I had assumed the crystals at Leadville were from the oxidized zone but now am uncertain.

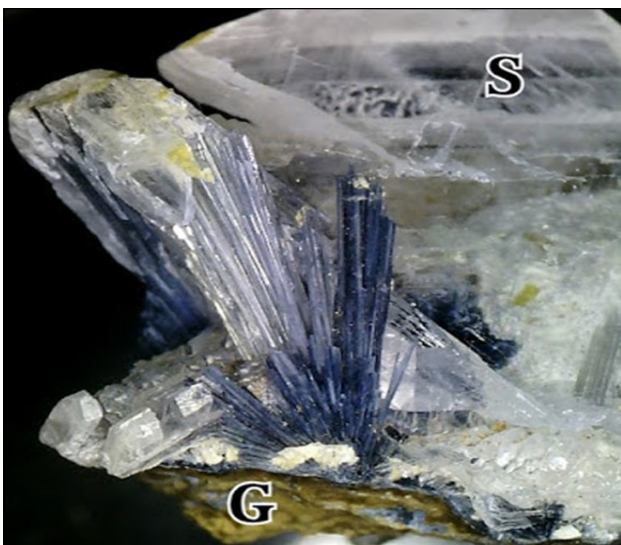
Vivianite is the namesake of the Vivianite Group of minerals that have a general formula of $X_3(AO_4)_2 \cdot 8(H_2O)$ where X is a $^{++}$ metal (Mg, Mn, Fe, Co, Ni, Cu, Zn) and A is either phosphorus (a phosphate) or arsenic (an arsenate). Most members of the Group are colorful and have weak ionic bonding resulting in mica-like cleavage. Close relatives of vivianite include erythrite, a hydrous cobalt arsenate, and köttigite, a hydrous zinc arsenate.



Two sounds of autumn are unmistakable...the hurrying rustle of crisp leaves blown along the street...by a gusty wind, and the gabble of a flock of migrating geese. Hal Borland



ABOVE: Mass of erythrite crystals. Width FOV ~1.3 cm.



AT LEFT, ABOVE: Vivianite crystals (ex. Joe Dorris) collected Bingham District, Utah, a large porphyry copper deposit. The largest crystal is ~2 cm. in length.

AT LEFT: Mixed color spray of köttigite and water-clear se-lenite gypsum (S) and goethite (G). Width FOV ~1 cm. The variation and gradation of color may be due to an increase in iron substituting for zinc.

REFERENCES CITED

Eckel, E. B. and others (revised edition), 1997, Minerals of Colorado: Fulcrum Publishing, Golden.

Petrov, A., 2008, A scientific study of the absorption of evil by vivianite: www.mindat.org/article.php/137/

Brad's Bench Tips

TAPERED REAMERS

A tool you don't see often these days is a tapered reamer. They're particularly useful for making an irregular hole round or for enlarging a hole to an exact diameter. For example, the small set in the yellow pouch is for holes in the range of 0.3mm to 2.5mm. They are great for sizing a tube to fit a hinge pin. Other times when I'm drilling a hole for riveting sheet metal and can't find the exact size drill, I simply drill the holes with a slightly smaller bit and enlarge them with a reamer until the wire just fits.

For larger hole sizes in sheet metal up to 14 ga, I really like the reamer with the black handle. It makes quick work of sizing holes from about 3mm to 12mm. You can find them in well-equipped hardware stores. You may never use the large diameter reamers, but when sawing out some rings from 4mm thick sheet, I found they worked well for rounding and sizing the hole.



TESTING FOR SILVER

Often you need to identify some of those unknown "silvery" pieces in the bottom of the toolbox or some piece of old jewelry. Is it silver or something else? Of course, if you need to know exactly what you have, it's best to send your metals off for refining. But inexpensive silver testing solutions can be used to help distinguish higher silver content alloys from alloys that have

the same appearance but with little to no silver content, like German Silver or Nickel.

I purchased a half-ounce bottle of JSP Silver Testing Solution #GT41. It's not a rigorous analytic test, but it lets you know if you're on the right track. And it's inexpensive. Mine was only \$3. With a fresh solution you have an instant reaction after applying it to the metal being tested. The procedure is simple - as you apply a small drop, look for a color change. Note that the acid will leave a slight mark, so choose a spot that is out of the way or will be easy to polish. If you suspect the object is silver plated, you should file a little notch somewhere inconspicuous to expose what metal is below the surface. Otherwise, all you test will be the surface plating.



Caution - If you do any of this testing, know that you are handling a reasonably strong acid. The GT41 label says it includes nitric acid and potassium dichromate. Wear safety glasses. Do not get any testing solution on your skin. Use a solution of baking soda and water to neutralize acid. Wash and clean up well when you're done.

Here's the reaction I got when testing various materials:

- . Fine silver Red/Orange
- . Sterling silver Brick Red
- . 80% silver 20% copper . Dark red changing to gray
- . Brass Yellow changing to blue
- . Nickel Gray-green
- . Copper Yellow changing to blue
- . Steel Black
- . Stainless Steel No color change

Work Smarter & Be More Productive With Brad's "How To" Jewelry Books

[Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)

Our Staff...

Taylor Harper—Editor

We encourage everyone to submit articles, photos, illustrations or observations.

Share your experiences, your new finds, or simply your enjoyment of our last field trip.

Handwrite it, type it, or email it. Format does not matter. All submissions are welcomed. The DEADLINE for items to be included in the next Pick & Pack is the **20th of the preceeding-month**

To submit an item:
For hardcopy photos or articles, mail to the address below or bring them to the General Meeting. All hardcopy photos remain the property of the submitter and will be returned. Electronic photos can be submitted at resolutions above 200 dpi in ANY format.

Articles are preferred in MS Publisher, but the editor will correct font.

E-Mail to:

csmseditor@hotmail.com

Mail to:

Pick & Pack Editor
PO Box 2
Colorado Springs, CO 80901

The PICK&PACK is published ten (10) times per year (no issues in January or August). Unless otherwise marked, materials from this publication may be reprinted. Please give credit to the author and CSMS PICK & PACK.

CSMS

T-Shirts, Badges, and Pins are available for sale.

If you celebrated a CSMS anniversary in 2017 or 2018, you are eligible for your one year pin award!

Please see Storekeeper,

Ann Proctor



GEM & MINERAL SHOW
NOVEMBER 15-17, 2019
Jefferson County Fairgrounds

Public Welcome

Free Parking

Free Admission

Sponsored by Denver Area Mineral Dealers

There are no gem and mineral shows posted in Colorado for October!



JEWELRY, GEM & MINERAL SHOW

Gems **Fossils**
Books **Geodes**
Displays **Jewelry**
Minerals **Crystals**
Sculptures **Activities for kids**

DEMOS: **DEALERS:**
Flint Knapping **Over 20 International Sellers**
Wire Wrapping
Flat Lapping
Faceting
Cabbing

Free Admission!

February 27 – March 1, 2020
Hours: 10-6 Friday & Saturday 10-5 Sunday
JEFFERSON COUNTY FAIRGROUNDS
15200 W. 6th Ave. – (W. 6th Ave. & Indiana, Golden)
No food available onsite; restaurants nearby
Grab Bag Sales proceeds applied to scholarship at Colorado School of Mines
Sponsored by the DENVER GEM AND MINERAL GUILD
www.denvergem.org
Photos: Robert Johnson



PICK&PACK
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COLORADO SPRINGS, CO 80901-0002

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CSMS is an incorporated nonprofit organization with these goals:

To promote and disseminate knowledge of the earth sciences, especially as they relate to mineralogy, lapidary, and fossils.

To encourage study, collection, and fashioning of minerals.

To accomplish the same through social meetings, lectures, programs, displays, shows, and field trips.

The Pick & Pack is published 10 times each year to assist and promote the above.

Joining the Colorado Springs Mineralogical Society (CSMS): Meetings are held the **third (3rd) Thursday of each month**, except January & August, **7:00 p.m.**, at Mt. Carmel Center of Excellence, 530 Communication Circle, Colorado Springs, CO 80905. (Starting (9/21/2017) **Visitors are always welcome.**

CSMS also offers Satellite Group meetings that allow more focused attention in specific areas of our members' interests. Our current Satellite Groups consist of the following: Crystal Study Group, Faceting Group, Fossil Group, Jewelry Group, Lapidary Group, and Pebble Pups/Juniors. For details on Satellite Group meetings, check out the calendars on page 2 and the web site.

Yearly dues include 10 issues of the *PICK&PACK*, all field trips (additional fees may be required on some field trips, and members are responsible for all transportation to and from), participation in all Satellite Groups (some groups may request additional fees to help cover resource costs), free admission to the *Western Museum of Mining & Industry*, a year of learning and enjoyment, plus a lifetime of memories.

Individuals—\$30, Family—\$40, Juniors—\$15, Corporate—\$100, *****Application is on the web site.

If you are interested in joining CSMS or would like more information, we encourage you to attend our next General Meeting or visit our web site: www.csms1936.com

Colorado Springs Mineralogical Society is a Member of the following organizations:

American Federation of Mineralogical Societies (AFMS) www.amfed.org

Rocky Mountain Federation of Mineralogical Societies (RMFMS) www.rmfmts.org